

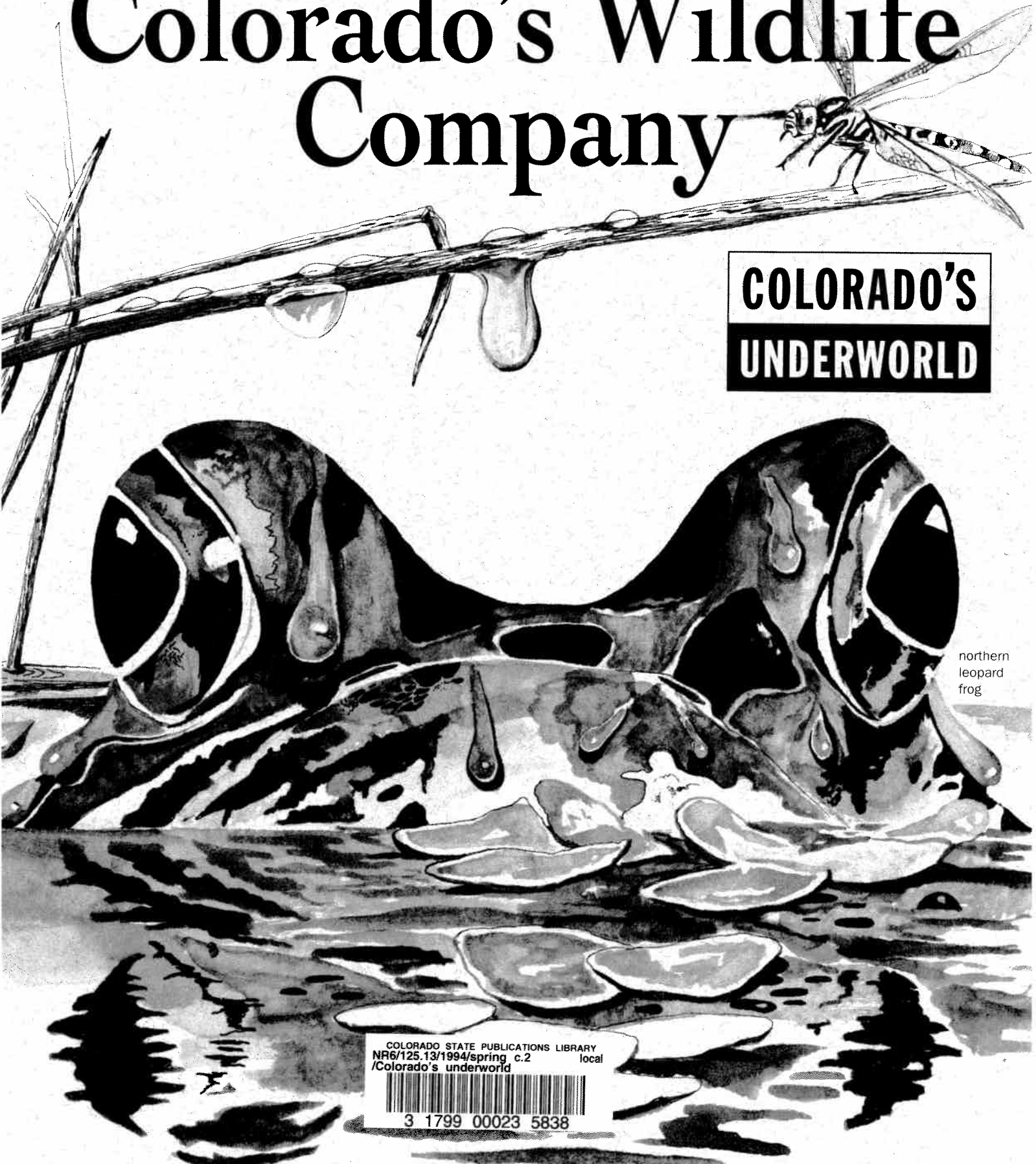
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1994 SPRING COMPENDIUM OF WILDLIFE APPRECIATION



# Colorado's Wildlife Company

**COLORADO'S  
UNDERWORLD**



northern  
leopard  
frog

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/Colorado's underworld



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# The wonderful world of Herptiles



eastern fence lizards

**HERPTILE?!** What kind of word is that? Rooted in the Greek word *herpetos*, meaning creeping, the study of herpetology includes both reptiles and amphibians. Herps are those (sometimes) cold and slimy, slithering, fork-tongued, turtle-shelled, scaly-skinned, long-tailed, croaking creatures that inhabit the hidden places in Colorado. They live under rocks and logs, in ponds, inside crevices, and on lily pads—they're Colorado's Underworld!

