



# FINAL THOUGHTS

Ty Smedes



**The Bald Eagle appears to be a success story in bird protection. Although still on the federal threatened list, the American emblem is now more common along the Mississippi River blufflands—but still a thrilling sight!**

“When land does well for its owner, and the owner does well by his land; when both end up better by reason of their partnership, we have conservation. When one or the other grows poorer, we do not.”

—Aldo Leopold

## **Beyond the Birds**

Increasing biological diversity isn't the only benefit of these collaborations.

Forests, woodlands, savannas and prairies provide many benefits themselves. These ecosystems hold soil and help restore and retain vital soil nutrients. They improve water quality by trapping sediment and filtering pollutants before they reach streams and rivers. Each offers wildlife habitat for many species of nongame, as well as game animals. For example, the Wild Turkey, a true savanna species, takes advantage of leftover field corn when it can, but often depends on

the oak tree's acorns to survive Midwest winters. All of our native ecosystems also provide a wide array of educational and recreational opportunities. And finally, if management plans include harvesting trees, remember that a healthy diverse forest will most likely be less susceptible to disease and pests, creating higher quality timber.

So, everything is connected to everything else in some way. Does it really matter if we save all those “everything?”

Some believe we have the responsibility to save everything, no matter what the cost. Many believe it is important to save a species while it is still common, rather than going to the expense and hassle (sometimes legal hassle) of trying to bring it back after it has become rare.

It isn't necessary for people to agree on every aspect of land or wildlife management, but we would probably all agree that we need space and habitat to protect future options. Given these premises, we should be able to create a better, more enriched future for ourselves.

Aldo Leopold, a native Iowan who is one of the most frequently quoted conservationists, began to understand the myriad of connections coursing through his farm. In 1939, he defined conservation as “harmony between men and land” saying, “When land does well for its owner, and the owner does well by his land; when both end up better by reason of their partnership, we have conservation. When one or the other grows poorer, we do not” (Meine 1988).

Leopold also thought that once people understood the connections—the “drama in every bush”—indifference to the soils,

creatures and plants would fall away. He believed that landowners would then want to apply good conservation standards on their own. Leopold mused about the future of a Wisconsin creek:

“Many things are expected of this creek and its woods: cordwood, posts, and sawlogs; flood-control, fishing, and swimming; nuts and wildflowers; fur and feather. Should it fail to yield an owl-hoot or a mess of quail on demand, or a bunch of Sweet William or a coon-hunt in season, the matter will be cause for injured pride and family scrutiny, like a check marked ‘no funds.’” (Meine 1988).

It really is up to each individual to ensure that his or her land, all of our lands—our present and future bank account—are not marked “no funds,” just as it is each individual’s responsibility to better understand basic ecological connections. Birds and other creatures are linked to human survival in ways that we are just beginning to understand.

Leaving our land in the best shape



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**—Aldo Leopold**

possible is the true inheritance we leave our children; not real estate holdings, not financial gain, but healthy, working bio-

logical systems capable of nurturing and sustaining future generations.

Through this publication, we hope you have come to a better understanding about the importance of Neotropical migratory birds and our connection to them. And we hope that you care enough to help.

And one more thing: Whatever else you get out of this booklet, we hope that you look at the landscape, at the place

INHF/ Heather Jobst

## PROTECTING RICHNESS



Richness categories



Map data based on Kane et al 2000

**As a result of this Neotropical migrant project, INHF and its Blufflands Alliance partners can look at a map such as this to help us prioritize our land protection efforts. This “species richness” map of Allamakee County shows where the greatest number, as well as the lowest number, of 17 of the at-risk Neotropical migratory bird species is found. We can also look at the general avian species richness of an area and determine where the greatest number of all bird species present in an area are located.**

Leaving our land in the best shape possible is the true inheritance we leave our children; not real estate holdings, not financial gain, but healthy working biological systems capable of nurturing and sustaining future generations.



