Readings Recommended by John (“Jack”) White, 2016 recipient of the George and Barbara Fell Award

This file consists of three documents:


“A Prairie Imperative,” by John White (2005)
Nature preservation began with emphasis on preservation of scenic grandeur and natural beauty and preservation of species.

At first, the most magnificent places, such as Yellowstone, Yosemite, and the Adirondacks got attention. Gradually, interest grew in preserving other spectacular scenic treasures. Virtually every preservation accomplishment was the result of years of dedicated struggle.

Yellowstone became the first national park in 1872. The first state parks were established in the latter part of the 1800's. The Yosemite Valley became the first state park several years after it was given to California by act of Congress in 1865 (before it became a national park). In 1872, the New York legislature established a temporary Commission on State Parks. In 1885 the legislature enacted bills making Niagara Falls New York's first state park and declaring the state-owned land in the Adirondacks would be kept "forever wild."

Voluntary organizations for nature preservation developed in accordance with the perceived needs. The Sierra Club, the Audubon Societies, and some other influential conservation groups got started in the last century. Sportsmen's organizations played a major role in the early efforts to conserve our land and wildlife.

Government agencies were established to care for the areas that were set aside and to protect wildlife. It was not until 1916 that the National Park Service was created. Eventually, through bitter struggles and dedicated persistent efforts, our present-day national, state, and local systems of parks, forests, and refuges were established and took form.

The study of natural history preceded preservation efforts. Our magnificent natural history museums and the many monumental early-day books on natural history attest to the diligent and dedicated efforts of the pioneer naturalists that explored the wilderness.

When preservation efforts finally got underway, naturalists had a substantial part in them. But, with a few notable exceptions, the old-time naturalists didn't do much about natural area preservation other than to help preserve scenic grandeur and wildlife. Either they didn't see the need or they didn't think there was much they could do about it.

The study of natural history eventually resulted in development of the science of ecology. With growth of that discipline came the need to organize a professional society. The Ecological Society of America was formed in 1917. It established a Committee on the Preservation of Natural Conditions under the chairmanship of Victor E. Shelford and charged it with listing all preserved and preservable areas in North America in which natural conditions persist and with promoting their preservation.

In 1926, the Committee completed the "Naturalist's Guide to the Americas", a description of natural conditions in the various states and regions and detailed directory of the natural areas of note that were then known to ecologists. Through the years, the Committee on the Preservation of Natural Conditions participated in the efforts to set aside parks and wilderness areas.

Natural area preservation efforts gradually took form in the early part of this century, though usually the goal of preservation of natural communities was not clearly distinguished from the goals of scenic preservation and preservation of areas for outdoor recreation. There were organized volunteer efforts to save specific areas; then regional, state, and national efforts began to develop. Organized efforts led gradually to the establishment of state and local park systems, as well as the national park system. The National
Parks Association (now called the National Parks
and Conservation Association) was established in
1919 to defend the national park system. The
Wilderness Society was formed in 1935 to promote
the cause of preserving wilderness areas,
particularly within the National Forests and other
Federal lands.

A few of the groups set about raising money and
acquiring land for preservation, usually to turn it
over to a public park agency. The Massachusetts
Trustees of Public Reservations (now called the
Massachusetts Trustees of Reservations) was
formed in 1891 and began acquiring natural and
historic sites, some of which it continued to hold
and manage. The Save-the-Redwoods League,
organized in 1918, became notably successful in
raising large sums of money to achieve its
objective.

In 1945, some members of the Ecological Society of
America objected to the Society engaging in nature
preservation activities. Members of the Society
that were concerned about nature preservation
formed a new organization, the Ecologists Union, to
carry on the work of the Society's Committee for
the Preservation of Natural Conditions and Com­
mittee on the Study of Plant and Animal
Communities.

By the late 1940's, it was becoming clear to
participants in the Ecologists Union that our park
systems, game laws, existing governmental agen­
cies, and other conservation institutions were not
adequate to preserve the full spectrum of natural
communities and features. Many natural types
were not preserved in any manner, and areas that
were set aside in public ownership were vulner­
able to degradation from intensive recreational
use, development, or commodity production.

The concepts and goals of the wilderness
preservation movement, as promoted by The Wild­
erness Society, provided a pattern, on a grand
scale and with a somewhat different orientation, of
what was needed for natural area preservation.

The historic preservation movement to save
significant sites and buildings was gaining mo­
moment and provided another model to follow. In
1949, historic preservationists established the
National Trust for Historic Preservation under a
Congressional charter as a central focus for their
efforts. The National Trust was patterned after
the British National Trust for Places of Historic
Interest or Natural Beauty, established in 1895,
which, in turn, drew its pattern from the Massa­
chusetts Trustees of Public Reservations.

On the international level, the International Union
for the Protection of Nature (later renamed the
International Union for the Conservation of Nature
and Natural Resources) was established in 1948.
Its conferences and publications revealed that
people in countries all over the world were
concerned and doing something about natural area
preservation.

Most every country, it seemed, had its society for
the protection of nature or the promotion of nature
reserves. Many of these voluntary organizations,
as well as governmental agencies, owned and
managed nature reserves. Some of the groups had
much larger memberships than their counterparts
in the United States. They numbered in the tens of
thousands, compared to a few hundred in the
Ecologists Union and less than 5,000 each in the
National Parks Association and The Wilderness
Society.

Many other countries also had government agen­
cies specifically for nature conservation. For
example in 1959 Great Britain established The
Nature Conservancy under Royal Charter as an
official governmental body "to provide scientific
advice on the conservation and control of the
natural flora and fauna of Great Britain; to
establish, maintain and manage Nature Reserves in
Great Britain, including the maintenance of
physical features of scientific interest; and to
organize and develop the research and scientific
services thereto". (The Conservancy was re­
organized in 1973 as the Nature Conservancy
Council.)

The participants in the Ecologists Union realized
that if anything was to be done to save natural
areas on a systematic basis, those who were
concerned would have to do the job themselves. In
1950, they changed the name of their organization
to The Nature Conservancy and began adapting the
successful patterns of many other groups, con­
servation, historic preservation, and health and
welfare, to their purposes.

The Nature Conservancy embarked on a program
of direct preservation of natural areas by acqui­
sition, through chapters and project committees
and proceeded to grow and accomplish great
things.
Participants in the natural areas movement also fostered other structures to carry on the effort. The first state natural area legislation was enacted in Wisconsin in 1951 when the Wisconsin State Board for Preservation of Scientific Areas (now the Scientific Areas Preservation Council) was established. Illinois established the first state system of dedicated nature preserves in 1963. South Carolina became in 1976 the first state to establish a natural heritage program in cooperation with the Nature Conservancy. Most of the states now have some sort of official natural area program. Many regional and local not-for-profit organizations were established, including those that are now grouped under the general classification of land trusts. The Natural Areas Association was established in 1978 to serve as a medium of communication among natural area workers. The Land Trust Exchange was organized in 1982 to facilitate communication among land conservation organizations.

Since these efforts began to take form, we have grown and become more sophisticated. We have made inventories, assembled databases, developed operating plans and procedures, and established priorities. Where once we were opportunists, preserving what we could when we could, we now plan and direct our efforts deliberately.

The concepts are the same, they have just been shaped and polished. The Nature Conservancy started as a landowner contact program carried out by volunteer land stewards. Then it became a professionally oriented organization with much of the work being carried out by staff. Now we are back to thinking in terms of landowner contact programs and organization of volunteer land stewards and other volunteer workers -- the same concepts, but with much more sophisticated techniques.

What has happened during the 38-year period of current history since organization of the Ecologists Union, and what does it indicate about the future?

To get a perspective, let's look at the growth that has taken place in the years since 1945 in the natural area preservation movement.

Since growth is a phenomenon of compounding by geometrical progression, we know that the best way to compare rates of growth is with a logarithmic graph, as shown in figure 1. Here we encompass the 40-year period between 1945 and 1985, with a vertical logarithmic scale marked with powers of 10. One and 10 are the same distance apart as 10,000,000 and 100,000,000. The lines on the graph illustrate growth rates ranging from 10% per year to 100% per year.

For comparison, let's have a look at the growth pattern exhibited by the pre-eminent blue-chip growth corporation: IBM -- also known within the computer industry as Big Blue. Figure 2 shows IBM's record from 1962 to the present. This is based on earnings statistics adjusted as though dividends were reinvested when issued. The overall indicated rate of growth is approximately 18.5% per year -- quite a phenomenal record of consistent sustained growth through good times and bad.
Now let’s look at another organization that goes by a 3-letter acronym: TNC. Maybe we should call it Big Oak Leaf.

Figure 3 charts membership numbers for The Nature Conservancy, from the 130-member beginning of the Ecologists’ Union in 1945 to the present 160,000+ members — a growth line, with very few wobbles, that has achieved a 38-year record of 21.5% per year.

One might analyze the factors that have influenced the Conservancy’s membership growth from year to year: the effects of volunteer membership recruitment efforts by chapters, project committees, and individuals through prolonged periods of years when the national organization made little or no deliberate membership recruitment efforts; the effects of emphasis on direct mail solicitation in the 1950’s and again in recent years; the effects of changes in policies and administration; and the changes that may have taken place from time to time in the standards for counting members of different categories. But these are minor details that are engulfed in a seemingly inexorable trend.

One also might speculate on what the future will and can bring. Another 38 years on the same growth line would see TNC’s membership getting pretty close to encompassing the entire population of the United States. But we know exponential growth cannot continue indefinitely. As Aldo Leopold and others demonstrated in the early days of the science of wildlife management, sooner or later adverse factors will begin to take their toll and hold down the rate of growth until finally it is level at best. The principles underlying the concept of the “balance of nature” apply to populations of organization members just as they do to wildlife populations out on the land. There is the additional limitation that there is a finite number of potential members.

Let’s now look at another measure of TNC’s growth. Figure 4 charts progress in land preservation as indicated by cumulative number of land preservation projects and cumulative number of acres preserved. Here, the overall annual growth rates from the first project to the present and from the first acre preserved to the present are approximately 29.3% and 38.8%, respectively.

Again, one might analyze the wobbles from year to year: the contribution of volunteer project efforts in comparison with big land deals engineered by professional staff; the changes of plans, policy, and procedures from time to time; the effects of inventories, database accumulation, and prioritizing of projects; changes in emphasis between independent projects and preacquisition for governmental agencies; the effects of changes in governmental policy, changes in the economy, and changes in public interest and attitude; and possible changes over the years in the rules for tallying projects and acres. But again, these factors seem overshadowed in comparison with the long-term trends.
Figure 5 charts the financial aspect of TNC's history, with one line representing total annual general operating fund revenue and support and the other showing total fund balances. There may be some discrepancies from year to year as a result of changes in accounting policies. More detailed research would probably make it possible to eliminate some of the kinks in the lines; but no matter, they are remarkably consistent already. These lines show overall annual growth rates of approximately 33.2% and 47%, respectively.

In Figure 6, the growth lines are superimposed making it easier to compare the trends. The five lines together exhibit an average growth rate of 34% per year for the 30-year period.

What significance do these charts have? What do they portend as to the future?

Clearly, TNC has had a remarkable growth history. Through the administrations of 11 chief executive officers and numerous other officers and Governors; through cycles of prosperity and recession; through years of war, turmoil, and political and social change, growth has continued consistently and seemingly almost inexhorably. Has it been pushed forward by a remarkable sequence of administrative talent, or an outstanding organizational concept and structure, or the combined, determined efforts of a growing band of dedicated believers? It is obvious that the latter is the key factor.

One thing that seems evident in the charts is a tendency toward levelling off of some of the lines. The membership line, however, is moving steadily upward. Many factors that may contribute to various trends and changes could be analyzed and discussed -- the influence of governmental fiscal and land acquisition policies; increasing selectivity in undertaking preservation projects; and changes in trends of support from foundations, corporations, and individual members are examples.

These growth trends of TNC do not stand alone. They are just examples of the growth that has been taking place in preservation programs in general.

One could plot similar growth trends for state natural area programs, for land trusts, for historic preservation, and for other conservation and environmental organizations and movements. We could analyze and in some cases chart many aspects of natural area preservation -- the development of inventories and heritage databases, our changing concepts and practices in natural area management, our development of policy, and the enactment of state legislation.

We could compare the fortunes of the natural area movement with those of other related endeavors. We could compare the relative success of various components of the natural area movement. We could analyze how natural area preservation has fared in comparison with other aspects of conser-
vaticn, and why. And we could compare these records with the growth in the GNP and with other indicators of change in our economy. There is much possibility for fruitful and illuminating research.

We should not be smug and complacent as a result of the apparent accomplishments during these past years. A bit of charting of unmet preservation needs, of rates of destruction of natural areas, of comparisons between the amount of natural land preserved and the amount destroyed, or of the management deficiencies and deterioration of some of our nature preserves might yield results as startling as TNC growth lines, but not so exhilarating.

What can we foresee for the future, and what actions should we take to influence the course of events? There are many questions that demand our careful consideration and yield no clear and simple answers.

What are the limits of growth of the natural area movement? Careful analysis and projection of the TNC growth statistics and of the growth lines of other organizations and movements might yield us some clues.

What are the future prospects of TNC? Will it continue to prosper in the years ahead; or will prosperity, size, and bureaucratization lead to complacency and stifling of initiative? Will there be a point where growth of revenue can no longer sustain expanding personnel costs? Will there be a continuing balance between volunteer and professional participation, or will one eclipse the other? Will the cost of maintaining preserved areas be sustainable?

Will TNC's business administration acumen foresee and avoid future pitfalls and keep the organization going on a steady course? And, on the other hand, will emphasis on the competitive methods and techniques of the business world damage the organization's integrity as a volunteer charity and its ability to work cooperatively with other groups?

What are the prospects for land trusts and other preservation organizations? Will they pace TNC, be left behind, or ultimately take over? Should we concentrate our efforts and support on TNC to assure its continuing strength and effectiveness, or should we also be concerned about developing other organizations as backups, and as competitors to keep TNC on its toes?

What are the prospects for our state governmental programs? How can we secure them against political change? How can we facilitate the development of programs in states that do not yet have natural area programs, and how can we encourage the lagging states to keep up with those that are leaders? Also, how can we get even the leading states to undertake programs that remotely approach what they should do and could easily afford to do? How can we structure and develop nonprofit support organizations that will strengthen and help stabilize state governmental nature preserve programs?

What can we do to secure adequate federal legislation and programs for natural areas? How do we induce federal landholding agencies to make reasonable efforts to set aside natural areas?

How do we fit our programs in with established agencies and programs at all levels of government? The natural area movement arrived late on the conservation scene. Securing its appropriate place and status within established rigid administrative hierarchies can be a difficult problem.

