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Colorado's Wildlife Company



sage grouse

Listen...

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Learning To Listen

By Mary Taylor Young

It sounds a little silly to tell people how to listen, but attentive listening is a skill that takes some practice. When people lived close to nature, listening to the world around them was essential—for finding food, for defense and just to keep tabs on what was going on around them. But today a cacophony surrounds us in the modern world—traffic, heavy equipment, television, radios, sirens, barking dogs—blending into a mass of noise we want to ignore. We've trained ourselves to tune out much of the sounds around us. To hear wildlife and the sounds of nature, we must now train ourselves to tune in. We must remember to listen.

Birders, people with a serious interest in bird-watching, often have excellent listening skills. Because birds are frequently difficult to see, birders learn to listen as well as watch. Sound is often the primary sense for locating birds as birders zero in by ear and then search with their binoculars. Even then, they may never get a good look at their quarry, which is often high in trees obscured by foliage, so birders learn not just to listen for activity but to identify birds by their songs. That trained ear kept tuned to sounds around them means their conversation is often interrupted with, "Oh, did you just hear that downy woodpecker fly across the yard?...Listen, there's a song



sparrow!... Wasn't that a western screech-owl?"

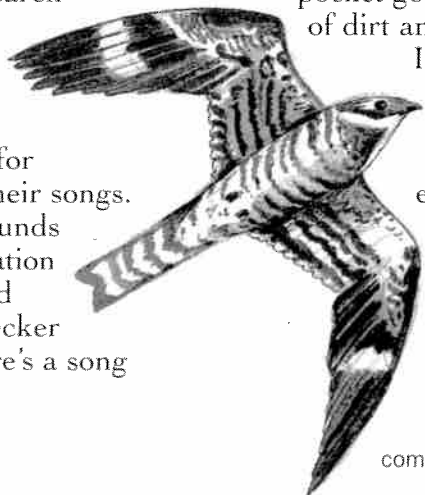
While birders listen in order to identify the sound, many of us don't have any particular mission other than enjoying what we hear. To practice listening, go in your backyard, or somewhere outdoors, sit down and close your eyes. Pay attention to all you hear. Practice locating the source of sounds by turning your head. Now go through the same exercise with your eyes open, but focusing

on your sense of hearing rather than sight.

When you go out in the field, you can listen while on the move, but sitting quietly will be more productive. Once you are still, wildlife that may have fled or hidden at your approach will re-emerge. One day while on a hike, I sat down to rest and soon heard scratching and rustling nearby. I was in the open with no creatures in sight. Suddenly the soil trembled and up popped a pocket gopher, which busily bulldozed out a load of dirt and submerged again to keep tunneling.

I would not have seen or heard the gopher, an animal rarely if ever seen, if I'd been on the move.

Humans have woefully small external ears, so lots of sounds pass us by. Compare our flat-to-the-head ears to the radar-dish ears of a fox, mule deer or big-eared bat. You can vastly improve your ability to capture sounds by cupping your hands around



common nighthawk

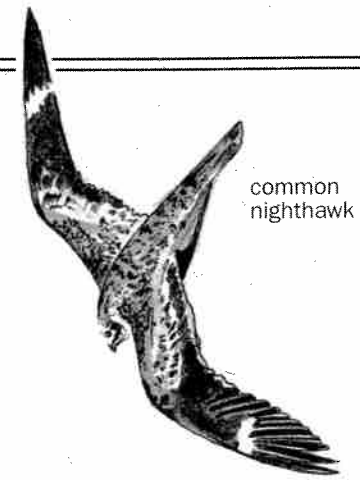
your ears. Pivot slowly (remember that radar dish) and use the changes in volume and amount of sound to either ear to pinpoint the source of what you're hearing. When it seems each ear is receiving sound equally, you are looking straight at your target. Owls, which can hunt completely by sound, use the same technique to locate prey. As the owl orients its head to equalize sound to its ears (which, unlike ours, are asymmetrical) the source of the sound is aligned to the bird's line of vision, and it targets in for the attack. Owls can pinpoint and strike a prey animal accurately to within a fraction of an inch, even in total darkness, using only sound.

