

Ten Years After

by JOHN SCHWEGMAN

JUST 10 YEARS ago, biologists in Illinois were putting the finishing touches on an inventory of the state's remaining high quality natural communities and known endangered species habitats. The Illinois Natural Areas Inventory was a pioneering effort of both national and international significance. We knew we had an exceptional product when the inventory received both a national honor award from the American Society of Landscape Architects and an Achievement Award from the U.S. Department of the Interior, but none of us foresaw the far reaching impact

tion. I was contract coordinator. The survey was conducted from 1975 through 1978.

The Natural Areas Inventory was initiated by the Conservation Department to provide direction for future land acquisition and preservation efforts. By 1975 the Department and others had protected most of the large "classic" natural areas, such as Illinois Beach, Goose Lake Prairie, Beall Woods, Heron Pond and Fults Hill Prairie. However, reliable information was needed to make the best choices in protecting and preserving the less obvious areas.

recognized containing 25,723 acres of high quality communities. These findings further revealed the startling fact that only seven-hundredths of one percent of Illinois has escaped significant alteration by man. Only 2,352 acres of high quality prairie were found, which represents a much greater percentage loss than for other natural communities.

Sites for 269 endangered species were documented. New and unsuspected natural communities, such as shale glades, salt marshes and calcareous seeps, were discovered. In all 1,089 areas in seven categories were recognized.

Readers interested in details of the results are referred to the "Illinois Natural Areas Inventory Technical Report" authored by John White in 1978, which is available at most libraries in Illinois.

As many as 90 points of information were obtained for each area and much of this was computerized. Unlike the present, the idea of a computer in your office to house a database such as this was novel in 1977. Most state government computing was done on massive centralized machines. Housing this database on a small computer was a major innovation. Standard software packages, so common today, were not available, so programs had to be developed from scratch by programmers at the University of Illinois' Center for Advanced Computation.

Many search methodologies developed by the Inventory, and the refinements of them, have become standard procedures for similar surveys across the United States. Another major contribution that has had national influence is the classification of the state's

A decade ago, the Illinois Natural Areas Inventory set the agenda for preserving natural areas in the state and became the model for identifying natural areas nationwide

it would have on the future of nature conservation.

Before documenting the success story of the follow-up and use of this database, however, a review of what the project was is in order.

The Inventory was a competitively bid contract project conducted for the Department of Conservation by the Department of Landscape Architecture at the University of Illinois in conjunction with the Natural Land Institute of Rockford. The state's \$692,000 study cost was partially reimbursed by a Federal Land and Water Conservation Fund grant. Robert Riley of the Department of Landscape Architecture was Principal Investigator and John White, Director of Surveys, developed the methods and administered their implementa-

tion. Biologists used aerial photos and maps, followed by aerial reconnaissance to search for undisturbed forests, prairies and wetlands. Special searches of railroad rights-of-way and cemeteries for prairie remnants also were made. Virtually every acre of Illinois was examined by this process. Aquatic areas and geological areas were recommended by specialists in these fields. There was no official endangered species list for Illinois plants, but as a result of the survey, one was developed, and, together with the animal list was used to search for surviving endangered species populations.

THE RESULTS WERE impressive. A total of 610 undisturbed natural areas (forests, prairies, etc.) were



The types of areas identified in the Illinois Natural Areas Inventory ranged from wetlands (far left), caves (left) and prairies (below). In all, the Inventory located 610 significantly undisturbed natural areas, ranging in size from one-tenth of an acre to more than 13,000 acres, remaining in the state. The total acreage included in the inventory — 25,723 acres — represents less than seven tenths of one percent of the state's total area.

natural communities developed by our inventory. It allows the distinction between different types of forests, prairies and wetlands that is critical to determining how well our natural heritage has survived, as well as developing preservation priorities. Another contribution of the Inventory was the trained personnel it produced. Past Inventory staff now hold leadership positions in several adjacent states, as well as in Illinois and a national organization.

With this impressive database in hand, Illinois was in the unique position of being the first state set to embark on a major natural heritage preservation program. This condition spawned new preservation methodologies, state budget initiatives, private foundation grants and land donations, land acquisition and preservation by

local and federal government agencies, and unprecedented inter-agency cooperation. The Inventory served as the catalyst for a renaissance in natural heritage preservation.

At a strategy meeting hosted by the Department of Conservation, it was decided that the first step had to be contacting the hundreds of landowners to advise them of the unique nature of their lands and provide those interested with advice on protecting the areas.