How do we keep up with and exploit modern technology? To do justice to our cause, we must adapt ourselves to the computer age. We must make deliberate and continuing efforts to learn about and make use of the technological innovations that are being developed and made available with incredible rapidity.

How do we deal with the increasing cost of labor? How can we best make use of volunteers and other alternatives to paid workers?

How do we develop our movement into a perpetual protector of natural areas that will stand up against the ravages of vandals (political as well as physical) and exotics? This is the ultimate question.

What happens when the crunch comes? Can we construct institutions and traditions that will endure? Can we provide the physical protection that may be needed?

We must learn more about psychology -- about how to induce people to respect and protect nature preserves. Also, we must understand our own feelings and motivations. For instance, we should
understand the phenomenon of paranoia, its functions and its value in motivating defensive action before it is too late, as well as the hazard of it getting out of hand. To what extent is it necessary, feasible, and desirable to build "walls" around nature preserves?

Barriers and gates certainly are necessary to deter intrusions in many situations. They also serve another function. They can have value in making people feel the place they are entering is something special that is set aside from the rest of the world and deserves special care and respect. We have done little to learn about and exploit such subtle effects. The techniques are already well known and developed by others. Examples of effective entrance gates can be seen in many places.

What are the trends in human behavior and interest -- can we predict and exploit them? Is the environmental movement a passing fad, or is it part of the long-term development of our civilization? Can we depend on the developing interest in heritage preservation to sustain the natural area movement in the future as it has over the past 38 years? We must hope that as natural areas become increasingly rare they will continue to become increasingly precious to people.

What are the tools for achieving permanence? And how can we use them? We are aware of them in a general sense, but we need to consider them deliberately and carefully since the success of our efforts is so critically dependent on long-term stability. We do not share with many other endeavors the ability to start over again and rebuild in case we suffer losses.

Maybe we can learn from past efforts and failures to create perpetual monuments. Let us remember the fate of Ozymandias' works:

I met a traveler from an antique land,
Who said: Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,
Half sunk, a shattered visage lies, whose frown
And wrinkled lip and sneer of cold command,
Tell that its sculptor well those passions read,
Which yet survive stamped on these lifeless things
The hand that mocked them, and the heart that fed:
And on the pedestal these words appear:
'My name is Ozymandias, King of Kings:
Look on my works, ye mighty, and dispair!' 

Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away.

OZYMANDIAS
Percy Bysshe Shelley
1817

We have an advantage over the builders of structural monuments. Natural communities do not suffer directly from the ravages of time. They are self-renewing. However, they may change through natural processes. And they can be done in by vandals of many kinds, by exotics, by man-caused environmental changes, by natural catastrophies, or by adverse influences resulting from inadequate size.

We need to sort out and analyze these various influences and concentrate our efforts where they are most needed.

We should evaluate and understand the legal strength of preservation laws and institutions. We should also evaluate the political strength of our institutions. We know the natural areas movement has a strong and growing body of people who are dedicated to its concepts. We know they will rally vigorously, even fiercely, to the defense of a natural area that is in jeopardy. Will they be equally effective in protecting the laws, the agencies, and the administrative structures we have developed to carry out the preservation task; or are these things too obscure and complex to generate the defense they may need? Are the threats and changes too subtle and gradual to be noticed by any but the most perceptive? Are these institutions vulnerable to destruction or damaging changes at the whim of a politician or administrator that happens to gain power for even a brief moment?

To counteract the threat of capricious change, we must back up our efforts with carefully designed layers of safeguards -- public information programs; state nature preserve systems; established tradition; legislation; commissions and boards to serve as watchdogs over the preserves held by other bodies; permanent staff positions; stable funding sources; and establishment of support and defense networks involving volunteer participants, nonprofit organizations, and agencies at all levels.

Some of these tools of enduring preservation have
already demonstrated impressive effectiveness. Others are proving to be more vulnerable than we had hoped and need improvement. Laws establishing state nature preserve systems and various other protective provisions have so far been highly effective in diverting development agencies such as highway departments away from preserved, or even inventoried, natural areas. It seems that as long as laws and policies for protection of natural areas are in place they are likely to be respected and effective. Governmental administrative structures, on the other hand, are difficult to develop and institutionalize in such a way as to make them secure from administrative change.

The natural areas movement runs a risk of falling victim to subtle and seemingly innocuous changes that over time can bring serious damage. The plight of the national wildlife refuges, as described in Jim Doherty's article, "Refuges on the Rocks", in the July 1983 issue of AUDUBON magazine, shows what can easily happen to nature preserves if we are not vigilant. What may appear to be minor concessions of recreational or utilitarian intrusions in nature preserves can start an almost irreversible trend of deterioration. Nothing is more difficult to eradicate than an established adverse use.

As natural area specialists, we are somewhat isolated from the long-standing and ongoing controversy between the preservation and utilitarian aspects of conservation. The depth and significance of this philosophical split must be studied in historical perspective to be understood. Natural area preservation seems relatively benign and acceptable to all persuasions of conservation philosophy. One may therefore feel the divergence between the philosophies of preservation and conservation for consumptive use is not really significant to the natural area movement. In reality, the issues are much the same for the protection of natural areas from intrusions as they are for wilderness areas and national parks.

There are other critical policy questions that deserve our careful attention.

Should we be content to stop when our ark is stocked with a couple of representatives of each major natural type and element of natural diversity? Or are we justified in seeking to preserve much more, on the basis that whatever we can accomplish in many parts of the country will really be far less than adequate? We may have a tendency to be timid in our goals and too fearful that we will get more areas than we can maintain, that less than pristine areas cannot be defended or will downgrade our nature preserve systems, or that our credibility will be damaged with other land managing interests if we appear too greedy.

How much is possible or enough is largely a matter of perspective. With really so very little in sight, it is easy to set our goals too low. There once was a time when The Nature Conservancy's Board of Governors discussed whether or not three field representatives -- western, midwestern, and eastern -- were sufficient staff. And it took quite awhile before having staff at the state level was thought to be appropriate.

Do we run a risk, in concerning ourselves with preserving natural diversity, of becoming too preoccupied with species preservation at the risk of neglecting the preservation of natural communities? The concept of preserving species seems in a way easier to understand and more appealing than the concept of preserving natural communities. They are both needed, and surely it is essential to expand our understanding of the diversity of natural communities and to preserve not only the major types but their variations as well.

All of these observations and questions tell little of the future of the natural area movement. But they may contribute a bit to our perceptions and stimulate further thought and discussion. Many of these matters are ongoing concerns of the Natural Areas Association and have been subjects of discussion in the Natural Areas Journal and in natural area workshops. Others have been neglected.

There is much room for interesting and productive research on many matters in addition to such difficult and essential subjects as techniques for controlling exotics and managing natural vegetation. For instance, we should encourage studies relating to growth and management of organizations within the natural area field and within other conservation endeavors. Maybe there are students of business administration or political or social science who could undertake such studies.

Here, in conclusion, is one more observation:

I think we who work in the natural area pre-
servition movement are blessed -- we are truly chosen people.

We are living in affluence in a period of exciting and fascinating rapid change, enjoying a great many benefits never before available.

Moreover:

We are doing what we want to do, in relative comfort, without privation or great self-sacrifice.

We have a great group of people to work and associate with.

We have many supporters and a multitude of well-wishers.

We have a cause. How many people have a cause -- of any kind -- a purpose in life?

We have anoble cause. What nobler cause can there possibly be? Certainly, in our minds, what we dois as important and selfless as feeding the hungry, healing the sick, teaching, and helping people in other ways. In a way it should be more long lasting. To us, our work is among the most basic of charities.

We fight a difficult and frustrating battle, with tragic losses, but we are making great accomplishments. What other cause can claim more?

Almost nobody before us had seen the need or been able to set aside natural areas. And those that follow will no longer have the chance. They will only be able to care for what we leave them.

As dedicated workers in this totally unique situation, we have an obligation to pursue our goals with all the strength and fervor we can.

EDITORS NOTE:
The author has been directly active in natural areas work in the United States since 1949 and since then has served as an officer in the Ecologists Union, the Executive Director of The Nature Conservancy, founder of the Natural Land Institute and has most recently served as the first secretary-treasurer of the Natural Areas Association.
Protection of Pine Ridge Cemetery Prairie: A Story of Persistence and Cooperation

John White
The Nature Conservancy
1800 N. Kent St.
Arlington, Virginia 22209

ABSTRACT: In 1976 the Illinois Natural Areas Inventory found a 4-acre virgin prairie remnant in Pine Ridge Cemetery at Loda in east-central Illinois. High quality examples of tall-grass prairie are exceedingly rare in the region. This prairie was intended to be converted to burial plots, but cooperative efforts involving the cemetery board, local residents, private conservation groups, and state agencies resulted in dedication of most of the prairie as an Illinois Nature Preserve in 1983. A challenging series of setbacks and successes in saving the site spanned all aspects of natural area preservation from identification, to landowner contact and acquisition, to dedication and management.

This is the narrative of a presentation given at the Fourteenth Annual Natural Areas Conference, October 13, 1987, in Peoria, Illinois.

INTRODUCTION

Tonight I'll tell the truth about how the profession of nature preservation really operates. This is a story about a specific place in Illinois; but wherever you work, you may catch a glimpse of your specialty — whether it is fundraising or species inventories. We'll have fun with this story, but there's also a serious side: I'll show how each of us, by persisting and by cooperating with others, can make the difference between losing and saving part of our natural world.

Here's a portrait of someone who certainly made a difference: Rachel Carson, on a 17-cent stamp. Let's make a comparison. Pretend the wall in front of you (about 15 feet high and 25 feet wide) represents Illinois, more than 56,000 square miles. At that scale, this 1-inch-square stamp equals 1 square mile. That's about how much high quality black-soil prairie remains in Illinois. This was once the predominant natural community here in the Prairie State! [Reader: if this page represents Illinois, then a square mile of prairie is about half the area enclosed by an "o."]

There are a few more square miles of prairie in Illinois, but it's badly degraded or limited to dry river bluffs and sandy plains, for the most part. Tonight I'm talking about the least disturbed remnants of the richest prairie ecosystem, the tall-grass prairie on deep, fertile black loam.

This type of prairie has been reduced to about 120 high-quality remnants, ranging from 35 acres down to a quarter-acre. A quarter-acre is about one-billionth of the former extent of tall-grass prairie in the United States. Computers work in billions of a second, nanoseconds; I think our basic unit of measure should be the "nanoprairie."

You may wonder how I know all this. I read the Illinois Natural Areas Inventory Technical Report — the result of the most thorough survey of its kind (or so I've been told).

Traveling to this conference, you saw why the prairie is almost gone: it made such good cropland. Also Illinois prairie cannot persist under continual pasturing, and if just left alone in this climate, trees replace the prairie. Huge wildfires once kept trees out, but now we must set the fires or cut the brush.

Many pioneer cemeteries were established out in the virgin prairie, and a few have served as miniature prairie refuges. Most cemeteries have been so manicured that the native vegetation was killed long ago, but some have been mowed just often enough to keep trees out without tipping the balance in favor of lawn grasses and dandelions.

Think of it: to find an Illinois prairie with deep, loamy undisturbed soil, where do you go? Look in a cemetery!

YEAR 1 (1976)

This story began in 1976 when George Fell, John Schwegman, and others convinced the state of Illinois to do a systematic inventory to find the best natural areas to protect.
That summer the Illinois Natural Areas Inventory searched cemeteries to find prairie and savanna remnants. With dozens of volunteers, about 4000 cemeteries were checked. This involved about 3000 hours in the field and 35,000 miles of back-road driving.

Kathryn Kerr and I oversaw the cemetery survey. To start out I asked two staff members, John Bacone and Fran Harty, to test the survey methods and get an estimate of the time needed to do the work. When they dragged in after the first long day in the field, they expressed grave doubts about my abilities as a planner. They kept exclaiming, "Too much work! We'll never get done!"

I wondered what their problem was. Had they forgotten to turn on the car's air conditioner? All they had to do was poke around in a cemetery for a few minutes, then navigate to the next one on the horizon.

Well, they had found three notable prairie remnants in the first five or six cemeteries they checked. At that rate, we obviously wouldn't get done. We eventually learned that only one cemetery in thirty-five had a prairie or savanna remnant of any significance. So much for my sampling design.

Most incredible, though, was the very first cemetery Fran and John chose to wheel into, after driving about an hour. They discovered 4 acres of splendid prairie in Pine Ridge Cemetery at Loda (a village of 500 residents in Iroquois County, in east-central Illinois).

The 10-acre cemetery (Figure 1) was on a slight rise on a glacial moraine. The south half was almost full of graves shaded by big old trees, many of which are spruces. I guess that's why it is called Pine Ridge. The north half was almost all prairie. It had just been mowed when we first saw it. The prairie usually was mowed just before Memorial Day and then maybe once or twice later in the summer.

We were so surprised to find this prairie because Professor Robert Betz had already checked the cemeteries in this county. Dr. Betz's dedication to prairies is legendary. He's a zealot. If you ever get a chance to hear Bob Betz orate — go! Better yet, go to a cemetery with him. He'll get you down on your knees to spot _Silphium integrifolium_ and _Ratibida pinnata_ lurking in the lawn. And if enough dwarfed prairie plants persist, Dr. Betz will try to get the caretakers to let the grass grow for a few years. And then he may get them to let the prairie stay. This man has convinced people to let the grass grow 7 feet tall on their ancestors' graves!

Back at Loda, we were in luck: the prairie had no gravestones.

![FIGURE 1. Map of Pine Ridge Cemetery.](image)
Flatville, not far from Loda. She contacted the Iroquois County Historical Society because "history" often carries more weight than "weeds." We wanted the historical society to put a plaque in the prairie at the cemetery as a memorial to the pioneers who settled the region's prairies. This might make it harder for the cemetery board to convert it to a graveyard. Marilou also got the gravedigger to quit dumping his extra dirt on the prairie.

Since we had not actually met a board member yet, that summer we invited the cemetery board, newspapers, and the historical society to meet us at the prairie. Not a single reporter or cemetery trustee came. Marilou and I had stayed around to measure the back fence when a big brown Oldsmobile pulled up. The driver just sat there in the car and stared at us across the prairie. I tell you, it was a long walk for me to cross the prairie to the car!

The driver was the cemetery board president. He had come to "see what was going on," but he couldn't walk out in the prairie. This man could only speak a sentence or two at a time, then gasp from an oxygen tank. Even so, he was very interested to learn about the prairie, and we were glad finally to meet a board member in person. A short time later, he was buried at Pine Ridge.