One trick used by birders to locate a hidden bird by sound is a basic form of triangulation. The people in the group spread apart, then all listen to the sound. As they pinpoint the direction, each listener raises an arm and points to it. The place where lines from all the pointing arms come together is the likely location of the hidden bird.

Some nature centers have specialized microphones they use to listen to nature sounds, often on nighttime walks. These highly sensitive listening devices have a large dish surrounding a parabolic microphone. When pointed at sounds, or even used to scan a forest or meadow, they amplify an amazing variety of sounds that are too quiet or distant to be heard by the average human ear. These aids to hearing let us experience the world of sound familiar to so many animals but usually closed to humans.

Some birders and nature enthusiasts play tapes of bird songs and calls to elicit response from wild birds. Tapes are particularly used to

find owls, which are secretive and nocturnal. This technique can have a negative effect on birds, particularly during the nesting season as the birds expend energy responding to what they think is an intruder in their territory. The overplaying of tapes can stress birds enough to cause them to abandon nests. Better to just enjoy the night sounds and count any owls we hear naturally as a wonderful gift.



common nighthawk



black-capped chickadee

The Sounds Of Wildlife

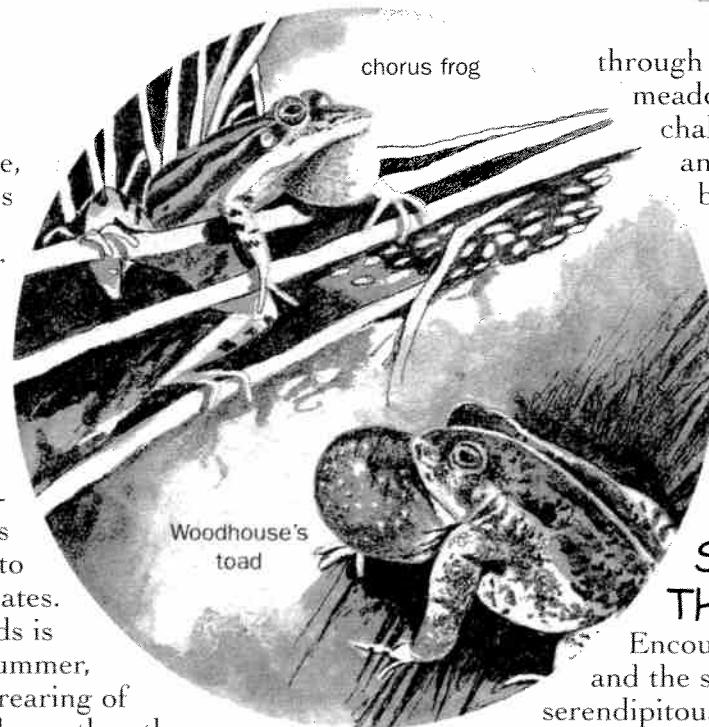
By Mary Taylor Young

Have you ever sat around a campfire after dark and listened to the night sounds? When the surrounding darkness and the light from the fire erase your powers of sight, the richness of the world of sound emerges. But you don't have to enjoy *listening* only when your vision is restricted. We talk about bird watching and wildlife viewing, but listening is a marvelous way to experience another dimension of wildlife.

The Colorado outdoors is filled with the sounds of wildlife. Often they are the sounds of everyday life in the natural world—rustles and scuffles, alarm calls, wingbeats, splashing—that clue us to the animals around us. Much of the noise of nature is associated with specific seasons and behaviors, such as the territorial chattering of squirrels or the courtship song of a male warbler.

ROMANCE AND TERRITORY

Of all the sounds of nature, the singing of birds is perhaps the most familiar and best loved. Birdsong is part of our folklore and culture. Every second grader knows that the *chirrup* song of robins signals spring's arrival. Bird vocalizations can be roughly divided into songs and calls. Songs are (usually) standardized series of notes or phrases typical to a species and used to define territory and attract mates. That's why the singing of birds is heard mainly in spring and summer, the seasons of courtship and rearing of young, but not in winter. Calls, on the other hand, have practical function—to warn of danger, to announce capture of prey, to protest disturbance or to communicate in other ways—and are therefore heard throughout the year. The familiar *tuk-a-dee* of



chorus frog

Woodhouse's toad

through mountain forests and meadows. With his bugle the bull challenges competing males and announces his readiness to breed. Later in the season, in late November and December, lucky listeners may hear the clash of horns as bighorn sheep rams battle each other during the rut. The crash of two rams battering head to head can sometimes be heard a mile or more away.