The initial reaction to herps is often Eek! or Eew! But take a different perspective, and these creatures are beautiful, fascinating, colorful and unconventional. There are the snakes, limbless animals that glide through the world on their bellies; the lizards, which leave their tails twitching beneath the paw of a predator; the turtles, who live encased in an armored shell; and the amphibians, their life cycle a microcosm of evolution. Born as fish (figuratively speaking), they lose their gills and fins to complete life on land equipped with legs and lungs. Amphibians include frogs, toads and salamanders; reptiles include lizards, snakes and turtles. All together, they're herptiles!

Herptiles are found throughout Colorado from the plains to the alpine tundra, though 80% of Colorado herptiles are not found above 8000 feet.

They live in a variety of habitats—rocky canyons, mountain ponds, eastern grasslands, wooded waterways. A few hardy species live above timberline. The western boreal toad may live as high as 11,860 feet, the tiger salamander at 12,000 feet.

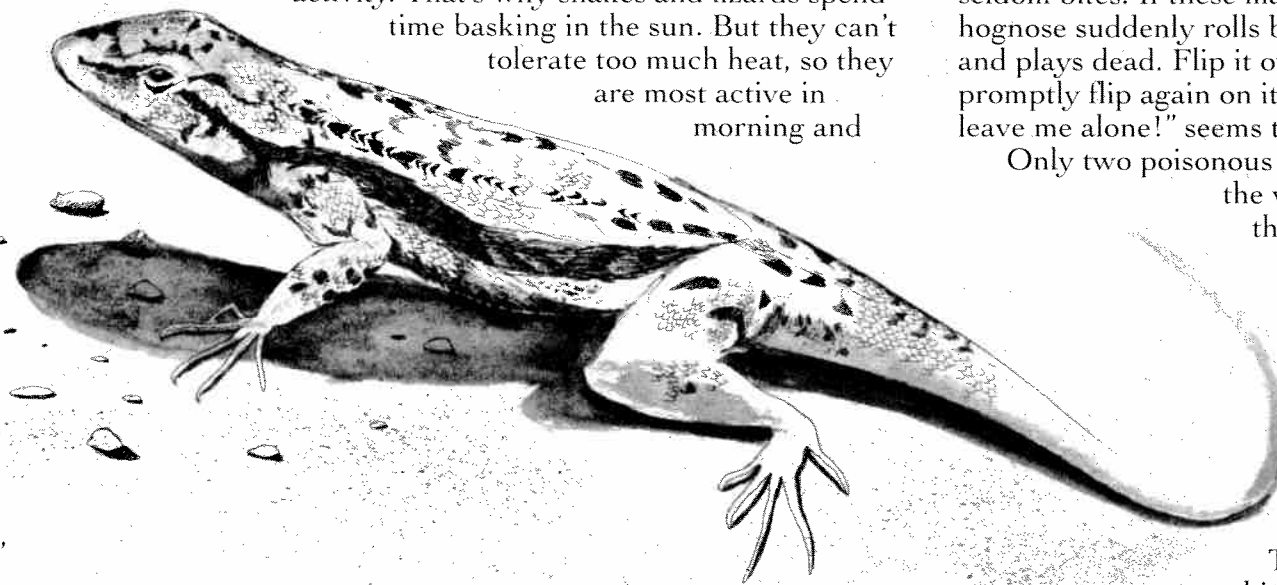
Look under a log on a moist forest floor and you may well find a tiger salamander, its face bearing a perpetual smile. Colorado's only salamander, the tiger is patterned with black and orange. Its immature form, which lives in the water, is often called a "waterdog." Salamanders resemble lizards, but they have soft, moist, scale-less skin and lack claws on their feet. We all know amphibians go through metamorphosis, from the aquatic larval stage (tadpole, pollywog, etc.) to terrestrial adult. But tiger salamanders sometimes throw a wrench in the works, becoming sexually mature and reproducing without metamorphosing! This phenomenon is called neoteny. The failure of some individuals to lose their gills and leave the water may be a response to local environmental conditions, because their young often will metamorphose.

