WILDLIFE PRESERVATION FUND GRANT # 04-017W
ILLINOIS AUDUBON SOCIETY
JUNIOR BIRD FEEDER CHALLENGE PROGRAM
BY SUSAN J. SHAW, I.A.S. EDUCATION COORDINATOR

The Illinois Audubon Society began the Junior Bird Feeder Challenge program in 1997 to introduce Illinois school children to bird watching. Classes set up feeders in their schoolyards and keep track of the birds that visit from November through February. The first year, 50 groups participated. In the 1999/2000 school year, 284 groups participated (over 7,000 children). Registrations dropped in the next three years, with only 49 groups registered in 2002/2003. The number of classes that set up feeders and monitored visitors was probably greater since teachers could reuse the materials. But clearly, something needed to be done.

Conversations with teachers led to a discussion of the State Learning Goals. Teachers need to justify special activities by showing how they are meeting the Goals. Armed with a book from the Illinois State Board of Education, I reviewed the Jr. Bird Feeder Challenge and sought ways to both expand the program and meet the Goals. In addition to simply noting the birds that visited their feeders, classes could use the experience to fulfill math and science goals. By researching what possible visiting birds might eat, students could fulfill goals in language arts. A discussion about migration could lead to a geography lesson. And, classes could engage in hands-on science by designing an investigation.

The result was a series of lesson plans beginning with suggestions on introducing the study of birds. Students brainstorm about what they already know about birds and what they'd like to find out through research. Before setting up a feeder, students learn about the components of habitat and see how they can improve the habitat in their schoolyard. Collecting data on the number of birds, which species, and weather conditions fulfill State Learning Goals in math and science. Designing an investigation provides a chance to engage in hands-on science. The class might want to see if the temperature has an effect on the number of birds at the feeder. Or the students might want to find out which birds visit in flocks and which feed alone. Finally, classes submit a report. Students are also encouraged to submit articles, stories, and poems for a newsletter that is sent to participating classes. Finally, students are invited to submit artwork for an art contest. State Learning Goals in math, science, language arts, social science, and fine arts can be met using the Jr. Bird Feeder Challenge program.

In addition to the lesson plans, the packet which teachers receive includes a full color bird identification poster, a poster on migration, tips on beginning bird identification, tally and reporting forms, and information on the Art Contest. Best of all, the program is offered free of charge because of generous grants from the IDNR Wildlife Preservation Fund and the Illinois Conservation Foundation. Teachers are also able to download lesson plans and forms from the Illinois Audubon Society web site.

In order to publicize the newly revised Jr. Bird Feeder Challenge program, a brochure was designed and sent to all of the schools that had participated in the past two years. The brochure was also sent to the Regional Offices of Education and a notice appeared in the Environmental Education Association of Illinois newsletter. Illinois Audubon Society chapters received brochures and sample packets to distribute. Several chapters have actively enrolled classes. Some visit classes to help them get started. Others provide feeders and seed. One chapter arranged for donations of feeders and seed from a local store. The Will County Forest Preserve District enrolls classes and then visits schools with related programs.

There are 70 teachers registered for the Jr. Bird Feeder Challenge this year. However, because chapters distributed packets and teachers are able to download materials from the I.A.S. web site, there are probably classes using the program that haven't registered. And, teachers may be sharing materials with other classes at their schools. The total number of students participating in the program is greater than the 1,750 reported on the registration forms.

Data collected and submissions for the participants' newsletter are due March 15. The Illinois Audubon Society is making plans to modify its web site so that data can be submitted electronically next year. Teachers will be able to submit data during the months of the program and the database will be updated so participants can see what other groups have spotted at their feeders.

This report will be submitted to the Illinois Audubon Society for possible publication in the I.A.S. magazine or newsletter.