SOUNDS ON THE TRAIL

Encountering interesting sounds, and the sights they lead to, is often serendipitous, when we are on the trail or just poking around outdoors. Pay attention to sudden changes in wildlife sounds. If a lively woodland grows suddenly quiet, or a silent place explodes in chatter or alarm calls, it probably means something



Western meadowlark

Out of some far recess of the sky a tinkling of little bells falls soft upon the listening land. Then again silence. Now comes a baying of some sweet-throated hound, soon the clamor of a responding pack. Then a far clear blast of hunting horns, out of the sky into the fog.

High horns, low horns, silence, and finally a pandemonium of trumpets, rattles, croaks, and cries that almost shakes the bog with its nearness, but without yet disclosing whence it comes. At last a glint of sun reveals the approach of a great echelon of birds. On motionless wing they emerge from the lifting mists, sweep a final arc of sky, and settle in clangorous descending spirals to their feeding grounds. A new day has begun on the crane marsh.

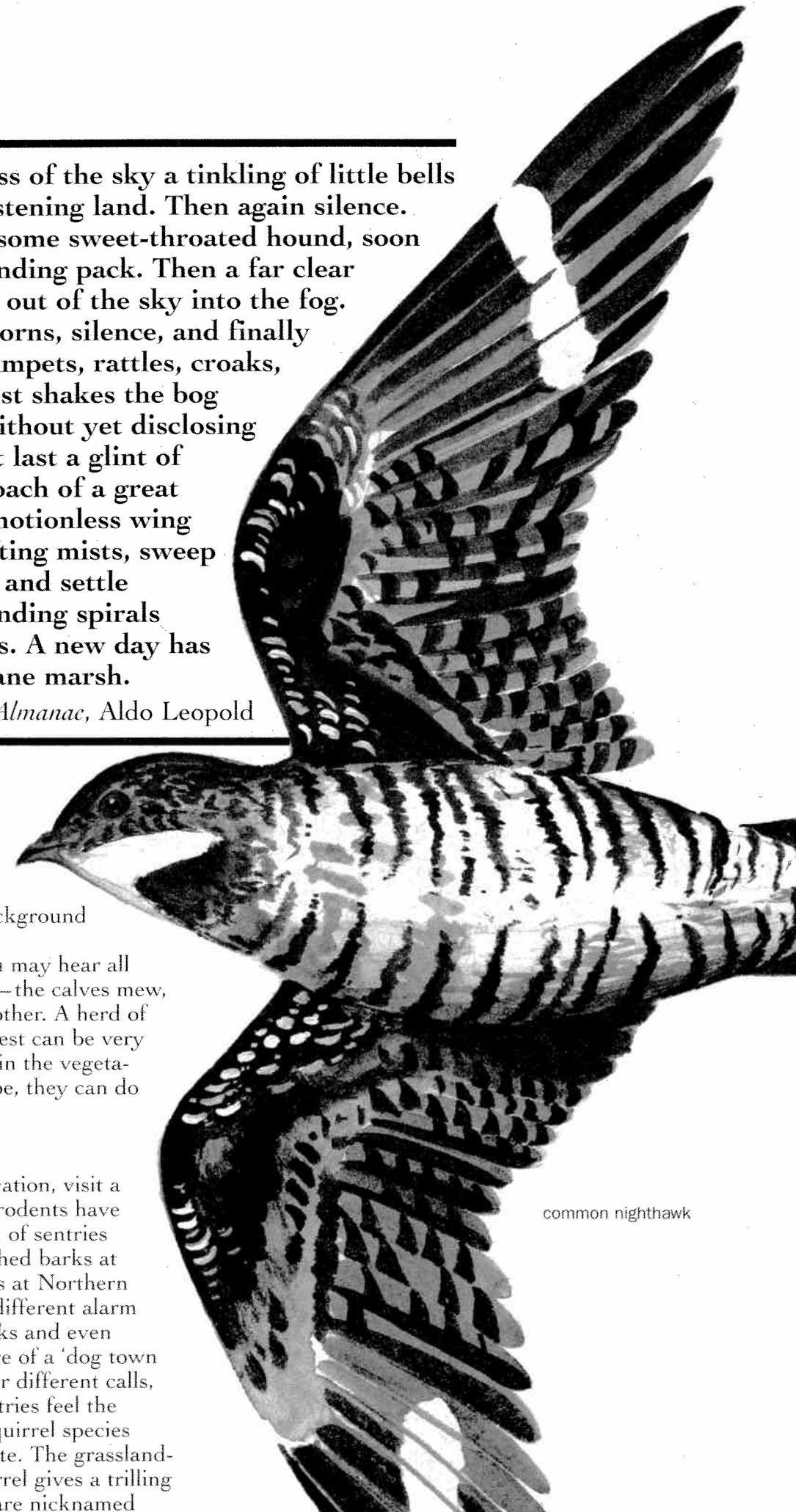
A Sand County Almanac, Aldo Leopold

dramatic it is used frequently as background in movies and television.

If you are near a herd of elk, you may hear all sorts of chatter. Elk are quite vocal—the calves mew, the adults grunt and “talk” to each other. A herd of elk feeding or moving through a forest can be very noisy, walking over things, rustling in the vegetation, though when elk want to escape, they can do so very quietly.

ALARM BELLS

For a lesson in animal communication, visit a prairie dog town. These communal rodents have evolved an elaborate defense system of sentries that sound off loudly with high-pitched barks at the approach of danger. Researchers at Northern Arizona University have identified different alarm calls for four-legged predators, hawks and even humans. If you sit quietly at the edge of a ‘dog town and listen long enough, you will hear different calls, including an “all clear” once the sentries feel the danger has passed. Other ground squirrel species also bark and whistle to communicate. The grassland-dwelling thirteen-lined ground squirrel gives a trilling alarm call. Yellow-bellied marmots are nicknamed



