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JANUARY 1986

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FRONT COVER: *White-breasted Nuthatches* by
J.F. Landenberger of Cedar Rapids.

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The Value of Wildlife

By Laura Spess Jackson

"One basic weakness in a conser-
vation system based wholly on eco-
nomic motives is that most members
of the land community have no eco-
nomic value." Aldo Leopold

I'm standing on a cliff overlooking
the Mississippi River with a dozen
other people. It's fall, the surround-
ing bluffs are colorful slashes of red,
yellow and orange against the blue
sky. Today my job is to teach these
people about raptors — what types
of areas hawks and eagles need to
survive and why these predatory
birds are valuable to us.

Suddenly, an immature red-tailed
hawk flies into view. It's actually
below the cliff but swirling upward
toward us in slow, graceful circles. It
keeps flying in and out of view. All of
the people lean over the cliff as far as
they dare, their cameras are out and
their binoculars hang limply around
their necks — the hawk is that close.
The hawk reaches our feet, knees,
then eye level and the people
respond with a gasp of awe. In a
single glance its eyes penetrated the
soul of each of us. In a fraction of a
moment, the hawk taught us its
value.

We live in a world of values. Most
values are tangible and calculated in
dollars and cents. For example, con-
struction of a mall will cost so many
dollars, will create so many jobs and
contribute so much to the economy
of the comnity. Yet many things of
value cannot be adequately mea-
sured this way — such is the case
with wildlife.

Wildlife and its associated natural
areas have numerous values, some
of which can be measured by dollars,
some of which add to the quality of
life or our emotional well being with-
out monetary recognition. Perhaps
the only way we can truly appreciate

wildlife is to consider all of its values.
Some of the primary values that wild-
life contributes to the human society
can be categorized as biological,
commercial, recreational, scientific
and aesthetic.

Biological values include the role
that each animal plays within the
area it lives. Predators such as
wolves, hawks and owls help regu-
late their prey — deer, rabbits and
mice. Eliminating the predators can
cause the system to become unstable.
Populations of prey species could
build up to such high numbers that
they would destroy the area in which
they live. Having little food or cover
left, those populations would then
crash to low numbers as starvation,
disease, reduced reproduction and
emigration affected the animals. This
would be a continuous boom and
bust system with extreme highs
and lows.

Biologically, invertebrate and verte-
brate animals (insects, fish, birds,
and mammals) also till and aerate the
soil. They pollinate plants, spread
plant seeds and recycle necessary
nutrients. Animals also help keep
things sanitary by scavenging on car-
casses and assisting the process of
decomposition. By maintaining the
diversity of animals and the roles
they fill, we help keep the system
running smoothly. We wouldn't
expect a car to run smoothly with
missing screws, clamps and parts, so
how can we expect nature to?

The commercial value of wildlife is
often overlooked. Annually, Iowa
gains some \$7 million from hunting
and fishing licenses, habitat stamps
and donations. This money is used to
purchase wildlife habitat, maintain
areas, and employ personnel to help
manage our wildlife resources.
According to a 1984 survey, resident
and nonresident small and big game



Lowell Washburn

A great white egret stares out through the trees from its lofty perch while a painted turtle pops its head out of the marsh.



Lowell Washburn

hunters spent approximately \$82 million in Iowa for such things as food, lodging, ammunition, entertainment and travel. According to a similar survey of anglers in Iowa, sport fisherman spend over \$250 million annually on fishing trips. Iowa also sold over \$8 million worth of furs, making the minimum annual value of wildlife nearly \$350 million.

There is also the dollar value of commercial fishing, clamming and guiding outfits. Wildlife photographs, artwork and artifacts are also in high demand and big sellers for decorative purposes.

Hunters across the United States harvest \$100 million worth of deer meat annually. Native wildlife can also produce more protein per acre with less damage to the land than exotic animals such as cattle in some second-world areas where the native wildlife is more adapted to arid conditions.

There are also subtle, difficult to calculate monetary values, such as money spent on binoculars, books, outdoor clothing, camping gear, or camera equipment. These items

often have dual purposes so make it difficult to calculate the expenditure for enjoying wildlife. But even on something as seemingly minor and relatively inexpensive as birdseed, we spend over \$500 million each year.

The recreational value of wildlife can be estimated somewhat through its commercial value — how much people are willing to spend to pursue their hobbies. However, how do you calculate the value of adventure, exercise, relaxation and enjoyment? What is the value of seeing geese overhead or a bird at your feeder? How do we weigh that value against the value of dollars and cents?

The scientific value of wildlife includes the educational aspects of wildlife. Studies of wildlife have allowed humans to extend their knowledge in a multitude of fields. Medically, the hibernation or seasonal torpor of animals is teaching us how bodies can deal with uric and other waste-product buildups which may help us to better handle human kidney problems. It may also teach us how to slow the metabolism of

humans in extended outer space travel. Rattlesnake venom has taught us ways to thin blood for heart patients. Seals may teach humans how to avoid underwater diver's bends and chimpanzees are teaching about the evolution of complex behavior.

Birds provided the idea behind human flight and much of aerodynamics. They probably also inspired the first song. Bats meanwhile continue to teach us about echolocation while we also try to unravel the mystery of whale sonar.

Animals also provide an index of environmental quality. When the robins died and the birds of prey had eggshells so thin that few ever hatched, we knew that pesticides were affecting our environment and could affect us. Lack of native species and concentrations of exotics like house sparrows, starlings, pigeons, house mice and Norway rats indicate that our native habitats have decreased and that we might be creating crowding and noise too great for wildlife — perhaps too great for us.

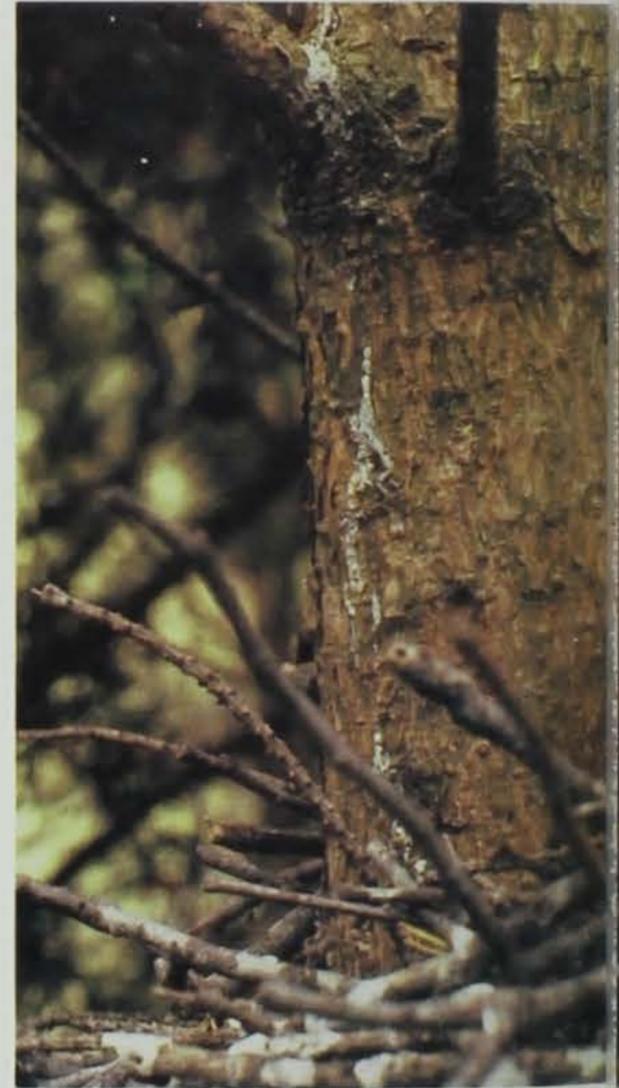
Great blue heron nestlings (right) anxiously await the return of their mother to the nest. A monarch butterfly (lower left) feeds on nectar. A mother bittern (below) uses her natural camouflage to hide the nest. The bobcat, like the flying squirrel (lower right) are rare members of Iowa's wild community.

Wildlife also has aesthetic value. Most of us will never see a grizzly bear or whooping crane yet admire their beauty, grace, and sheer wildness of their existence. Philosophically, wildlife has inspired songwriters, poets, writers and artists for eons. Wildlife is a part of our cultural appreciation of art, and is seen today on everything from coffee cups and T-shirts to expensive art prints. What is the value of the inspiration that wildlife has given us?

The estimated \$350 million is but a small part of the value of wildlife here in Iowa. We've just barely

begun to scratch the surface of learning about wildlife, or unforeseen benefits humans may gain from wildlife. We have much to learn about the interdependency of all life forms. To preserve this opportunity to learn, be inspired or enjoy, we must appreciate the value of wildlife and be willing to maintain the habitat that wildlife needs to survive.

Laura Spess Jackson is an urban wildlife biologist located in Des Moines. She holds an M.S. degree from Colorado State University and has been with the commission since January 1985.





Ken Formanek



Robert Carter



Robert Carter

Planning for Urban Wildlife

By Laura Spess Jackson

What is urban wildlife and where does it fit in our cities? This is a common question asked of Iowa's first urban biologist. Actually, the urban wildlife program is just two years old and has barely begun to scratch the surface of its full potential.

The program was initiated as a part of the nongame program in January of 1984 because of the increased urbanization of our state. Nationwide, over 80 percent of the people live in some type of urban situation ranging from small towns to large metropolitan cities. Nearly one million acres per year are converted to additional urban development. Recent history has shown that unplanned urban growth creates asphalt jungles, dingy slums, monotonous urban sprawls, and deprives us of natural variety and nearby recreational opportunities. Urbanization also tends to insulate people from natural resources and robs them of the educational opportunity to study and appreciate complex ecological relationships, or simply see native wildlife.