REGISTRATION FORM

School: _____

Address: _____

City: _____

State and Zip: _____

Teacher: _____

E-mail: _____

Grade: _____

Class Size: _____

New _____ Renewal _____

Donation (Optional): _____

Mail to:
Illinois Audubon Society
Adams Wildlife Sanctuary
PO Box 20106
Springfield, IL 62708-0106

ILLINOIS AUDUBON SOCIETY

Working to protect Illinois birds and their habitat since 1897. Active in land preservation for threatened and endangered species. For more I.A.S. information, visit our website: www.illinoisaudubon.org

Junior Bird Feeder Challenge lesson plans, including correlations with State Learning Goals, are available to download at www.illinoisaudubon.org. You will also be able to register for the program on-line.

The Jr. Bird Feeder Challenge program is funded by grants from the IDNR Wildlife Preservation Fund and the Illinois Conservation Foundation.

ILLINOIS AUDUBON SOCIETY

JUNIOR BIRD FEEDER CHALLENGE

For classrooms, youth groups, home schoolers

The Feeder Challenge is a nature study program with these goals:

- Students will learn to identify birds that visit feeders in winter
- Students will engage in hands-on science and math activities as they collect data about the birds that visit
- Students will ask scientific questions and conduct experiments to answer those questions
- Students will submit their data for use by scientists who study birds
- Students will write articles for *The Birding News*, a newsletter for participating classes
- Students are invited to submit artwork for the Spring Art Challenge
- Teachers will be meeting State Learning Goals in Science, Math, Language Arts, Social Science, and Fine Arts

HOW IT WORKS

Classes set up bird feeding station(s) in their schoolyard. Students identify and record the birds that visit during the winter, from November through February. At the end of the challenge period the results are sent to the Illinois Audubon Society for compilation.

The Junior Bird Feeder Challenge can be the starting point for learning about the process of scientific inquiry. Students can conduct research about the effect of temperature, wind, or precipitation on the number of birds at the feeder. A list of ideas is included in the curriculum guide.

Students are invited to submit articles, stories, or poems for publication in *The Birding News*, a newsletter sent to participating classes. Students are also invited to submit artwork for the Spring Art Challenge.

The Junior Bird Feeder Challenge is targeted for third through sixth grade, but is easily adapted for younger or older students.

Illinois Audubon chapters and other clubs and organizations might sponsor a local classroom by supplying birdseed and suet for the project.

Participating teachers or youth leader receive:

Curriculum guide, with lesson outlines, correlations with the State Learning Goals, suggestions, and reporting forms.

Full-color bird identification chart

Register your classroom for this exciting hands-on learning program. Best of all, IT'S FREE!

ILLINOIS AUDUBON SOCIETY JUNIOR BIRD FEEDER CHALLENGE

LESSON 1 -- An Introduction to the Junior Bird Feeder Challenge Program

Welcome to the Illinois Audubon Society's Junior Bird Feeder Challenge program. Your class will be involved in valuable data-collecting while having the excitement of watching birds that visit your schoolyard feeding station. The data that classes collect, along with data from the Christmas and spring bird counts, provides information about bird population trends and species diversity. A tally sheet and report form are included in this packet. Please mail your report on time!

Students will engage in hands-on science, learning about the process of scientific inquiry, doing research, and organizing data. They will design an investigation, do research, and have the opportunity to submit articles for *The Birding News*, a newsletter sent to all participating classes. And, they will have fun watching the birds at the feeders!

Some of the students may already feed birds at home. They will have stories to share and might be able to help identify the birds that visit your feeder(s).

An introductory slide program is available on loan from I.A.S. It is advisable to show the slides during October and November to acquaint students with the variety of birds they might see at their feeders.

In most instances a feeder on a post may be installed in the ground. If the surface outside a classroom is concrete or asphalt, a handy solution would be to mount a metal pole in a tire filled with concrete. One advantage of this method is that, if necessary, the feeder can be moved to a different location. For an upper story classroom, a tray feeder may be mounted outside a window. An onion or potato bag may be suspended for holding suet.