YEAR 5 (1980)

The board members weren't all against protecting the prairie, but they couldn't just give it to us. They did agree to quit mowing it, and they let Kathryn Kerr and me study the vegetation. We found more than 130 species of prairie plants on those 4 acres, which is as many as one can ever hope to find in a single prairie community.

We often saw one of the cemetery trustees because he visited his wife's grave every day. He seemed a bit distant, but Kathryn helped win him over by helping him cut grass in the graveyard. I think this board member developed some pride in his prairie because the neighboring big town of Paxton (population 4000) also had a prairie — in a cemetery right across the street from the John Deere implement dealer. It's now 150 years since John Deere invented the self-scouring plow that broke the prairie sod, and the farm economy is so bad that the dealership has gone out of business — but the prairie is still there in Paxton, right across the street in a dedicated Illinois Nature Preserve!

YEAR 6 (1981)

We were talking to the cemetery association about a land trade. We wanted to buy land next to the cemetery and give it to them for burials if they would set the prairie aside. About fifteen people were buried at Pine Ridge each year, and the developed part was almost full. The graveyard had to expand somewhere if not into the prairie.

The trade was proving so complicated that it was decided to offer the cemetery board $10,000 cash for 4 acres of prairie. They were insulted; they needed land — not money, so they wrote to say they were turning the prairie into a graveyard for certain! That letter caught our attention.

Don McFall jumped in and took over negotiations for the Natural Land Institute. He walked into the office of a local newspaper, the Paxton Daily Record, and got them to write a fine article about the prairie. Dr. Helen Goodell read the article at her home in Lock Haven, Pennsylvania. She had grown up at Loda but moved away in the 1960's, yet she still subscribed to the local paper. Dr. Goodell is the granddaughter of Addison Goodell, who had donated the land for the cemetery in 1895. She remembered picking shooting stars in that prairie as a child, and she was amazed that the flowers were still there and that anyone cared about them. Now Dr. Goodell was a member of The Nature Conservancy, so she tracked down Don McFall by phone and offered to help. At the time Don just asked for moral support, but he said he'd keep her offer in mind.

We also tried some public pressure. We got state officials to write to the cemetery association. John Bacone, one of the discoverers of Pine Ridge prairie, was now head of the Indiana Division of Nature Preserves, and he told the Loda trustees what a treasure they had. In the entire state of Indiana, only 3 acres of virgin prairie on silt loam were known, in German Methodist Cemetery. As they tried to save this prairie, 2 acres were deliberately destroyed. This made the remaining acre all the more precious. Bill Barnes, John's predecessor in Indiana, was in tears. (If we pretend this wall is Indiana rather than Illinois, then an acre is the size of the iris in Rachel Carson's eye on the postage stamp.)

There were many parallels between German Methodist Cemetery in Indiana and Pine Ridge Cemetery in Illinois, as we were to find out. I'll explain what happened first in Indiana. John Bacone and others met with the people who controlled the cemetery, which included the local undertaker. The undertaker wanted things to stay just the way they were. Burial plots were cheap, maybe about $25, and he was getting a lot of business providing the extras. At the meeting they voted against saving that acre of prairie! The cemetery caretaker's granddaughter cared deeply about the prairie; she stood up, gave the people a piece of her mind, and then burst out crying and ran from the room. Dennis Wolko, working for The Nature Conservancy in Indiana, got up and gave the most impassioned plea for saving a natural area that John Bacone has ever heard. Dennis offered them whatever they wanted! More land in trade! A new cemetery drive! A fence! Yes, we'll even rebuild the cemetery's stone entrance pillars! Then, after hearing Dennis out, they voted again — to save that acre of prairie!

In August 1981, we had our meeting in Illinois, similar to the one in Indiana. We met with the Loda cemetery board, the Loda village board, the Loda Township board, and township residents. The township government was involved because Pine Ridge was the local public cemetery, and the township commissioners were to approve any decision about its...
use. The purpose of the meeting was not to decide whether to save the prairie but only to decide whether the cemetery board should even keep talking with us about the possibilities.

On the afternoon before the meeting, Kathryn Kerr and I visited the cemetery board secretary, who was not sympathetic to our cause. All along she had insisted the prairie would be a burying ground. She had once asked Don McFall, "What are you really after? Is something buried back there?" Don wasn't sure how to react the time she agreed to talk to him but "only if this will be the last time!" So, we knew how well we would be received. We admired her pet birds and talked of local history, but she was adamant: that prairie was for burials. She would not accept our pleas for a nature preserve or a grassy memorial to the settlers.

The public hearing was in the little brick town hall in Loda, early in the evening of a beautiful midsummer day. Don McFall, Kathryn Kerr, and I represented the nature preservationists. On the way into town, we stopped along the railroad and Kathryn gathered a bouquet of prairie flowers! We didn't explain that she'd just picked them a few blocks down the street with the other commissioners.

The meeting started late because of a political squabble in the hallway. Some village commissioners got so upset that they refused to enter our meeting room with the other commissioners.

Finally, the cemetery board president introduced Don, who made a fine presentation about the prairie. All listened carefully.

Then a man in the back corner spoke up. He hated weeds and insisted all the cemetery should be mowed, including the prairie! He went on and on, and his opinion caught on! The room started buzzing with grumbling about our no-good proposal.

The dissent grew louder. Things got out of hand, with everyone talking at once. I was scared. I thought we'd blown it just like that! I couldn't believe we'd lost the prairie so quickly. It was like hearing of the death of a loved one: I couldn't accept it - but it seemed so final.

I just sat there and thought of a bleak Sunday afternoon in George Fell's office eight years earlier. George was in the mood to pull out a scrapbook and tell me of the attempt to save Bell Bowl Prairie at the Rockford, Illinois, airport. They were hauling it away to build a runway. There had been all kinds of negotiations - but when it came right down to it, George went out to the prairie, stood before the construction boss, and pleaded with him to stop for just half a day. He backed the machinery off! With the extra time George gained, he got Governor Shapiro to send a telegram, and Bell Bowl Prairie was given a temporary reprieve, which is still in effect nineteen years later.

Now, back at the town hall in Loda, I was sitting there wishing this was all a bad dream. I remembered how George had explained his tactic to me: he said he had shown the airport engineer the strength of his personal conviction. He had caught the man's attention, made him hesitate, and though I appreciated his support, I knew that the prairie wouldn't even be here now if it weren't for your cemetery. Now we outsiders come up here with a special interest. Our interest is in the prairie. We have nothing personal to gain from your setting aside the prairie. We are asking you to do something you don't have to do, for the sake of the prairie. We have tried to express to you why the prairie is precious, so precious. You may not understand why we feel this way, but please believe us. Just please believe us.

That caught the crowd's attention. The room quieted down, and we continued the meeting.

In the meantime two men had ambled in from Genzel's Tap, the tavern across the street. They sat on the table at the back, with the prairie flowers, just taking it all in.

Then one of them spoke up. (I never got his name, so I'll call him Bud.) Bud said, "I like flowers! These here flowers are real pretty!" He said this more than once, and though I appreciated his support, I think everyone just wished he'd shut up.

To make matters more difficult, someone pointed out that people were buried in the prairie. We knew this. We'd been told that a few poor people, some strangers killed on the highway, and a hobo found on the Illinois Central tracks were in unmarked graves in the lowest, wettest corner of the prairie.

Don responded that we wouldn't bother the graves, and besides, nobody really knew where they were. The board secretary (the unsympathetic officer) jumped to the challenge, determined to set us straight! But before she could do much more than stammer and hammer the table and flip through the burial records, Bud put the issue in perspective. He yelled out, "Oh, nobody cares about those people!" Actually, he said more than that, but out of respect for the people buried in the prairie, I'll just say that we were all stunned. But the man who had a bit much to drink allowed himself to say that the flowers were pretty, and he wasn't afraid to speak up when we needed the help.

For the second time, the group calmed down. Don handed out a map showing how we might trade land for the prairie. The trade would be about 5 acres of farmland for 3 or 4 acres of prairie. The exact
When I saw the map it was my turn to get excited. Don had photocopied my original map, which had acreage figures in the margin computing how much land might be involved in the trade. I didn’t want them to see the figures. Even though we all knew that the cemetery association would get more land than they gave up, I didn’t want to “show our hand” with the figures. This would spell out exactly what a good deal they could get if they “played their cards right.”

All this time Bud had been sitting in the back poring over the map and calculations. He was a bit tipsy, but he could still do arithmetic. Suddenly he slapped the sheet, hopped off his perch on the table, and shouted, “You people are fools! This is a real good deal! They’re going to give us more land than we give them! What have we got to lose?”

Now everybody was studying the map and mumbling. I picked out, “Yeah, yeah,” and “He’s right!” Then they started calling out encouragement to us! My head was really spinning! It was like a movie in which the lynch mob decides that the territorial bully isn’t such a bad guy after all!

They started talking “what if”: What if the town sets aside the prairie — what will you do to keep the dope-smoking hippies out of the graveyard? You’ll need a strong boundary fence and your own access road so you won’t have to go into the graveyard to get to the prairie! And what about liability insurance? And we have a nice chain-link fence all across the front of the cemetery now; if you give us land to expand west along the road, then you’ll have to put up more chain-link fence so the front all looks the same.

We were in no position to bargain. As best we could, we agreed to each concern.

Then a board member brought up a pet point. (I knew he would.) When he watered flowers on his wife’s grave, he used a well in the center of the cemetery. I’d been told that this water was so bad that hardly anyone used it. But now this board member was pointing out that the well would no longer be in the center of the cemetery if we took the prairie. It wouldn’t be as convenient for everyone, so he insisted we should drill a new well at the west edge of the current cemetery, which would be the center of the expanded cemetery.

We would have agreed on the spot if it would have made the difference, but the meeting-goers shouted the proposal down. They had limits to what they felt was a fair bargain.

Then someone called for a vote, a show of hands. Except for the board secretary and the grump in the back corner who hated weeds, all were in favor of trying to save the prairie!

The meeting broke up, and several people apologized: the town really did want to treat us fairly. Because some village commissioners had refused to attend our meeting, I thought we hadn’t really won official approval to even try to work out a deal. But the officials dismissed my concern; they assured me that we had the town’s consensus. The board secretary took exception. She insisted on another meeting to decide what actually to do with the prairie.

There never was another meeting. We had the go-ahead: if we would buy land and give it to the cemetery, the cemetery association would dedicate the prairie as an Illinois Nature Preserve. They would still own the prairie, but under state law it would be put to its highest and best use as a nature preserve. It couldn’t be used for anything else. There were more than a hundred Illinois Nature Preserves, and none had ever been lost. George Fell had written a good nature preserve law.

But there was a hang-up. The owner had to sign the nature preserve dedication document, and we weren’t sure who the owner was. The Loda Cemetery Association thought maybe Loda Township actually owned the land, but the township didn’t think so.

We asked the Iroquois Title Company to check. They found no clear chain of ownership title in the county courthouse, and nobody paid taxes on the land. They concluded that it might be difficult for anyone to prove ownership, even by what they called “adverse possession” because it was virgin prairie. If it had never been used for much of anything, maybe nobody could prove ownership. The company refused to provide title insurance.

What about the people in unmarked graves in the prairie? Didn’t they have adverse possession? They couldn’t sign the dedication document, but maybe their descendants had a legal say in the matter.

We couldn’t track down these people, much less get their signatures! But George Fell had already taken care of this by writing a bill that the general assembly made law that year. The law says, “It’s okay to dedicate a cemetery as a nature preserve even if you don’t know who owns it.” (I won’t go into details.)

Next, we agreed on the south boundary for the preserve-to-be, much farther north than I wanted. The cemetery association had already platted 144 burial plots at the south edge of the prairie. Also, they wanted plenty of room to back their mowers out of a storage shed at the edge of the prairie without running into the preserve fence. I wanted to move the shed or build a new one elsewhere, but they wanted it right where it was. This wasn’t just any old shack; it got a fresh coat of paint and a sign declaring it a historical landmark, a peddler’s house moved to the cemetery to preserve it.
Similar problems had cropped up elsewhere, when someone found an abandoned pioneer cemetery, all grown up in prairie. As soon as the caretakers realized that outsiders were paying attention to the graveyard, their first instinct often was to clean the place up — get rid of all that tall prairie grass!

With the south boundary for the preserve settled, it was time to see about buying land to give to the cemetery association. Don and George went to talk with Mr. and Mrs. Ray Stout, who owned the farmland around the cemetery. On their way to the Stout farm, they stopped at the cemetery so that George could see the prairie for the first time. It had just been mowed (the trustees were showing us that they were still in charge), and it looked awful! George went ahead anyway and optioned 5 acres of the Stout farm. We had a year to pay the price of $18,750.

At this time, we were all still acting in good faith. Two months later the cemetery trustees voted to discontinue forever any intent to bury in the prairie, provided that we met our part of the bargain.

YEAR 7 (1982)

Three days before the real estate option would expire, nobody had come up with enough money for the farmland. George went back to the Stouts, put down $500 earnest money, got a two-month extension, and got $250 knocked off the selling price!

Ten days before that extension would expire, George signed the option over to The Nature Conservancy. Don McFall, who was doing most of the negotiating, had just transferred from George's staff at the Natural Land Institute to the Conservancy, so the Conservancy inherited the project along with Don. You all know how TNC prides itself in acting fast to buy land...

Well, there was a hang-up. We were working through the Conservancy's state and regional offices, which can approve most land purchases — but this was a special case. We were buying a soybean field, not a natural area, and the Conservancy's national board of governors had to approve such projects.

We felt sure the board would go along, but the real estate option was due to expire in less than a week and the board of governors wouldn't meet for over a month. If the deal fell through we weren't sure we could renegotiate with the Stouts (at least not for the same price), and the cemetery trustees might get so disgusted with all the delays that they'd just call the whole deal off.

Don called George. Four days before the option would expire, George took it back and exercised it the same day, converting it to a contract to purchase. Then he offered the contract back to the Conservancy. TNC's board of governors approved the project, and the Conservancy accepted the contract on December 16. They actually had to buy the land by December 30. They closed the deal on December 29, then rented the land right back to Ray Stout so he could keep farming it for a while.

YEAR 8 (1983)

In May the last big details were worked out. The Nature Conservancy deeded 5 acres of farmland to the Loda Cemetery Association. By then the trustees had decided not to keep the prairie after all, since they couldn't use it, so they deeded it to The Nature Conservancy. The Conservancy wrote a check for an extra $1000 to help pay for a new well and a new front fence whenever they wanted to put them in.

At this point even the cemetery board's lawyer was dismayed by the hard bargain the trustees were driving. She pointed out that the Conservancy was giving them a warranty deed with title insurance for the farmland. The board was just giving the Conservancy a quit-claim deed, which says, "If we own the land, you can have it (but we're not guaranteeing we own it)." The lawyer said, "Even I could give them a quit-claim deed!"