To help cope with human, city and wildlife needs, the urban program can be broken into three sections. One section is to increase public awareness of the recreational, educational and aesthetic value of wildlife. People need to know the biological requirements of wildlife in order to maintain these species. The second phase of the program is to develop and enhance habitat for wildlife on private and public lands. The final emphasis of the program is on research. Since urban programs are a new scientific field, much research is needed on human attitudes toward wildlife, and wildlife adaptability to various changes caused by urban development.

To teach people more about wildlife, the nongame program hosts public events. These include activities such as Bald Eagle Days, Pelican Watches, Hawk Watches plus various talks. The special watches provide people with the opportunity to observe something they might otherwise overlook or never know existed. The talks are to provide people with technical advice and information on subjects ranging from bird feeding and identification to landscaping yards for wildlife.

Although still a new concept, some Iowa cities are beginning to lead the way in urban wildlife planning. For example, Fort Dodge in cooperation with the urban program has designated a portion of its city-owned cemetery as a bird refuge. Over 30 bird species use the wooded ravine area that is being set aside. Typical, sparsely vegetated urban neighborhoods have less than a dozen bird species. Consequently not only does the bird refuge provide additional habitat for resident and migrating wildlife, it also gives folks an opportunity to see these species.

The cities of Ackley and Toledo decided to create wildlife habitat and save money. Ackley built a new sewage lagoon. Normally these areas look like golf course ponds and require costly mowing. Instead Ackley requested some urban wildlife designs and is in the process of planting the area to wildlife habitat. Native prairie grasses will be established around the ponds and some fruit-bearing shrubs and conifers will be added to provide food and winter cover for wildlife. With this design, the area should provide nesting cover for songbirds, pheasants and perhaps waterfowl, while only requiring mowing once every two years.



Ron Johnson

Toledo is striving to enhance the recreational, educational and wildlife value of its 40-acre city park. Most city parks consist of a few shade trees and mowed grass and thus lack the shrub layer desired by many wildlife species. These manicured environments seldom provide its citizens with a feeling of seclusion, "getting away from it all," or the opportunity to pursue hobbies such as bird watching, nature study and photography. Toledo's park had similar problems, but they've had the desire to change.

To create more food and cover areas for wildlife while visually blocking distracting views such as housing developments, highways and row crops, a hedge will be established around most of the park. This will provide a peaceful atmosphere for picnics and the blossoms, fruit and color of the plants can provide an attractive frontispiece for the park. Toledo is also going to plant one area to native prairie grasses to preserve part of its native legacy, provide an outdoor classroom for children and decrease mowing costs. The river corridor will be expanded to decrease soil erosion along the banks and provide a refuge area for wildlife.



This backyard (top) has been developed to enhance wildlife habitat. Cover for wildlife is provided by an important shrub layer planted around a large tombstone at this Fort Dodge cemetery.



Laura Spass Jackson

To help individuals establish wildlife habitat in their yards, a songbird package has been created. For \$10 people can obtain the package from the state forest nursery. The 20 seedlings in the package are high in food and cover value for wildlife and should grow throughout the state. Various publications are also being developed to guide people interested in helping wildlife. Publications such as the Iowa Bird Study, Iowa Mammals, Wood Duck Nest Boxes, Bluebird Nest Boxes and Barn Owls already exist, while Attracting Backyard Wildlife, Iowa Bats, Snakes of Iowa and Iowa Bald Eagles should soon be available.

Urban research is still in the planning stage, but questions need answering. For example, how effective are various landscaping designs in preserving wildlife species in cities? What human activities disturb certain wildlife species? On the human side, what social stresses do sterile, crowded environments which lack open spaces or green areas foster? What are the consequences of raising generations of children which have little or no day-to-day contact with nature?

The best option is to start planning for the future today. If the educational and recreational benefits that urban wildlife can provide are to be retained, potential habitat along highways, ditches, railroad rights-of-way, river corridors, bike trails, business grounds, golf courses, cemeteries, airports, landfills, sewage plants, empty lots and residential areas can be put to use.

With every new development the losses — to people and wildlife — must be considered. It is much easier to set an area aside than to recreate it. To adequately plan for the future citizens and municipal governments must be willing to establish zoning laws which consider wildlife, recreation and social tolerances as well as economics. It's up to us. 

Our Fourth Year

Iowa's Chickadee Checkoff

By Lowell Washburn

We are in our fourth year.

Since the 1982 tax year, persons filing Iowa income tax forms 1040A and 1040 have had a unique opportunity. Space has been provided on these forms where persons may contribute to the fish and wildlife protection fund... what we call the "Chickadee Checkoff." All funds given to the checkoff are earmarked for nongame wildlife conservation programs, administered by the Iowa Conservation Commission. Results for the first three years have been encouraging. More than 100,000 tax forms have yielded more than \$600,000 in contributions. Of the three dozen states with some similar form of chickadee checkoff, Iowa ranks very high in the rates of contributions. Before the checkoff, conservation efforts for nongame wildlife were funded from revenues created by hunting and fishing license sales. Most of the benefits to nongame

Your help is still needed.

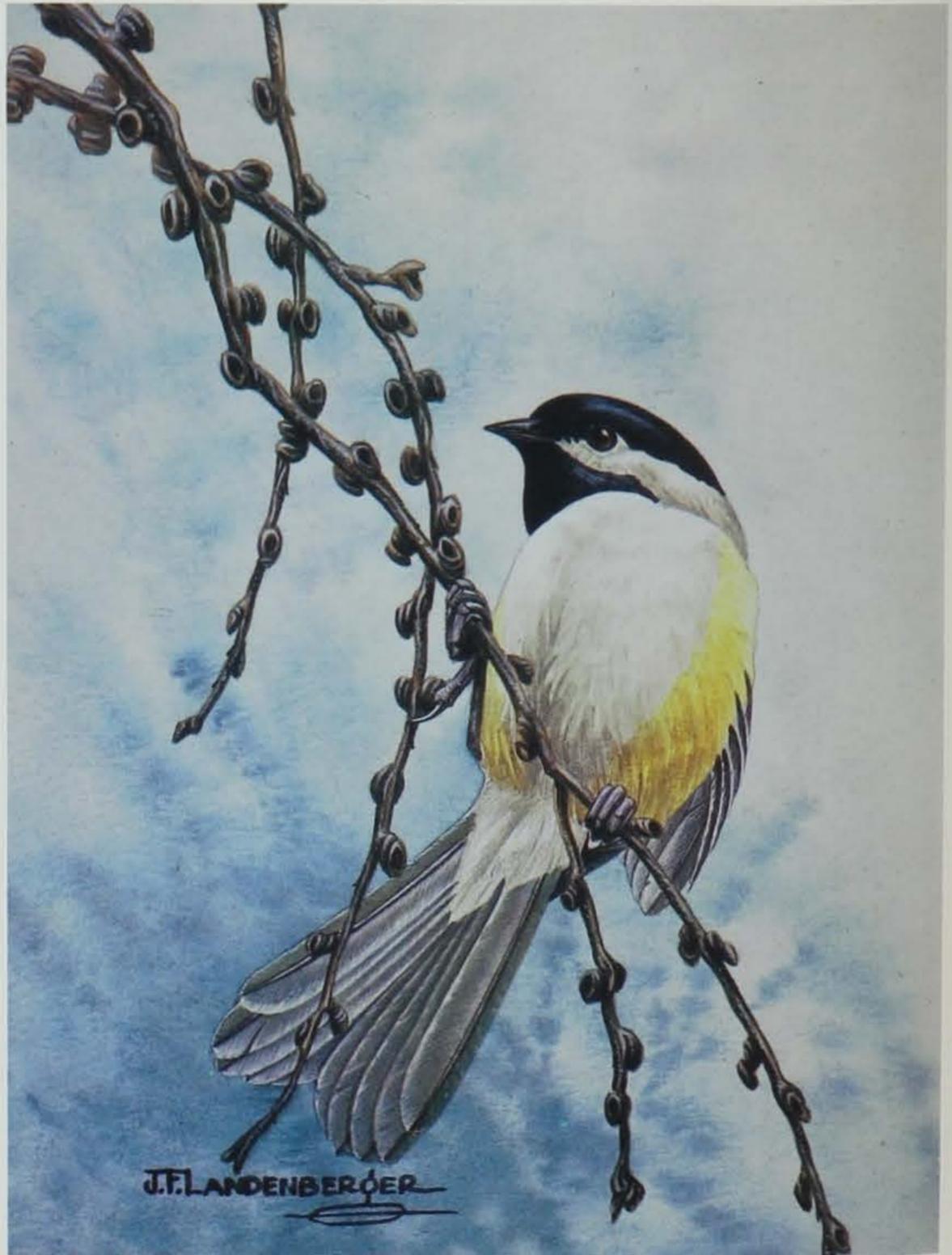
A staff of three biologists has been established and is fully committed to developing and coordinating a nongame conservation effort in Iowa. That program, underway since July, 1983, has made many significant steps forward, but for long-term successes, Iowa taxpayers must continue their generous support through the Chickadee Checkoff for many years

to come. As your contributions increase, the welfare of our nongame wildlife resources becomes more assured. Everyone with an interest in nongame wildlife owes it to help themselves and those precious resources not only to help finance a nongame program through the Chickadee Checkoff, but to promote the effort so that others will also contribute. 