# GLOSSARY (TO TERMS IN ITALICS)

**Abundance** – The total number of individuals of a species in an area, population or community

**Amplitude** – The range of tolerance to environmental conditions of an organism or species

**Area-sensitive species** – Those species that respond negatively (by declines in population or leaving the area entirely) to decreasing habitat patch size

**Biodiversity** – The variety of different species, the genetic differences within a species and the ecological roles the species perform, also the types of communities and ecosystems

**Buffer strip** – A wide area (at least 40 feet for small streams and 600-2000 feet for larger rivers) of forest or prairie bordering each side of a creek, stream or river

**Canopy** – The uppermost continuous layer of foliage in a forest formed by the crowns of the tallest trees

**Carrying capacity** – The maximum number of individuals that can use a given area of habitat without causing the habitat to deteriorate and without causing social stresses that result in population reduction

**Cavity-nesting birds** – Birds that excavate or make use of existing holes in trees for nesting; may also use bird houses

**Clear-cutting** – Method of timber harvesting in which all trees in a forested area are removed in a single cutting

**Community** – The various kinds of plants and animals, in this case birds, that live and interact in a habitat or region

**Connectivity** – The extent or way by which various populations are connected within the landscape; a measure of the connectedness or continuity of a habitat corridor

**Corridor** – A linear (long) patch of habitat that enables animals to travel between habitat patches

**Density** – The number of units (individuals, pairs, nests, etc.) within a given area

**Diversity** – Variety; the number of different species in an ecosystem

**Ecosystem** – A complex of the communities of all living organisms—including plants, animals, fungi and microorganisms—interacting with one another and their physical environment

**Edge** – The area where two different types of plant communities meet; habitat created by adjacent borders of different habitat types

**Edge effects** – The changes in the types and numbers of species, and also the changes of levels of sunlight, soil, air temperature and moisture, that occur at the edge of differing habitat types

**Edge-tolerant species** – Species that *tolerate* habitat created by the borders of different vegetation types, such as roadside ditches and forest

**Edge species** – Those species that prefer habitat created along the borders of different vegetation types

**Endangered species** – A designation for a species with so few individual survivors that it is in danger of extinction throughout all or part of its range. A species can be “endangered” in one state but not in another. A species can also be “endangered” at the national or world-wide level

**Fledging** – The act of leaving the nest after developing feathers necessary for flight; the young bird is typically still under the care of its parent(s)

**Flyway** – A broad pathway, such as a major river corridor, along which birds migrate from one area to another at certain times of the year

**Forb** – A small, non-woody flowering plant; does not include grasses, etc.

**Forest** – A relatively large area of trees with a closed canopy of 60% or more (see “canopy”); a small stand of trees may be termed a grove; a slightly larger stand may be called a woodland

**Forest-interior species** – Those species that tend to avoid edge habitats; usually require large tracts of forest habitat for nesting and foraging

**Fragmentation** – The disruption of large patches of vegetation or habitat into smaller patches of varying sizes and degrees of isolation

**Generalist** – A species with a broad range of food preferences, habitat preferences, or both

**Goat prairie** – Generally, a dry, hillside prairie

**Habitat** – The place, having the necessary shelter, food, water and space for survival, where an animal or plant lives; often characterized by the main plant form or physical characteristic of the area, as in “prairie habitat”