common nighthawk

heard throughout the year. The familiar *tsik-a-dee* of the chickadee is not its song but its call. A whistling, two-toned *fee bee* is the bird's song. A feeding flock of chickadees gives continuous calls, the members keeping in touch with each other as they forage for food.

Don't expect to sleep in, then linger over brunch before going out to listen to the birds. Early morning in spring is when singing is at its peak as male birds compete for territory and sing to attract mates. This bubbling eruption of birdsong is so delightful it's known as the dawn chorus. Nature-lovers across Colorado celebrate the return of the birds each May by joining other early risers to venture out and listen to birds on Dawn Chorus Day.

Not all the sounds of bird courtship and territoriality are vocal. Being shy on musical voice but very good in the hammering department, woodpeckers drum with their bills on resonant surfaces—dead trees, telephone poles, metal roof flashing—to announce their territories and attract mates. The louder and more reverberating a drumming post, the better. That's what they're doing when they hammer on the side of your house or your metal roof flashing in the spring.

Snipes "winnow," producing an airy *whub, whub, whub* flight sound as air rushes through the fanned feathers of their tails. Nighthawks "boom," another flight sound made as the bird plummets downward then curves up suddenly in a "J" pattern, the air forced through its wing feathers making a loud *szboomp*. Listen for snipes over wet meadows nearly statewide in spring and summer and nighthawks in morning and evening in most habitats across the state in summer, including urban areas. Ground-dwelling birds of the grouse family such as prairie chickens and sage grouse have specially adapted throat sacs they use to produce sound during their courtship season in April and May. The grouse inflate these sacs with air like bagpipes, then expel the air in a symphony of wheezes, pops and coos. A dancing ground filled with displaying male grouse, all piping their bags of wind, is a carnival of sound and sight.