NOTE: Birds get used to a reliable source of food, but if your feeder is empty, they will find food somewhere else. It might take them a few days to find your feeder after a school vacation, but they will come back.

There will be some expenses, such as the purchase of feeders, seed, suet, perhaps some binoculars (optional), and bird identification books. Local groups such as Audubon chapters, garden clubs, civic clubs, or businesses in your community may be willing to be sponsors.

In late April or early May, each participating classroom will receive a copy of *The Birding News*. Classroom reports, as well as stories, poems, and other material submitted by students will be included. A special I.A.S. Certificate of Accomplishment that may be duplicated for each student will be sent with *The Birding News*.

Visit the Illinois Audubon Society website www.illinoisaudubon.org for lots of information and links to other resources.

LESSON 2 -- What do we want to find out about birds?

Your students might already know more about birds than they realize. Do some brainstorming.

- All birds have feathers -- feathers help a bird fly, protect a bird's skin, help keep birds warm, and colorful feathers are important in courtship behavior
- All birds have wings, but not all birds fly -- even penguins and ostriches have wings. Penguins use their wings as flippers; ostriches use their wings for balance
- Most birds can see better than other animals. They have large eyes and can see in color.
- Birds don't have teeth -- they grind their food in their gizzards
- All birds are warm-blooded, just like mammals
- Birds have different kinds of beaks, each suited to a different type of food.
- Birds reproduce by laying eggs

What do students want to find out about birds through observation and/or research? Make a list. Have the students do research using reference books, field guides, or the Internet and report their findings.
Illinois State Learning Goals 5.A.2, 5.B.2, 5.C.2

LESSON 3 -- Habitat

Ask the students if they have heard the word "habitat". Some may be familiar with the organization Habitat for Humanity. Others may have heard of "rain forest habitat", or "prairie habitat". Simply stated, habitat is where a animal (or person) lives. In order to live in a particular place, all animals (and people) need food, water, shelter, and a place to raise their young. How many habitats can your students list? Some possibilities include forest, desert, prairie, urban, rural, temperate, tropical, and coastal.

What kind of habitat is around your feeder site? How many of the four components of habitat are present?

How can the class create or improve the habitat? If there is no water, add a bird bath. Remember that the water will freeze in the winter, so be prepared to carry out warm water a couple of times during the day. If there are no trees or shrubs to provide shelter, create a brush pile. (Be sure to clear this with your school custodian.) After Christmas you can probably secure a few discarded Christmas trees to place near the feeder for shelter.

OPTIONAL DISCUSSION TOPIC: What impact do people have on wildlife habitat? What happens when we destroy habitat to build a subdivision or a shopping mall? How can we make a positive impact on wildlife? A few years ago, the Eastern bluebird had almost disappeared in Illinois. By putting up nest boxes and planting trees and shrubs that provide a supply of winter berries, people are helping the bluebird make a comeback.
Illinois State Learning Goal 17.C.2

LESSON 4 -- What birds might visit our feeder(s)?

Brainstorm about what birds the students think they might see. List all of the birds the students name or describe.
Use the Illinois Audubon Society's slide presentation to see photos of typical backyard feeder birds.
Introduce the bird identification chart and the tips for beginning bird identification. As you look at the chart, ask the students how they would know if a bird is a cardinal (color, crest), a wren (tail points up), or a starling (speckled breast). Note the colors, relative sizes, and distinctive features of the different birds.

OPTIONAL DISCUSSION: Migration. Some birds live in Illinois in the summer and travel to warmer places in the winter. Ask the students if they can think of any birds that do this. Birds migrate because the food they eat isn't available here in the winter. For example, hummingbirds need the nectar from flowers. Have students do some research to find out where our "summer" birds spend the winter. NOTE: dark-eyed juncos live in Canada in the summer, then migrate to places like Illinois in the winter!
Illinois State Learning Goal 17.A.C