**Home range** – The undefended area to which an animal restricts most of its usual activities

**Indicator species** – A species used as a gauge of environmental conditions in a habitat or ecosystem

**Interior species** – Those species found primarily or entirely distant from the edges of their preferred habitat

**Introduced species** – Non-native species present in an area due to human release

**Landscape** – The landforms of a region

- Local ecotype** – Typically, a historically native plant or seed that originated in the local area or region and is adapted to that geographic environment (climate, soil, etc.)
- Matrix** – The total different types of habitat and land use in an area
- Mesic** – Pertaining to conditions of moderate moisture or water supply
- Microhabitat** – A small, specialized habitat
- Migration** – The regular, extensive seasonal movements of animals between breeding and wintering sites
- Natal** – In general, the area where young are hatched or born
- Neotropical migrant** – A migratory bird that winters in the Neotropical region (southern Mexico, Caribbean, Central and South America) and nests in the Nearctic region (roughly northern Mexico, United States, Canada and Greenland)
- Nest, or brood, parasitism** – Reproduction by laying eggs in the nests of other species, leaving care for the parasite young to the owners of the nest
- Nest predation** – The destruction of eggs or nestlings by another animal
- Niche** – In biology, the space occupied by a species, which includes both the physical space as well as the functions that species performs within the physical space
- Patch** – A habitat that is surrounded by other types of habitat, such as a woodland surrounded by cornfields
- Population** – In biology, a group of individual organisms (in this case, birds) of the same species living within a particular area
- Prairie pothole wetland** – A wetland in the prairie landscape that was formed when glaciers gouged depressions in the landscape
- Raptor** – A bird that hunts and eats meat, a bird of prey
- Reconstruction** – The process of re-creating an ecosystem on land that has been cleared of native vegetation
- Reforestation** – The process of re-establishing a forest on previously cleared land
- Refugium** – An area that remains unchanged while areas surrounding it change markedly; hence, the area serves as a refuge for species requiring specific habitats
- Restoration** – The process of restoring a native ecosystem that has been taken over to some degree by another plant community
- Riparian** – Habitat that occurs along the bank of a river or lake
- Savanna(h)** – In general, a grassland with scattered, usually fire-resistant trees with tree cover less than 30%; the transition area between prairie and forest
- Selective (or single-tree) harvest** – Cutting of intermediate, mature or diseased trees in an uneven-aged forest, singly or in small groups. Encourages growth of younger trees and maintains uneven-aged stands
- Sharp (or hard) edge** – The area of abrupt change in habitat where two very different types of habitat meet, such as a cornfield adjacent to a forest, or road bisecting a woodland
- Shelterwood harvest** – Removal of mature, marketable trees (40-60%) in an area in a series of partial cuttings to allow regeneration of a new stand under the shade of older trees, which are removed later
- Sink habitat** – A habitat in which a species DOES NOT reproduce enough offspring to maintain itself without the entry of individuals from other habitats and populations
- Soft edge** – The area of gradual change in habitat where two different types of habitat meet
- Soil arthropods** – Invertebrates (insects, spiders, etc.) that live on or in the soil
- Source habitat** – A habitat in which a species DOES reproduce enough offspring to maintain itself; the addition of individuals from other habitats is not necessary for the survival of that species' population
- Special Concern** – Species that are at risk of becoming threatened
- Specialist** – A species with narrow (finicky) food preferences, habitat preferences, or both
- Species** – All organisms of the same kind; a type of plant or animal; members of a species are alike in many ways and are able to reproduce with others of the same species
- Succession** – The sequence of plant communities that occur over time; the process that replaces one group of species with a different group of species in continual stages
- Tallgrass prairie** – A typically treeless grassland of particular species of grasses, flowers, insects and animals
- Threatened species** – A designation for a species that is still relatively abundant throughout all or part of its range, but is likely to become endangered because of a decline in numbers. A species can be “threatened” in one state, but not in another. A species can also be “threatened” at the national or world-wide level
- Topography** – All natural and human-made features of the surface of the land
- Understory** – The layer of a forest that is formed by the smaller trees
- Watershed** – The region or area of land that drains into a river or stream, delivering water, soil and dissolved substances to those systems
- Woodland** – An area dominated by trees with a canopy cover of 30-60%
- Xeric** – Referring to habitats in which plant production is limited by lack of water

The definitions used in this glossary were gleaned from many different sources, and some were edited to make them more understandable. The primary sources were The National Audubon Society's *The Sibley Guide to Bird Life and Behavior*, edited by Chris Elphick, John B. Dunning, Jr., and David Allen Sibley; the *Cambridge Illustrated Dictionary of Natural History* by Roger



# GUIDE TO NEOTROPS

**While this is not a complete list of the Neotropical migratory birds that nest in the four-state Upper Mississippi River bluffs region (and it includes one species that is not considered a true Neotropical migrant), it does include many species that state conservation agencies are most concerned about at this time.**

**Many of these species are pictured in this book's full-color, center section.**

## **Bald Eagle**

The Bald Eagle, although a species that migrates at least short distances in many cases, is not a Neotropical migrant. It is found in the bluffs region in all seasons. Biologists are still concerned about the survival of this federally threatened species and wanted the Bald Eagle to be included in this publication's list.

The Bald Eagle is a very large, dark brown raptor (bird of prey) that acquires its distinctive white head and tail when it is five years old. A member of a group known as fish-eagles, Bald Eagles build huge nests that they return to each year, adding more sticks and branches each year. Although the typical nest is about three feet deep and five feet across, often weighing nearly two tons, some can attain truly huge dimensions measuring at least ten feet deep. Because of the size of the nest and because the Bald Eagle's favorite food is fish, large mature trees located close to a river or lake are needed. In Iowa, eagles often nest in cottonwoods or white pines.