Perhaps nothing identifies frogs and toads so much as their voices. During breeding season, male frogs and toads set up territories and sing to attract mates. Inflating the vocal sac beneath their chins they expel the air with a variety of croaks, chirps and ribbits.

What's the difference between a frog and a

toad? Frogs are generally more "svelte", with slimmer bodies and smooth skin. Compared to frogs, toads are sumo wrestlers, with warty skin, chunky bodies and sluggish movements. Frogs usually live in or near water while toads are generally creatures of drier habitats.

Both reptiles and amphibians are cold-blooded (what biologists call ectothermic) meaning their body temperature varies with the environment. When the temperature drops, so does herptile activity. That's why snakes and lizards spend time basking in the sun. But they can't tolerate too much heat, so they are most active in morning and



late afternoon. Snakes become more nocturnal as the days get hotter, so by mid-summer, evening and night are the best times to see them. Unable to stay warm enough to remain active, herps hibernate in winter.

Many Colorado reptiles are quite handsome and colorful. Male six-lined racerunners have bright green necks and shoulders, with blue bellies. The collared lizard is green with two black neck collars and yellow stripes on its neck and back. The longnose leopard lizard has large brown spots speckling its back, with matching bars down the tail. The milk snake is beautifully marked with rings of black, white and red; the garter snake with sleek cream or yellow lines running from head to tail. The painted turtle has a handsome, dark green or black shell with yellow and red markings. Even the lumbering box turtle carries a shell intricately painted with geometric designs in yellow.

If you think lizards don't have much of a personal life, guess again. Just like birds, they engage in courtship and compete for mates. Male eastern fence lizards have bright blue patches on their bellies and chins, which they display at other males by flattening their sides and raising their heads as if doing pushups. Some males develop red or orange

lips and throat during the mating season. The colors function to attract females or challenge other males. A confrontation between males may escalate from bobbing to actual fighting in which the combatants circle, bite, roll over together or try to flip each other belly-up. The loser runs away.

Have you ever heard of a snake playing dead? The western hognose snake is accomplished at this trick. Also called "puff adder" because of its skill at bluff, it hisses and strikes if threatened, though it seldom bites. If these maneuvers don't work, the hognose suddenly rolls belly-up, lolls out its tongue and plays dead. Flip it over and the snake will promptly flip again on its back—"I'm dead, darn it, leave me alone!" seems to be the message.

Only two poisonous snakes live in Colorado--the western rattlesnake and the massasauga (that's pronounced maw-saw-saw-gwa). Both belong to the family *Viperidae*, hence the name viper, meaning a venomous snake. The latter is a small, nonaggressive rattlesnake, usually less than 24 inches long.

The western rattlesnake, which can reach lengths of 48 inches, is found throughout Colorado. It has two subspecies--the prairie rattlesnake, which lives through most of eastern and southern Colorado, and the midget-faded rattlesnake, a resident of west central Colorado. The rattle of these vipers is a part of western folklore and a warning to be heeded. Contrary to popular thought, you can't tell the age of a rattlesnake by the number of rattles. A new rattle is added each time the snake sheds its skin (two to four times a year) but the rattles frequently break off. Biologists are concerned that rattlesnakes may be declining due to agricultural development, reduction of prairie dogs (which provide food and burrows), and killing by humans—for sport, protection and out of fear. Recently the Colorado Wildlife Commission added restrictions to the regulations for killing or capturing prairie rattlesnakes. Both the midget-faded rattlesnake and the massasauga are nongame species and are protected from being killed (except in self-defense) or captured.

**Now that you know more about them, the next time you meet a herp, think of them not as creepie-crawlies but as the colorful, wonderfully diverse creatures of Colorado's Underworld.**



tiger salamander

# Snakes are Good

Many people have a primal or cultural fear of snakes. Maybe we need to get beyond the Garden of Eden thing and look at snakes using different eyes.

