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Endangered Species in Illinois

By David W. Onstad, Managing Editor

Welcome to this issue focusing on endangered species in Illinois. The Illinois Endangered Species Protection Act (IESPA) was enacted in 1972 and implemented in 1973 to protect those species of native plants and animals in danger of disappearing from Illinois. The Endangered Species Protection Board identifies these animals and plants and publishes the official Illinois Endangered and Threatened Species list. With regard to animals, it is unlawful for any person without a permit from the Illinois Department of Natural Resources (IDNR) to possess, take, transport, sell, offer for sale, give, or otherwise dispose of any animal or the product of any animal species that appears on the list. In the case of plants, the IESPA makes it unlawful to take endangered plants on

the Illinois list without the expressed written permission of the landowner or to sell or offer for sale endangered plants or the product of any listed plant.

Central to both articles in this issue is the importance of protecting habitat critical to listed species. "Endangered Species and Habitat Protection" by Lawrence Page demonstrates that, without increased emphasis on restoring and enhancing their critical habitats, many of Illinois' rare native species will probably disappear. "Endangered Species Consultation" by Christopher Phillips and Keith Shank describes the IESPA's sole provision for conserving endangered species' critical habitat: the IDNR consultation process.

Another endangered species not mentioned in the articles here is the eastern massasauga snake. Because populations of this rare snake were disappearing or declining, the Endangered Species Protection Board listed it as endangered in 1994.

Please take a look at our Web site (<http://iepr.inhs.uiuc.edu/iepr>), which has photos of several endangered species, including the bluebreast darter and the eastern massasauga, as well as a flowchart that summarizes the consultation process Phillips and Shank describe. On the Web you will also find new information concerning nitrate in Illinois streams that updates articles in past issues of the IEPR newsletter.



Endangered Species and Habitat Protection

By Lawrence M. Page

The Illinois Endangered Species Protection Act (IESPA), implemented in 1973, has as its goal the protection of Illinois' rare native species. As of 1999, the Illinois Endangered Species Protection Board listed 147 animals and 331 plants as endangered or threatened in Illinois. Given the large number of listed species in Illinois and the fact that the IESPA is well established, it is important to ask what kinds of protection the IESPA provides to listed species and how effective that protection is.

The answer is complex. The IESPA provides certain types of protection to all endangered species—for example, state-funded projects must consider impacts on endangered species. However, other types of IESPA protection depend on a number of factors: the status and environmental requirements of the species, the number and intensity of threats to the species, and whether measures have been taken to protect one or more habitat areas critical to the species' survival in Illinois. This article focuses

on the importance of protecting critical habitat, as illustrated by several native fishes.

The bluebreast darter, a strikingly beautiful fish, is sparsely distributed across the eastern United States. This fish requires shallow water flowing rapidly over large stones in small rivers. In Illinois the bluebreast darter is found only in Vermilion County's Vermilion River system, where such habitats are fairly common.

CONTINUED ON NEXT PAGE



While early records documented the bluebreast darter in the Vermilion River's Middle and Salt Forks, changes in environmental conditions had almost eliminated the fish by the 1960s. Inadequately treated sewage from Urbana diminished the Salt Fork's water quality, and both the Salt and Middle Forks suffered from heavy sediment loads, pesticides, and fertilizer runoff from agricultural operations in their watersheds. Several native fishes, including the bigeye shiner, blacknose shiner, bigeye chub, bullhead minnow, silver chub, and mud darter, had already disappeared from these rivers, and the bluebreast darter seemed headed for the same fate.

In the 1960s a dam that would have impounded a long stretch of the Middle Fork was planned. The impounded water would have covered all of the fast-flowing rubble riffles inhabited by the bluebreast darter and would have sealed the fish's fate in Illinois. Paradoxically, plans for the dam ultimately benefited the fish. The dam drew the environmental community's attention, and environmentalists successfully opposed construction, arguing that it would cause environmental damage, would be extremely expensive, and, as time has shown, was unnecessary.