## **Hawks (Sharp-shinned, Swainson's, Red-shouldered, Broad-winged)**

Members of the Hawk family are carnivorous and feed during the day. Equipped with strong feet and claws and hooked beaks, they have keen eyesight that enables them to identify their prey from many yards away. Hawks usually build their own nests, typically in trees, although some grassland hawks nest on the ground. Some species eat a wide variety of prey, including fish, crayfish and small mammals, while other hawks prefer small birds.

The quick, small *Sharp-shinned Hawk* usually nests in trees with dense foliage, especially conifers such as pines. It preys on small birds and mammals, reptiles, amphibians and insects.

The *Swainson's Hawk* is a raptor of the prairie and savanna,

building its nests in solitary trees, riparian corridors or on the ground. The same size as the common Red-tailed Hawk, the Swainson's Hawk prefers insects, but also eats ground squirrels, mice, young birds and reptiles.

The *Red-shouldered Hawk* requires large, riparian, deciduous woodlands with tall trees, such as cottonwoods or maples, for nesting. It eats a variety of prey, including small mammals, crayfish, insects and birds.

The *Broad-winged Hawk* prefers woodlands near wetlands and also eats a variety of prey, occasionally including fish. This hawk is best known for migrating in kettles, or large swirling groups, sometimes reaching thousands of individual birds.

## **Peregrine Falcon**

The Peregrine Falcon is very similar in structure to hawks, but with long-pointed wings. The adult is bluish-gray in color with a light colored breast and dark facial markings. It is a very fast flyer and performs spectacular aerial maneuvers. The Peregrine feeds primarily on other birds, but will occasionally eat mammals.

Peregrine Falcons require forested regions, preferably those with rocky cliffs with ledges overlooking rivers, lakes or other water sources.

## **Wood Warblers (Cerulean, Hooded, Yellow-throated, Worm-eating, Prothonotary and Kentucky Warblers; Louisiana Waterthrush)**

The insect-eating wood-warblers have distinctive songs and typically bright plumage, with the males more brightly colored than the females. The timing of warbler migration to Iowa is indicative of their wintering grounds. Those that appear in late spring typically winter in northern South America. Those that are more predominant in the fall typically winter in the West Indies. Warblers usually migrate at night.

The *Yellow-throated Warbler* is commonly found in large trees, preferably sycamores, along riverbanks and in bottomland.

The *Prothonotary Warbler* prefers moist bottomland or swampy deciduous forests where it nests in natural cavities.

The *Worm-eating Warbler* chooses extensively wooded hillsides and ravines with stands of deciduous trees and dense undergrowth.

The *Hooded Warblers* also prefers moist forested regions of mixed hardwoods.

The *Cerulean Warbler* inhabits the treetops of extensive mature floodplain or upland forests and is rarely found in tracts of less than 700 acres. It appears that they require at least 1,700 acres of contiguous forest to maintain suitable numbers.

The *Louisiana Waterthrush* is found in the heavily wooded ravines of extensive bottomland forests with moss-covered logs and rank undergrowth along rapidly moving streams.

### **Henslow's Sparrow**

Numerous species of sparrows fill different or overlapping ecological niches. The insect-eating Henslow's Sparrow is easily distinguished by their unusual, short call. The bird has a large, flat head, large bill and short tail. The body is olive colored and the wings are dark chestnut. In the adult, both sexes are colored very similarly. The Henslow's Sparrow is usually found in moist grasslands that have a great deal of standing dead vegetation.

### **Acadian Flycatcher**

A solitary bird, the Acadian Flycatcher is olive-colored with a grayish throat, yellow eye rings, and two buffy or whitish wing-bars. The Acadian Flycatcher is difficult to identify by sight and, although its call is unique, it takes much practice to recognize it. As with other flycatchers, both sexes look very similar to each other. This bird is an insectivore, although it occasionally eats seeds. It tends to return to the same area each year.

The Acadian Flycatcher lives in the lowest tree canopy and understory layer of shady, mature floodplain forests and wooded swamps. It prefers tall trees with closed canopies and an open understory.

### **Bewick's Wren**

The Bewick's Wren is a small, but very active, bird. The bird has short legs, long claws, and a bill adapted for probing. A Bewick's Wren is best identified by its buzzy song. It has a solid brown back, white underparts, a white-tipped tail and a conspicuous white stripe over each eye. The bird typically arrives in Iowa beginning in March and leaves in September.

The cavity-nesting Bewick's Wren chooses habitat with a brushy understory and cavities for nesting. It will use artificial nest boxes.