Then the cemetery trustees signed the nature preserve dedication document. They didn't have to sign (since they no longer owned the land), but we all thought it would be nice if they did. To the very end the board secretary said she didn't like the deal, but she signed anyway just to go along with the others. Governor Jim Thompson's signature went on the bottom line and Pine Ridge Cemetery Prairie became a nature preserve on June 8, 1983.

Now we had a nature preserve, but we still needed an access lane. Remember, two years earlier Don had talked to Dr. Helen Goodell, who offered to help in some way. Now the farmer who owned the land wanted $1000 for the access lane. Don called Dr. Goodell, and she paid for it. We put up a boundary fence, which cost over a thousand dollars; Dr. Goodell said, "Send me the bill!" Meanwhile, the Iroquois County Historical Society had been looking all over for the right monument to put in the prairie. Finally they found a nice big boulder at someone's farm. The rock was free but it cost $50 to haul it to the preserve. Then they put a bronze plaque on it and the bill was more than $200. Helen Goodell came to the rescue again!

And she came from Pennsylvania that June to help dedicate the memorial rock, along with Goodells from New York and Ohio. In October we had another dedication ceremony, for the nature preserve itself. Now that everything was settled, most everyone seemed pleased with the outcome. The cemetery board was thinking it might be nice if we put a gate in the boundary fence they just had us put up, so people could go straight from the graveyard into the prairie. We didn't think so.

CONCLUSION

Now that you know what we went through, you may wonder, "Do I think it was worth it?" More than $20,000 for 3.49 acres of prairie? And thousands of dollars in salaries and expenses? No doubt the professional staff donated more than half their effort "after hours" (what-
ever that means), on weekends, and when they didn’t happen to be on the payroll at the time. Others, never so fortunate to be paid for this kind of work, volunteered hundreds more hours. The cemetery board spent untold hours on the project.

Yes, absolutely, I think it was worth it. The prairie is so rare, it’s priceless. We paid a high price because we were in no position to bargain. The cemetery board accommodated us in a completely unnecessary and unexpected issue. We relied on their sense of fairness, their respect for nature and history, and, I might add, their ability to recognize a good deal.

You may wonder who actually paid for the land. The Natural Land Institute kicked in $8000, and The Nature Conservancy raised the rest. Right then a man contacted TNC from his home on Mt. Desert, an island off the coast of Maine, to see if he could help some project in Illinois. This man helped pay it off, sight unseen.

I’ll tell you why it was worth the cost. The seven east-central Illinois counties (including the state’s biggest counties) were once known as the Grand Prairie — almost treeless. The Illinois Natural Areas Inventory found less than 18 acres of virgin black-soil prairie in those seven counties, and I doubt if we overlooked much, if any. A fifth of that prairie is at Pine Ridge. When I reported these statistics to the North American Prairie Conference in August 1978, some of us cried. When I spoke to the beginnings of the Natural Areas Association that same fall, I said we should quit crying and get to work. This story shows what we can do when we get to work!

The work is not over at Loda. Now the preserve must be managed. For example, teasel has become a terrible weed. Newspaper reporters always assume that teasel is a bizarre prairie plant, and we don’t seem to set them straight — as evidenced by these newspaper clippings. Look at this one: here’s a cemetery trustee pictured in the Paxton Daily Record, admiring teasel. Here’s a photo of Don McFall meeting with the press. What’s he silhouetted against? Teasel! And look at this one! TEASEL all across the front page of the Loda Times!

We spent eight years trying to save the prairie and we’ve just finished our seventh year of battling teasel! The work will never end, but I’ll end this story with three messages.

First, our experience at Loda shows once again: to protect a natural area, work in terms of the owner’s interest — whether that interest be in money or simply in the opportunity to contribute to a good cause. The sooner you meet the owner’s needs, the sooner you will succeed.

Second point: some of you are thinking, “Cute story, Jack, but we don’t preserve prairies smaller than 40, maybe 100 acres.” If you think these little prairies aren’t worth saving, meet me outside later and we’ll discuss the matter — but I’m not quite through here yet.

Everyone, please understand, we must not give up on these little prairie remnants where that’s all we have. These tiny cemetery prairies have been completely isolated by miles and miles of cropland for a hundred years, but don’t use landscape ecology theory to conclude that they’re not worth saving. Sure, they’ve lost animals from bison to butterflies, and that’s a big loss, but they’re not losing the plants. Any given hundredth-acre in a cemetery prairie is apt to have the same plant species diversity as any given hundredth-acre in any larger prairie. The mere fact that these prairies still exist after a century of fragmentation, isolation, neglect, and marginal management is telling: they are viable!

My last point: don’t give up. Put all your heart into your work. A natural area is not lost when the owner says, “Get lost!” Tonight I’ve given three examples of how heartfelt, last-minute, personal pleas helped turn things around — after it was “too late”: George Fell at the Rockford airport, pleading for just half a day to work things out; Dennis Wolkoff in Indiana, refusing to take “no” for an answer; and our plea at the town hall in Loda, begging them to please believe us even if they didn’t understand the value of the prairie. Just don’t give up!
The Grand Prairie region of central Illinois is almost all farmland. From my home in Urbana, the nearest natural prairie is 26 miles to the north, a five-acre remnant in a pioneer cemetery. When I take a trip to Pecatonica, I pass within 23 miles of a five-acre piece of prairie in a cemetery east of Bloomington. Along my route from Urbana to Pecatonica, these are the two closest patches of prairie on the south side of the Illinois River.

After I cross the river and continue north, prairie remnants are not so far between. A few lie west of the highway in the wet, sandy plain of the Green River Lowland. Farther north, I approach the rocky prairies that are scattered across the Rock River Hill Country.

For the past year I have been conducting a systematic search for prairies and other natural areas in the Pecatonica River valley. Soon after I began this project, Sue Merchant told me about Pecatonica Ridge Prairie and she described its approximate location. I immediately looked for it on a set of aerial photographs and a topographic map, but I couldn’t find it. Then Sue took me to the prairie and I learned why I didn’t spot it. Based on all that I knew up until then, I never would have suspected that the prairie would be where it actually is. Here’s why:

Native Illinois prairie has been almost entirely converted to farmland. Most of the remaining prairie is on soil that is too wet, dry, sandy, rocky, or steep to be farmed. Nearly all of the prairie that somehow escaped the plow has long been pastured — and prolonged grazing by livestock destroys prairie as surely as plowing does. Native grassland also needs to be burned periodically or else it is overwhelmed by foreign grasses and invasive woody plants. Now most prairie remnants are growing up with brush and weeds because they do not burn often enough, if at all.

If a patch of upland prairie is to survive anywhere in Illinois — and if it’s not in an old cemetery or along a railroad line — it is likely to be on thin, rocky or sandy soil. It’s also likely to be on a steep, dry, exposed, south or west-facing slope. Under such conditions, the prairie is bared to the full effect of the summer sun during the hottest time of the day, and the vegetation feels the drying impact of southerly and westerly winds. In this harsh environment, native prairie plants sometimes manage to persist and out-compete foreign grasses, weeds, and invasive trees and shrubs.

Pecatonica Ridge Prairie does not fit these circumstances. Although the prairie has thin, rocky soil, it’s not on a steep, high, exposed ridge that faces south or west. Instead this prairie is on the crest and slopes of a low hillside that faces north. Most importantly — and the reason why I passed over it while scrutinizing aerial photography: the prairie is next to a farmstead. I know that such areas have invariably served as pastures and have suffered...
about a century and a half of damage by cattle, horses, and even pigs. Never in my experience has an Illinois prairie survived prolonged and intensive pasturage.

Pecatonica Ridge Prairie proved my assumptions wrong. As Sue Merchant and I later learned, the prairie was once a pasture, but it was not grazed too hard. Although the farmstead and barnlot were right across a fence, the prairie was at the south end of an 80-acre tract and it had no water. A windmill pumped water beside a marsh at the north end of the property, a quarter mile away. Livestock must have congregated in the lush lowland down by the water, leaving the rocky prairie high and dry and pretty much unharmed.

It takes an extraordinary combination of good fortunes to allow a prairie to persist into the 21st century in Illinois. Yet these miracles do happen. In the case of Pecatonica Ridge, it was a combination of three factors: (1) an unusual physical environment (thin, rocky, limestone soil that favors native prairie plants), (2) a fluke in land use and local geography (a pasture without a water supply), and (3) ultimately and most importantly, the Sass family, who owned the farm with this prairie. They saw and appreciated the beauty and rarity of the prairie flowers — and intentionally kept the prairie safe in recent years.

When I visited Pecatonica Ridge Prairie with Sue, we came across four of my favorite plants. Here’s why I find them fascinating:

**Porcupine grass**

Porcupine grass grows on the thinnest, driest soil at Pecatonica Ridge. It’s a characteristic plant of the northern Great Plains — more at home in the Black Hills than in the tall-grass prairie east of the Mississippi River.

This grass got its name because its seed has a needle-sharp point at one end and a three-inch bristle at the other. When the seed falls to the ground, the bristle makes a right-angle bend and catches against vegetation; this serves to brace the seed and anchor it against the soil. Then the seed plants itself. The bristle twists in one direction when it’s moist (on a dewy morning), and then it twists in the opposite direction as it dries out (in the heat of the day). This twisting and untwisting forces the seed into the ground. The tip of each seed has tiny “one-way” barbs that allow the seed to drill into the soil but help keep it from pulling back out of the ground.

The trouble is, these seeds can also catch in a sheep’s wool and screw into its flesh. Porcupine grass can kill sheep that are allowed to graze on a prairie when the grass has gone to seed.
Rosinweed

Rosinweed is a trademark of the prairie. I always look for it and was happy to find it at Pecatonica Ridge. Rosinweed is named for its gummy, pine-scented sap. A friend of mine once chatted with a man who had labored on a threshing machine long ago. The old-timer recalled what he would do if the belt began slipping on the threshing machine’s drive pulley: he’d break off a clump of rosinweed and toss it between the drive belt and the pulley. The plants would crush between the belt and pulley — and their sticky sap would make the belt seize to the pulley. Thanks to rosinweeds, the crew could keep on threshing.

New Jersey tea

New Jersey tea is one of the few shrubs that are native to our prairies. This plant has delicate stems and showy white flowers, and it grows no more than knee-high — so it looks more like a clump of wildflowers than a bush.

The scientific name of New Jersey tea is Ceanothus americanus. Other species of Ceanothus are among the predominant plants in chaparral — the dense, shrubby growth on the coastal mountains of southern California (the backdrop for so many cowboy movies). Chaparral is prone to tremendous wildfires — just like our prairies once were. Ceanothus is adapted to such blazes: both here and in California, the shrub burns away and then grows right back after the fire has passed.

Although New Jersey tea survives and even thrives after being burned up, I have never, ever, seen it growing anywhere except on unplowed soil — in virgin prairies or in savannas that never were cleared and farmed. Once the ground has been broken by a plow, New Jersey tea evidently does not come back — even if the land is allowed to revert to native vegetation.

How could this be? The answer may be underground. Natural prairies are notoriously deficient in nitrogen. Legume plants such as beans and peas can make their own nitrogen
fertilizer because they harbor nitrogen-fixing bacteria in their roots. These bacteria extract nitrogen right out of the air and change its chemistry to a form that a plant can absorb through its roots. New Jersey tea is not a legume, but it is one of the few other kinds of plants that have nitrogen-fixing bacteria in their roots.

I wonder: when a prairie is plowed up and all the New Jersey tea is killed, maybe a delicate relationship between this plant and soil bacteria is destroyed. And then, when a surviving seed of New Jersey tea germinates, the growing root cannot find the bacteria that the plant needs in order to thrive and compete with other plants — so the seedling dies. What else could explain why I have never seen this species growing naturally anywhere that has ever been plowed?

**Prairie smoke**

Prairie smoke is one of the earliest of spring-blooming flowers. The purplish plumes of its seed-heads have been likened to smoke rising from the prairie. This member of the rose family grows on the thinnest soil, where limestone bedrock is right at the surface. The species was first discovered in Illinois in May of 1859 by M.S. Bebb, a physician and preeminent botanist who lived near Seward, a few miles south of Pecatonica Ridge Prairie.

Prairie smoke has one of the broadest natural distributions of any species of plant anywhere on the planet. It grows in Newfoundland, surrounded by the waters of the North Atlantic. It grows beyond the treeline in the Yukon Territory, within 500 miles of the Arctic Circle. Its range extends all down the Rocky Mountains into the high-altitude desert of Arizona and even farther south into Mexico. From Pecatonica Ridge Prairie, you would have to journey more than 1,500 miles to the northeast, well over 1,500 miles to the southwest, and about 2,000 miles to the northwest to seek out the most distant prairie smokes.

Although prairie smoke ranges from Canada to Mexico, Pecatonica Ridge Prairie is at the very southern limits of its distribution in the mid-continent. This species needs a relatively cool summer climate and limestone soil. Much farther south than the Pecatonica River valley, it gets too hot and the limestone is almost all buried by glacial soil.

I imagine that the rocky hilltops around Pecatonica used to turn a hazy purple with prairie smoke each spring. Now there are maybe a dozen of these plants at Pecatonica Ridge Prairie. If you could climb high up in a tower and look straight south from Pecatonica Ridge with an all-powerful telescope, I bet your gaze would not fall upon another prairie smoke plant. But even without a tower and a scope, if you look a little to the east of due south, you can see steam rising from the nuclear power plant on the Rock River at Byron, 17 miles away. A professor from the University of Illinois gathered a specimen of prairie smoke from a “residual limestone hilltop prairie” at Byron on June 16, 1948. Prairie smoke still holds on there today in Jarrett Prairie Nature Preserve.
Little patches of prairie smoke have been found on a few other, scattered spots of dry, rocky or sandy soil farther west in Stephenson, Jo Daviess, and Carroll Counties. If you stood on the Mississippi River bluff near Galena and peered westward with an all-powerful telescope, you would spy a few prairie smoke colonies in northernmost Iowa — and then you would see no more of them until you focused in on the Rocky Mountain foothills rising beyond Cheyenne, Wyoming!

* * * * * * * * *

I’ve shared a little about four plants at Pecatonica Ridge Prairie: a grass with a seed that plants itself, a flower that links us to the era of steam-powered threshing machines, a shrub that is reminiscent of the California chaparral, and a showy denizen of the northern plains and western mountains. This prairie has at least 47 species of native prairie plants, and the lowland north of the prairie has many of these plants plus 32 other native prairie and wetland species. Each has its own story to tell.