Woven into the fabric of the ecosystem, snakes tug upon the threads of other life forms and natural processes, and are in turn tugged upon. Snakes and their eggs are food for eagles, skunks and other animals. In turn, snakes eat lots of mice and rodents, which benefits humans.

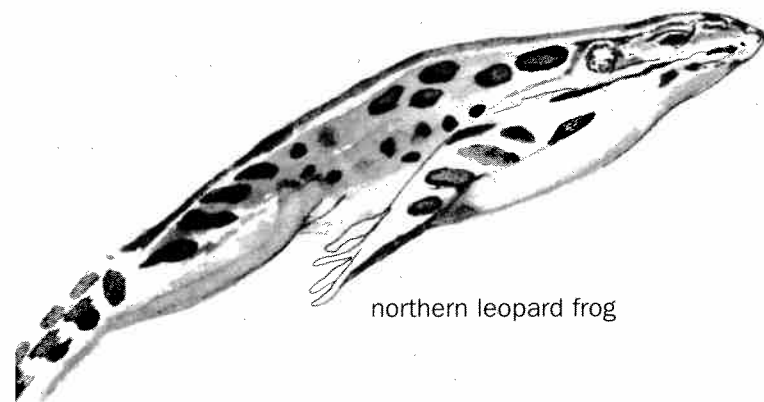
Actually, snakes go about their lives without much direct effect on humans, but humans have lots of effect on snakes--altering and destroying their habitat, and directly killing them. A researcher set a rubber snake out on a country road; many passing vehicles swerved to hit it, and a local sheriff stopped to shoot it.

With similar markings and a habit of vibrating their rattle-less tails on dry vegetation, bullsnakes are often mistaken for rattlesnakes. For millenia this masquerade worked well in scaring off predators. Then humans come along with a "shoot first, ask questions later" policy. In Colorado countless bullsnakes are killed because people mistake them for rattlesnakes.

Many snakes are beautifully colored and patterned. Their bodies are lithe and muscular, the skin scaly and dry. Snakes can do lots of funky things--shed their skins, smell with their tongues, even see heat. Have you ever climbed a tree without using your arms and legs? Try swimming without them.

Snakes epitomize the concept of less is more. Adapting to a unique lifestyle, they have opted for a long, narrow body, and chucked the arms and legs. Many have only one lung and females of some species have only one ovary.

