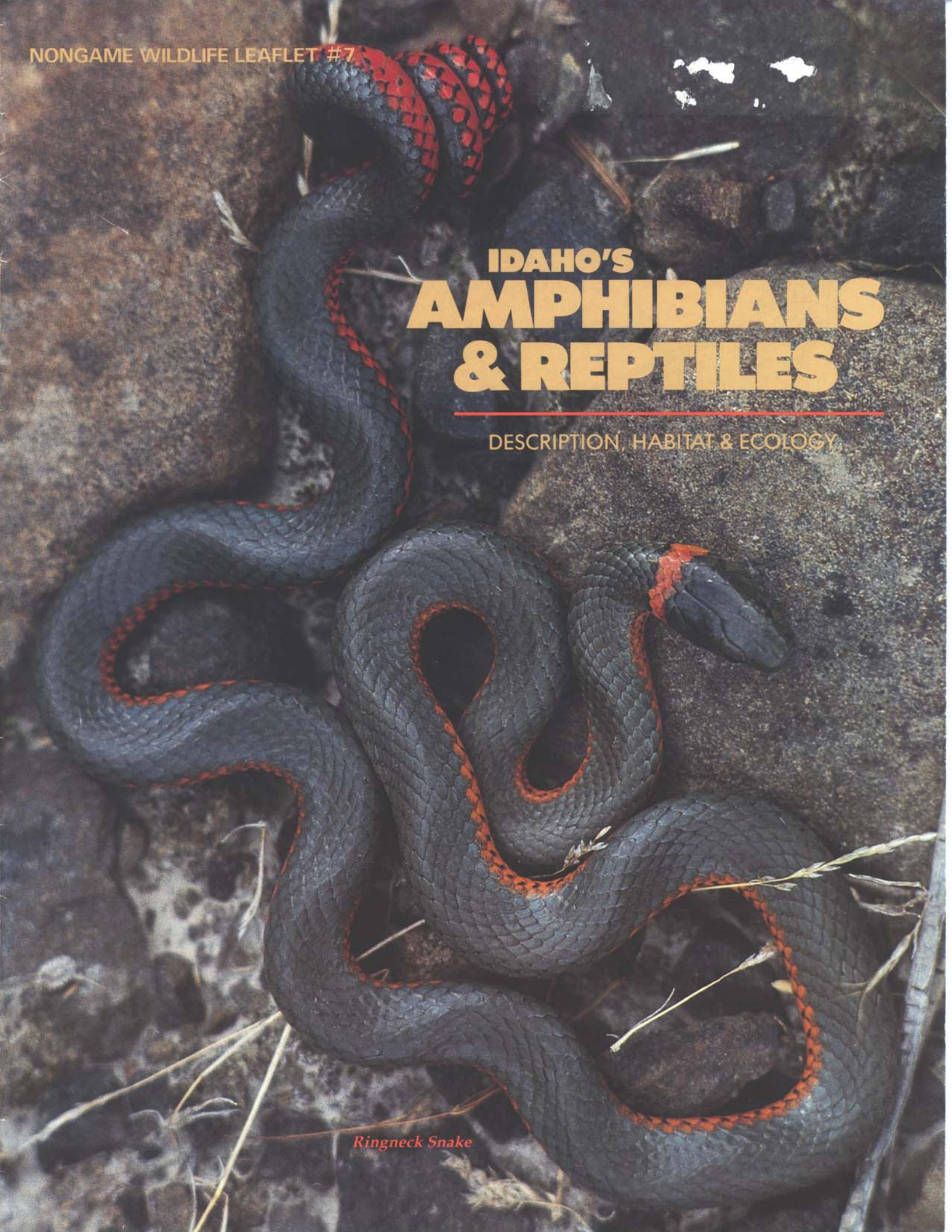
NONGAME WILDLIFE LEAFLET #7

# IDAHO'S AMPHIBIANS & REPTILES

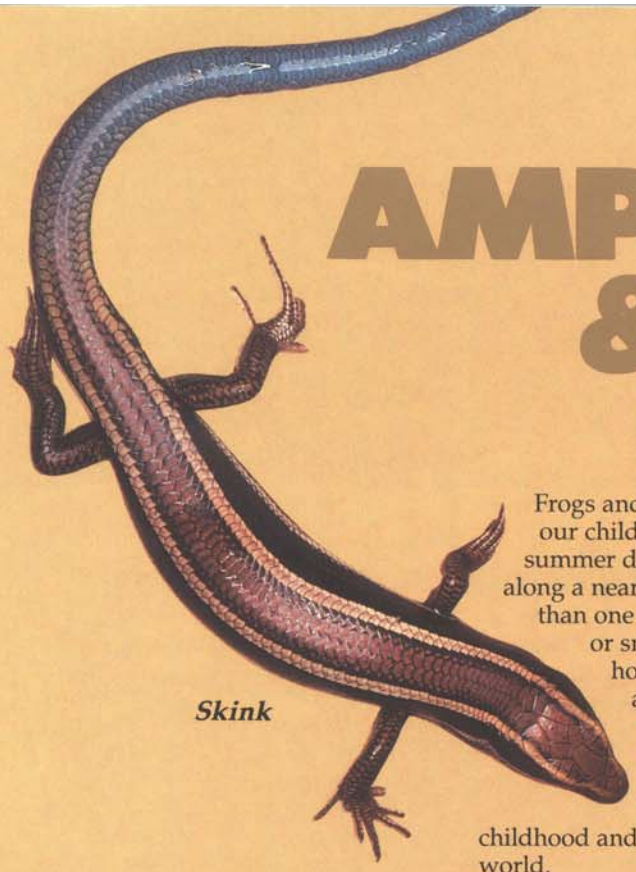
## DESCRIPTION, HABITAT & ECOLOGY



*Ringneck Snake*

# AMPHIBIANS & REPTILES

## INTRODUCTION



***Skink***

*Cover Photo: Ringneck Snake, by Charles Peterson*

Frogs and toads evoke memories of our childhood for many of us . . . lazy, summer days spent playing or fishing along a nearby stream or pond. More than one of us captured a tadpole, frog or snake and proudly carried it home, hoping for its acceptance as the newest family pet. Unknowingly, amphibians and reptiles may have played a significant part in our rites of passage through childhood and introduced us to the natural world.

Biologists refer to the study of amphibians (salamanders, toads, frogs) and reptiles (turtles, lizards, snakes) collectively as herpetology. The term is derived from a Greek word meaning creeping, so it roughly translates into the study of crawling things.

By putting amphibians and reptiles into one scientific discipline, however, biologists imply that the two groups are more similar than other vertebrate groups (fish, birds, mammals). As you will see, this is not the case. Amphibians and reptiles are quite different.

Amphibians have a thin, moist, glandular skin. Reptiles have a tough, thick skin covered with scales. The amphibians' two-phase life cycle is unique among the vertebrates: their aquatic larval or tadpole form metamorphoses into the semi-terrestrial adult form. Reptiles have no larval form: the young emerge from eggs or are born alive as miniature adults. Amphibians depend on some source of moisture during the reproductive period whereas reptiles can lay eggs in relatively dry conditions.