Prairies are vanishingly rare in Illinois. One hundredth of one percent of the original prairie has survived in good condition, in about 250 fragments. Each is precious.

Pecatonica Ridge Prairie must be made secure, and then it needs to be cared for. It’s imperative.
About the author:

Jack White designed and directed the Illinois Natural Areas Inventory in the 1970s. The project received two national awards for its pioneering methods and excellent results. During the 1980s he was chief ecologist for The Nature Conservancy, and he helped establish or supervise natural heritage inventory programs in all 50 states and seven other countries. Now he is co-authoring a plan to update the Illinois Natural Areas Inventory, and he is using the Pecatonica River valley as a proving ground to develop and test new methods for identifying high quality natural areas.
Nature preservation began with emphasis on preservation of scenic grandeur and natural beauty and preservation of species.

At first, the most magnificent places, such as Yellowstone, Yosemite, and the Adirondacks got attention. Gradually, interest grew in preserving other spectacular scenic treasures. Virtually every preservation accomplishment was the result of years of dedicated struggle.

Yellowstone became the first national park in 1872. The first state parks were established in the latter part of the 1800's. The Yosemite Valley became the first state park several years after it was given to California by act of Congress in 1865 (before it became a national park). In 1872, the New York legislature established a temporary Commission on State Parks. In 1885 the legislature enacted bills making Niagara Falls New York’s first state park and declaring the state-owned land in the Adirondacks would be kept "forever wild."

Voluntary organizations for nature preservation developed in accordance with the perceived needs. The Sierra Club, the Audubon Societies, and some other influential conservation groups got started in the last century. Sportsmen's organizations played a major role in the early efforts to conserve our land and wildlife.

Government agencies were established to care for the areas that were set aside and to protect wildlife. It was not until 1916 that the National Park Service was created. Eventually, through bitter struggles and dedicated persistent efforts, our present-day national, state, and local systems of parks, forests, and refuges were established and took form.

The study of natural history preceded preservation efforts. Our magnificent natural history museums and the many monumental early-day books on natural history attest to the diligent and dedicated efforts of the pioneer naturalists that explored the wilderness.

When preservation efforts finally got underway, naturalists had a substantial part in them. But, with a few notable exceptions, the old-time naturalists didn't do much about natural area preservation other than to help preserve scenic grandeur and wildlife. Either they didn't see the need or they didn't think there was much they could do about it.

The study of natural history eventually resulted in development of the science of ecology. With growth of that discipline came the need to organize a professional society. The Ecological Society of America was formed in 1917. It established a Committee on the Preservation of Natural Conditions under the chairmanship of Victor E. Shelford and charged it with listing all preserved and preservable areas in North America in which natural conditions persist and with promoting their preservation.

In 1926, the Committee completed the "Naturalist's Guide to the Americas", a description of natural conditions in the various states and regions and detailed directory of the natural areas of note that were then known to ecologists. Through the years, the Committee on the Preservation of Natural Conditions participated in the efforts to set aside parks and wilderness areas.

Natural area preservation efforts gradually took form in the early part of this century, though usually the goal of preservation of natural communities was not clearly distinguished from the goals of scenic preservation and preservation of areas for outdoor recreation. There were organized volunteer efforts to save specific areas; then regional, state, and national efforts began to develop. Organized efforts led gradually to the establishment of state and local park systems, as well as the national park system. The National
Parks Association (now called the National Parks and Conservation Association) was established in 1919 to defend the national park system. The Wilderness Society was formed in 1935 to promote the cause of preserving wilderness areas, particularly within the National Forests and other Federal lands.

A few of the groups set about raising money and acquiring land for preservation, usually to turn it over to a public park agency. The Massachusetts Trustees of Public Reservations (now called the Massachusetts Trustees of Reservations) was formed in 1891 and began acquiring natural and historic sites, some of which it continued to hold and manage. The Save-the-Redwoods League, organized in 1918, became notably successful in raising large sums of money to achieve its objective.

In 1945, some members of the Ecological Society of America objected to the Society engaging in nature preservation activities. Members of the Society that were concerned about nature preservation formed a new organization, the Ecologists Union, to carry on the work of the Society's Committee for the Preservation of Natural Conditions and Committee on the Study of Plant and Animal Communities.

By the late 1940's, it was becoming clear to participants in the Ecologists Union that our park systems, game laws, existing governmental agencies, and other conservation institutions were not adequate to preserve the full spectrum of natural communities and features. Many natural types were not preserved in any manner, and areas that were set aside in public ownership were vulnerable to degradation from intensive recreational use, development, or commodity production.

The concepts and goals of the wilderness preservation movement, as promoted by The Wilderness Society, provided a pattern, on a grand scale and with a somewhat different orientation, of what was needed for natural area preservation.

The historic preservation movement to save significant sites and buildings was gaining momentum and provided another model to follow. In 1949, historic preservationists established the National Trust for Historic Preservation under a Congressional charter as a central focus for their efforts. The National Trust was patterned after the British National Trust for Places of Historic Interest or Natural Beauty, established in 1895, which, in turn, drew its pattern from the Massachusetts Trustees of Public Reservations.

On the international level, the International Union for the Protection of Nature (later renamed the International Union for the Conservation of Nature and Natural Resources) was established in 1948. Its conferences and publications revealed that people in countries all over the world were concerned and doing something about natural area preservation.

Most every country, it seemed, had its society for the protection of nature or the promotion of nature reserves. Many of these voluntary organizations, as well as governmental agencies, owned and managed nature reserves. Some of the groups had much larger memberships than their counterparts in the United States. They numbered in the tens of thousands, compared to a few hundred in the Ecologists Union and less than 5,000 each in the National Parks Association and The Wilderness Society.

Many other countries also had government agencies specifically for nature conservation. For example in 1959 Great Britain established The Nature Conservancy under Royal Charter as an official governmental body "to provide scientific advice on the conservation and control of the natural flora and fauna of Great Britain; to establish, maintain and manage Nature Reserves in Great Britain, including the maintenance of physical features of scientific interest; and to organize and develop the research and scientific services thereto". (The Conservancy was reorganized in 1973 as the Nature Conservancy Council.)

The participants in the Ecologists Union realized that if anything was to be done to save natural areas on a systematic basis, those who were concerned would have to do the job themselves. In 1950, they changed the name of their organization to The Nature Conservancy and began adapting the successful patterns of many other groups, conservation, historic preservation, and health and welfare, to their purposes.

The Nature Conservancy embarked on a program of direct preservation of natural areas by acquisition, through chapters and project committees and proceeded to grow and accomplish great things.
Participants in the natural areas movement also fostered other structures to carry on the effort. The first state natural area legislation was enacted in Wisconsin in 1951 when the Wisconsin State Board for Preservation of Scientific Areas (now the Scientific Areas Preservation Council) was established. Illinois established the first state system of dedicated nature preserves in 1963. South Carolina became in 1976 the first state to establish a natural heritage program in cooperation with The Nature Conservancy. Most of the states now have some sort of official natural area program. Many regional and local not-for-profit organizations were established, including those that are now grouped under the general classification of land trusts. The Natural Areas Association was established in 1978 to serve as a medium of communication among natural area workers. The Land Trust Exchange was organized in 1982 to facilitate communication among land conservation organizations.

Since these efforts began to take form, we have grown and become more sophisticated. We have made inventories, assembled databases, developed operating plans and procedures, and established priorities. Where once we were opportunists, preserving what we could when we could, we now plan and direct our efforts deliberately.

The concepts are the same, they have just been shaped and polished. The Nature Conservancy started as a landowner contact program carried out by volunteer land stewards. Then it became a professionally oriented organization with much of the work being carried out by staff. Now we are back to thinking in terms of landowner contact programs and organization of volunteer land stewards and other volunteer workers — the same concepts, but with much more sophisticated techniques.

What has happened during the 38-year period of current history since organization of the Ecologists Union, and what does it indicate about the future?

To get a perspective, let's look at the growth that has taken place in the years since 1945 in the natural area preservation movement.

Since growth is a phenomenon of compounding by geometrical progression, we know that the best way to compare rates of growth is with a logarithmic graph, as shown in figure 1. Here we encompass the 40-year period between 1945 and 1985, with a vertical logarithmic scale marked with powers of 10. One and 10 are the same distance apart as 10,000,000 and 100,000,000. The lines on the graph illustrate growth rates ranging from 10% per year to 100% per year.

For comparison, let's have a look at the growth pattern exhibited by the pre-eminent blue-chip growth corporation: IBM — also known within the computer industry as Big Blue. Figure 2 shows IBM's record from 1962 to the present. This is based on earnings statistics adjusted as though dividends were reinvested when issued. The overall indicated rate of growth is approximately 18.5% per year — quite a phenomenal record of consistent sustained growth through good times and bad.

For comparison, let's have a look at the growth pattern exhibited by the pre-eminent blue-chip growth corporation: IBM — also known within the computer industry as Big Blue. Figure 2 shows IBM's record from 1962 to the present. This is based on earnings statistics adjusted as though dividends were reinvested when issued. The overall indicated rate of growth is approximately 18.5% per year — quite a phenomenal record of consistent sustained growth through good times and bad.

Figure 1. Annual growth rate lines on logarithmic scale.

Figure 2. Accumulated earnings of IBM, with dividends reinvested.
Now let's look at another organization that goes by a 3-letter acronym: TNC. Maybe we should call it Big Oak Leaf.

Figure 3 charts membership numbers for The Nature Conservancy, from the 130-member beginning of the Ecologists Union in 1945 to the present 160,000+ members -- a growth line, with very few wobbles, that has achieved a 38-year record of 21.5% per year.

One might analyze the factors that have influenced the Conservancy's membership growth from year to year: the effects of volunteer membership recruitment efforts by chapters, project committees, and individuals through prolonged periods of years when the national organization made little or no deliberate membership recruitment efforts; the effects of emphasis on direct mail solicitation in the 1950's and again in recent years; the effects of changes in policies and administration; and the changes that may have taken place from time to time in the standards for counting members of different categories. But these are minor details that are engulfed in a seemingly inexorable trend.

One also might speculate on what the future will and can bring. Another 38 years on the same growth line would see TNC's membership getting pretty close to encompassing the entire population of the United States. But we know exponential growth cannot continue indefinitely. As Aldo Leopold and others demonstrated in the early days of the science of wildlife management, sooner or later adverse factors will begin to take their toll and hold down the rate of growth until finally it is level at best. The principles underlying the concept of the "balance of nature" apply to populations of organization members just as they do to wildlife populations out on the land. There is the additional limitation that there is a finite number of potential members.

Let's now look at another measure of TNC's growth. Figure 4 charts progress in land preservation as indicated by cumulative number of land preservation projects and cumulative number of acres preserved. Here, the overall annual growth rates from the first project to the present and from the first acre preserved to the present are approximately 29.3% and 38.8%, respectively.

Again, one might analyze the wobbles from year to year: the contribution of volunteer project efforts in comparison with big land deals engineered by professional staff; the changes of plans, policy, and procedures from time to time; the effects of inventories, database accumulation, and prioritizing of projects; changes in emphasis between independent projects and preacquisotion for governmental agencies; the effects of changes in governmental policy, changes in the economy, and changes in public interest and attitude; and possible changes over the years in the rules for tallying projects and acres. But again, these factors seem overshadowed in comparison with the long-term trends.
Figure 5 charts the financial aspect of TNC's history, with one line representing total annual general operating fund revenue and support and the other showing total fund balances. There may be some discrepancies from year to year as a result of changes in accounting policies. More detailed research would probably make it possible to eliminate some of the kinks in the lines; but no matter, they are remarkably consistent already. These lines show overall annual growth rates of approximately 33.2% and 47%, respectively.

In figure 6, the growth lines are superimposed making it easier to compare the trends. The five lines together exhibit an average growth rate of 34% per year for the 38-year period.

What significance do these charts have? What do they portend as to the future?

Clearly, TNC has had a remarkable growth history. Through the administrations of 11 chief executive officers and numerous other officers and Governors; through cycles of prosperity and recession; through years of war, turmoil, and political and social change, growth has continued consistently and seemingly almost inexhorably. Has it been pushed forward by a remarkable sequence of administrative talent, or an outstanding organizational concept and structure, or the combined, determined efforts of a growing band of dedicated believers? It is obvious that the latter is the key factor.

One thing that seems evident in the charts is a tendency toward levelling off of some of the lines. The membership line, however, is moving steadily upward. Many factors that may contribute to various trends and changes could be analyzed and discussed -- the influence of governmental fiscal and land acquisition policies; increasing selectivity in undertaking preservation projects; and changes in trends of support from foundations, corporations, and individual members are examples.

These growth trends of TNC do not stand alone. They are just examples of the growth that has been taking place in preservation programs in general.

One could plot similar growth trends for state natural area programs, for land trusts, for historic preservation, and for other conservation and environmental organizations and movements. We could analyze and in some cases chart many aspects of natural area preservation -- the development of inventories and heritage databases, our changing concepts and practices in natural area management, our development of policy, and the enactment of state legislation.

We could compare the fortunes of the natural area movement with those of other related endeavors. We could compare the relative success of various components of the natural area movement. We could analyze how natural area preservation has fared in comparison with other aspects of conser-
The natural area movement arrived late on the conservation scene. Securing its appropriate place and status within established rigid administrative hierarchies can be a difficult problem. How do we deal with the increasing cost of labor? How can we best make use of volunteers and other alternatives to paid workers?

What are the limits of growth of the natural area movement? Careful analysis and projection of the TNC growth statistics and of the growth lines of other organizations and movements might yield us some clues.

What are the future prospects of TNC? Will it continue to prosper in the years ahead; or will prosperity, size, and bureaucratization lead to complacency and stifling of initiative? Will there be a point where growth of revenue can no longer sustain expanding personnel costs? Will there be a continuing balance between volunteer and professional participation, or will one eclipse the other? Will the cost of maintaining preserved areas be sustainable?

We should not be smug and complacent as a result of the apparent accomplishments during these past years. A bit of charting of unmet preservation needs, of rates of destruction of natural areas, of comparisons between the amount of natural land preserved and the amount destroyed, or of the management deficiencies and deterioration of some of our nature preserves might yield results as startling as TNC growth lines, but not so exhilarating.

What are the prospects for state governmental programs? How can we secure them against political change? How can we facilitate the development of programs in states that do not yet have natural area programs, and how can we encourage the lagging states to keep up with those that are leaders? Also, how can we get even the leading states to undertake programs that remotely approach what they should do and could easily afford to do? How can we structure and develop nonprofit support organizations that will strengthen and help stabilize state governmental nature preserve programs?