As a result of the environmentalists' efforts, much of the land along the Middle Fork slated for impoundment was instead transferred to the Illinois Department of Conservation (now the Illinois Department of Natural Resources [IDNR]) and the Vermilion County Conservation District. This land was managed for conservation and recreational uses, and it served to buffer the river from surrounding agricultural land. Furthermore, efforts were made to restore the river to a more natural condition and to

improve water quality. Support from the IDNR Natural Areas Acquisition Fund—Stewardship Fund was used to restore native prairies, savannas, and forests on 450 acres. In addition, the Vermilion County Conservation District constructed wetlands along the Middle Fork. Finally, a 17-mile stretch of the river is permanently protected as a national scenic river, and nearly 10,000 acres along the river are parkland.

The bluebreast darter has responded dramatically. It now is one of the most common fishes in the lower Middle Fork riffles. In the 1960s it was necessary to search all day to find an individual bluebreast darter, but now a single seine haul can produce several individuals. In fact, improved environmental conditions have allowed the species to spread to the lower Salt Fork and to the Vermilion River below the junction of the Middle and Salt Forks.

The bluebreast darter's recovery appears to have resulted directly from changes in land management that enhanced habitat quality. Returning the riparian zone of the Middle Fork to a more naturally vegetated state provided a filter that reduced the amount of sediment and pollutants reaching the river, thus improving water quality.

The example of the bluebreast darter makes clear that protecting an endangered or threatened species requires alleviating the causes for the species' decline. Two other native fishes, the weed shiner and the bigeye chub, reinforce this point. These two minnows occurred throughout large areas of Illinois in the early 20th century, but by mid-century their ranges were decimated as streams were channelized, impounded, and polluted and as exotic species were

introduced into their environments. The minnows were listed as endangered in Illinois and given IESPA protection, but listing had no impact because it was not followed by actions to improve their environments. Populations continued to disappear, and today the bigeye chub persists in Illinois in only one location, and the weed shiner in only two locations. While the bluebreast darter seems likely to survive because specific actions were taken to protect its environment, the weed shiner and the bigeye chub are likely to disappear from Illinois in the next couple of decades because habitat critical to their survival has been neither identified nor protected.

The Illinois Endangered Species Protection Act clearly has the support of Illinois citizens, and it was a reasonable starting point. But the act's impact has not matched its intent. To protect Illinois' rare native species, more must be done than putting their names on a list. They must have suitable environments in which to live and reproduce. As currently applied, the IESPA is inconsistent and selective in protecting endangered or threatened species' critical habitat. Implementing the IESPA effectively requires identifying and protecting one or more areas of habitat critical to the survival of these species. This type of protection not only will help endangered species; it also will specify areas where conservation efforts should be concentrated, and it will benefit land developers by providing precise information about where development should not occur.

Lawrence M. Page is principal scientist in the Center for Biodiversity at the Illinois Natural History Survey. Helpful comments on this article were received from Clark Bullard, James Herkert, and Robert Safoni.



Endangered Species Consultation

By Christopher A. Phillips and Keith M. Shank

In 1986, the Illinois General Assembly amended the Illinois Endangered Species Protection Act (520 ILCS 10/1 et seq.), adding a provision intended to engage all state and local governments in efforts to conserve and recover state-listed endangered or threatened (E/T) species. The amendment, modeled on Section 7 of the federal Endangered Species Act of 1973 (16 USC 1537), mandates that all state and local governments evaluate whether actions they authorize, fund, or carry out are likely to jeopardize the continued existence of Illinois' listed species or may result in the destruction or adverse modification of these species' essential habitats. Agencies and local governments meet their obligations under the act by consulting with the Illinois Department of Natural Resources (IDNR), a requirement enforceable through court order (a writ of mandamus). The consultation process is the act's only mechanism for protecting listed species' essential habitats.