### **Loggerhead Shrike**

The name "shrike" is derived from the harsh shriek produced by the bird. The Loggerhead Shrike is carnivorous and has been nicknamed the "butcher bird." This is due to the shrike's practice of impaling its prey of small birds on thorns, barbed wire and

other sharp objects. Both adult males and females have gray backs, light breasts, black wings and tails, light wing patches and tail bars, and a black facial mask. Considered a savanna species, the shrike lives in open country with scattered shrubs and trees where it feeds primarily on grasshoppers and other insects, although it also preys on birds, mice, snakes and frogs.

### **Veery**

A slender bird, the Veery is tawny in color with tawny V-shaped spots on a buffy breast. It is a rare migrant that arrives in mid-May and departs in mid-September. The secretive Veery has a delicate song that can sometimes be heard in its preferred habitat of moist deciduous woodland, bottomland, forest, wooded swamps or damp ravines. It nests in large tracts of mature undisturbed woodlands.

### **Bell's Vireo**

Vireos are insect-eating birds that have a relatively large head, slightly hooked bill and a simple plumage pattern. The small Bell's Vireo is drab gray to green above and white to yellow below. It also has a white eye ring and two pale wing bars. It is very difficult to see and is most commonly identified by its song. The Bell's Vireo lives in dense riparian thickets, especially willow and cottonwood trees.

### **Long-eared Owl**

Owls are nocturnal predators. They have large heads, eyes that are placed on the front of the face, and strong, hooked bills. Their soft and fluffy feathers allow them to fly silently. The Long-eared Owl is medium-sized and brown to gray in color. It has long ear tufts and its breast is streaked lengthwise. For nesting, it prefers dense stands of conifer or mixed deciduous-conifer forests, especially those near water, where it typically uses old crow, hawk or squirrel nests. The Long-eared Owl hunts in open grasslands where it finds small mammals such as voles, field mice and shrews.

~~Not intended to be comprehensive, the preceding information~~ was compiled using a variety of sources, including *Birds in Iowa*, by Thomas Kent and James Dinsmore; *The Iowa Breeding Bird Atlas*, by Laura Jackson, Carol Thompson, James Dinsmore and others; *Neotropical Migratory Birds, Natural History, Distribution, and Population Change*, by Richard DeGraaf and John Rappole; the *National Audubon Society's Sibley Guide to Bird Life and Behavior*; and various bird identification field guides.



# NEOTROPS AT RISK

The following is a list of the Neotropical migrants species that should be found in the Upper Mississippi River blufflands region but were reported in Fall 2002 as *endangered*, *threatened* or of *special concern* in at least one of the four Blufflands Alliance states. Some are also federally endangered or threatened.

Many of these species are pictured in the center, full-color pages of this book.

## Key:

- E—endangered
- T—threatened
- SC—special concern

## Illinois

### (Jo Daviess and Carroll Counties)

- Long-eared Owl (E)
- Peregrine Falcon (E)
- Sharp-shinned Hawk (E)
- Swainson's Hawk (E)
- Bewick's Wren (T)
- Loggerhead Shrike (T)
- Veery (T)
- Cerulean Warbler (SC)

## Iowa

### (Clinton, Jackson, Dubuque, Clayton, and Allamakee Counties)

- Bald Eagle (E)
- Peregrine Falcon (E)
- Red-shouldered Hawk (E)
- Long-eared Owl (T)

## Minnesota

### (Houston, Winona, Wabasha, Goodhue, Dakota, Ramsey, and Washington Counties)

- Henslow's Sparrow (E)
- Peregrine Falcon (E)
- Loggerhead Shrike (T)
- Acadian Flycatcher (SC)
- Cerulean Warbler (SC)
- Hooded Warbler (SC)
- Louisiana Waterthrush (SC)
- Red-shouldered Hawk (SC)

## Wisconsin

### (Grant, Crawford, Vernon, La Crosse, Trempealeau, Buffalo, Pepin, Pierce, and St. Croix Counties)

- Bewick's Wren (E)
- Loggerhead Shrike (E)
- Peregrine Falcon (E)
- Worm-eating Warbler (E)
- Yellow-throated Warbler (E)
- Acadian Flycatcher (T)
- Bell's Vireo (T)
- Cerulean Warbler (T)
- Hooded Warbler (T)
- Kentucky Warbler (T)
- Red-shouldered Hawk (T)
- Louisiana Waterthrush (SC)
- Prothonotary Warbler (SC)