We should not be smug and complacent as a result of the apparent accomplishments during these past years. A bit of charting of unmet preservation needs, of rates of destruction of natural areas, of comparisons between the amount of natural land preserved and the amount destroyed, or of the management deficiencies and deterioration of some of our nature preserves might yield results as startling as TNC growth lines, but not so exhilarating.

What can we foresee for the future, and what actions should we take to influence the course of events? There are many questions that demand our careful consideration and yield no clear and simple answers.

What are the limits of growth of the natural area movement? Careful analysis and projection of the TNC growth statistics and of the growth lines of other organizations and movements might yield us some clues.

What are the future prospects of TNC? Will it continue to prosper in the years ahead; or will prosperity, size, and bureaucratization lead to complacency and stifling of initiative? Will there be a point where growth of revenue can no longer sustain expanding personnel costs? Will there be a continuing balance between volunteer and professional participation, or will one eclipse the other? Will the cost of maintaining preserved areas be sustainable?

Will TNC's business administration acumen foresee and avoid future pitfalls and keep the organization going on a steady course? And, on the other hand, will emphasis on the competitive methods and techniques of the business world damage the organization's integrity as a volunteer charity and its ability to work cooperatively with other groups?

What are the prospects for land trusts and other preservation organizations? Will they pace TNC, be left behind, or ultimately take over? Should we concentrate our efforts and support on TNC to assure its continuing strength and effectiveness, or should we also be concerned about developing other organizations as backups, and as competitors to keep TNC on its toes?

What can we do to secure adequate federal legislation and programs for natural areas? How do we induce federal landholding agencies to make reasonable efforts to set aside natural areas?

How do we keep up with and exploit modern technology? To do justice to our cause, we must adapt ourselves to the computer age. We must make deliberate and continuing efforts to learn about and make use of the technological innovations that are being developed and made available with incredible rapidity.

How do we deal with the increasing cost of labor? How can we best make use of volunteers and other alternatives to paid workers?

How do we develop our movement into a perpetual protector of natural areas that will stand up against the ravages of vandals (political as well as physical) and exotics? This is the ultimate question.

What happens when the crunch comes? Can we construct institutions and traditions that will endure? Can we provide the physical protection that may be needed?

We must learn more about psychology -- about how to induce people to respect and protect nature preserves. Also, we must understand our own feelings and motivations. For instance, we should
understand the phenomenon of paranoia, its functions and its value in motivating defensive action before it is too late, as well as the hazard of it getting out of hand. To what extent is it necessary, feasible, and desirable to build "walls" around nature preserves?

Barriers and gates certainly are necessary to deter intrusions in many situations. They also serve another function. They can have value in making people feel the place they are entering is something special that is set aside from the rest of the world and deserves special care and respect. We have done little to learn about and exploit such subtle effects. The techniques are already well known and developed by others. Examples of effective entrance gates can be seen in many places.

What are the trends in human behavior and interest -- can we predict and exploit them? Is the environmental movement a passing fad, or is it part of the long-term development of our civilization? Can we depend on the developing interest in heritage preservation to sustain the natural area movement in the future as it has over the past 38 years? We must hope that as natural areas become increasingly rare they will continue to become increasingly precious to people.

What are the tools for achieving permanence? And how can we use them? We are aware of them in a general sense, but we need to consider them deliberately and carefully since the success of our efforts is so critically dependent on long-term stability. We do not share with many other endeavors the ability to start over again and rebuild in case we suffer losses.

Maybe we can learn from past efforts and failures to create perpetual monuments. Let us remember the fate of Ozymandias' works:

I met a traveler from an antique land,
Who said: Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,
Half sunk, a shattered visage lies, whose frown
And wrinkled lip and sneer of cold command,
Tell that its sculptor well those passions read,
Which yet survive stamped on these lifeless things
The hand that mocked them, and the heart that fed:
And on the pedestal these words appear:
'My name is Ozymandias, King of Kings:
Look on my works, ye mighty, and despair!'
already demonstrated impressive effectiveness. Others are proving to be more vulnerable than we had hoped and need improvement. Laws establishing state nature preserve systems and various other protective provisions have so far been highly effective in diverting development agencies such as highway departments away from preserved, or even inventoried, natural areas. It seems that as long as laws and policies for protection of natural areas are in place they are likely to be respected and effective. Governmental administrative structures, on the other hand, are difficult to develop and institutionalize in such a way as to make them secure from administrative change.

The natural areas movement runs a risk of falling victim to subtle and seemingly innocuous changes that over time can bring serious damage. The plight of the national wildlife refuges, as described in Jim Doherty's article, "Refuges on the Rocks", in the July 1983 issue of AUDUBON magazine, shows what can easily happen to nature preserves if we are not vigilant. What may appear to be minor concessions of recreational or utilitarian intrusions in nature preserves can start an almost irreversible trend of deterioration. Nothing is more difficult to eradicate than an established adverse use.

As natural area specialists, we are somewhat isolated from the long-standing and ongoing controversy between the preservation and utilitarian aspects of conservation. The depth and significance of this philosophical split must be studied in historical perspective to be understood. Natural area preservation seems relatively benign and acceptable to all persuasions of conservation philosophy. One may therefore feel the divergence between the philosophies of preservation and conservation for consumptive use is not really significant to the natural area movement. In reality, the issues are much the same for the protection of natural areas from intrusions as they are for wilderness areas and national parks.

There are other critical policy questions that deserve our careful attention.

Should we be content to stop when our ark is stocked with a couple of representatives of each major natural type and element of natural diversity? Or are we justified in seeking to preserve much more, on the basis that whatever we can accomplish in many parts of the country will really be far less than adequate? We may have a tendency to be timid in our goals and too fearful that we will get more areas than we can maintain, that less than pristine areas cannot be defended or will downgrade our nature preserve systems, or that our credibility will be damaged with other land managing interests if we appear too greedy.

How much is possible or enough is largely a matter of perspective. With really so very little in sight, it is easy to set our goals too low. There once was a time when The Nature Conservancy's Board of Governors discussed whether or not three field representatives -- western, midwestern, and eastern -- were sufficient staff. And it took quite awhile before having staff at the state level was thought to be appropriate.

Do we run a risk, in concerning ourselves with preserving natural diversity, of becoming too preoccupied with species preservation at the risk of neglecting the preservation of natural communities? The concept of preserving species seems in a way easier to understand and more appealing than the concept of preserving natural communities. They are both needed, and surely it is essential to expand our understanding of the diversity of natural communities and to preserve not only the major types but their variations as well.

All of these observations and questions tell little of the future of the natural area movement. But they may contribute a bit to our perceptions and stimulate further thought and discussion. Many of these matters are ongoing concerns of the Natural Areas Association and have been subjects of discussion in the Natural Areas Journal and in natural area workshops. Others have been neglected.

There is much room for interesting and productive research on many matters in addition to such difficult and essential subjects as techniques for controlling exotics and managing natural vegetation. For instance, we should encourage studies relating to growth and management of organizations within the natural area field and within other conservation endeavors. Maybe there are students of business administration or political or social science who could undertake such studies.

Here, in conclusion, is one more observation:

I think we who work in the natural area pre-
servat although are blessed -- we are truly chosen people.

We are living in affluence in a period of exciting and fascinating rapid change, enjoying a great many benefits never before available.

Moreover:

We are doing what we want to do, in relative comfort, without privation or great self-sacrifice.

We have a great group of people to work and associate with.

We have many supporters and a multitude of well-wishers.

We have a cause. How many people have a cause -- of any kind -- a purpose in life?

We have a noble cause. What nobler cause can there possibly be? Certainly, in our minds, what we do is as important and selfless as feeding the hungry, healing the sick, teaching, and helping people in other ways. In a way it should be more long lasting. To us, our work is among the most basic of charities.

We fight a difficult and frustrating battle, with tragic losses, but we are making great accomplishments. What other cause can claim more?

Almost nobody before us had seen the need or been able to set aside natural areas. And those that follow will no longer have the chance. They will only be able to care for what we leave them.

As dedicated workers in this totally unique situation, we have an obligation to pursue our goals with all the strength and fervor we can.

EDITORS NOTE:
The author has been directly active in natural areas work in the United States since 1949 and since then has served as an officer in the Ecologists Union, the Executive Director of The Nature Conservancy, founder of the Natural Land Institute and has most recently served as the first secretary-treasurer of the Natural Areas Association.
Protection of Pine Ridge Cemetery Prairie: A Story of Persistence and Cooperation

John White
The Nature Conservancy
1800 N. Kent St.
Arlington, Virginia 22209

ABSTRACT: In 1976 the Illinois Natural Areas Inventory found a 4-acre virgin prairie remnant in Pine Ridge Cemetery at Loda in east-central Illinois. High quality examples of tall-grass prairie are exceedingly rare in the region. This prairie was intended to be converted to burial plots, but cooperative efforts involving the cemetery board, local residents, private conservation groups, and state agencies resulted in dedication of most of the prairie as an Illinois Nature Preserve in 1983. A challenging series of setbacks and successes in saving the site spanned all aspects of natural area preservation from identification, to landowner contact and acquisition, to dedication and management.

This is the narrative of a presentation given at the Fourteenth Annual Natural Areas Conference, October 13, 1987, in Peoria, Illinois.

INTRODUCTION

Tonight I'll tell the truth about how the profession of nature preservation really operates. This is a story about a specific place in Illinois; but wherever you work, you may catch a glimpse of your specialty — whether it is fundraising or species inventories. We'll have fun with this story, but there's also a serious side: I'll show how each of us, by persisting and by cooperating with others, can make the difference between losing and saving part of our natural world.

Here's a portrait of someone who certainly made a difference: Rachel Carson, on a 17-cent stamp. Let's make a comparison. Pretend the wall in front of you (about 15 feet high and 25 feet wide) represents Illinois, more than 56,000 square miles. At that scale, this 1-inch-square stamp equals 1 square mile. That's about how much high quality black-soil prairie remains in Illinois. This was once the predominant natural community here in the Prairie State! [Reader: if this page represents Illinois, then a square mile of prairie is about half the area enclosed by an "o."]

There are a few more square miles of prairie in Illinois, but it's badly degraded or limited to dry river bluffs and sandy plains, for the most part. Tonight I'm talking about the least disturbed remnants of the richest prairie ecosystem, the tall-grass prairie on deep, fertile black loam.

This type of prairie has been reduced to about 120 high-quality remnants, ranging from 35 acres down to a quarter-acre. A quarter-acre is about one-billionth of the former extent of tall-grass prairie in the United States. Computers work in billionths of a second, nanoseconds; I think our basic unit of measure should be the "nanoprairie."

You may wonder how I know all this. I read the Illinois Natural Areas Inventory Technical Report — the result of the most thorough survey of its kind (or so I've been told).

Traveling to this conference, you saw why the prairie is almost gone: it made such good cropland. Also Illinois prairie cannot persist under continual pasturing, and if just left alone in this climate, trees replace the prairie. Huge wildfires once kept trees out, but now we must set the fires or cut the brush.

Many pioneer cemeteries were established out in the virgin prairie, and a few have served as miniature prairie refuges. Most cemeteries have been so manicured that the native vegetation was killed long ago, but some have been mowed just often enough to keep trees out without tipping the balance in favor of lawn grasses and dandelions.

Think of it: to find an Illinois prairie with deep, loamy undisturbed soil, where do you go? Look in a cemetery!

YEAR 1 (1976)

This story began in 1976 when George Fell, John Schwegman, and others convinced the state of Illinois to do a systematic inventory to find the best natural areas to protect.
That summer the Illinois Natural Areas Inventory searched cemeteries to find prairie and savanna remnants. With dozens of volunteers, about 4000 cemeteries were checked. This involved about 3000 hours in the field and 35,000 miles of back-road driving.

Kathryn Kerr and I oversaw the cemetery survey. To start out I asked two staff members, John Bacone and Fran Harty, to test the survey methods and get an estimate of the time needed to do the work. When they dragged in after the first long day in the field, they expressed grave doubts about my abilities as a planner. They kept exclaiming, “Too much work! We’ll never get done!”

I wondered what their problem was. Had they forgotten to turn on the car’s air conditioner? All they had to do was poke around in a cemetery for a few minutes, then navigate to the next one on the horizon.

Well, they had found three notable prairie remnants in the first five or six cemeteries they checked. At that rate, we obviously wouldn’t get done. We eventually learned that only one cemetery in thirty-five had a prairie or savanna remnant of any significance. So much for my sampling design.

Most incredible, though, was the very first cemetery Fran and John chose to wheel into, after driving about an hour. They discovered 4 acres of splendid prairie in Pine Ridge Cemetery at Loda (a village of 500 residents in Iroquois County, in east-central Illinois).

The 10-acre cemetery (Figure 1) was on a slight rise on a glacial moraine. The south half was almost full of graves shaded by big old trees, many of which are spruces. I guess that’s why it is called Pine Ridge. The north half was almost all prairie. It had just been mowed when we first saw it. The prairie usually was mowed just before Memorial Day and then maybe once or twice later in the summer.

We were so surprised to find this prairie because Professor Robert Betz had already checked the cemeteries in this county. Dr. Betz’s dedication to prairies is legendary. He’s a zealot. If you ever get a chance to hear Bob Betz orate — go! Better yet, go to a cemetery with him. He’ll get you down on your knees to spot bonsai Silphium integrifolium and Ratibida pinnata lurking in the lawn. And if enough dwarfed prairie plants persist, Dr. Betz will try to get the caretakers to let the grass grow for a few years. And then he may get them to let the prairie stay. This man has convinced people to let the grass grow 7 feet tall on their ancestors’ graves!

Back at Loda, we were in luck: the prairie had no gravestones.
Flatville, not far from Loda. She contacted the Iroquois County Historical Society because “history” often carries more weight than “weeds.” We wanted the historical society to put a plaque in the prairie at the cemetery as a memorial to the pioneers who settled the region’s prairies. This might make it harder for the cemetery board to convert it to a graveyard. Marilou also got the gravedigger to quit dumping his extra dirt on the prairie.

Since we had not actually met a board member yet, that summer we invited the cemetery board, newspapers, and the historical society to meet us at the prairie. Not a single reporter or cemetery trustee came. Marilou and I had stayed around to measure the back fence when a big brown Olds mobile pulled up. The driver just sat there in the car and stared at us across the prairie. I tell you, it was a long walk for me to cross the prairie to the car!

The driver was the cemetery board president. He had come to “see what was going on,” but he couldn’t walk out in the prairie. This man could only speak a sentence or two at a time, then gasp from an oxygen tank. Even so, he was very interested to learn about the prairie, and we were glad finally to meet a board member in person. A short time later, he was buried at Pine Ridge.