*Waterfalls, ponds and lakes are important wetland habitats for many amphibians.*

*Craig Groves/IDFG*

*Craig Groves/IDFG*

*William H. Mullins*

*Dry, hot canyons in southwestern Idaho contain many of the state's reptiles.*

*Preserving habitat for Idaho's amphibians and reptiles is the best way to guarantee their future survival.*

There are some similarities, however. Like fish, amphibians and reptiles are "poikilotherms" - that is, their body temperature fluctuates with that of their environment. (In contrast, birds and mammals maintain a constant body temperature by producing metabolic heat.) And both amphibians and reptiles hibernate in the Northwest.

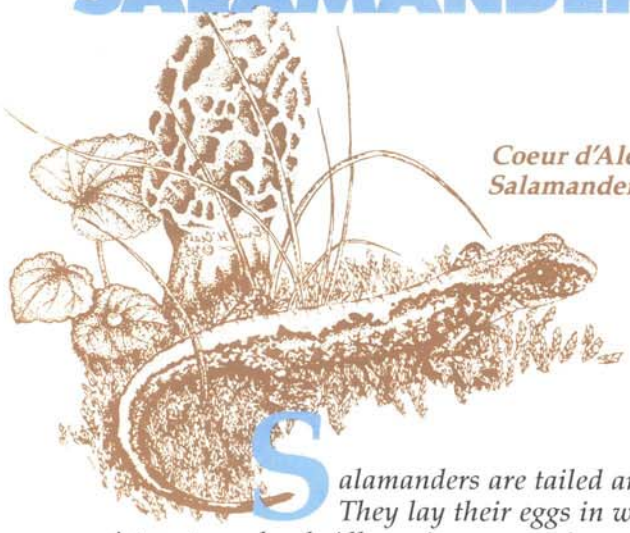
Amphibians - the first land vertebrates - appeared about 350 million years ago. Although at one time they were the dominant vertebrate class on earth, today they are the smallest. About 250 million years ago, the first reptiles evolved from amphibians. They were the dominant species for 200 million years and gave rise to the birds and mammals. Best known of this group are the now- extinct dinosaurs - the largest land animals ever.

Today there are 460 species of amphibians and reptiles in North America. Thirty-seven live in Idaho, from the Owyhee deserts of the south to the boreal forests of the Panhandle. Only two species, the bullfrog and roughskin newt, are not native to the state. The bullfrog was introduced as a game species in the late 1800s. A few roughskin newts are found in a handful of farm ponds near Moscow, where they were probably introduced by man.