LESSON 5 -- Find out about the birds that might visit and prepare for them

Working as individuals or in teams, students do research using reference books, field guides and the Internet to find out more about the birds that might visit their feeder. Find out food preferences, usual habitat, and other information.
Using this information, students determine what food(s) to offer and what kinds of feeder(s) to set up. Putting up several different types of feeders will attract a greater variety of birds.
Students set up feeder(s), water source, enhance shelter (if necessary)
Illinois State Learning Goals: 5.A.2, 5.B.2, 5.C.2

OPTIONAL: Students make feeders using recycled materials such as milk jugs or coffee cans

LESSON 6 -- Ongoing data collection

This is the heart of the Junior Bird Feeder Challenge -- observing, identifying, and counting the birds that visit your feeder and then reporting the data.
Each day the students observe, note the temperature, precipitation, and snow cover. Also note other unusual factors such as heavy wind.
Count the highest number of a species seen at one time during the day. Do not add counts together since you may be counting the same birds several times.
Note any "mystery" birds and try to find them in a field guide. Don't forget that predators might be attracted, too. Note any sick or unusual birds.
Illinois State Learning Goals: 11.A.2, 12.B.2

LESSON 7 -- Design an investigation

What questions did students have about birds that could be investigated through scientific research? Did they wonder if the temperature has an effect on the number of birds at the feeder? Is the time of day a factor? Students can either analyze the count data they are collecting or design and carry out a new experiment. Then they write about the results.
The following are some additional ideas for research questions:
What bird was most frequently seen at our feeders this year?
Do birds come to the feeders more or less frequently when the temperature is below freezing?
Which birds feed in flocks and which species feed alone?
What types of feeders are visited most frequently? (This assumes you have several different types of feeders.)
Does rain have an effect on the numbers of birds visiting the feeders? Snow? Wind?
After students have decided on a research question, ask them to come up with an hypothesis (testable guess) to answer the question. Then help them to develop a procedure to collect the data or information they will need to answer question and test their hypothesis. Finally, after collecting and analyzing data, they should reach a conclusion.
Illinois State Learning Goals: 10.A.2, 10.B.2, 10.C.2, 11.A.2, 12.B.2

LESSON 8 -- Reporting
Classes submit their data using the report form. Be sure to return it by March 15.
Classes are invited to submit articles, stories, poems, jokes, etc. for possible inclusion in *The Birding News*, a newsletter sent to all participating classes. Send these along with your report.
Illinois State Learning Goals 3.A.2, 3.B.2, 3.C.2

LESSON 9 -- Art Challenge
Students are invited to submit art work for the spring Art Challenge program. Details are included in this packet of materials.
Illinois State Learning Goal 26.B.2

Included in the Junior Bird Feeder Challenge packet:
Lesson plans
Tally sheet
Report form
Art Challenge information
Bird identification poster
Seed/feeder information
Making bird feeders from recycled materials

The Jr. Bird Feeder Challenge program is funded by grants from the IDNR Wildlife Preservation Fund and the Illinois Conservation Foundation.

Bird Feeders

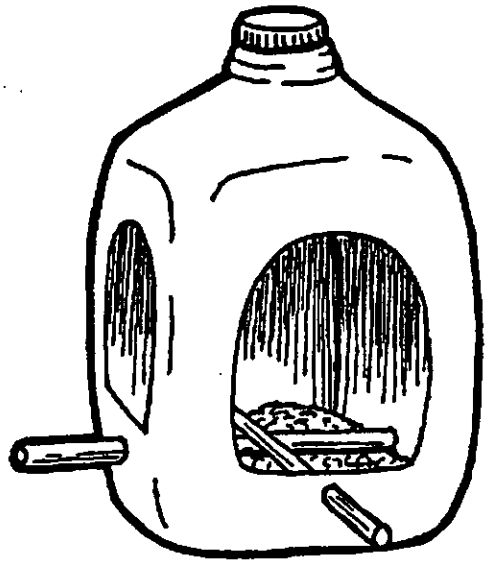
MATERIALS

Clean household containers: milk, detergent, bleach bottles, milk cartons, coffee cans, pie tins, onion sacks