**The Chickadee
Checkoff —
"Your
help
is still
needed."**



were indirect. For example, when habitat was purchased or managed for game species such as ducks or deer, nongame species such as herons or flying squirrels also benefited. Still, nongame wildlife had no direct sponsors as the game species had in sportsmen. And, there was not an identifiable or direct nongame conservation program being carried out. Thanks to the chickadee checkoff, all that is changed.



Nongame Program Purchases Land

Recently, the nongame program of the Iowa Conservation Commission purchased its first property.

Since the initiation of the Chickadee Checkoff in 1982, the nongame program has spent over \$63,000 to help purchase pieces of property. This is the first property purchased solely from Chickadee Checkoff funds.

One of the objectives of the nongame program is to acquire land which will benefit nongame species, particularly species which are rare, threatened or endangered and might otherwise perish without assistance.

This property is an 80-acre, never-plowed, sand prairie. Although the area has been heavily grazed, it still hosts native prairie grasses and forbs, including the endangered meadow beauty flower. The area also contains several prairie pothole

marshes. Waterfowl, raptors, shorebirds, grassland songbirds, the threatened ornate box turtle and other rare reptiles and amphibians use the unique, native habitat this area provides.

The site is in the Muscatine County and was originally discovered by the Muscatine County Conservation Board. "Walking on the area is like stepping back in time," says Doug Reeves, nongame biologist for the State Conservation Commission. "The size and gently rolling topography allow you to see what Iowa's landscape would have looked like a century ago." Management plans are now being established for the area. The site will probably be burned next spring to restore the native grasses after the heavy grazing they've endured. The area should then green up and flourish again, according to Reeves.

Iowa Wildlife & Nature In Art

A full 25 percent more artists than last year, the third annual Iowa Wildlife & Nature in Art Exhibition and Sale is expected to top the previous shows on almost all fronts.

Set for April 4, 5 and 6 at the Palace Theater of Adventureland, just off I-35 at Altoona, the show is again sponsored by the Conservation Commission and Iowa Natural Heritage Foundation. This year's feature artist is Art Benoit of Marshalltown who has just completed a major work that he is donating

to the Governor's auction. (Look for a photo of Benoit's piece in the coming February issue of the Conservationist.) Premiere night festivities will occur the evening of April 4, including the Governor's auction at 7:30 p.m., a get acquainted session with the artists, hors d'oeuvres and more, all for the first 450 buyers of tickets at \$25 each.

More details on the show will be announced in the Conservationist next month.

Songbird Wildlife Packets Available

The Iowa Conservation Commission's State Forest Nursery grows tree and shrub seedlings for conservation uses on Iowa urban and rural lands. The nursery offers two unique wildlife packets, the songbird packet for urban areas and wildlife packet for rural areas.

The songbird packet is composed of a mixed variety of 20 shrubs and trees designed to attract wildlife. The package includes three chokecherry trees, two siberian crabapple trees, five ninebark shrubs, five gray dogwood shrubs and five honeysuckle shrubs. Although these are not all native species, they are winter hardy throughout the state. Furthermore, they can survive poor soil conditions common to many urban areas.

This combination of plants insures that food, winter cover and several height strata for nesting will eventually be produced. Mammals that are likely to benefit from this planting include cottontail rabbit, raccoon, opossum, white-footed mouse, gray squirrel, fox squirrel, red squirrel and woodchuck. As the plantings mature, the variety of wildlife using them will increase. Eventually, northern orioles, rose-breasted grosbeaks, woodpeckers, nuthatches and other forest dwelling birds will be found in the larger trees.

Aside from providing habitat for animals, the songbird packet offers many benefits to homes and properties. This mix of plants offers shade in

the Iowa summer, a noise buffer, wind block and can even function as a natural fence. The variety of plants offer color and contrast, sweet smells and the pleasure of seeing game and nongame animals in your backyard. Keep in mind that it will be three years before the seedlings reach maturity and before all of the benefits of the songbird packet can be appreciated.

The wildlife packet allows individuals to order more diversity for their acreage than regular nursery orders. The wildlife packet is composed of 50 conifers, 50 hardwoods and 100 shrubs. When planted around the perimeter of an acreage, these plants create natural fence rows which can serve as windbreaks and control erosion. A cluster planting of these seedlings will eventually form a small forest which will provide habitat for wildlife. Conifers offer shelter for animals in the winter and those shrubs that produce persistent berries will feed birds and other animals throughout the winter. Again, these plants are hardy and adaptable to a variety of Iowan soils and weather conditions.

Individuals can purchase a songbird packet for \$10 and for \$19 they can invest in the wildlife packet. Considering the many benefits associated with these packets, such as low cost, these packets may be the best investment a person can make in their land.



Spring 1986 Environmental Education Courses

This spring, the UNI Institute for Environmental Education, through its Iowa Environmental Education Field Station Program, will offer a series of weekend courses for graduate credit. All courses will be offered at the Conservation Education Center in Springbrook State Park near Guthrie Center, Iowa. The courses are designed to meet the needs of teachers and naturalists.

Pre-registration is required for all courses. Final registration and dormitory assignment take place Friday evening from 6:30 p.m. to 7:30 p.m.

Each pre-registration requires a \$25.00 nonrefundable deposit. All courses are limited to 30 students.

Spring Courses 1986

January 10-12

Using Creative Drama in Environmental Education
82:233 - 1 credit hour
Doug Larche - instructor

February 7-9

Life in the Dead of Winter
82:186g - 1 credit hour
Gail George - instructor

March 7-9

Iowa Hazardous Waste Disposal
82:133g - 1 credit hour

April 7-9

Soil Loss/Water Pollution
82:286 - 1 credit hour

Costs

Tuition	\$63.00
Audit	\$63.00
Meals	\$20.00
Rooms	\$4.00 (no charge for tuition participants)
Total	\$83.00 (87.00 for audit)

Special Events

Winter Solstice — January 17-19 Weekend with Sylvan Runkle — May 3-4

For specific information about each of these courses and events call the Conservation Education Center (515) 747-8383 or UNI (800) 772-1746 (toll free) or (319) 273-2122.

Participate in the Annual Winter Bird Feeder Survey

Each January, the Iowa Conservation Commission's Nongame program and the Iowa Ornithologists Union sponsor a winter bird feeder survey. This survey depends on interested individuals throughout the state. Participants are sent a form which asks a few questions concerning the types of feeders being used, if water is available and what kind of habitat the surrounding neighborhood has — suburban, cropland, timber, etc. The participants are asked to count the different types of birds at their feeders for two consecutive days.

In previous years, the count was conducted only on one weekend. This year, to allow weekend travelers more opportunity to participate, the count will be from Thursday, January 23 through Sunday, January 26. People are still asked to count only on two consecutive days, however, so that this year's results will still be comparable to previous years.

The bird feeder survey is useful for measuring whether the number of various common birds are up or down in different parts of the state. With the habitat question, biologists hope to determine which birds are more frequently seen in different types of areas.

If you are interested in participating, call or write: Laura Jackson, Urban Biologist, Wallace State Office Bldg., Des Moines, IA 50319, 515-281-4815.

Commission on Radio

One way to keep up-to-date on outdoor Iowa is to tune in to the Commission's short radio program, "Conservation Capsule", heard on 34 radio stations across the state.

Wherever you live in Iowa, you have a good chance of being within the broadcast area of one of the stations listed on the "Conservation Capsule" table located on this page.

The five minute program features host Bob Runge interviewing outdoor experts on a wide range of subjects. Some topics discussed include: fishing hotspots, hunting season outlooks, state park information, and general outdoor subjects.

If your local station does not carry "Conservation Capsule", you might let them know you would be interested in hearing it. The show is provided free of charge to any station wishing to air it.

Location	Station	Position	Time Aired
Albia	KLBA	1370 AM	Sat. 6:35 a.m.
Ames	KEZT	104.1 FM	Sun. between 6:30-7:00 a.m.
Bloomfield	KXOF	106.3 FM	Mon. 12:20 p.m. or 5:10 p.m.
Burlington	KBUR	1490 AM	Thurs. 6:25 p.m.
Centerville	KCOG	1400 AM	Sat. between 5:00 a.m.-6:30 a.m.
Cherokee	KCHE	1440 AM	Sat. 7:30 a.m.
Clinton	KROS	1340 AM	Sat. 12:00 Noon
Davenport	KRVR	106.5 FM	Sun. 12:00 Midnight
Denison	KDSN	1530 AM	Sun. 10:05 a.m.
Des Moines	KWKY	1150 AM	Sat. 6:05 a.m.
Elkader	KADR	1400 AM	At different times
Emmetsburg	KEMB	98.3 FM	Sat. 10:05 a.m.
Estherville	KILR	1070 AM	Sat. 5:10 p.m.
Forest City	KIOW	102.3 FM	Sat. 11:40 a.m.
Fort Dodge	KVFD	1400 AM	Sat. 10:10 a.m.
Fort Madison	KBKB	1360 AM	One weekday 7:00-8:00 a.m.
Hampton	KWGG	104.9 FM	Sat. 7:10 a.m.
Humboldt	KHBT	97.7 FM	Sun. 12:30 p.m.
Ida Grove	KIDA	92.7 FM	Sat. 7:30 a.m.
Jefferson/Perry	KDLS	1310 AM	Tue. 1:20 p.m.
Le Mars	KLEM	1410 AM	Sat. 9:15 a.m.
Maquoketa	KMAQ	1320 AM	Fri. 1:05 p.m.
Mount Pleasant	KILJ	1130 AM	Tues. 5:30 a.m. and 11:30 a.m.
Newton	KCOB	1280 AM	Sat. 6:20 a.m.
Osage	KOSG	92.7 FM	Sat. 10:15 a.m.
Oskaloosa	KBOE	740 AM	Sat. 6:35 a.m.
Prairie du Chien	WPRE	980 AM	Sat. 5:05 p.m.
Sheldon	KIWA	1550 AM	Sun. 7:05 a.m.
Shenandoah	KYFR	920 AM	Sat. 11:00 a.m.
Sioux City	KSCJ	1360 AM	At different times
Spirit Lake	KUOO	103.9 FM	At different times
Washington	KCII	1380 AM	Sat. 8:15 a.m.
Waukon	KNEI	1140 AM	Fri. 5:15 p.m.
Webster City	KQWC	1570 AM	Sat. 8:45 a.m.