Consultation is implemented through Title 17, Part 1075 of the Illinois Administrative Code. Effective since December 1990, Part 1075 is the state regulation that establishes consultation criteria and procedures. The consultation process, often referred to as "Endangered Species Consultation," begins when an agency files an agency action report notifying the IDNR of its intent to pursue an action. Obvious examples of "agency actions" that require consultation include the widening of a state highway or the building of a municipal golf course. Less obvious examples include private sector projects that require specific types of zoning changes or permits approved or issued by state agencies or local governments. For example, a proposal to build a subdivision on land cur-

rently zoned for agriculture would require consultation.

Within 30 days of receiving an agency action report, the IDNR determines whether a listed species or its habitat is "in the vicinity" of the proposed action. The meaning of "vicinity" varies depending on the nature of the listed species or habitat, the nature of the action, and the relationships between them. The location of the proposed action is checked against a statewide database of listed species observations. On average, only 5 percent of actions reviewed by the IDNR are determined to be "in the vicinity" of a protected species or its habitat. Consultation is terminated for actions that are not "in the vicinity."

For actions that are "in the vicinity," the IDNR will ask the agency to prepare a detailed action report that provides additional data about the proposed action and environment. Acquiring the information necessary to complete this report may involve biological, hydrological, or geological investigations. The consulting government is responsible for obtaining this information. Depending on resource availability, the IDNR may offer technical assistance to accomplish this task.

The IDNR uses the information in the detailed action report to assess the nature and probability of potential adverse effects to the E/T species or its habitat. Within 60 days, the IDNR issues its findings as a "biological opinion." If the biological opinion concludes that the proposed action is likely to promote conservation of the species or its habitat or that the action is unlikely to adversely affect the species or its habitat, consultation is terminated. Only about half of the actions "in the vicinity" of an E/T

species result in opinions requiring further consultation. In fiscal year 2000, for example, the IDNR required additional consultation for more than 400 of the almost 9,000 detailed action reports it reviewed.

If the IDNR concludes the action is likely to adversely affect the listed species or its habitat, it will formulate recommendations for the state agency or local government. The consulting government then determines whether and to what extent it wishes to implement the recommendations and notifies the IDNR accordingly. IDNR recommendations are usually consistent with the action going forward, except in rare cases when implementation of a proposal will inevitably destroy a species population. A consulting government may *not* proceed with an action that will kill a listed animal species. After the consultation process is complete, the IDNR rates its success in reducing the risk to the listed species or its habitat. Approximately one-third of "adverse effect" consultations are rated "very successful."

Many people expect the presence of state-listed E/T species will prevent the implementation of a proposed action, but this is seldom true. In most cases, the project may be modified to minimize or avoid adverse impacts. For example, in 1999 a businessman proposed constructing an office building in the village of Algonquin, but the property contained a portion of a wetland occupied by nesting yellow-headed black birds (state endangered) and pied-billed grebes (state threatened). During the consultation process, the developer, the village, the IDNR, and the U.S. Army Corps of Engineers worked together to devise a plan that allowed the development to proceed after wetland mitigation



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Inside this issue . . .

Endangered Species in Illinois
Endangered Species and Habitat Protection
Endangered Species Consultation

CONTINUED FROM PREVIOUS PAGE

and enhancement. As a result, habitat for the two listed species was both expanded and improved, while Algonquin acquired the entire wetland as part of its park system and, at the same time, expanded its commercial tax base.

Endangered Species Consultation facilitates development while protecting, as much as possible, our imperiled species and their habitats. Early initiation of the consultation process is in the best interest of all parties concerned. It is far better to know of any environmental issues with a project during the early planning stages, when many alternatives are available, than at later stages, when such news may jeopardize months or years of planning and investment. Agencies and local governments should also keep in mind that, if the

consultation process is omitted or ignored, mandamus proceedings may be brought by any adversely affected person. Two such suits have occurred within the last few years, one of which was appealed to the Illinois Supreme Court. The risk of such litigation and its associated costs is an additional incentive to participate in the consultation process.

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Please contact us!

If you know of someone who should receive this newsletter, please send us the name and address. We also appreciate receiving your comments about IEPR. Contact David Onstad by mail, or call 217-333-6820, or e-mail onstad@uiuc.edu.

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