YEAR 5 (1980)

The board members weren’t all against protecting the prairie, but they couldn’t just give it to us. They did agree to quit mowing it, and they let Kathryn Kerr and me study the vegetation. We found more than 130 species of prairie plants on those 4 acres, which is as many as one can ever hope to find in a single prairie community.

We often saw one of the cemetery trustees because he visited his wife’s grave every day. He seemed a bit distant, but Kathryn helped win him over by helping him cut grass in the graveyard. I think this board member developed some pride in his prairie because the neighboring big town of Paxton (population 4000) also had a prairie — in a cemetery right across the street from the John Deere implement dealer. It’s now 150 years since John Deere invented the self-scouring plow that broke the prairie sod, and the farm economy is so bad that the dealership has gone out of business — but the prairie is still there in Paxton, right across the street in a dedicated Illinois Nature Preserve!

YEAR 6 (1981)

We were talking to the cemetery association about a land trade. We wanted to buy land next to the cemetery and give it to them for burials if they would set the prairie aside. About fifteen people were buried at Pine Ridge each year, and the developed part was almost full. The graveyard had to expand somewhere if not into the prairie.

The trade was proving so complicated that it was decided to offer the cemetery board $10,000 cash for 4 acres of prairie. They were insulted; they needed land — not money, so they wrote to say they were turning the prairie into a graveyard for certain! That letter caught our attention.

Don McFall jumped in and took over negotiations for the Natural Land Institute. He walked into the office of a local newspaper, the Paxton Daily Record, and got them to write a fine article about the prairie. Dr. Helen Goodell read the article at her home in Lock Haven, Pennsylvania. She had grown up at Loda but moved away in the 1960’s, yet she still subscribed to the local paper. Dr. Goodell is the granddaughter of Addison Goodell, who had donated the land for the cemetery in 1895. She remembered picking shooting stars in that prairie as a child, and she was amazed that the flowers were still there and that anyone cared about them. Now Dr. Goodell was a member of The Nature Conservancy, so she tracked down Don McFall by phone and offered to help. At the time Don just asked for moral support, but he said he’d keep her offer in mind.

We also tried some public pressure. We got state officials to write to the cemetery association. John Bacone, one of the discoverers of Pine Ridge prairie, was now head of the Indiana Division of Nature Preserves, and he told the Loda trustees what a treasure they had. In the entire state of Indiana, only 3 acres of virgin prairie on silt loam were known, in German Methodist Cemetery. As they tried to save this prairie, 2 acres were deliberately destroyed. This made the remaining acre all the more precious. Bill Barnes, John’s predecessor in Indiana, was in tears. (If we pretend this wall is Indiana rather than Illinois, then an acre is the size of the iris in Rachel Carson’s eye on the postage stamp.)

There were many parallels between German Methodist Cemetery in Indiana and Pine Ridge Cemetery in Illinois, as we were to find out. I’ll explain what happened first in Indiana. John Bacone and others met with the people who controlled the cemetery, which included the local undertaker. The undertaker wanted things to stay just the way they were. Burial plots were cheap, maybe about $25, and he was getting a lot of business providing the extras. At the meeting they voted against saving that acre of prairie! The cemetery caretaker’s granddaughter cared deeply about the prairie; she stood up, gave the people a piece of her mind, and then burst out crying and ran from the room. Dennis Wolkoff, working for The Nature Conservancy in Indiana, got up and gave the most impassioned plea for saving a natural area that John Bacone has ever heard. Dennis offered them whatever they wanted! More land in trade! A new cemetery drive! A fence! Yes, we’ll even rebuild the cemetery’s stone entrance pillars! Then, after hearing Dennis out, they voted again — to save that acre of prairie!

In August 1981, we had our meeting in Illinois, similar to the one in Indiana. We met with the Loda cemetery board, the Loda village board, the Loda Township board, and township residents. The township government was involved because Pine Ridge was the local public cemetery, and the township commissioners were to approve any decision about its
use. The purpose of the meeting was not to decide whether to save the prairie but only to decide whether the cemetery board should even keep talking with us about the possibilities.

On the afternoon before the meeting, Kathryn Kerr and I visited the cemetery board secretary, who was not sympathetic to our cause. All along she had insisted the prairie would be a burying ground. She had once asked Don McFall, "What are you really after? Is something buried back there?" Don wasn't sure how to react the time she agreed to talk to him but "only if this will be the last time!" So, we knew how well we would be received. We admired her pet birds and talked of local history, but she was adamant: that prairie was for burials. She would not accept our pleas for a nature preserve or a grassy memorial to the settlers.

The public hearing was in the little brick town hall in Loda, early in the evening of a beautiful midsummer day. Don McFall, Kathryn Kerr, and I represented the nature preservationists. On the way into town, we stopped along the railroad and Kathryn gathered a bouquet of prairie flowers. She put them on a table in the back of the meeting room.

About twenty townspeople and farmers came in. Several exclaimed that they had never seen anything like the blazing stars Kathryn had picked: the cemetery must be a marvelous place to have such strange flowers! We didn't explain that she'd just picked them a few blocks down the street along the tracks.

The meeting started late because of a political squabble in the hallway. (I think it was about funding for a tennis court.) Some village commissioners got so upset that they refused to enter our meeting room with the other commissioners.

Finally, the cemetery board president introduced Don, who made a fine presentation about the prairie. All listened carefully.

Then a man in the back corner spoke up. He hated weeds and insisted all the cemetery should be mowed, including the prairie! He went on and on, and his opinion caught on! The room started buzzing with grumbling about our no-good proposal.

The dissent grew louder. Things got out of hand, with everyone talking at once. I was scared. I thought we'd blown it just like that! I couldn't believe we'd lost the prairie so quickly. It was like hearing of the death of a loved one: I couldn't accept it — but it seemed so final.

I just sat there and thought of a bleak Sunday afternoon in George Fell's office eight years earlier. George was in the mood to pull out a scrapbook and tell me of the attempt to save Bell Bowl Prairie at the Rockford, Illinois, airport. They were hauling it away to build a runway. There had been all kinds of negotiations — but when it came right down to it, George went out to the prairie, stood before the construction boss, and pleaded with him to stop for just half a day. He backed the machinery off! With the extra time George gained, he got Governor Shapiro to send a telegram, and Bell Bowl Prairie was given a temporary reprieve, which is still in effect nineteen years later.

Now, back at the town hall in Loda, I was sitting there wishing this was all a bad dream. I remembered how George had explained his tactic to me: he said he had shown the airport engineer the strength of his personal conviction. He had caught the man's attention, made him hesitate, made him think that maybe he was about to be personally responsible for destroying something precious and irreplaceable. So now I decided to try the same. I got up my nerve, turned to the Loda residents, and said something like this:

You have every right to use your cemetery as you see fit. The cemetery is for burials. We understand that. We also know that the prairie wouldn't even be here now if it weren't for your cemetery. Now we outsiders come up here with a special interest. Our interest is in the prairie. We have nothing personal to gain from your setting aside the prairie. We are asking you to do something you don't have to do, for the sake of the prairie. We have tried to express to you why the prairie is precious, so precious. You may not understand why we feel this way, but please believe us. Just please believe us.

That caught the crowd's attention. The room quieted down, and we continued the meeting.

In the meantime two men had ambled in from Genzel's Tap, the tavern across the street. They sat on the table at the back, with the prairie flowers, just taking it all in.

Then one of them spoke up. I never got his name, so I'll call him Bud. Bud said, "I like flowers! These here flowers are real pretty!" He said this more than once, and though I appreciated his support, I think everyone just wished he'd shut up.

To make matters more difficult, someone pointed out that people were buried in the prairie. We knew this. We'd been told that a few poor people, some strangers killed on the highway, and a hobo found on the Illinois Central tracks were in unmarked graves in the lowest, wettest corner of the prairie.

Don responded that we wouldn't bother the graves, and besides, nobody really knew where they were. The board secretary (the unsympathetic officer) jumped to the challenge, determined to set us straight! But before she could do much more than stammer and hammer the table and flip through the burial records, Bud put the issue in perspective. He yelled out, "Oh, nobody cares about those people!" Actually, he said more than that, but out of respect for the people buried in the prairie, I'll just say that we were all stunned. But the man who had a bit much to drink allowed himself to say that the flowers were pretty, and he wasn't afraid to speak up when we needed the help.

For the second time, the group calmed down. Don handed out a map showing how we might trade land for the prairie. The trade would be about 5 acres of farmland for 3 or 4 acres of prairie. The exact
ratio was undecided. The board wanted a straight north boundary for the cemetery, including the addition. The farther north the boundary, the less prairie we got, the more ground they kept, and the more land we had to give them. The farther south the boundary, the more prairie we would get and the less land we would buy. We wanted the line south; they wanted it north.

When I saw the map it was my turn to get excited. Don had photocopied my original map, which had acreage figures in the margin computing how much land might be involved in the trade. I didn't want them to see the figures. Even though we all knew that the cemetery association would get more land than they gave up, I didn't want to "show our hand" with the figures. This would spell out exactly what a good deal they could get if they "played their cards right."

All this time Bud had been sitting in the back poring over the map and calculations. He was a bit tipsy, but he could still do arithmetic. Suddenly he slapped the sheet, hopped off his perch on the table, and shouted, "You people are fools! This is a real good deal! They're going to give us more land than we give them! What about liability insurance? And we will you do to keep the dope-smoking hippies out of the graveyard? You'll need a strong boundary fence and your own access road so you won't have to go into the graveyard to get to the prairie! And what about liability insurance? And we have a nice chain-link fence all across the front of the cemetery now; if you give us land to expand west along the road, then you'll have to put up more chain-link fence so the front all looks the same.

We were in no position to bargain. As best we could, we agreed to each concern.

Then a board member brought up a pet point. (I knew he would.) When he watered flowers on his wife's grave, he used a well in the center of the cemetery. I'd been told that this water was so bad that hardly anyone used it. But now this board member was pointing out that the well would no longer be in the center of the cemetery if we took the prairie. It wouldn't be as convenient for everyone, so he insisted we should drill a new well at the west edge of the current cemetery, which would be the center of the expanded cemetery.

We would have agreed on the spot if it would have made the difference, but the meeting-goers shouted the proposal down. They had limits to what they felt was a fair bargain.

Then someone called for a vote, a show of hands. Except for the board secretary and the grump in the back corner who hated weeds, all were in favor of trying to save the prairie!

The meeting broke up, and several people apologized: the town really did want to treat us fairly. Because some village commissioners had refused to attend our meeting, I thought we hadn't really won official approval to even try to work out a deal. But the officials dismissed my concern; they assured me that we had the town's consensus. The board secretary took exception. She insisted on another meeting to decide what actually to do with the prairie.

Next, we agreed on the south boundary for the preserve-to-be, much farther north than I wanted. The cemetery association had already platted 144 burial lots at the south edge of the prairie. Also, they wanted plenty of room to back their mowers out of a storage shed at the edge of the prairie without running into the preserve fence. I wanted to move the shed or build a new one elsewhere, but they wanted it right where it was. This wasn't just any old shack; it got a fresh coat of paint and a sign declaring it a historical landmark, a peddler's house moved to the cemetery to preserve it.
Similar problems had cropped up elsewhere, when someone found an abandoned pioneer cemetery, all grown up in prairie. As soon as the caretakers realized that outsiders were paying attention to the graveyard, their first instinct often was to clean the place up — get rid of all that tall prairie grass!

With the south boundary for the preserve settled, it was time to see about buying land to give to the cemetery association. Don and George went to talk with Mr. and Mrs. Ray Stout, who owned the farmland around the cemetery. On their way to the Stout farm, they stopped at the cemetery so that George could see the prairie for the first time. It had just been mowed (the trustees were showing us that they were still in charge), and it looked awful! George went ahead anyway and optioned 5 acres of the Stout farm. We had a year to pay the price of $18,750.

At this time, we were all still acting in good faith. Two months later the cemetery trustees voted to discontinue forever any intent to bury in the prairie, provided that we met our part of the bargain.

YEAR 7 (1982)

Three days before the real estate option would expire, nobody had come up with enough money for the farmland. George went back to the Stouts, put down $500 earnest money, got a two-month extension, and got $250 knocked off the selling price!

Ten days before that extension would expire, George signed the option over to The Nature Conservancy. Don McFall, who was doing most of the negotiating, had just transferred from George’s staff at the Natural Land Institute to the Conservancy, so the Conservancy inherited the project along with Don. You all know how TNC prides itself in acting fast to buy land...

Well, there was a hang-up. We were working through the Conservancy’s state and regional offices, which can approve most land purchases — but this was a special case. We were buying a soybean field, not a natural area, and the Conservancy’s national board of governors had to approve such projects.

We felt sure the board would go along, but the real estate option was due to expire in less than a week and the board of governors wouldn’t meet for over a month. If the deal fell through we weren’t sure we could renegotiate with the Stouts (at least not for the same price), and the cemetery trustees might get so disgusted with all the delays that they’d just call the whole deal off.

Don called George. Four days before the option would expire, George took it back and exercised it the same day, converting it to a contract to purchase. Then he offered the contract back to the Conservancy. TNC’s board of governors approved the project, and the Conservancy accepted the contract on December 16. They actually had to buy the land by December 30. They closed the deal on December 29, then rented the land right back to Ray Stout so he could keep farming it for a while.

YEAR 8 (1983)

In May the last big details were worked out. The Nature Conservancy deeded 5 acres of farmland to the Loda Cemetery Association. By then the trustees had decided not to keep the prairie after all, since they couldn’t use it, so they deeded it to The Nature Conservancy. The Conservancy wrote a check for an extra $1000 to help pay for a new well and a new front fence whenever they wanted to put them in.

At this point even the cemetery board’s lawyer was dismayed by the hard bargain the trustees were driving. She pointed out that the Conservancy was giving them a warranty deed with title insurance for the farmland. The board was just giving the Conservancy a quit-claim deed, which says, “If we own the land, you can have it (but we’re not guaranteeing we own it).” The lawyer said, “Even I could give them a quit-claim deed!”

Then the cemetery trustees signed the nature preserve dedication document. They didn’t have to sign (since they no longer owned the land), but we all thought it would be nice if they did. To the very end the board secretary said she didn’t like the deal, but she signed anyway just to go along with the others. Governor Jim Thompson’s signature went on the bottom line and Pine Ridge Cemetery Prairie became a nature preserve on June 8, 1983.

Now we had a nature preserve, but we still needed an access lane. Remember, two years earlier Don had talked to Dr. Helen Goodell, who offered to help in some way. Now the farmer who owned the land wanted $1000 for the access lane. Don called Dr. Goodell, and she paid for it. We put up a boundary fence, which cost over a thousand dollars; Dr. Goodell said, “Send me the bill!” Meanwhile, the Iroquois County Historical Society had been looking all over for the right monument to put in the prairie. Finally they found a nice big boulder at someone’s farm. The rock was free but it cost $50 to haul it to the preserve. Then they put a bronze plaque on it and the bill was more than $200. Helen Goodell came to the rescue again!