USING THE INVENTORY as a demonstration of need, the Institute obtained grants totalling \$700,000 from The Joyce Foundation to develop and implement the private land-owner contact program. The Department of Conservation also

undertook notification of government agencies — such as the Forest Service and Forest Preserve Districts — while the Natural Land Institute agreed to contact the private landowners.

This program led to the protection of many publicly and privately held natural areas and even to donations of land for preservation by private landowners. The private landowner program was especially valuable in locating landowners who were interested in selling their land. Illinois' landowner contact program has since been adopted by several states, and is now a standard preservation approach nationwide.

As the private landowner contact program began, it became obvious that a great need existed for a protection mechanism for landowners interested in cooperating, but not



Protecting natural areas identified in the Natural Areas Inventory will ensure that future generations will be able to enjoy sights such as this flowering shooting star. In addition to providing habitat for common wildflowers, plants and wildlife, many of the natural areas receiving protection as a result of the Inventory provide critical habitat for endangered or threatened species.

interested in selling or donating their lands. As a result, DOC and the Illinois Nature Preserves Commission developed the Illinois Natural Heritage Landmark program. This is a voluntary cooperative program in which the private landowner of an "Inventory Area" receives advice, assistance and recognition from the State of Illinois in return for agreeing to protect the land for an indefinite period. The "Landmark" approach was modeled after a National Park Service program, but its application at the state level was a new approach. Many other states have subsequently followed Illinois' example.

As the landowner contact continued, a task force headed by DOC developed the "Illinois Natural Areas

areas acquisition in the 10 years since the Inventory was completed. These funds have purchased 7,896 acres of natural areas at 79 sites scattered throughout the state.

Some of the more notable acquisitions include Wolf Road Prairie in Cook County, Brandenburg Bog in Lake County, Hanover Bluff in Jo Daviess County, Oak Valley Eagle Refuge in Rock Island County, Calamus Lake in Macon County, McClure Shale Glade in Union County and Spring Hill Farm Fen in McHenry County. The latter two areas contain unique natural communities unknown in Illinois prior to the Inventory. Significant tracts of the Lower Cache River Swamps in Johnson and Pulaski counties were also acquired.

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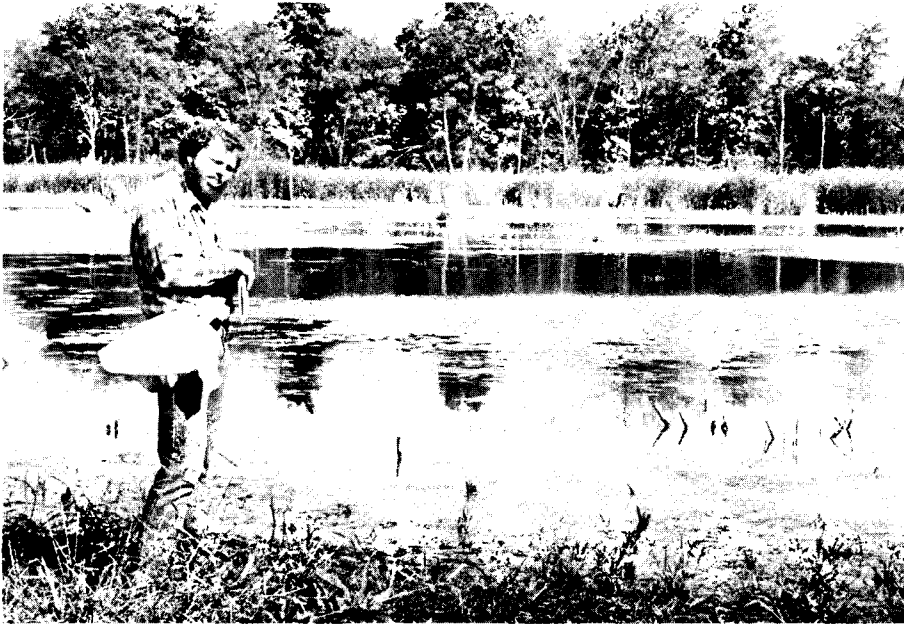
Plan" to guide preservation and protection actions. Using the natural community classification and the information on available natural areas, the plan made a strong case for the need and potential of a coordinated preservation program. The plan set policy and goals emphasizing the preservation and protection of natural areas or "ecosystems," as opposed to species. It outlined the many protection tools available and the many organizations and agencies which could contribute to the preservation of our natural heritage. Completed in June 1980, the plan is still being followed and has played an important role in support of appropriation of funds to the Conservation Department for natural areas acquisition.

