Observing Flat Birds and Other Fun Birding Activities for K-12 Students

By: CATHERINE E. MATTHEWS and JOHN CONNORS

Matthews, C. & Connors, J. (2002). Observing Flat Birds and other Fun Birding Activities for K-12 Students. *Science Activities, 39* (2), 13 - 17.

Catherine Matthews was introduced to the term flat birds when she attended a teacher's workshop at the North Carolina Museum of Natural Sciences approximately four years ago. A dozen or so K-12 teachers and other educators assembled for an early morning birding workshop at Lake Mattamuskett in North Carolina, and the title of the workshop was "Flat Birds." Naturally, she and the other teachers wondered, "What's a flat bird?"

WHAT IS A FLAT BIRD?

The concept of using flat birds as a teaching aid is remarkably simple. A flat bird is a life-size, color cutout of a bird. Beginning bird watchers should initially study common species of birds that live in their local parks and backyards, and then they can create a set of flat birds. To make flat birds, find pictures in magazines (e.g., your state's wildlife publication or a similar nature magazine) or bird books and size them to life size as necessary on a color copier. If necessary, request permission for use from the photographer. To get started, make flat bird cutouts of seven common backyard birds in the United States. It helps to laminate the cutouts. Then, snip small pieces of picture wire to secure the flat bird in position on tree trunks, branches, cattails, and so forth during class demonstrations.

WHY USE FLAT BIRDS TO BEGIN THE STUDY OF BIRDS?

There are a variety of reasons why it is helpful to use flat birds in bird study. John Connors first developed the idea of using cutouts of birds when a beginning bird-watching class for children at an after-school nature program had been scheduled and then rain was predicted at the particular time. The program would have been a washout or worse! John woke in the middle of the night with the brainstorm: "Start 'em on Flat Birds! Flat birds can be used inside or out!" John next designed a bird-watching course to be held inside the community center. He placed a picture of a Carolina wren skulking among the potted plants, a screech owl peering down from atop the hamster cage, and a goldfinch perched on the bird feeder outside the picture window. The children loved the arrangement and so did John. He found it was an excellent way to introduce field observation skills, using birds that looked real but did not move. In addition, placing flat birds in appropriate positions outdoors helped introduce the students to habitat diversity.

WHY BIRDS AND NOT BEES?

Birds fascinate people. Indigenous people revered them and wore their plumes. Victorian poets wrote about them; fashionable women of that period adorned their hats with bird feathers and sometimes even whole birds. Birds were among the first animals studied by scientists. They were also one of the subjects of Darwin's Origin of the Species. Today, more than 70 million Americans describe themselves as bird watchers. Why?

Several reasons are that birds are typically active during the day; they are colorful; and in season, they sing. Most people do not perceive birds as threatening, except when they are made to appear frightening (as, for example, in Hitchcock's movie The Birds) or when a bird may be defending a territory or a nest.

Many birds live in our direct proximity and even respond to what we do for them. For example, when we put birdseed in feeders, birds come to eat it, and when we build nest boxes birds make their homes in them. Birds open our eyes to the beauty of the natural world and can help us understand the effect that we humans have on habitats and ecosystems. In brief, birds may be the best link to instill in us an interest in and respect for nature and stewardship of natural resources. This is not to imply that "flat" props of other living organisms are not useful. Science teachers have had great success using "flat" salamanders and "flat" insects, among other species, but using flat birds may be a good place to start. Flat birds lend themselves to other forms of instruction, too. For example, you can pair flat birds with tape recordings of their particular bird song or employ flat birds in teaching students to use binoculars.

Novice binocular users often experience two difficulties: (1) getting the binoculars in focus and (2) locating an object in the field of view. Rather than focusing on a random static object, novices can practice focusing on a flat bird. A flat bird in one's field of view is infinitely easier to track than a live bird that continuously moves. Suggest your students look at the bird and then slowly move the binoculars into position without moving their head. Flat birds remain cooperative throughout the activity!

FIELD GUIDES AND FIELD MARKS

Learning to use a field guide is also easier with flat birds. Often novices (and even experienced bird watchers) shift from viewing an unidentified bird through binoculars to fumbling with their field guides, while trying to remember identification features. When they next look up, the bird has flown away, which can be quite frustrating to novice and experienced bird watcher alike. Again, using flat birds simplifies the observation process and builds confidence in the bird watcher.