1985 Bald Eagle Appreciation Days

To give people an opportunity to view bald eagles first-hand, there will be Bald Eagles Appreciation Days, Jan. 17-19 at Keokuk, Iowa.

The Bald Eagle Appreciation event will include observation areas at the river and indoor sessions at the Keosippi Mall on Main Street. Spotting scopes will be furnished at the observation areas to help the public view the eagles. Biologists will also be on hand at the observation areas to answer questions. The indoor sessions will include an hourly bald eagle program from 8:00 a.m. through 4:00 p.m. with a film and a live bald eagle called Pat. On Friday, Jan. 17, the program will be primarily for school children, senior citizens and the handicapped, but will be open to the general public as space allows.

Each winter 100 to 400 bald eagles winter along the Mississippi River at Keokuk. This is one of the major wintering areas for bald eagles in the Midwest. The birds stay near Keokuk during the winter because the dam on the

river tends to keep the water open so the eagles have an area to hunt for food. The Illinois side of the river is forested, providing perching and overnight roosting sites for the eagles if left undisturbed by human activity.

The Saturday and Sunday programs are open to everyone. In addition, there will be a lecture series to provide more details on bald eagle biology, plus extra slide shows and movies on eagles. There will also be eagle displays and artwork exhibits at the mall throughout the event.

Bald Eagle Appreciation Days are being sponsored by the U.S. Army Corps of Engineers and the Nongame Programs of the Iowa Conservation Commission and Illinois Department of Conservation. For additional information call: Laura Jackson, Iowa Conservation Commission, 515/281-4815; Jim Mergen, Illinois Department of Conservation, 217/785-8691; or Lester Wadzinski, U.S. Army Corps of Engineers, 309/788-6361.



Hawk Watch A Success



The first Nongame Hawk Watch was held this past fall at Effigy Mounds National Monument. Over 600 people attended the event and had the opportunity to observe some of the 79 raptors that flew overhead during the course of the day.

Effigy Mounds was a perfect place to host the event since it has observation points which overlook the Mississippi River valley and surrounding bluffs. Hawks and eagles use this type of topography during their fall migrations since updrafts of wind allow them to soar with little effort. During a single fall season over

3,000 raptors will migrate through the Effigy Mounds area.

On the day the hawk watch was held, 15 immature and six adult bald eagles flew past the observation point. Sharp-shinned hawks, red-tailed hawks, kestrels, vultures and the rare red-shouldered hawk were also observed. A raptor display and a slide/talk show was also available at the Visitor Center. In cooperation with the Effigy Mounds personnel, the Nongame program hopes to have the Hawk Watch again this fall — be watching for it around mid-October.

BOOK REVIEW

Iowa Birds by James J. Dinsmore, Thomas H. Kent, Darwin Koenig, Peter C. Petersen and Dean M. Roosa 356 pages. Illustrated with

photographs and maps. Published by Iowa State University Press, 2121 South State Avenue, Ames, Iowa 50010; 1984. Price \$27.50

This book reviews, consolidates and updates all previous information on occurrence and distribution of every known species of bird in Iowa. It also summarizes abundance and occurrence patterns of the past, offers tips on species identification, and provides other valuable data to supplement illustrated field guides currently available. It features an easy-to-read text, many maps, extensive references to other literature and appendices.

About the Authors: James J. Dinsmore is professor of animal ecology, Iowa State University. Thomas H. Kent, M.D., is professor of pathology, University of Iowa, and a well-known Iowa birder. Darwin Koenig is executive director, Poweshiek County Conservation Board. Peter C. Petersen is editor of *Iowa Bird Life*. Dean M. Roosa is state ecologist, Iowa State Preserves Advisory Board and State Conservation Commission.



CALENDAR

January 5	X-Country Skiing, 1:30-3:30 p.m., Call to Reserve Skis	Lost Island-Houston Park Palo Alto County 712/837-4866	January 23	Raptors of Iowa: Session I, 7:30 p.m.	Burt Community Room Kossuth County 515/295-2138
January 5	X-Country Ski Clinic, 2:00-4:00 p.m.	Lime Creek Nature Center Cerro Gordo County 515/423-5309	January 25	X-Country Skiing, 1:00-3:00 p.m., Reserve Skis	Lost Island-Houston Park Palo Alto County 712/837-4866
January 5	Halley's Comet Sky Watch, 6:00-7:00 p.m.	Harding Elem. School Clinton Clinton County 319/847-7202	January 25	Walk When the Moon is Full, 6:30-8:00 p.m.	Syracuse State Wildlife Area Clinton Clinton County 319/847-7202
January 6 & 8	Halley's Comet Watch, 5:30-7:00 p.m.	Fin and Feather Lake Cerro Gordo County 515/423-5309	January 25	Joyce Powers Prairies, 9:30 a.m.-3:30 p.m., Pre-registration Required	Indian Creek Nature Center Linn County 319/362-0664
January 9	Wild Turkey Natural History and Hunting Seminar, 7:30 p.m.	Kossuth County	January 25	Cross-Country Ski Program	Fontana Park, Hazelton Buchanan County 319/636-2617
January 9	Indoor X-Country Ski Seminar, 7:00-10:00 p.m.	Wallace Building Des Moines Polk County 515/999-2557 or 515/280-2933	January 26	Winter Solitude Hike, 1:00 p.m.	Kennedy Park Children's Forest Fort Dodge Webster County 515/576-4258
January 11	Cross-Country Ski Workshop, Reservation required prior to January 3	Osborn Headquarters Clayton County 319/245-1516	January 26	"Animal Tracks and Signs", 1:00 p.m.	Conservation Center Indianola Warren County 515/961-6169
January 11	"Beginning X-Country Skiing", 1:00 p.m. (Skis Available)	Camp Wesley Woods Warren County 515/961-6169	January 26	Winter Fun Day	Littlefield Recreation Area Audubon County 712/563-4551
January 11, February 8 and March 8	"Seasons of a Woodland", Hike 1:00-3:00 p.m., Reserve Snowshoes	Basswood Recreation Area Palo Alto County 712/837-4866	January 26	Winter Fun Day	Lake Cornelia Park Wright County 515/532-3185
January 11, 25 and February 22	X-Country Ski Clinic For Beginners, 1:30 p.m.	Swan Lake State Park Carroll County 712/792-4614	January 26 and February 23	X-Country Skiing	Ozark Bridge Road Jackson County 319/652-3783
January 11 or snow date January 19	X-Country Ski Race, 2:00-4:00 p.m.	Lime Creek Nature Center Cerro Gordo County 515/423-5309	January 29	Afterschool Snowshoe Clinic, 3:30 p.m., Pre-register with Jeriene Slepser, Titonka Community School	Titonka Community School Kossuth County
January 12	X-Country Skiing, 1:00-4:00 p.m.	Eden Valley Refuge Nature Ctr. Clinton Clinton County 319/847-7202	January 30	Teaching Kits and Project Wild Workshop, 1:00 p.m., Pre-register with Miriam Pfeift or Adele Black	Lakeland AEA Kossuth County
January 12	Planning Your Plantings, 1:30 p.m.	Swan Lake State Park Carroll County 712/792-4614	January 31 & February 1	Camp Wyoming Winter Workshop	Camp Wyoming Clinton Clinton County 319/847-7202
January 12 and February 9	X-Country Skiing Workshop	Hillview Recreation Area Plymouth County 712/947-4270	February 1	Wild Game Feed	Lime Creek Nature Center Cerro Gordo County 515/423-5309
January 12	"Advanced X-Country Skiing", 1:00 p.m. (Skis Available)	Camp Wesley Woods Warren County 515/961-6169	February 3	Osceola County Conservation League Banquet, 6:00 p.m.	Sibley-Ocheyedan High School Osceola County 712/754-4107
January 12 and February 9	X-Country Skiing	Buzzard Ridge Wildlife Area Jackson County 319/652-3783	February 6	White-Tailed Deer Natural History and Antler Measurement, 7:30 p.m.	Burt Community Room Kossuth County 515/295-2138
January 13, February 10 and March 17	Conservation Film Night, 7:00 p.m.	Iowa Lakes Community College Auditorium, Emmetsburg Palo Alto County 712/837-4866	February 6	"Environmental Film Fest", Free Movies, 6:30-8:00 p.m.	Indianola Public Library Indianola Warren County 515/961-6169
January 15	Children's Armchair Adventures, 7:00-8:00 p.m.	Lime Creek Nature Center Cerro Gordo County 515/423-5309	February 8	Junior Ranger's Winter Activities	Black Hawk Park Black Hawk County 319/277-2187
January 18	X-Country Skiing & Snowshoe Clinic, Pre-registration Required	A. A. Call State Park Algona Kossuth County 1-800/242-5100 or 515/295-7981	February 8	Advanced X-Country Ski Clinic, 1:30 p.m.	Swan Lake State Park Carroll County 712/792-4614
January 18	Izaak Walton League, Ice Fisheree	Rodgers Park Benton County 319/472-4942	February 8	Winter Astronomy, 7:00-9:00 p.m.	Swan Lake State Park Carroll County 712/792-4614
January 18, February 15 and March 15	Uncle Ike's Nature Club, 10:00 a.m.-Noon (sledding party Feb. 15)	Ike's Chapter House Fort Dodge Webster County 515/576-4258	February 9	Winter Fun Day, 1:00-5:00 p.m.	Swan Lake State Park Carroll County 712/792-4614
January 21	River Otters in Iowa, 7:30 p.m.	Westminster Presbyterian Church Des Moines Polk County 515/999-2557	February 9	X-Country Skiing, 1:00-4:00 p.m.	Sherman Park, N. Entrance Clinton Clinton County 319/847-7202
January 21, February 18 and March 18	Nature Night at the Movies, 7:00 p.m.	Kennedy Park Reception Ctr. Fort Dodge Webster County 515/576-4258	February 9	"Sleeping Beauties", Winter Botany, 1:00 p.m.	Indianola Public Library Indianola Warren County 515/961-6169
January 21, February 4, 18, March 4 and 18	T.R.E.A.T.S. (Tuesday Recreation Education and Talk Series), 7:00 p.m.	Hamilton County 515/832-1994	February 10 and March 3	Armchair Adventures, 7:00-8:00 p.m.	Lime Creek Nature Center Cerro Gordo County 515/423-5309