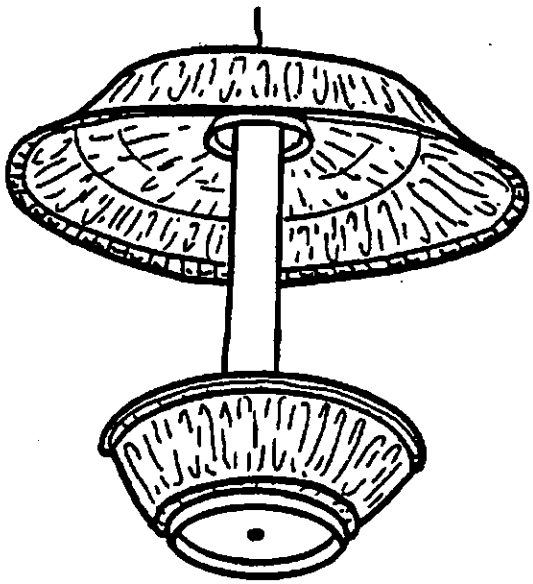
Mustard jar lid (for tracing circles)
Sticks or dowels (for perches)
Knife
Hammer
Nails
Wire cutters
Pencils
Ruler
Light wire
Coat hangers

PROCEDURE

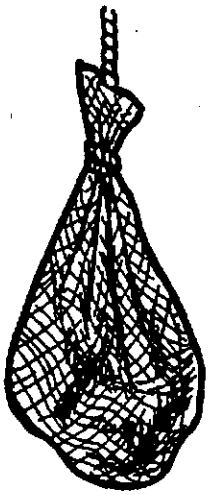
1. Create bird feeders out of clean household containers using the drawings for models. Assist younger students with the cutting. Remember to punch small drain holes in the bottom of the containers to let rainwater out.
2. Discuss the proper locations for installing the feeder with your group and the types of bird feed to put in each container. Inform them of their responsibility for maintaining a continuous supply of food once feeding is started and the importance of keeping the feeders clean.
3. Examine the importance of reusing the materials and develop a list of common items that can be reused and the new uses for each.