Birds aren't the only animals vocalizing during the breeding season. Frogs and toads croak, sing and trill, the rising drone of their calls sometimes heard for a mile or more. The calls of male amphibians can identify them as surely as does the songbird's trill. The chorus frog sounds like someone running a thumb down a comb, rising in pitch. The Woodhouse's toad gives a very loud, bawling *Waaab!* The bullfrog's song is a deep, loud *Jug o'rum*. The leopard frog offers up a long snore, tapering to a series of croaks. The spadefoot toad emits a series of distinct quacks at one-second intervals. The western toad makes a soft chirping, like the cheeps of a baby chick.

In autumn, the eerie bugle of the bull elk, starting deep and hollow and rising to a shrill scream, echoes

is afoot, perhaps the approach of a predator or your own nearness to a nest.

**In summer
when I passed
the place,
I had to stop
and lift my face;
A bird with
an angelic gift
was singing
in it sweet
and swift.**

Robert Frost

In mid-summer the frenzied chatter of a songbird may be a fledgling bird, one that has just left the nest, still begging its harried parents for food—*Feed me! Feed me!* The furious scolding of chickarees, or pine squirrels, is familiar to hikers in high mountain forests. The squirrel's chattering announces that you are trespassing, and doesn't subside till you have passed through its territory. Rustling in dry leaves and underbrush may make you think a large animal hides just off the trail, but often these sounds are much larger than the animals that make them. Spotted towhees, songbirds about the size of slender robins, scuffle in the leaf litter looking for grubs and insects, making

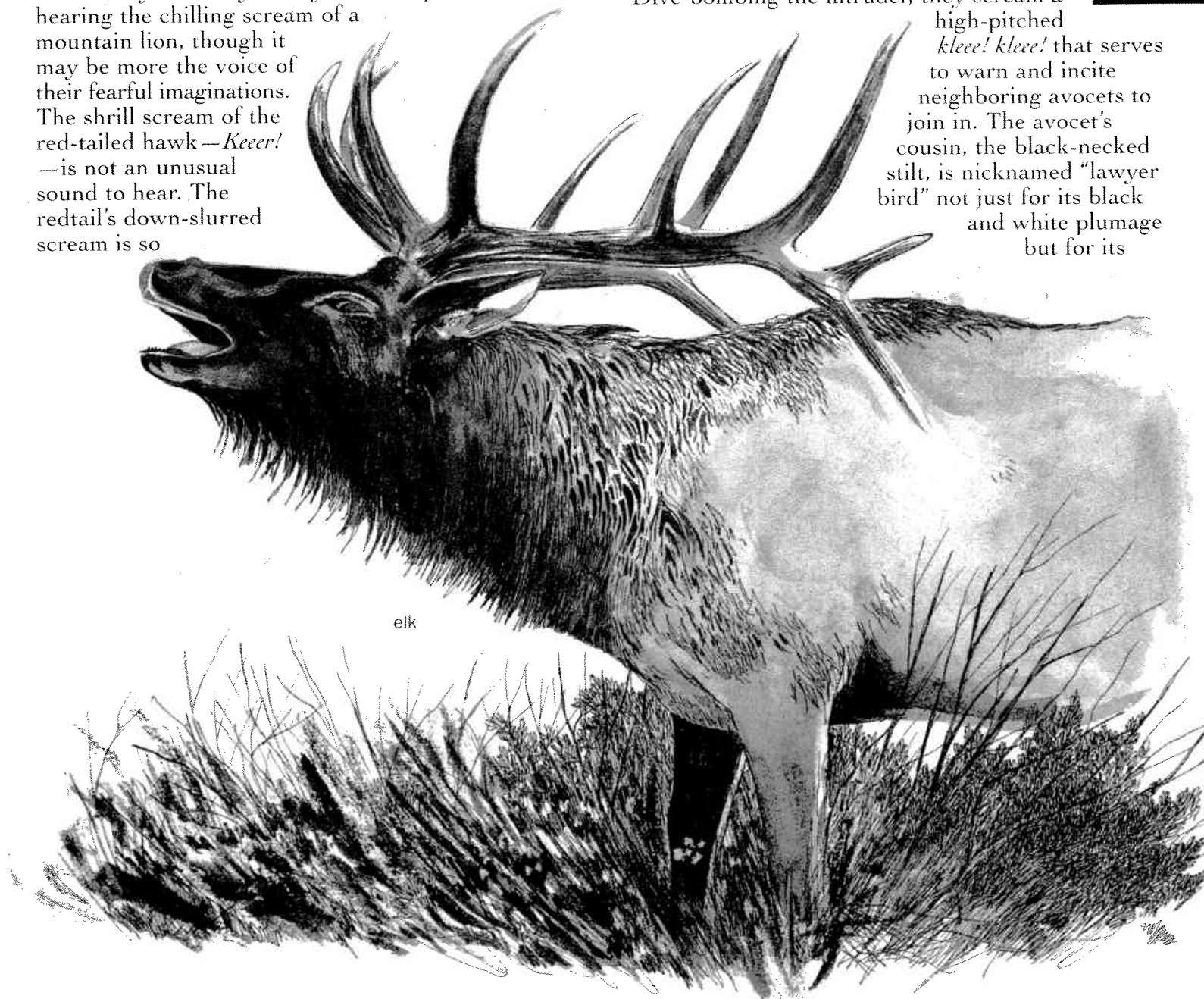
enough noise for an army of imagined predators. Actually, predators are among the most silent of animals, by necessity. Many hikers report hearing the chilling scream of a mountain lion, though it may be more the voice of their fearful imaginations. The shrill scream of the red-tailed hawk—*Keer!*—is not an unusual sound to hear. The redtail's down-slurred scream is so