LEADERS

If it were not for volunteers, the nongame program would accomplish much less. Volunteers offer the use of their barns for our barn-owl release project, then they feed the adults and young for periods of up to seven months before the birds are released. The commitment of time, energy, and effort on the part of these leaders in conservation is what keeps the barn-owl project going. Indeed, we could release only about 20 owls per year instead of the 70-80 we have been able to release if it were not for volunteers.

The breeding bird atlas project and spring frog and toad surveys would not be run if there were not 200 plus volunteers helping to make them go. The bird feeder survey also is completed entirely by volunteers. Even the midwinter bald eagle survey relies, in part, on volunteers.

Other volunteers go unrecognized because they contribute to nongame wildlife in different ways. Some people build and put up bluebird boxes, kestrel boxes and wren boxes on their own. Others leave a fencerow or food plot for nongame wildlife. Everyone who donates to the nongame program through the chickadee checkoff on their income tax form is to some extent a volunteer for the nongame program. To everyone who has helped the nongame pro-

By Doug Reeves

N CONSERVATION

gram in any way, we offer a special thanks.

Some volunteers have gone so far out of their way on behalf of nongame wildlife that they deserve special recognition. Here are just a few examples:

Wayne and Millie Schmidt of Williamson offered the use of their barn for our barn owl project. They also put up with the additional bother of our research project. Most people would not take kindly to having someone driving around the farm in the middle of the night trying to locate barn owls, but Wayne and Millie did not mind. In fact, they kept up to date on each one of the owls after the release. Also, the adult female owl was setting on eggs when we released the first bunch of young ones so Wayne's involvement didn't end there. He fed the owls and watched over them an additional six weeks until we released the second batch of young birds together with the adults.

While that alone represents a tremendous commitment on the part of the Schmidts, another remarkable point is that they did it while under considerable duress. When we placed the adult owls in their barn, Wayne was recovering from major surgery. Still, he took excellent care of the owls. Then during the summer, Millie became ill and after fighting cancer, died in September.

Indeed, the volunteer

effort that Wayne and Millie contributed on behalf of the barn owl in Iowa was especially important to our research project. Wayne remains dedicated to the conservation of wildlife and a personal friend of the nongame program. Although a thank you is hardly enough, it is all we can offer.

Barbara Wilson of rural Hastings is another special nongame volunteer. Barb is one of the most active members of the Iowa Ornithologists Union, and when it comes to projects involving birds, she has helped us with them all. She has provided more nest record cards than any other single individual in Iowa. She was one of the first volunteers to offer a barn for our barn owl restoration project. Since the release of the owls from her barn, she has checked on reports of barn owls in her area and is more than willing to investigate possible barn owl sightings. At the present time, Barb is one of the regional coordinators for the Iowa breeding bird atlas. She has recruited other volunteers and now has the most active group of birders in the state helping her. During spring and summer, Barb spends a good share of her time studying piping plovers and least terns (both endangered species in Iowa) near Council Bluffs. Her research has provided necessary information for

management decisions regarding the two species.

In addition to being an avid birder, Barb is also a prairie enthusiast. She has done plant inventories of several prairies in southwest Iowa and probably understands the remaining native prairie there as well as anyone.

Barb spends considerable time and effort helping children learn about wildlife. Helping the next generation understand the outdoors is a terrific investment and bodes well for Barb.

Sue Barrows, D.V.M. and Carolyn Runyan, D.V.M., both of the Iowa State University Veterinary Medicine Clinic have provided primary care and surgery for many injured hawks and owls. They have done it on a volunteer basis. Their efforts have returned unusual species such as a long-eared owl, a short-eared owl, an arctic great horned owl and a bald eagle to the wild. Both Dr. Barrows and Dr. Runyan have taken an active role in teaching raptor rehabilitation to students at Iowa State University. This effort may well provide the most significant dividends as more veterinarians with experience caring for injured wildlife take positions around the state.

Another project that Drs. Runyan and Barrows volunteered to help with is the river otter research project. The two assembled a very capable volunteer team of surgeons, anesthesiologists, and assistants who did a tremendous job of surgically implanting radio transmitters in the otters. As a result of their experience and ability, not one of

the otters developed complications as a result of the surgery. The volunteer efforts of Carolyn Runyan and Sue Barrows have been the heart of our raptor rehabilitation program, and we hope will continue to be.

Rick Hollis of Iowa City is another exceptional volunteer who has made a contribution to nongame wildlife in Iowa. An avid birder, Rick has taken a particular interest in bird feeding and the use of bird feeder surveys to provide information about winter populations of birds in Iowa. In fact, Rick was an initial participant in the planning of the cooperative winter bird feeder survey. He has handled all of the data analysis and tabulation of the survey. The process has included initial sorting of survey forms, entry of data on a personal computer, writing programs to analyze the data, and then doing the numerical analysis.

Rick's efforts during the last two years have allowed us to gain a better understanding of the numbers and distribution of popular songbirds like cardinals and chickadees during the winter. During the next several years, we will be able to compare his data with data from other years and be able to see how weather and other factors affect winter bird populations in Iowa.

There are many other volunteers who could be singled out as leaders in Iowa conservation but space limits the ability to recognize them. The important point is they are doing a tremendous job and we would be lost without them.





They Otter Be In Iowa

By Laura Spess Jackson

On March 19, 1985, Iowa received a shipment of something that most Iowans have not seen — otters. River otters were brought to Iowa through the nongame program to help restore them.

Historically, otters were among the most widely distributed mammals and occurred along waterways throughout most of the United States and Canada. However, by the turn of the century they were eliminated from much of the Central and Western United States. Some loss of otters was due to unregulated market hunting and trapping that occurred during the late 1800's. But, loss of timbered areas, channelization of streams, drainage of wetlands, increased siltation, and chemical contaminants from agricultural practices contributed to the loss of otters. These practices, which so drastically altered Iowa's landscape after the turn of the century, also eliminated much of the habitat necessary for den sites and rearing young, decreased the availability of food and may have had chemically toxic effects on the otter's ability to survive or reproduce.

Although there are some otters in the northeastern portion of the state along the Mississippi River, the last record of an otter being trapped in central Iowa was in 1913. Since then there has only been one verifiable report of an otter in central Iowa. Otters are consequently listed in Iowa as a threatened species whose survival may be endangered if habitat conditions become worse and no management action is taken.

In an initial attempt to restore otters to Iowa, eight male and eight female otters were released at Red Rock reservoir last March. Iowa traded 32 turkeys to Kentucky, who then purchased the 16 otters for us from Louisiana which still has a large population.

To monitor the success or failure of releasing otters in Iowa, all 16 were equipped with radio transmitters. Since a collar or backpack transmitter was not suited to the otter's lifestyle or body shape, the transmitters had to be surgically implanted in the body cavity. Thanks to the personnel of Iowa State University's school of

veterinary medicine under the guidance of Dr. Carolyn Runyan, each otter was implanted with a radio transmitter and came through the surgery with flying colors.

Other states which had performed similar surgery on otters found that there was less mortality if the otters were released the day after surgery. Thus on March 20, one research technician and 16 otters were released in the backwater area of Red Rock reservoir. The technician was in charge of radio tracking the otters to monitor their survival, movement and habitat use.

The otters have survived amazingly well. Each radio transmitter has a mortality mode which turns on if the animal dies. Although two otters were never found after the release (probably radio transmitter failure), the remaining animals were found throughout most of the summer. Now some radio transmitters are fading out, but the otters have proven that given any yet unforeseen circumstances, they can survive in Iowa.

Up until late summer, most of the otters remained in the Red Rock area. Backwater areas, oxbows and gravel pits were the most frequently used habitat. When the lack of rain began drying up some of these areas, fish kills of carp and bullheads provided an ample source of food. However, when these areas became too dry, the otters began to head toward more permanent sources of water such as the river or gravel pits. They continued to find rough fish an abundant source of food.

Some of the otters which used the river areas moved quite a distance from the release site. Early on, one male otter moved 60 river miles south along the Des Moines River toward Eddyville. Later, two otters traveled up the Skunk River. One stopped at Galesburg and the other continued toward Colfax. Another otter has been keeping the technician busy as it commutes at irregular intervals between Des Moines and Hartford.