And she came from Pennsylvania that June to help dedicate the memorial rock, along with Goodells from New York and Ohio. In October we had another dedication ceremony, for the nature preserve itself. Now that everything was settled, most everyone seemed pleased with the outcome. The cemetery board was thinking it might be nice if we put a gate in the boundary fence they just had us put up, so people could go straight from the graveyard into the prairie. We didn’t think so.

CONCLUSION

Now that you know what we went through, you may wonder, “Do I think it was worth it?” More than $20,000 for 3.49 acres of prairie? And thousands of dollars in salaries and expenses? No doubt the professional staff donated more than half their effort “after hours” (what-
ever that means), on weekends, and when they didn’t happen to be on the payroll at the time. Others, never so fortunate to be paid for this kind of work, volunteered hundreds more hours. The cemetery board spent untold hours on the project.

Yes, absolutely, I think it was worth it. The prairie is so rare, it’s priceless. We paid a high price because we were in no position to bargain. The cemetery board accommodated us in a completely unneeded and unexpected issue. We relied on their sense of fairness, their respect for nature and history, and, I might add, their ability to recognize a good deal.

You may wonder who actually paid for the land. The Natural Land Institute kicked in $8000, and The Nature Conservancy raised the rest. Right then a man contacted TNC from his home on Mt. Desert, an island off the coast of Maine, to see if he could help some project in Illinois. This man helped pay it off, sight unseen.

I’ll tell you why it was worth the cost. The seven east-central Illinois counties (including the state’s biggest counties) were once known as the Grand Prairie — almost treeless. The Illinois Natural Areas Inventory found less than 18 acres of virgin black-soil prairie in those seven counties, and I doubt if we overlooked much, if any. A fifth of that prairie is at Pine Ridge. When I reported these statistics to the North American Prairie Conference in August 1978, some of us cried.

When I spoke to the beginnings of the Natural Areas Association that same fall, I said we should quit crying and get to work. This story shows what we can do when we get to work!

The work is not over at Loda. Now the preserve must be managed. For example, teasel has become a terrible weed. Newspaper reporters always assume that teasel is a bizarre prairie plant, and we don’t seem to set them straight — as evidenced by these newspaper clippings. Look at this one: here’s a cemetery trustee pictured in the Paxton Daily Record, admiring teasel. Here’s a photo of Don McFall meeting with the press. What’s he silhouetted against? Teasel! And look at this one! TEASEL all across the front page of the Loda Times!

We spent eight years trying to save the prairie and we’ve just finished our seventh year of battling teasel! The work will never end, but I’ll end this story with three messages.

First, our experience at Loda shows once again: to protect a natural area, work in terms of the owner’s interest — whether that interest be in money or simply in the opportunity to contribute to a good cause. The sooner you meet the owner’s needs, the sooner you will succeed.

Second point: some of you are thinking, “Cute story, Jack, but we don’t preserve prairies smaller than 40, maybe 100 acres.” If you think these little prairies aren’t worth saving, meet me outside later and we’ll discuss the matter — but I’m not quite through here yet.

Everyone, please understand, we must not give up on these little prairie remnants where that’s all we have. These tiny cemetery prairies have been completely isolated by miles and miles of cropland for a hundred years, but don’t use landscape ecology theory to conclude that they’re not worth saving. Sure, they’ve lost animals from bison to butterflies, and that’s a big loss, but they’re not losing the plants. Any given hundredth-acre in a cemetery prairie is apt to have the same plant species diversity as any given hundredth-acre in any larger prairie. The mere fact that these prairies still exist after a century of fragmentation, isolation, neglect, and marginal management is telling: they are viable!

My last point: don’t give up. Put all your heart into your work. A natural area is not lost when the owner says, “Get lost!” Tonight I’ve given three examples of how heartfelt, last-minute, personal pleas helped turn things around — after it was “too late”: George Fell at the Rockford airport, pleading for just half a day to work things out; Dennis Wolkoff in Indiana, refusing to take “no” for an answer; and our plea at the town hall in Loda, begging them to please believe us even if they didn’t understand the value of the prairie. Just don’t give up!
A Prairie Imperative *

The Grand Prairie region of central Illinois is almost all farmland. From my home in Urbana, the nearest natural prairie is 26 miles to the north, a five-acre remnant in a pioneer cemetery. When I take a trip to Pecatonica, I pass within 23 miles of a five-acre piece of prairie in a cemetery east of Bloomington. Along my route from Urbana to Pecatonica, these are the two closest patches of prairie on the south side of the Illinois River.

After I cross the river and continue north, prairie remnants are not so far between. A few lie west of the highway in the wet, sandy plain of the Green River Lowland. Farther north, I approach the rocky prairies that are scattered across the Rock River Hill Country.

For the past year I have been conducting a systematic search for prairies and other natural areas in the Pecatonica River valley. Soon after I began this project, Sue Merchant told me about Pecatonica Ridge Prairie and she described its approximate location. I immediately looked for it on a set of aerial photographs and a topographic map, but I couldn’t find it. Then Sue took me to the prairie and I learned why I didn’t spot it. Based on all that I knew up until then, I never would have suspected that the prairie would be where it actually is. Here’s why:

Native Illinois prairie has been almost entirely converted to farmland. Most of the remaining prairie is on soil that is too wet, dry, sandy, rocky, or steep to be farmed. Nearly all of the prairie that somehow escaped the plow has long been pastured — and prolonged grazing by livestock destroys prairie as surely as plowing does. Native grassland also needs to be burned periodically or else it is overwhelmed by foreign grasses and invasive woody plants. Now most prairie remnants are growing up with brush and weeds because they do not burn often enough, if at all.

If a patch of upland prairie is to survive anywhere in Illinois — and if it’s not in an old cemetery or along a railroad line — it is likely to be on thin, rocky or sandy soil. It’s also likely to be on a steep, dry, exposed, south or west-facing slope. Under such conditions, the prairie is bared to the full effect of the summer sun during the hottest time of the day, and the vegetation feels the drying impact of southerly and westerly winds. In this harsh environment, native prairie plants sometimes manage to persist and out-compete foreign grasses, weeds, and invasive trees and shrubs.

Pecatonica Ridge Prairie does not fit these circumstances. Although the prairie has thin, rocky soil, it’s not on a steep, high, exposed ridge that faces south or west. Instead this prairie is on the crest and slopes of a low hillside that faces north. Most importantly — and the reason why I passed over it while scrutinizing aerial photography: the prairie is next to a farmstead. I know that such areas have invariably served as pastures and have suffered

about a century and a half of damage by cattle, horses, and even pigs. Never in my experi-
ence has an Illinois prairie survived prolonged and intensive pasturage.

Pecatonica Ridge Prairie proved my assumptions wrong. As Sue Merchant and I later learn-
ed, the prairie was once a pasture, but it was not grazed too hard. Although the farmstead
and barnlot were right across a fence, the prairie was at the south end of an 80-acre tract and
it had no water. A windmill pumped water beside a marsh at the north end of the property,
a quarter mile away. Livestock must have congregated in the lush lowland down by the
water, leaving the rocky prairie high and dry and pretty much unharmed.

It takes an extraordinary combination of good fortunes to allow a prairie to persist into the
21st century in Illinois. Yet these miracles do happen. In the case of Pecatonica Ridge, it
was a combination of three factors: (1) an unusual physical environment (thin, rocky, lime-
stone soil that favors native prairie plants), (2) a fluke in land use and local geography (a
pasture without a water supply), and (3) ultimately and most importantly, the Sass family,
who owned the farm with this prairie. They saw and appreciated the beauty and rarity of the
prairie flowers — and intentionally kept the prairie safe in recent years.

When I visited Pecatonica Ridge Prairie with Sue, we came across four of my favorite plants.
Here’s why I find them fascinating:

**Porcupine grass**

Porcupine grass grows on the thinnest, driest soil at Pecatonica Ridge. It’s a characteristic plant of the
northern Great Plains — more at home in the Black Hills than in the tall-grass prairie east of the Mississippi River.

This grass got its name because its seed has a needle-
sharp point at one end and a three-inch bristle at the
other. When the seed falls to the ground, the bristle
makes a right-angle bend and catches against vegeta-
tion; this serves to brace the seed and anchor it against
the soil. Then the seed plants itself. The bristle twists
in one direction when it’s moist (on a dewy morning),
and then it twists in the opposite direction as it dries out
(in the heat of the day). This twisting and untwisting
forces the seed into the ground. The tip of each seed
has tiny “one-way” barbs that allow the seed to drill
into the soil but help keep it from pulling back out of
the ground.

The trouble is, these seeds can also catch in a sheep’s wool and screw into its flesh. Porcu-
pine grass can kill sheep that are allowed to graze on a prairie when the grass has gone to
seed.
Rosinweed

Rosinweed is a trademark of the prairie. I always look for it and was happy to find it at Pecatonica Ridge. Rosinweed is named for its gummy, pine-scented sap. A friend of mine once chatted with a man who had labored on a threshing machine long ago. The old-timer recalled what he would do if the belt began slipping on the threshing machine’s drive pulley: he’d break off a clump of rosinweed and toss it between the drive belt and the pulley. The plants would crush between the belt and pulley — and their sticky sap would make the belt seize to the pulley. Thanks to rosinweeds, the crew could keep on threshing.

New Jersey tea

New Jersey tea is one of the few shrubs that are native to our prairies. This plant has delicate stems and showy white flowers, and it grows no more than knee-high — so it looks more like a clump of wildflowers than a bush.

The scientific name of New Jersey tea is *Ceanothus americanus*. Other species of *Ceanothus* are among the predominant plants in *chaparral* — the dense, shubby growth on the coastal mountains of southern California (the backdrop for so many cowboy movies). Chaparral is prone to tremendous wildfires — just like our prairies once were. *Ceanothus* is adapted to such blazes: both here and in California, the shrub burns away and then grows right back after the fire has passed.

Although New Jersey tea survives and even thrives after being burned up, I have never, ever, seen it growing anywhere except on unplowed soil — in virgin prairies or in savannas that never were cleared and farmed. Once the ground has been broken by a plow, New Jersey tea evidently does not come back — even if the land is allowed to revert to native vegetation.

How could this be? The answer may be underground. Natural prairies are notoriously deficient in nitrogen. Legume plants such as beans and peas can make their own nitrogen
fertilizer because they harbor nitrogen-fixing bacteria in their roots. These bacteria extract nitrogen right out of the air and change its chemistry to a form that a plant can absorb through its roots. New Jersey tea is not a legume, but it is one of the few other kinds of plants that have nitrogen-fixing bacteria in their roots.

I wonder: when a prairie is plowed up and all the New Jersey tea is killed, maybe a delicate relationship between this plant and soil bacteria is destroyed. And then, when a surviving seed of New Jersey tea germinates, the growing root cannot find the bacteria that the plant needs in order to thrive and compete with other plants — so the seedling dies. What else could explain why I have never seen this species growing naturally anywhere that has ever been plowed?

**Prairie smoke**

Prairie smoke is one of the earliest of spring-blooming flowers. The purplish plumes of its seed-heads have been likened to smoke rising from the prairie. This member of the rose family grows on the thinnest soil, where limestone bedrock is right at the surface. The species was first discovered in Illinois in May of 1859 by M.S. Bebb, a physician and preeminent botanist who lived near Seward, a few miles south of Pecatonica Ridge Prairie.

Prairie smoke has one of the broadest natural distributions of any species of plant anywhere on the planet. It grows in Newfoundland, surrounded by the waters of the North Atlantic. It grows beyond the treeline in the Yukon Territory, within 500 miles of the Arctic Circle. Its range extends all down the Rocky Mountains into the high-altitude desert of Arizona and even farther south into Mexico. From Pecatonica Ridge Prairie, you would have to journey more than 1,500 miles to the northeast, well over 1,500 miles to the southwest, and about 2,000 miles to the northwest to seek out the most distant prairie smokes.

Although prairie smoke ranges from Canada to Mexico, Pecatonica Ridge Prairie is at the very southern limits of its distribution in the mid-continent. This species needs a relatively cool summer climate and limestone soil. Much farther south than the Pecatonica River valley, it gets too hot and the limestone is almost all buried by glacial soil.

I imagine that the rocky hilltops around Pecatonica used to turn a hazy purple with prairie smoke each spring. Now there are maybe a dozen of these plants at Pecatonica Ridge Prairie. If you could climb high up in a tower and look straight south from Pecatonica Ridge with an all-powerful telescope, I bet your gaze would not fall upon another prairie smoke plant. But even without a tower and a scope, if you look a little to the east of due south, you can see steam rising from the nuclear power plant on the Rock River at Byron, 17 miles away. A professor from the University of Illinois gathered a specimen of prairie smoke from a “residual limestone hilltop prairie” at Byron on June 16, 1948. Prairie smoke still holds on there today in Jarrett Prairie Nature Preserve.
Little patches of prairie smoke have been found on a few other, scattered spots of dry, rocky or sandy soil farther west in Stephenson, Jo Daviess, and Carroll Counties. If you stood on the Mississippi River bluff near Galena and peered westward with an all-powerful telescope, you would spy a few prairie smoke colonies in northernmost Iowa — and then you would see no more of them until you focused in on the Rocky Mountain foothills rising beyond Cheyenne, Wyoming!

* * * * * * * * *

I’ve shared a little about four plants at Pecatonica Ridge Prairie: a grass with a seed that plants itself, a flower that links us to the era of steam-powered threshing machines, a shrub that is reminiscent of the California chaparral, and a showy denizen of the northern plains and western mountains. This prairie has at least 47 species of native prairie plants, and the lowland north of the prairie has many of these plants plus 32 other native prairie and wetland species. Each has its own story to tell.

Prairies are vanishingly rare in Illinois. One hundredth of one percent of the original prairie has survived in good condition, in about 250 fragments. Each is precious.

Pecatonica Ridge Prairie must be made secure, and then it needs to be cared for. It’s imperative.
Credits for illustrations:


About the author:

Jack White designed and directed the Illinois Natural Areas Inventory in the 1970s. The project received two national awards for its pioneering methods and excellent results. During the 1980s he was chief ecologist for The Nature Conservancy, and he helped establish or supervise natural heritage inventory programs in all 50 states and seven other countries. Now he is co-authoring a plan to update the Illinois Natural Areas Inventory, and he is using the Pecatonica River valley as a proving ground to develop and test new methods for identifying high quality natural areas.