"whistle pigs" for their whistling calls. Sit and listen to a community of Wyoming ground squirrels in the mountains and you'll quickly decipher their language of whistles and chirps.

Deer may stamp a foot and snort an alarm before fleeing. The beaver's noisy slap of its flat tail on the water's surface is a warning that carries far across the water to other beavers. And any hiker on the alpine tundra knows the scolding bark of the pika. If pikas didn't alert us to their presence, we would rarely see them, since they are almost impossible to spot against the rocks.

Birds use alarm calls as well. A quiet forest that erupts with the sudden chattering of songbirds usually means danger threatens. Shorebirds are highly vocal. Elegant American avocets become shrill viragos if their nests are threatened.

Dive-bombing the intruder, they scream a high-pitched *kleee! kleee!* that serves to warn and incite neighboring avocets to join in. The avocet's cousin, the black-necked stilt, is nicknamed "lawyer bird" not just for its black and white plumage but for its



**O, bury me not,
on the lone
prairie,
Where the old
night owl hoots
mournfully,
Where the
coyote howls
and the wind
blows free,
O bury me not
on the lone
prairie.**

*Bury Me Not On The
Lone Prairie*, a ballad of
the American West

shrill, persistent *keek, keek, keek!* alarm call. Killdeer, too, cry out with a shrill *kill-dee!* when disturbed.

The rattlesnake's alarm is one sound wildlife watchers may not be eager to hear, though we should probably be glad of the warning that rattling tail gives us.

Upland bird hunters know the startling sound of quails, pheasants and other ground-dwelling birds as they flush from cover. These species make use of stillness and camouflage for protection until a predator is practically on top of them.

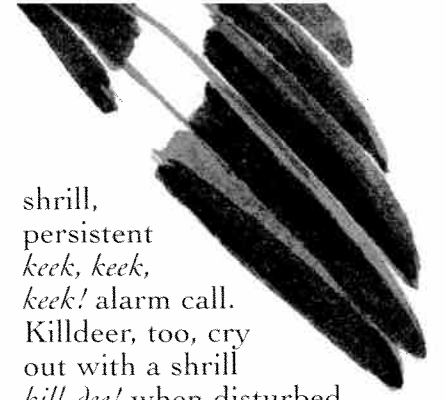
Then they fly up in a sudden burst of whirring wings and alarm calls, startling and confusing the predator, who can't react in time to grab an escaping bird.