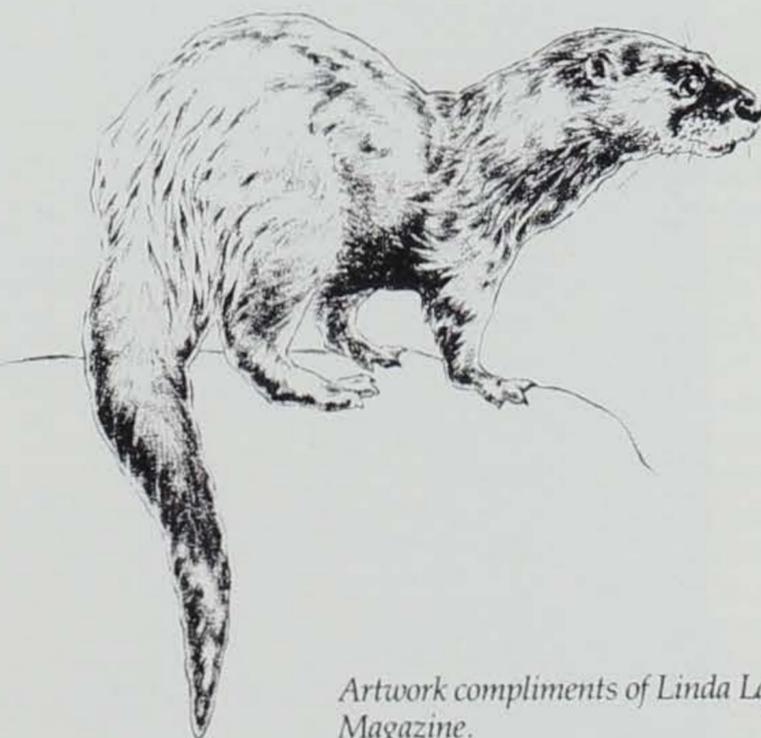
Beaver lodges have been the favorite den site. Over 60 percent of the radio relocations of the otters have been pinpointed in either active or

abandoned beaver lodges. The otters have also used brush piles, bank dens or dense vegetation for rest sites. To still allow the recreational opportunity of trapping, yet protect the otters on the Red Rock area, no traps can be set within 10 yards of any beaver lodge.

Continuing on through the winter, various snow-tracking or scent-station surveys will be tested. Then when the radio transmitters cease to function, otter numbers can be estimated. This will also help in documenting reproduction that might occur. Although otters have a 61-day gestation period, they hold the embryo for nine months before it is implanted on the uterine wall and grows. None of the females released last March were pregnant and they were probably too busy learning a new territory to breed last spring. Hopefully, they will breed this spring and produce young in 1987.

Since the otters have survived so well in their new home, there are now plans to acquire another 120 otters in the next three years. These additional otters will be released in groups of ten males and ten females at sites in each quarter of the state. Most of these otters will not be equipped with radio transmitters, but will be monitored through techniques developed this winter and through reports by the public and commission personnel.

Although it is unlikely that the otter population will reach high enough numbers in the near future to allow trapping, the Iowa Trappers Association, the ISU Fisheries and Wildlife Biology Club and the Furtakers of America have been raising money to help the otters through selling T-shirts and sweatshirts. The T-shirts are blue or gold and the sweatshirts are gray. They are available in both children and adult sizes. T-shirts cost \$6.50 and sweatshirts cost \$14 (include \$1.00 for postage) and have an attractive otter logo with the slogan, "They Otter Be In Iowa." These may be ordered directly from Bernie Barringer, Iowa Trappers Association, RR #2 Box 153, Forest City, IA, 50436 (checks payable to Project Otter).



Artwork compliments of Linda Laffitte of South Carolina Wildlife Magazine.

Surviving the Challenge The Barn Owl

By Bruce Ehresman

America's changing landscape is challenging yet another wildlife species to survive. The beautiful, common barn owl (*Tyto Alba pratincola*), flying rodent trap extraordinaire, was placed on the Iowa endangered species list in 1977, and is also classified as endangered in Missouri, Illinois, Indiana, Michigan, and Wisconsin.

In Iowa, the barn owl was never considered common, but rather a rare, permanent resident. Records of barn owls, as far back as 1909, indicate that they were widespread here at that time. However, it was noted that "this peculiar owl is counted rare in Iowa because of its strictly nocturnal habits."

Because Iowa's barn owl population has apparently been decreasing for several decades, and since the barn owl breeds readily in captivity, recommendations were made by Iowa's State Ecologist, Dean Roosa, to embark on a captive breeding and restoration program. Common barn owl restoration in Iowa began as an offshoot of the Conservation Commission's raptor rehabilitation project at the wildlife research station near Boone. Raptor rehabilitation at the station still continues, but since the fall of 1982, more emphasis is on captive breeding, rehabilitation, and restoration of the common barn owl. Reasons for restoration include its economic value as a destroyer of grain-eating rodents, and its aesthetic value to humans. It seems only fair that humans play a role in helping restore a species that we are directly responsible for decimating. An Iowa income tax refund checkoff, "Chickadee Checkoff," initiated in tax-year 1982 for Iowa's nongame program now funds the restoration project.

Decline of the barn owl can probably be attributed to a combination of factors. The habitat the barn owl prefers is best described as open country with an interspersed of grasslands, wetlands, pastures, hayfields, open woodland and cropland. In the last

30 years, however, there has been a marked change in land use patterns throughout Iowa. Marshes were drained and today only a small fraction of Iowa's wetland heritage remains. Crop rotations that included about 25% meadow are now replaced by two-year rotations of corn and soybeans throughout much of the state. As crop fields are enlarged, brushy fencerows, vacant buildings, woodlots and idle areas are eliminated. And so go the trees, buildings and grasslands that previously provided barn owls' nest and roost sites as well as foraging areas.

Another factor affecting barn owl abundance is predation. Raccoons also inhabit old buildings and hollow trees, and eat eggs, nestlings and probably even nesting adult barn owls. Great horned owls very likely pose a serious threat to the barn owl's existence in Iowa today. As part of the restoration program, a barn owl study using radio telemetry was carried out by nongame technician Pat Schlarbaum near Chariton during the summer of 1985. Of seventeen barn owls which had radio transmitters placed on them, at least 8 were killed and eaten by great horned owls. This phenomenon is also documented in other states. A study in eastern Washington indicated that, "Common Barn owls are the fourth most important prey item in the diet of great horned owls."

Certainly collisions with automobiles, trains and power lines take a toll on Iowa's barn owl population. The 1985 study found that 2 of 16 owls were killed by automobiles in a three-month period. Other studies have found barn owl collision mortality between 11 and 23 percent.

Severe winter weather also affects survival of the barn owl. Although some barn owls probably do fly south during winter months, many do not. Snow cover at a depth of 5 inches provides cover for small mammals and protects them from owl

predation. Since the barn owl maintains the least body fat of all owls which have been examined, and since their feathers are of low insulative value, the barn owl probably cannot survive more than several days without feeding. This is especially true during periods of sub-zero temperatures. Several barn owl mortalities reported in Iowa the last two years are attributed to starvation during severe weather.

Pesticide and rodenticide use undoubtedly have some negative effects on the barn owl. However, the organochlorine pesticides that are so harmful to fish- and bird-eating raptors like eagles, ospreys, and peregrines, probably have not played a major role in barn owl population reduction since this owl's diet is 95 to 98 percent rodents. Because the barn owl's preferred prey is the meadow vole, a grassland species, it probably is not affected to a great degree by rodenticides which are placed within buildings on the farmstead. However, during the winter when the snow cover is deep, the barn owl may be forced to seek out the rats and mice inside these farm buildings.

Economically, the barn owl proves very beneficial to farmers because of its hunting ability. A single barn owl can consume nearly 2,000 rodents each year. Hungry, fast-growing owlets can consume their weight in rodents each day, and for a six-week-old owlet, this amounts to 10 to 12 mice daily. The last four documented, wild barn owl nestings have been associated with southern Iowa farmsteads. Economically and environmentally, a successful barn owl restoration program would have a positive impact.

Iowa Conservation Commission and county conservation board personnel as well as private cooperators are erecting nest boxes to provide nest sites for future generations of the free-flying cavity nesters. The commission also hopes to increase the population by placing and releasing mated barn owl pairs with young, and fledglings reared by 14 captive pairs at the Boone facility.

To initiate the restoration program, barn owls were needed for the captive breeding program. Since it was virtually impossible to locate native barn owls, the nongame staff looked

to outside sources. Contacts were made and donors were found. So far, the commission has received 93 barn owls by air-freight shipment from rehabilitation centers and zoos in Washington, Oregon, California, Arizona, Texas, Louisiana, South Carolina and Illinois. The nongame program uses these owls either for captive breeding at Boone or for placement at selected release sites.

Nongame staff members choose sites primarily from areas volunteered by the public and commission and county conservation board personnel. Interested volunteers who feel they have adequate release sites and are willing to feed captive barn owls should contact the nongame staff.

These volunteers are sent a form to complete and return with an aerial photograph of the proposed site, obtained from their local ASCS office. Staff members evaluate and rate each returned form and choose release sites from those forms indicating the best habitat for barn owls.

Evaluation of the proposed release site includes the area within a one-mile radius of the release site structure (roughly 2,000 acres), based on the owls' hunting behavior. The release site structure must be undisturbed, and able to be made "owl tight" and predator proof with a few hours' work. Basically, areas needed have a large (30-50%) proportion of permanent grassland, several undisturbed potential nesting sites, and few great horned owls present. Dense grasses provide good habitat for small mammal prey. Old vacant buildings or large hollow trees provide adequate nest sites. Most release sites are in areas where barn owls are present, or were present within the last twenty years. This habitat exists primarily in the hilly southern, western and eastern portion of the state.