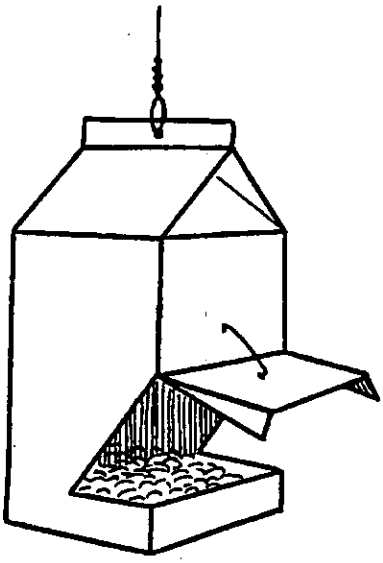
Milk Jug Feeder



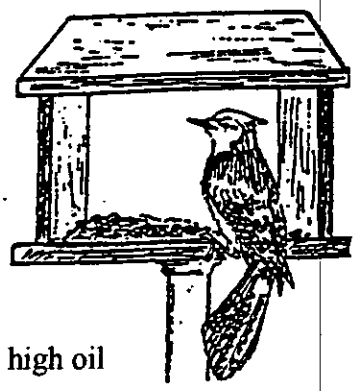
Pie Plate Feeder



Onion Sack Suet Feeder



Milk Carton Feeder



ILLINOIS AUDUBON SOCIETY'S
JUNIOR WINTER BIRD FEEDER CHALLENGE

PREFERRED FOODS OF COMMON BACKYARD BIRDS

OIL SUNFLOWER SEED	Appeals to a large variety of birds. The soft shell and high oil content make this the favorite type of sunflower seed.
Attracts	Chickadees, house finches, goldfinches, purple finches, cardinals, titmice, song sparrows, house sparrows, tree sparrows, nuthatches, and woodpeckers.
STRIPED SUNFLOWER	Seeds are larger than the oil sunflower; are especially appealing to larger-billed birds.
Attracts	Blue jays, cardinals, grosbeaks, titmice, grackles, and woodpeckers.
CRACKED CORN	An inexpensive food for ground-feeding birds.
Attracts	Mourning doves, juncos, towhees, white-throated sparrows, and grackles.
THISTLE SEED	This very small black seed is grown in Ethiopia. It is best to place it in a special thistle feeder so it will not blow out and be wasted.
Attracts	Goldfinches, house finches, purple finches, chickadees, and indigo buntings.
SAFFLOWER SEED	Safflower is not eaten by squirrels and blackbirds. If you have Squirrel problems, this may be the seed you need. When first starting out with safflower seed, it is best to mix it with sunflower until birds get used to it.
Attracts	Cardinals, purple finches, grosbeaks, house finches, mourning doves, and chickadees.
MILLET	This is an inexpensive small grain eaten avidly by seed-eating species.
Attracts	Juncos, sparrows, chickadees, and goldfinches.
***SUET	Suet or fat is good for insect-eating birds. Suet may be obtained from the meat department or purchased as compressed cakes at a bird supply store.
Attracts	Woodpeckers, chickadees, titmice, nuthatches, and blue jays.
PEANUT BUTTER	This is a favorite of chickadees. The peanut oil helps provide extra warmth and energy to combat low temperatures in winter.
Attracts	Chickadees, juncos, tree sparrows, nuthatches, and titmice.

BEGINNING BIRD IDENTIFICATION

Bird identification is learned, over a period of time, with lots of practice. No one becomes an "expert" overnight! We all begin in the same place, knowing a few common birds, such as the crow, pigeon, robin, bluejay, cardinal, and sparrow. Other birds we "group" at first, knowing that they are a woodpecker, or a swallow, or a duck, or a wading bird. With practice, we can begin to separate these "group" birds into individual species which we recognize.

When first observing a new bird it is important to look at a few common characteristics:

- How big is it? Is it sparrow size? Robin Size? Smaller than a sparrow? Bigger than a bluejay?
- What is its overall shape? Is it "long and lean" or "short and plump" or something in between?
- What about the wing shape? Long? Short? Narrow? Wide? Pointed or rounded ends?
- What about the tail? Long? short? Rounded or square? Pointed? Plain or barred?
- What kind of beak does it have? Thick like a cardinal? Chisel-shaped like a woodpecker? Thin and pointed? Flat or spoon-like? Long or short?
- How about the legs and feet? Long-legged like a heron? Short and squatty like a woodcock? What is the arrangement of the toes? are the legs and feet colorful or plain?
- Are there obvious colors or patches of color on the head, wings, or body?
- Are there wing bars, head markings, or other patterns to draw your attention?

All of these things can help you identify a bird. another important thing which can help is **where the bird was seen.** Was it in or near the water? In the woods? In a field? At the bird feeder? Habitat is often a good clue to help "narrow down" a bird's identity.

The most important thing to remember in beginning to identify birds is to **really look carefully at the bird for as long as possible.** Too many people get a glimpse of an unfamiliar bird, get excited, and run for the bird book. By the time they return, the bird has flown, and so -- too many times -- their chance of identifying it!

Look at the bird carefully. form an overall mental picture in your mind. Check the size, shape, any special colors or markings, kind of beak, etc. You should be thinking, "This is a long-legged bird, standing in shallow water, with a dark body and a rusty-colored long neck and long beak," for example. Or, "This is a small plain gray bird, with a light rosy-colored patch of color on its sides and a crest on its head. Its beak is small and pointed, and it has a bright, beady black eye." If the birds fly away, you can then go to the bird book and begin to look for them. Under wading birds, you will note the characteristics of the green heron -- the bird you saw. Under the small perching bird section, you will find the only small gray bird with a crest, the tufted titmouse.