You can start your flat bird activity by introducing key field marks to look for on birds. Field marks include the size, shape, color, and patterns in the bird's plumage. In the beginning section of every field guide to birds is a "topography of a bird" map that labels key plumage features used for identification. Initially, it is best to concentrate on major features, for example, the bird's crown, breast, belly, throat, eye, rump, and wing bars. Next, have the students "spot" their first flat bird (and again marvel at how cooperative the bird is) and ask them to call out the field marks they see. Soon the students will realize that the bird they are observing is not real, but that will be okay because they will have learned to recognize field marks--the basis for successfully identifying any bird. When the students have become proficient at recognizing field marks, you can ask them to observe birds' habitats. After your students "graduate" to viewing live birds, you can add observing behaviors; then all the separate identification strategies they have learned will come into play.

BEYOND FLAT BIRDS: LEARN ABOUT BIRDING ON THE INTERNET

Several organizations have outstanding Web sites that will be helpful to you if you are a newcomer to birding, or even if you are an experienced birder. On the National Audubon Society's Web site (www.audubon.org), you will find information about specific bird species, in addition to photographs, drawings, and birdcalls. Cornell's Lab of Ornithology (www.birds.cornell.edu/) in partnership with the Audubon Society, sponsors the Great Backyard Bird Count, which asks birders all across the United States to report birds tallied in their neighborhoods for three days in February each year. Cornell and Audubon have initiated many other Citizen Science Projects that encourage amateurs to gather and submit scientific data. Birdsource (www.birdsource.org/) is best described as a Web site that lists projects for "Birding with a purpose."

Another excellent Web site is Journey North. Subscribers can share observations during the migration period and also receive online lesson plans. To learn more about what is available on the site, educators can e-mail jn-registerinfo@learner.org or visit the designer's Web site at http://www.learner.org/jnorth/. Several online

projects have specific birds as their focus, for example, the ruby-throated hummingbird (www.rubythroat.org) and the purple martin (www.purplemartin.org).

Classroom teachers might be especially interested in Web sites that feature information about chimney swifts--a bird that has adapted to using school chimneys for migratory roost sites during spring and fall. The Driftwood Wildlife Association (www.concentric.net/~Dwa) and the College of William & Mary's Center for Conservation Biology at (www.ccb-wm.org) provide information on swifts. Other useful Web sites that supply extensive information about birds in general are the American Bird Conservancy (www.abcbirds.org) and Partners in Flight (www.partnersinflight.org). On the United States Geological Survey's Web site (www.mpl-pwrc.usgs.gov/birds.html), students can learn about bird monitoring and migratory birds.

TEACHING BIRDING BASICS USING SEVEN COMMON BIRDS

You can easily teach the common characteristics of birds using flat birds. It is easier to point out characteristics such as color, field markings, shape, size, call, habitat, flight patterns, and behaviors to your students on flat birds than on birds that are in the field. For example, you could put one male redwing blackbird in a cattail marsh habitat for every few female redwing blackbirds. This will convey the habitat preferences as well as the harem mating lifestyle of the redwing blackbird. The birds will also stay put so all the students can get a good look at them, which is especially helpful to students using binoculars for the first time. You will also be able to place the birds in appropriate habitats. See Figure 1 for basic bird information about the seven species of birds whose photos are included in this article.

BIRD WATCHING ADVENTURES

Many birding organizations, such as local chapters of the National Audubon Society, local bird clubs, and local natural history museums, sponsor field trips so individuals can see what particular species are in an area at a particular time (e.g., water birds are on a protected lake during migration periods). The organizations also sponsor field trips that target specific habitats and specific bird behaviors (e.g., woodcocks peenting [i.e., courtship calls] or owls calling). Taking sponsored excursions with experienced birders is an excellent way to learn how to bird watch in the field and to learn about key areas that are host to birds during different times of the year.

SPECIAL BIRDING EVENTS

Undoubtedly, the longest, ongoing, scientific social event in the world is the Audubon Society's Christmas Bird Count (CBC). The first count took place in 1900 and has increased to thousands of counts, which involve the participation of more than 50,000 birders during the Christmas holiday period. In addition, the International Migratory Bird Day Count was initiated in May 1997. This count is similar to the CBC, but its focus is limited to one day during spring migration. The American Birding Association also publishes each year a Directory of Birding and Nature Festivals across North America. You can find the list of festivals online at http://americanbirding.org/resources/evntfestgen.htm.