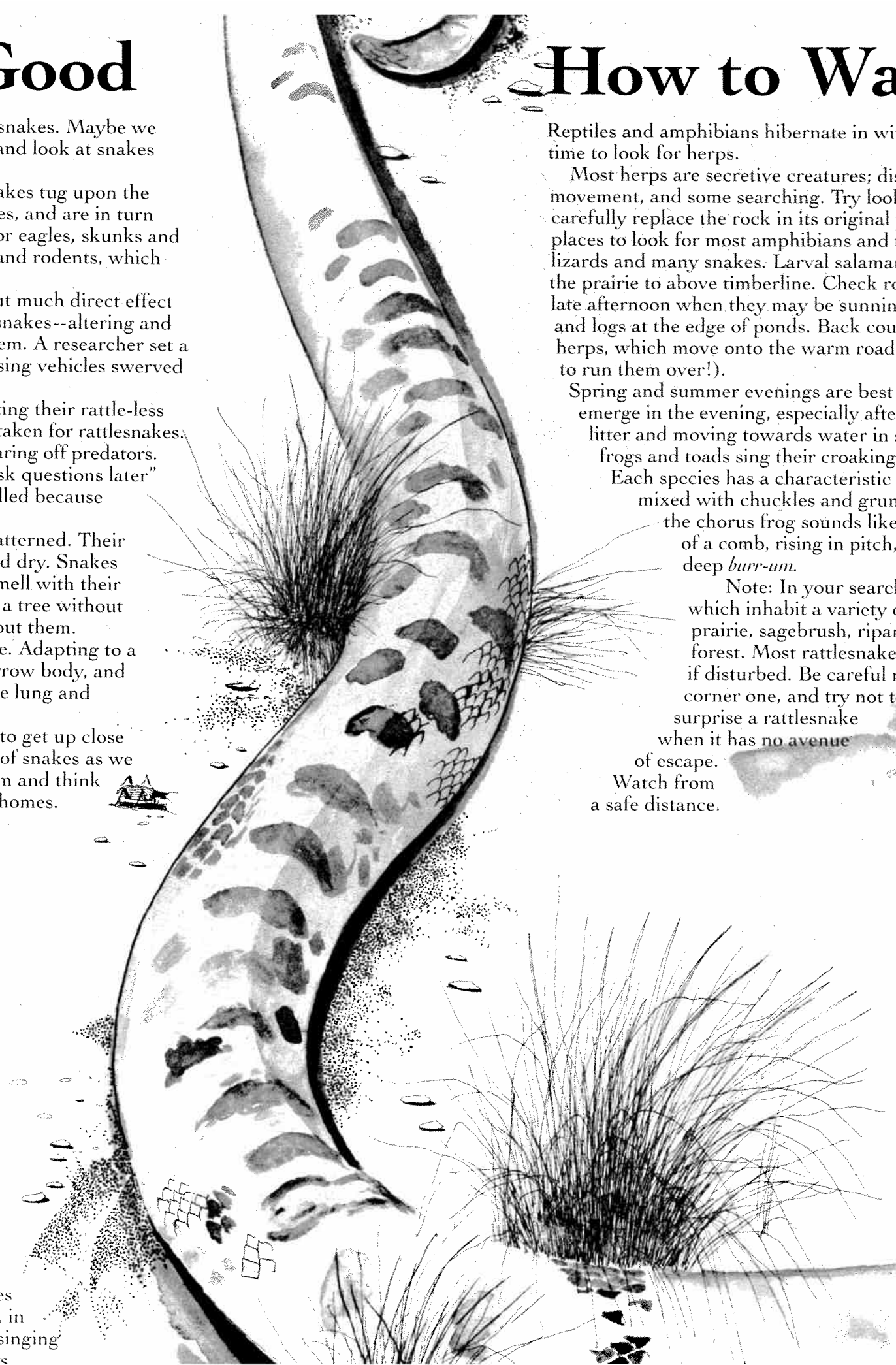
Appreciating snakes doesn't mean we have to get up close and personal with them. Perhaps we can think of snakes as we would certain works of art--we can admire them and think they're beautiful, without wanting them in our homes.



northern leopard frog

# Colorado Frog Watch

Armed with raingear, sack lunches and field guides, a group of frogwatchers heads out for a day in the mountains in search of rare species. Frogwatchers?! Instead of looking high in the trees for their quarry, these volunteer naturalists search under rocks, in crevices, along pond edges. They listen for croaking frogs, not singing birds. They hope for slimy skin, not feathers; crawlers not fliers



# How to Watch Herps

Reptiles and amphibians hibernate in winter, meaning spring through early fall is the time to look for herps.

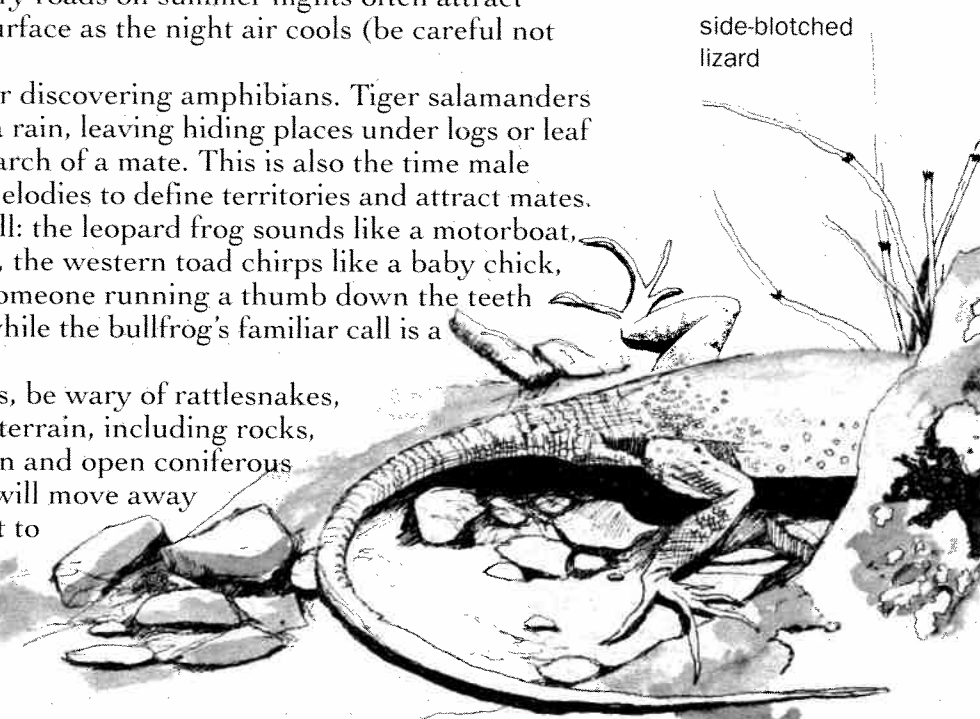
Most herps are secretive creatures; discovering them takes patience, unhurried movement, and some searching. Try looking under rocks and logs (just be sure to carefully replace the rock in its original position). Ponds and wet areas are the places to look for most amphibians and turtles, while drier, rocky terrain is better for lizards and many snakes. Larval salamanders are often found in small ponds from the prairie to above timberline. Check rock outcrops for lizards in late morning and late afternoon when they may be sunning themselves. Turtles sun themselves on banks and logs at the edge of ponds. Back country roads on summer nights often attract herps, which move onto the warm road surface as the night air cools (be careful not to run them over!).