Once a suitable release site with a large building or silo is selected, the site must be prepared for the owls. The structure is made "owl tight" and then a nest box is attached near the top of this enclosed building. The site is then ready to hold barn owls.

Nongame personnel place barn owls at release sites as mated pairs in January, pairs with young in April and May, and groups of immatures from May through October. They supply the cooperators with laboratory mice from the Iowa State Diagnostic Laboratory and culled cockerel chicks from a local hatchery to feed the owls. These people feed the confined owls daily and monitor food consumption. Cooperators continue to feed the owls after their release until the birds are catching live prey.

Each year from 1983 through 1985, four to six mated pairs were placed at release sites prior to the main breeding season. In captive owls, this season is from January through March. In wild barn owls it is normally April through June. Barn owls nest earlier in captivity because they have a plentiful food source.

Within two months after placement, the female owl is sitting on usually five to seven creamy-white eggs. These eggs are normally laid at two-day intervals with incubation beginning with the first egg laid and ending in about 30 days. After hatching, the owlets are fully feathered and flying by eight to ten weeks of



Bruce Ehresman



Bruce Ehresman

An aggressive program to reestablish the beautiful barn owl to Iowa has been undertaken. If successful, scenes like these may once again be common in rural areas.

age. It is at this time that live mice are released within the release-site structure to hone the young owls' hunting instinct.

When these youngsters are flying well and catching live mice proficiently, it is time for gentle release. The structure is opened so the owls can hunt natural prey in the area near the release site. By allowing the owls to raise young at a site, a bond might be established so that either the nesting pair or their young will return to nest again.

A second method of owl placement — placing pairs with young — is done with a similar philosophy. This method works well at sites where cooperators do not wish to feed captive owls daily for more than 2 months. Each year several pairs are placed with their half-grown young, which they hatched at the Boone facility.

Beside the barn owl family units, immature owls are also released.

approximately 100 more barn owls and a continuation of the radio telemetry study. The nongame personnel hope these efforts are significant enough to have beneficial effects on future Iowa wild breeding populations.

As part of the restoration program, the commission is promoting the use of nest boxes to increase the wild population. As a cooperative effort between commission personnel and the public, over 80 nest boxes have been erected. In Utah, in an area lacking in nest sites, 30 nest boxes were used by 24 barn owl pairs to produce 154 young in two years. For those interested in building nest boxes, the commission distributes barn owl life history brochures which include nest box instructions.

The success of Iowa's common barn owl restoration program is greatly dependent on public involvement and education. Each year, enthusiasm for involvement with the

program is growing, and some encouraging events have taken place. Barn owl nestings (the first since 1982) were confirmed in Wayne and Clarke Counties this summer.

Another positive indicator is the fact that 33 verified barn owl sightings have been made this year, primarily in areas where the owls have been released, and numerous times in areas where barn owls have not been seen for many years. Only a decade ago, six barn owl sightings in one year would have been considered excellent. So its future may now be a little brighter, and with everyone's help, the "spirit owl," the silent hunter of Iowa prairies, may survive another tomorrow. *W*

Bruce Ehresman is a nongame wildlife technician located in Boone. He holds a B.S. degree from Iowa State University and has been with the commission since 1977.



Groups of young owls hatched at Boone are placed at sites for gentle release several weeks later.

To date, 245 barn owls have been banded with traditional leg bands and released. These owls found their freedom at twenty-six release sites in twenty counties in eastern, western and southern Iowa. Nearly 100 of these same owls also are wearing more visible red plastic leg bands. Plans for 1986 include placement of



Nongame Support Certificates

In addition to participating in the Chickadee Checkoff, the public can also help wildlife by purchasing nongame support certificates. The full-color, limited-edition photographs are individually numbered and ready for an 8- by 10-inch frame.

The 1986 certificate features a barn owl family in a nest box. The beautiful photo was taken and donated by Jim Messina of Cedar Rapids.

Some 1985 certificates are still available. That photograph, taken by Lowell Washburn of Clear Lake, features an American kestrel feeding on a deer mouse.

Nongame support certificates may be obtained by writing the Iowa Conservation Commission, Wallace Building, Des Moines, Iowa 50319-0034, or from other field offices. The cost is \$5.

Kestrel Cottages

Adorn Interstate Corridors

By Ron Andrews

The American kestrel, commonly called a sparrow hawk, is common over the entire state in the spring, summer and fall. The kestrel is about four ounces in weight and is the size of a robin or mourning dove. Up through the 1960's and 1970's this little guy was blue-listed by the Audubon Society, meaning that kestrel numbers were declining because of reduced and deteriorating habitat.

Kestrels are the smallest falcons and are unusual in that they are cavity nesters, using hollow trees, cliff cavities, buildings or nest boxes. Timber removal and increasing use of firewood have probably had the two biggest impacts on kestrel nesting habitat.

Fortunately the American kestrel adapts readily to man-made nesting structures. With the excellent cooperation of the Iowa Department of Transportation, the Iowa Conservation Commission's nongame program is now funding a nest box project along Interstates 35 and 29. A pilot project was initiated along I-35 in Cerro Gordo County in 1983. Trent Bales, an Eagle Scout from Clear Lake cooperated on this project by building 20 nest boxes. Nest boxes were

placed on the back side of the large directional sign posts along the highway. They are predator proof from squirrels and raccoons because the posts are metal. The grassland migration corridor that they are erected on is teeming with kestrel food including grasshoppers, mice, voles, and other small mammals. Because of their high metabolic rate, kestrels have a voracious appetite in proportion to their size and weight. Some scientists estimate that a typical kestrel eats over 300 mice, voles and other rodents in a single year.

In 1983, kestrels nested in 8 of 20 boxes. Six nests were successful and 26 young were produced. In 1984, 15 out of 25 boxes were used. Thirteen of these were successful, producing about 60 young.

In 1985, because of the tremendous success in Cerro Gordo County, the nest box program was expanded to include Story, Hamilton and Decatur Counties along I-35 and Fremont and Mills County along I-29. Currently there are 110 boxes along the right-of-

way in these areas. In 1985, a total of 22 boxes were used by kestrels. Eleven of these in Cerro Gordo County produced about 50 young. The boxes in the other areas had lower use, but will likely pick up considerably with next spring's migration.

One adult kestrel pulled off two broods of young. Sixteen adults and nearly 110 young have been banded in Cerro Gordo County. Three bands have been recovered. One was a roadkill, one was an injured bird that was rehabilitated and one was the adult caught and banded with her first brood and recaptured on the second nest.

As far as we know, this is the first time that an effort of this magnitude, utilizing existing structures along an interstate, has been used for nest boxes. The Iowa Conservation Commission's nongame program can be proud of this first-in-the-nation effort to help out the American kestrel as it stages a comeback. 

Ron Andrews is a research biologist located in Clear Lake. He holds a B.S. degree from Iowa State University and has been with the commission since 1968.



Ken Formanek



Ken Formanek

Conservation workers (left) place a kestrel nest box along a highway. This program has already shown great results.

Nongame wildlife researchers in Iowa are often asked simple questions that are not easy to answer. Although we do have a pretty good understanding of the range of some common bird species in Iowa, we know very little about dozens of others. Because some 190 different species of birds have nested in Iowa, it is not surprising that we do not have complete information about all of them. The breeding bird atlas, which is a cooperative venture between the Iowa Conservation Commission and the Iowa Ornithologist's Union, is designed to provide the information needed to answer some of these questions.

In addition, wildlife managers can use the information from the atlas when they draft habitat management plans for wildlife areas. The impacts of proposed development activities on local bird life can be more easily determined when local information is available from the breeding bird atlas.

The breeding bird atlas is a very extensive project that will involve hundreds of Iowans over the next four years. There are 860 areas, each three miles by three miles, that will

be searched for evidence of bird nesting. Thus, an aggregate of 7,740 square miles of Iowa will be searched during the five-year period. There are two types of blocks set up in the survey. Standard blocks are located in the southeast corner of every second township. They were set up this way to ensure a systematic coverage of all regions of the state. This will provide the real baseline information about Iowa birdlife. Most of these areas are on private property so it is necessary for observers to get a landowner's permission to do the atlas work; but so far there have been no problems. If your farm is in an atlas block and someone approaches you about looking for nesting birds, please help out by letting the observers do some birdwatching on your place. They will be happy to tell you what they find and you can get a list of the birds that occur on your farm from them. Although many of the standard blocks do not occur in favored birding areas, they nevertheless are the core of the project.

The other type of atlas block is the so-called "priority block." Priority blocks are located so they include special habitats such as wildlife man-

agement areas, state parks, preserves, county conservation board areas and other protected habitats. They are often the favorite birding areas for many of the observers who are doing the project. Priority blocks are included in this project because many of them are home to uncommon, rare, or endangered species. We expect to learn more about birdlife in these protected places during this study.

Although the analysis of data from each of the blocks is handled in a similar manner, the two types of blocks will allow a comparison of information on private versus public areas. In addition, each park or wildlife area will have a list of the birds that nest there so future management can be tailored to benefit those species.

With a project as large and complex as this one, the personnel involved must also be organized into groups with separate tasks. There is a hierarchy of people involved with the breeding bird atlas. At the top is the steering committee representing the Iowa Ornithologist's Union, Iowa State University, the State Preserves Board, Iowa county conservation boards, and the nongame wildlife program. At the second level are nongame personnel who send out the atlas materials to participants, collect annual results, and analyze the data. The third level includes many regional coordinators, most of whom coordinate activities in just one county. They have area maps showing the locations of atlas blocks in their region. They help other observers decide which areas to work in so efforts are not duplicated, gather the results at the end of the nesting season and send the data from their region to nongame wildlife staff. Incidentally, many counties do not have coordinators yet. We are seeking volunteers.