OTHER "BIRD-BRAIN" SUGGESTIONS

One of our favorite birding activities is the use of the "tongue-in-beak" book series A Field Guide to Little-Known and Seldom-Seen Birds of North America and Another Field Guide to Little-Known and Seldom-Seen Birds of North America (Sill, Sill, and Sill 1998 and 1990). Both guides take an imaginative look at make-believe designer birds, for example, the military warbler, which has camouflage plumage and whose number of tail stripes increases as it ages, and the little-known Will, a relative of the real-life poor-will, whip-poor-will, and chuck-wills-widow. This particular bird's biographical sketch features a graph that depicts a direct relationship between the number of letters in the latter birds' names with the number of syllables in their songs. Another amusing guide, What Bird Did That? (Hansard and Silver 1991) purports to be able to identify birds' droppings, including those most commonly left on your car's windshield.

SUGGESTED BIRD BOOKS FOR CHILDREN

There are many excellent children's books about birds and birding. Crinkleroot's 25 Birds Every Child Should Know (Arnosky 1993) is a helpful beginner's bird book for children. The book pictures 25 common birds. Owl Moon (Yolen 1987) is a good story to read out loud; and Owls in the Family, a beginner's level chapter book by Canadian wildlife biologist Farley Mowat (1981), describes the period of his youth during which he hand-reared owls. She's Wearing a Dead Bird on Her Head! (Lasky 1997) details the history of the bird conservation movement in America, from its roots in women's fashion to the emergence of the Audubon Society.

A personal favorite of Dr. Matthews is a collection of poems by physicist Robert Woods entitled How to Tell the Birds from the Flowers (1907), a science Woods calls flornithology. Woods wrote and illustrated the 25 poems in the collection to amuse his children, and some, such as the pansy and the chimpanzee, have become famous woodcuts. You can find the entire book online at http://www.geocities.com/Vienna/2406/cov.html.

I Am Phoenix: Poems for Two Voices (Fleischman 1985) is another outstanding selection of poetry about birds. The book contains 15 poems that are meant to be read aloud by two people. Each poem is either about a specific bird (e.g., the poems "The Common Egret" and "The Cormorant's Tale") or a selection of birds (e.g., "Morning" and "Dusk"). I Am Phoenix is a beautiful collection of poetry that also teaches children many facts about birds.

TEACHER RESOURCE MATERIALS

The National Audubon Society offers teachers help in many ways. Local chapters of the National Audubon Society often have a guest speakers' list of birders who are willing to come to classrooms to teach young people about bird watching. The magazine Audubon Adventures published by the society has content that is suitable for students in grades 4-6. Audubon Adventures features basic science concepts about birds, wildlife, and their habitats. Many local Audubon chapters will sponsor local teachers and also will pay for a magazine subscription for their students.

Summer Audubon camps, whose activities focus on birds and birding, are also available to teachers and students. Ranger Rick's NatureScope Birds, Birds, Birds! (National Wildlife Federation 1986) is an activity-based book designed for teachers of students in grades K-8. Two of our favorite activities are "Fill the Bill" and "Feet are Neat," which teach students about bill and feet adaptations. Birds, Birds, Birds! has a number of copy-ready handouts called copycat pages that teachers can use in the classroom. Other helpful resources are Peterson's Field Guides (1986) that identify birds, eggs, nests, and even birds' silhouettes. Books about bird feeders and birdhouses are also popular.

CONCLUSION

The flat birds activity continues to be a highly successful activity for teachers, teacher educators, and museum staff to use with children and adults to introduce them to American naturalists' favorite pastime: bird watching. As your students move from the beginner's level to the intermediate and advanced levels of bird watching, you can shift from using two-dimensional flat birds to observing the real thing. For now, however, put flat birds on your curriculum agenda and wait for all the calls that you will receive, testifying to the success of the activity.

Figure 1. Identifying characteristics of seven flat birds.

Flat bird Name	Key field marks	Habitat	Flat bird placement
Robin	Red breast, white	Open	Stake on lawn

	eye-ring		
Red-bellied	Red on nape and	Woods	Side of tree, with
Woodpecker	crown, black and white		head pointing up
	bars on back		
Carolina Wren	Brown with white	Brush piles	On woodpile, in
	eyebrow		thicket
Eastern Towhee	Rusty sides, white belly	Thickets	Shrubs, ground at
			edge
Cardinal	Red crest on head,	Woods and	Shrubs, on ground
	black face, and throat	thickets	
Yellow-rumped	Gray-green, with yellow	Mixed woods	Branch with leaves
Warbler	shoulder, wing bars, yellow rump		
White-throated	Brown-striped back,	Thickets and	Edge of weedy field;
Sparrow	white throat, wing bars	meadows	ground or low
			branch

Bob Hader
Nicole Kennedy
Nicole Kennedy

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