Spring and summer evenings are best for discovering amphibians. Tiger salamanders emerge in the evening, especially after a rain, leaving hiding places under logs or leaf litter and moving towards water in search of a mate. This is also the time male frogs and toads sing their croaking melodies to define territories and attract mates.

Each species has a characteristic call: the leopard frog sounds like a motorboat, mixed with chuckles and grunts, the western toad chirps like a baby chick, the chorus frog sounds like someone running a thumb down the teeth of a comb, rising in pitch, while the bullfrog's familiar call is a deep *burr-um*.

Note: In your searches, be wary of rattlesnakes, which inhabit a variety of terrain, including rocks, prairie, sagebrush, riparian and open coniferous forest. Most rattlesnakes will move away if disturbed. Be careful not to corner one, and try not to surprise a rattlesnake when it has no avenue of escape. Watch from a safe distance.

side-blotched lizard



# Amphibians are Disappearing

From Borneo to the Amazon to the Colorado Rockies, amphibians are disappearing at an alarming rate and no one is really sure why.

Direct destruction of habitat is an obvious cause. Drain a wetland to build a shopping center and the frogs are going to disappear. Sport fish introduced to previously fish-less lakes gobble up eggs and tadpoles of species which have evolved no defenses against them. The northern leopard frog, a familiar green hopper with dark spots, is disappearing in Colorado and one culprit is another frog introduced by humans. Bullfrogs, aggressive non-natives, eat adult leopard frogs and may alter habitat in other ways.

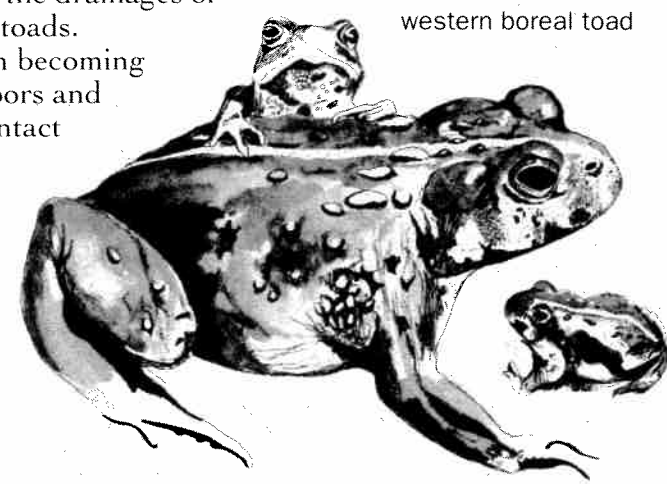
High altitude amphibian populations are among the hardest hit, leading researchers to cast a suspicious eye toward that familiar bogeyman, the shrinking ozone layer. Increased ultra-violet radiation may be hurting thin-skinned amphibians. In the early 1970s there were so many western boreal toads in the Colorado high country researchers had to be careful not to step on their hopping subjects. Today western toads are an endangered species in Colorado. Though once distributed through most of the Colorado

recess, along pond edges. They listen for croaking frogs not singing birds. They hope for slimy skin, not feathers; crawlers not flyers.