The fourth personnel level includes a few hundred avid birders who actually do the searching for bird nests. Together with their regional coordinators they decide which blocks they will work in and then go about finding nesting birds. Most of these observers know their birds quite well and are very conscientious about bird identification. Often they work in teams on a given

The Iowa Breeding Bird Atlas

By Doug Reeves

Mourning dove nestlings.



Doug Reeves

area. this p the st person get inv phas The son be great- all the Septer and m Durin severa attempt birds they ca during begins The fir atlas w or 199) annual apprai Resu work a ing obs A north nest w a resu atlas w owls in Iowa. C gers an an atlas birds n River a cies we occur o Park in gather beaks a helped range one ob ruby-th atlas bl The nowhe is prov ing pro the ne a trem ished. looking with th you an involve who ar contact gist, rt. (515) 43

area. Almost everyone involved in this project, including members of the steering committee, nongame personnel and regional coordinators get involved with the field work phase of the project.

The breeding bird atlas field season begins in early February when great-horned owls nest. It continues all the way through the middle of September when the last goldfinches and mourning doves finish nesting. During this period, observers make several trips to the atlas blocks and attempt to find as many different kinds of nesting and singing birds as they can. They send their results in during October and data analysis begins in November and December. The final report on the breeding bird atlas will probably come out in 1990 or 1991. In the meantime, several annual reports will keep observers appraised of statewide progress.

Results from the first year of field work are just now in and a few exciting observations have been recorded. A northern harrier (marsh hawk) nest was found in Kossuth County as a result of atlas activities. In addition, atlas workers discovered burrowing owls in two locations in northwest Iowa. Observations of summer tanagers and Louisiana waterthrushes by an atlas observer indicate that the birds nest as far up the Des Moines River as Fort Dodge. These two species were previously believed to occur only as far north as Ledges Park in Boone County. Information gathered this year about blue grosbeaks and orchard orioles has also helped to better delineate the nesting range of these two species. At least one observer discovered a nest of ruby-throated hummingbirds in an atlas block.

The breeding bird atlas project is nowhere near completed and already is providing useful results. This exciting project will continue for at least the next four years and will produce a tremendous data base when finished. Meanwhile we are always looking for more observers to assist with the project. If it sounds fun to you and you would like to become involved, you can talk to local birders who are helping with the project or contact the nongame wildlife biologist, rt. 1, Boone, Ia. 50036, or call (515) 432-2823. 

County Conservation Board Feature

Winnebago and Hancock Counties



THE BLUEBIRDS OF THORPE PARK

*By Lisa Schoning, Naturalist
Winnebago and Hancock Counties*

Years ago, bluebirds dotted the Iowa sky. But, because of the intensive agriculture that has developed in Iowa, fencerow trees that once provided plentiful homes for cavity nesters are now quite scarce in some areas. As a result, bluebirds are becoming rare.

But, the bluebirds are beginning to make a comeback in one place in Iowa — Thorpe Park in Winnebago and Hancock counties. The comeback is largely due to a nesting box program initiated by the county conservation boards. The nesting boxes act as artificial tree cavities and this past summer, most of the boxes were used. Their placement away from brushy areas has kept wren use to a minimum and the absence of perches on the boxes has prevented

sparrows from moving in. Also, their placement in grassy areas has provided the bluebirds with excellent feeding habitat.

It is hoped that this program will not only allow the public the relatively rare opportunity to view large numbers of bluebirds, but will also illustrate the importance that habitat holds for wildlife. It is also hoped that the program will create an interest among landowners in establishing nesting boxes of their own for bluebirds as well as for other cavity nesters such as wood ducks, kestrels, wrens and owls. Through programs such as this, county conservation boards are helping increase wildlife populations and also increase the public's awareness of the needs of wildlife.



A fledgling bluebird looks out from its box as the male guards from above. These birds are making good use of their man-made home.

Louell Washburn



Lowell Washburn

Iowa Turtles

By Lowell Washburn

The sun appeared as a white hot ball over the eastern edge of the wetland. Although still low on the horizon, its appearance was swiftly felt on the marsh, bringing the promise of yet another in a series of hot, humid July days.

The thick blanket of mist that had shrouded the marsh during the nighttime hours rapidly began to dissipate, lending an eerie quality to the scene, as the suspended droplets glowed with the light of the rising sun.

A snapping turtle (top) is a formidable creature in the water, or rarely, on land. A painted turtle (bottom) prepares to escape from the intruding photographer.

Because most marsh dwellers are early risers, this complex ecosystem was already a beehive of activity. Perched atop bowing cattails, a group of yellow-headed blackbirds squabbled over a minor territorial dispute. Oblivious to the problems of others, an energetic little marsh wren busily schuttled bills full of insects to her ever-hungry nestlings. Huge dragonflies cruised low over the open potholes, their large compound eyes searching the sky for the lesser insects.

Lowell Washburn



At the edge of one of these potholes, a hen mallard appeared. After cautiously searching the area she began to paddle across the opening. Ten fuzzy ducklings soon formed a parade behind her.

As the mallard family moved across the shallow water, a V-shaped wake gently rippled the surface to mark their passage. The hen remained constantly alert for danger as her offspring eagerly consumed the smorgasbord of minute plant and animal life the wetland offered.

Half buried in the mud below, a primitive creature stirred to life as the movements of the feeding mallard family attracted his attention.

Suddenly, the tranquility of the scene was interrupted by a dull, popping sound. The duckling at the trailing end of the parade uttered a quick peep of surprise and disappeared beneath the surface of the pool. In a sudden and explosive flurry of activity, the brood and their mother scrambled for safety. But all that remained of the last duckling was a slight boil on the water and a floating fragment of yellow down.

The hapless duckling had just had its first and last encounter with one of the most formidable predators of the marsh — the snapping turtle.

The snapper is one of the most common and perhaps best known of the several species of turtles which make Iowa their home. It is also one of the most aquatic of this reptilian family, rarely venturing onto land except for the purpose of egg laying. Most of the snapper's time is spent lying in ambush for fish on the bottoms of marshes, lakes, or rivers. In fact, the snapping turtle spends so much time in its dim, underwater environments that the upper surface of its shell often supports a substantial growth of algae, giving it the common name of "Old Mossback".

Another extremely aquatic member of Iowa's turtle family is the spiny softshell. Softshelled turtles are especially fond of stream habitats, but although they may be very common, the species is rarely sighted due to its secretive nature. Both the snapping and softshelled turtles grow to hefty proportions. Snappers may attain weights of 30 pounds or more. Both species come fully equipped with powerful jaws and vicious temper-

ments. Handling them, especially the larger specimens, can become an unpleasant or even dangerous task.

But not all Iowa turtles are so big, mean or ugly as these. Most are attractive, docile, and even downright endearing. One such example is a shy little creature known as the painted turtle. Painteds also live in watery environs where they feed largely on insects, tadpoles and minnows. These are the common pond turtles often seen basking in the summer sun atop stumps or deadfalls. Painted turtles are extremely wary, and at the first sign of anything unusual, they throw themselves into the water and dive for cover.

Iowa turtles, perhaps even more so than many other types of wildlife, have suffered extensively from the activities of man. Slow moving and cold blooded, these reptiles are usually unsuccessful at adapting to any major changes within their environment. Sadly, most native turtle species are faring far worse than the hardy snapper, soft shell and painted.

Currently, at least six types of Iowa turtles are on the list of threatened or endangered species. They range from the delicate little wood turtle (a creature of the lowland flood timber) to the colorful ornate box turtle (a tortoise of the uplands). Each of these species is in trouble because of the loss or wholesale degradation of habitat.

Turtles and other reptiles, as well as amphibians, or even insects for that matter, all represent important, though often overlooked, components to Iowa's total nongame picture. And although these creatures may lack the flash of a peregrine or the personality of an otter, they still lend an interesting and important diversity to our wildlife communities.

Unfortunately, it seems likely that at least some, if not all, of our threatened turtle species will one day disappear from our state. Equally tragic is the fact that only a handful of Iowans will even note their passage.

Lowell Washburn is an information specialist located in Clear Lake. He joined the commission in 1984.

WARDEN'S DIARY

THE WORDS ARE HARD TO FIND

My family and I would like to express our appreciation to the staff of the Iowa Conservationist, for the mental and spiritual support during the past months. We especially want to thank all of the wardens, like Ed Lawrence who wrote such a fine tribute to my life's partner, which applies to *all* the warden's wives for their dedication to our work. To all our friends who sent the greatest flower display the home has seen, and the many of you who contributed to Joyce's bird feeding fund which is still growing and will supply our feathered companions for a long winter at Applesprings.

The support came from everywhere, friends of present and those we haven't seen in years, and even those we've never seen. It came in all

forms — gifts, flowers, sandwiches, hot dishes, coffee, cards and letters, kind words, firm handshakes, smiles and tears. And support it was, without which I'm not sure how we could have managed.

The loss has left us hurting but not down. We've resolved to the remembrance of so many fond memories of the good life we shared, and were blessed with for so many years.

Count your blessings, my friends, count your blessings, and live each precious day. Don't waste a minute, nor fail to give and take your best. Build your memories now. To all of you, my words may fall short, but we "Norskys" have a couple — "Mange Taks" (Great Thanks).

G.I. Hoilien



Ron Johnson