NIGHT SOUNDS

Poo wee! A soft call comes from the darkness, answered by a *poo wee ee* from across the meadow. Summer nights in Colorado's foothills and shrublands carry the plaintive calls of common poorwills, night birds closely related to nighthawks. Night naturally heightens our reliance on hearing, bringing us a rich variety of sounds. The bold hoots of great horned owls, the whinnies of screech-owls, the piping calls of northern saw-whet and ferruginous owls all tell of a world of creatures active in the dark. The voice of an owl heard from the darkness symbolizes the mystery and thrill of a world we rarely think of until we spend time outdoors at night listening.

If we could hear in the extreme high range of 200,000 cycles per second, as bats do, instead of a mere 20,000 cps, we would enter a fantastic world of racket. In order to hear the echoes of the sounds they emit, bats call out in a decibel range that would be louder than a jackhammer if we could hear it. But bats do make some low-pitched sounds we can hear. These clicks and chirps are mainly contact calls and calls made after capturing prey.

Of all the sounds of Colorado wildlife perhaps none is so evocative as the cry of the song dog. When the mournful howling of coyotes rises in the night, it touches a chord inside us of yearning for wild things, and is perhaps a reminder to our primal selves that we are prey as well as predator. It is a sound—the coyote's voice—more than any visual image that symbolizes the West we live in and the West that lives in our imaginings.



Listen Up

Compact discs, cassette tapes, CD-ROMs, video tapes. The boom in sound and video technology means there are many resources to help you enjoy listening to the sounds of wildlife. Some resources help you learn techniques or improve your skills. Others offer pleasure and relaxation. Here are some of the many resources available at bookstores, music stores, public libraries, wild bird stores and the Division of Wildlife.

LEARNING TAPES

- *Guide to Bird Sounds*, Cornell Laboratory of Ornithology. Calls, songs and sounds for 179 species, keyed to the *National Geographic Guide to the Birds of North America*.
- *Peterson Field Guides' Western Bird Songs*, Houghton-Mifflin. Compact disc or tape of bird songs and calls. Also available with accompanying printed guide.
- *Birds of America in Song*, John James Audubon. Compact disc of bird songs and calls with descriptive narrative.
- *Stokes Field Guide to Bird Songs: Western Region*, compact disc or tapes of bird songs and calls with accompanying booklet.
- *Songbirds of the Rocky Mountain Foothills*, tape of songs for 33 species, organized by habitat.
- *Owls: A Guide to the Owls of the World*, compact disc focusing on elements of voice identification.

- *Voices of the Night: The calls of the Frogs & Toads of Eastern North America*, Cornell Laboratory of Ornithology. Tape of vocalizations of 36 frogs and toads.

PLEASANT LISTENING

- *Sounds of Nature* series on compact disc, produced by Chuck Plaisance and Suzanne Doucet. Natural sound recordings of different habitats, including Desert Oasis, Forest Music, Bubbling Creek, Mountain Ranch and At The Lake.
- *Sounds of the Rocky Mountains: Beautiful Music and the Natural Symphony of the Rocky Mountains*, tape of music and nature sounds from the Rockies.
- *Listening to Nature*, Joseph Cornell. Tape of nature sounds with corresponding paperback book illustrated with color photos
- *Echoes of Nature*, Laserlight Series. Series on compact disc including CDs of Frog Music, Morning Songbirds, Bayou, American Wilds.

- *Voices of the Earth: Actual Sounds of Nature*, Relaxation Company. Compact disc series including, Rainforest, Whales & Dolphins, Thunderstorm.

FOR CHILDREN

- *Nature Sounds*, compact disc of original songs coupled with recordings from nature.

VIDEOS

- *Simply Wildlife*, Colorado Division of Wildlife.
- *The Language and Music of Wolves*, narrated by Robert Redford.

CD-ROM

- *Better Birdwatching in Colorado, Volumes I & II*, Joseph LaFleur. Identification CD-ROM including audio of songs and calls for many species.
- *Birds of North America*, Thayer Birding Software. Identification CD-ROM including audio of songs of 918 species, sonographs and side-by-side comparison capability.

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