Colorado Frog Watch is a pilot program of the Division of Wildlife. Volunteer naturalists collect, record and report information on Colorado's reptiles and amphibians, helping DOW biologists gather widespread information on the distribution and abundance of herptiles in the state. Since Frog Watch is newly hatched (so to speak), it presently operates only in the southeast region, out of Colorado Springs, but the DOW hopes to expand it statewide.

Presently Frog Watch naturalists are actually searching for a toad—the western boreal toad, an endangered species in Colorado. Only 5 toads were reported in the state in 1992, but we hope there are more out there. This summer groups of volunteers will survey the drainages of the Collegiate Range for boreal toads.

If you would be interested in becoming a frogwatcher, having fun outdoors and helping herps in the process, contact Tom Nesler, the DOW's aquatic nongame specialist, at (303) 291-7451.



western boreal toad

## VIEWING SITE

### Colorado National Monument

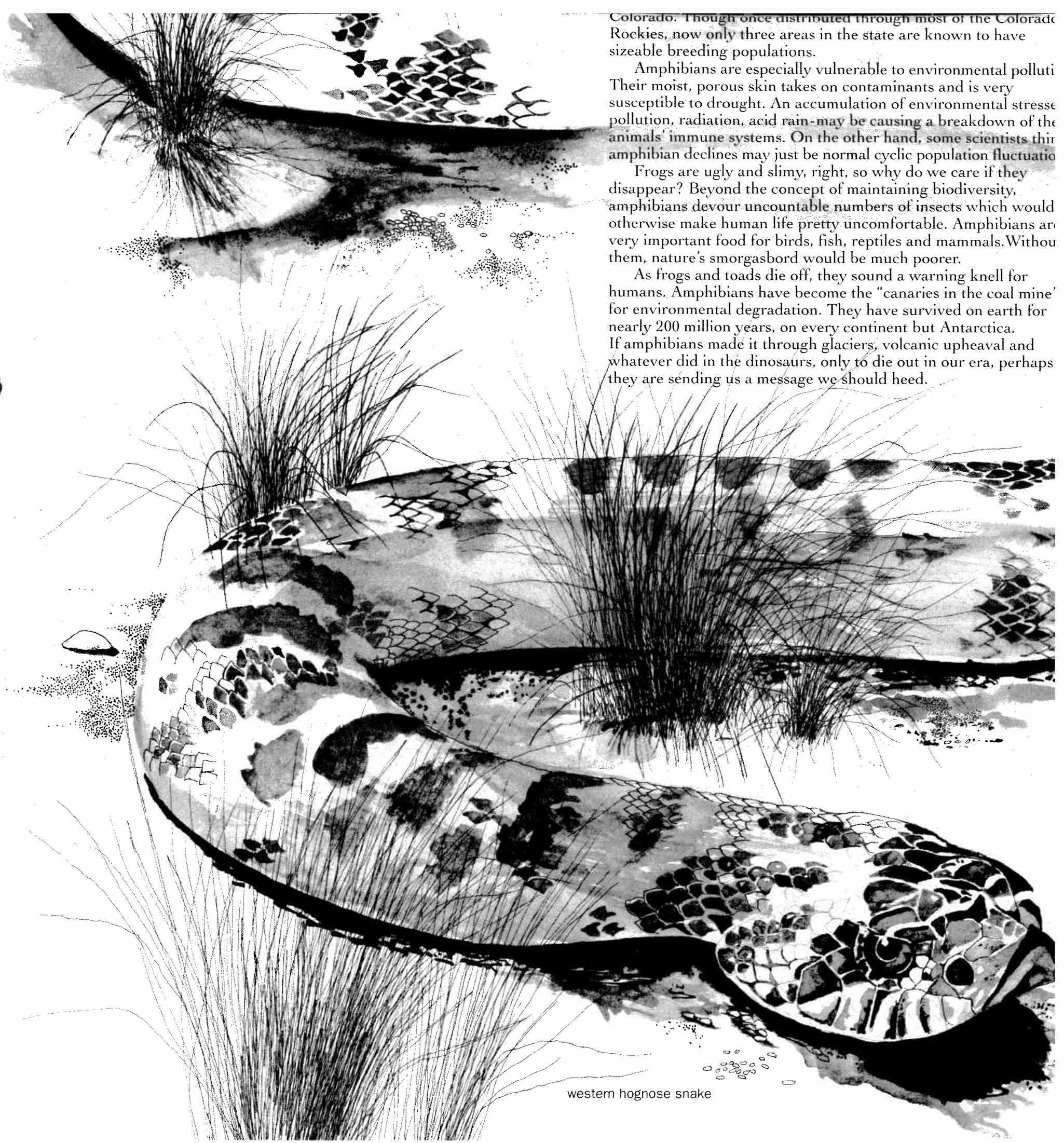
**DESCRIPTION:** An outstanding scenic area of red sandstone canyons and rock formations along the northern tip of the Uncompahgre Plateau overlooking the Grand Valley. Piñon/juniper forested mesas with some grassy areas.