Junior Bird Feeder Challenge Tally Sheet

Make a copy of this sheet for each day your class observes the birds visiting your feeders.

When did we watch the feeders?

Morning ____
Afternoon ____

What was the weather?

Low temperature _____
High temperature _____

Daylight precipitation:

None ___
Rain ____
Rain and Snow ____
Snow ____
Duration of precipitation (in hours) ____

Snow depth and snow cover:

None ____
Under 2" ____
2" to 6" ____
More than 6" ____
Was there a hard crust or ice over the snow? ____
Was the snow cover patchy (less than 50% cover)? ____

Other weather conditions:

Strong wind ____
Cloudy ____

List the species seen and the highest number of each species seen at one time:

ILLINOIS AUDUBON SOCIETY
JUNIOR WINTER BIRD FEEDER CHALLENGE
REPORT FORM

Species	Nov.	Dec.	Jan.	Feb.	Food Preferred		
	Highest number seen on any one day				Seed	Suet	Other
Cooper's Hawk							
Sharp-shinned Hawk							
Mourning Dove							
Flicker							
Red-headed Woodpecker							
Red-bellied Woodpecker							
Downy Woodpecker							
Hairy Woodpecker							
American Crow							
Blue Jay							
Black-capped Chickadee							
Tufted Titmouse							
White-breasted Nuthatch							
Red-breasted Nuthatch							
Carolina Wren							
Starling							
House Sparrow							
Junco							
Cardinal							
Goldfinch							
Purple Finch							
House Finch							
Tree Sparrow							
Song Sparrow							

Other Species:

Other animals at area of feeders:

Types of feeders:

Habitat description:

Classroom: _____

ILLINOIS AUDUBON SOCIETY

Established in 1897

CERTIFICATE OF ACCOMPLISHMENT

WINTER BIRD FEEDER CHALLENGE

_____

_____

Date

Marilyn Campbell, Exec. Director

ILLINOIS AUDUBON WILDLIFE ART CHALLENGE
AFTER WINTER, SPRING

Students enrolled in the *Junior Winter Bird Feeder Challenge* are invited to participate in the art program. The top ten creations will be exhibited in facilities throughout Illinois.

PURPOSE OF THE CHALLENGE: To encourage youth creativity and artistic originality while learning about birds and nature.

PROCEDURE: The art challenge is to be inspired while observing birds and other creatures seen during the *Winter Bird Feeder Challenge*; a cardinal on a snowy day, bluejays chasing other birds away, a Downy woodpecker hanging from a suet feeder, a hawk ready to pounce on a chickadee, starlings in their speckled winter plumage, or a feeding station with several birds flying about.
As spring approaches, migrant birds return to Illinois after spending the winter in faraway, warm places. New birds appearing at the feeders would be good subjects and don't forget the other animals, such as squirrels, field mice, voles, raccoons, deer, and maybe a coyote, attracted to the feeding area. Think of an interesting title for the picture.

REGULATIONS: The art creation is to be done on construction or art paper measuring from 12 to 20 inches in any direction. Suggested media include watercolors, crayons, pastels, colored pencils, charcoal and soft lead sketching pencils, ink, etc.

DEADLINE: All entries must be mailed by March 10, 2004, and become the property of the Illinois Audubon Society.

PRIZES: The top ten entries will receive a prize to be chosen by the Illinois Audubon Society. One entry among the winners will be chosen to receive binoculars for classroom use.

AFTER WINTER, SPRING WILDLIFE ART CHALLENGE (Deadline: March 10, 2004)
Information to be included with each entry:

NAME OF ARTIST _____ AGE _____ GRADE ____

TITLE OF WORK _____

MEDIUM _____ TEACHER _____

SCHOOL _____ CITY _____

COUNTY _____ STATE _____

Please mail to: Illinois Audubon Society, Adams Wildlife Sanctuary, PO Box 20106, Springfield, IL 62708-010