The first appropriation to the Department of Conservation for protection of these lands was \$870,000 in July 1980. This grew to nearly \$3 million in 1981. After a deletion of funds in 1983 and 1984, Build Illinois funds became available in 1986 and have been available to the present. In all, the Department of Conservation has received \$12.4 million for natural

The Inventory also stimulated acquisition of natural areas by many local units of government. Lake and Will County Forest Preserve Districts and McHenry County Conservation District have been especially active. Other county agencies and municipalities also participated. On the Federal level, the Shawnee National Forest is just now embarking on a \$1 million program to purchase natural areas within its boundaries. This effort is funded by the Federal Land and Water Conservation Fund. Even private organizations, such as the Parklands foundation of Bloomington, have purchased areas discovered by the Inventory.

ALL OF THE LAND acquisition efforts have been given tremendous assistance by the Illinois Chapter of The Nature Conservancy. The Conservancy aided many agencies by pre-acquiring lands for later resale to the agencies. This private organization has the resources and flexibility to act swiftly when government appropriation processes are too slow.

The Inventory and the landowner



A Natural Areas Inventory field worker examines a pond for significant features that could qualify it as a natural area. In the mid-1970s such workers checked thousands of sites for possible inclusion in inventory, collecting as many as 90 points of information about each area. The database established by the Inventory enabled Illinois to become the first state to embark on a major natural heritage preservation program.

contact program stimulated private owners in Macon, De Witt and St. Clair counties to donate lands for preservation.

Follow-up to the Inventory resulted in many dedications of nature preserves by a variety of owners. Under Illinois law, dedicating land as a Nature Preserve requires its preservation as a natural area in perpetuity. Dedications came from agencies — such as park districts, conservation districts and forest preserve districts — as well as the Department of Conservation. In some cases, owners who had resisted dedication in the past were convinced to dedicate by Inventory data that demonstrated the state-wide significance of the site. Even non-conservation agencies, such as the Metropolitan Sanitary District of Greater Chicago, were persuaded to dedicate areas under their control. Nine private individuals and organizations also dedicated their lands.

The Natural Areas Inventory contributed greatly to the protection of 73 natural areas within the Shawnee National Forest in that agency's recently completed management

plan. Many of these areas were unknown before the Inventory, and the true significance of previously known areas was revealed by the complete database it compiled.

The Inventory has also saved or reduced the impact of many publicly regulated projects on natural areas. Environmental reviewers considering permits for projects use the Inventory to identify natural areas that may be impacted, and frequently specify project modifications that lessen or eliminate negative impacts. Governor Thompson, through his Executive Order #7 (1985), requires all agencies under his jurisdiction to consider impacts of their capital projects on Inventory Areas, and requires consultation with DOC to minimize those impacts.

On its tenth birthday, the Inventory continues to be a valuable tool for preservation. Continually being updated by staff of the DOC's Natural Heritage Division, it is a dynamic, changing information source. Scores of areas have been destroyed and some new ones have been found. The old computer and data structure have

given way to more modern machines and software, but the basis for the majority of the information remains the field work of the original project. Most of it is just as relevant today as it was in 1978.

THE INVENTORY STANDS as an example of the great good that can flow from a single far-sighted project. While some studies may stand on shelves gathering dust, the Illinois Natural Areas Inventory has not. It is an action document, as demonstrated by the accomplishments it has stimulated. Key examples are new preservation methodologies, private funds and land donated for the public good, more than \$12 million appropriated for natural area acquisition and non-state government agencies acquiring and/or preserving many natural areas.

The end result has more than doubled the size of the Illinois Nature Preserves System (from 69 to 171 preserves, with 8,411 new acres), plus the protection of an additional 88 natural areas as Natural Heritage Landmarks, and the protection of 73 natural areas in the Shawnee Forest Plan.

While preservation of new areas will continue as long as unprotected natural areas remain, the challenge facing Illinois today is caring for our natural areas and other wildland. These lands are remnants of our natural heritage that require our help to survive in a landscape fragmented by human activity. Fire suppression, the introduction of aggressive exotic plants and animals and the reduction of population and habitat size for many species are problems to be addressed if our natural heritage is to survive.

Research is needed into the most environmentally sound and economically feasible means to manage and protect natural lands. This must be accompanied by adequate resources to carry out the needed protection and management. The final judgment of the success of the Illinois Natural Areas Inventory will depend on how effectively this challenge is met.

— Outdoor Highlights
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