**VIEWING INFORMATION:** Golden eagles and red-tailed hawks visible year-round. Scrub and pinyon jays, Gambel's quail, doves, magpies, canyon wrens, violet-green swallows and white-throated swifts all common. Mule deer are visible in winter around the visitor center. **Good reptile viewing in sunny, rocky areas—yellow-headed collared, side-blotched, sagebrush and eastern fence lizards; whip-tails; and bullsnakes all common.**

Nearby **Horsethief Canyon State Wildlife Area**, Site #10, has good amphibian viewing around ponds/riparian areas.

(Excerpted from the *Colorado Wildlife Viewing Guide*, available for \$6.95 from the Colorado Wildlife Heritage Foundation, 6060 Broadway, Denver, CO 80216. (303) 291-7212)

For Front Range herp-watching, visit Roxborough State Park southwest of Denver, or the Pawnee National Grasslands northeast of Greeley.



western hognose snake

Colorado. Though once distributed through most of the Colorado Rockies, now only three areas in the state are known to have sizeable breeding populations.

Amphibians are especially vulnerable to environmental pollution. Their moist, porous skin takes on contaminants and is very susceptible to drought. An accumulation of environmental stressors—pollution, radiation, acid rain—may be causing a breakdown of the animals' immune systems. On the other hand, some scientists think amphibian declines may just be normal cyclic population fluctuations.

Frogs are ugly and slimy, right, so why do we care if they disappear? Beyond the concept of maintaining biodiversity, amphibians devour uncountable numbers of insects which would otherwise make human life pretty uncomfortable. Amphibians are very important food for birds, fish, reptiles and mammals. Without them, nature's smorgasbord would be much poorer.

As frogs and toads die off, they sound a warning knell for humans. Amphibians have become the "canaries in the coal mine" for environmental degradation. They have survived on earth for nearly 200 million years, on every continent but Antarctica. If amphibians made it through glaciers, volcanic upheaval and whatever did in the dinosaurs, only to die out in our era, perhaps they are sending us a message we should heed.

# News & Notes

**IN CELEBRATION OF BIRDS!** International Migratory Bird Week will be celebrated May 9-14. A variety of bird and nature organizations, parks and wildlife areas will host bird walks, bird banding and other activities. Contact the Watchable Wildlife information line for more details at 291-7518.



western tanager



**A BRILLIANT DEDUCTION.** Remember Colorado's wildlife at tax time by making a tax deductible contribution to the Nongame and Endangered Wildlife Checkoff on your state income tax form. It's For The Birds! (and lots of other wildlife)

**WANT TO KNOW MORE ABOUT COLORADO HERPS?** *Amphibians and Reptiles in Colorado* by Geoffrey A. Hammerson is a comprehensive guide to the herptile species in our state. A Division of Wildlife publication, it is available for \$6, plus \$2 shipping/handling, from the Colorado Wildlife Heritage Foundation, 6060 Broadway, Denver, CO 80216. (303) 291-7212.

Thanks to Lauren Livo, herpetologist, writer and friend to the scabies and slimies, for her help on this issue.

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