The Department of Fish and Game has classified several amphibians and reptiles as Species of Special Concern due to their low numbers and/or restricted habitat and distribution. Details on these species can be obtained in the Department's 1991-95 Nongame and Endangered Wildlife Management Plan or by contacting the Department's Conservation Data Center. Collecting of these species is prohibited by Department regulations, so it is best to check with IDFG before attempting to keep or capture any of Idaho's amphibians and reptiles.

This pamphlet is intended to be a companion to existing field guides. We hope it will stimulate your interest in Idaho's amphibians and reptiles and help you see the important roles they play in Idaho's many ecosystems. To that end, "Happy Herping!"

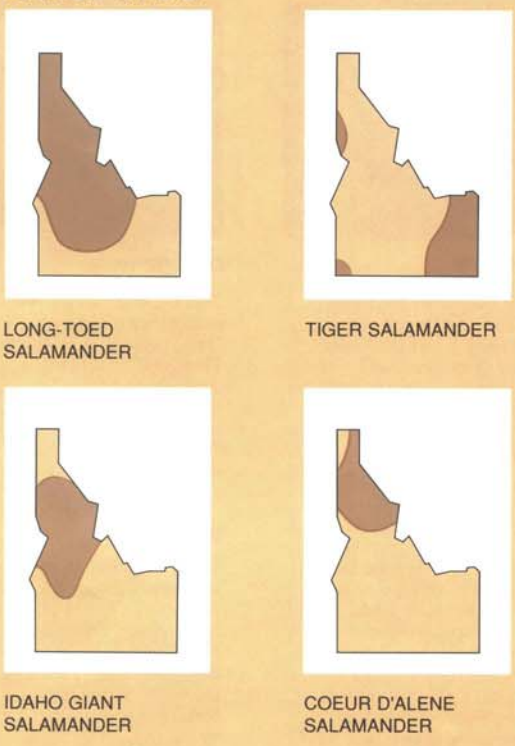
# SALAMANDERS



*Coeur d'Alene Salamander*

*Salamanders are tailed amphibians. They lay their eggs in water or in moist spots on land. All species are carnivorous with a diet consisting primarily of invertebrates. Many species secrete a noxious fluid from skin glands. These secretions are apparently distasteful to some predators. Nevertheless, salamanders are preyed upon by fishes, snakes, small mammals, birds and even other salamanders. Lengths of salamanders given in this pamphlet refer to body length only and do not include tail length.*

## RANGE MAPS




*Indicates where species live.*

## LONG-TOED SALAMANDER

*Ambystoma macrodactylum*

William H. Mullins

### DESCRIPTION

The long-toed salamander is 2⅛ - 3¼ inches long. It is dark gray to black with a greenish to yellow stripe down the middle of its back. This stripe often has irregular borders and is sometimes broken into blotches.

### HABITS

From sagebrush deserts to alpine meadows, this salamander lives in a greater variety of habitats than any other in the Northwest. Breeding occurs in spring, but the timing varies greatly with latitude and elevation. The long-toed salamander migrates to lakes and ponds to court and lay eggs.

## TIGER SALAMANDER

*Ambystoma tigrinum*

Ed Zalisko

### DESCRIPTION

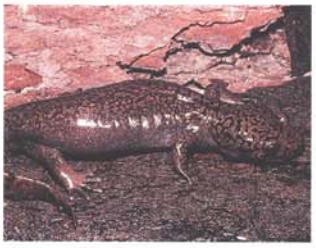
These are large salamanders (3 - 6½ inches). Tiger salamanders have a dark ground color with whitish to yellow or olive blotches on the back and sides. The blotches and ground color form a fuzzy, marbled network of "tiger" markings.

### HABITS

The tiger salamander is the most widely distributed in North America, ranging from the Atlantic coast to California. It is generally found near ponds or lakes in grasslands or sagebrush desert. Adult tiger salamanders spend most of their life beneath the surface, emerging to mate in spring and to leave breeding ponds as metamorphosed sub-adults.

## IDAHO GIANT SALAMANDER

*Dicamptodon aterrimus*



John MacGregor

### DESCRIPTION

The largest salamander in Idaho (4½ - 6 inches), the Idaho giant salamander is easily recognized by its massive head and the marbled pattern on its back. Marbling is tan or copper in color on an almost black background.

### HABITS

Adult Idaho giant salamanders are most often found in moist coniferous forests beneath logs and bark. Juveniles can be located under rocks in streams. Breeding occurs in both spring and fall. They prey on invertebrates, snakes, shrews, mice, fish, and other species of salamanders. In many populations, larval forms reach sexual maturity but do not physically metamorphose into adults. Referred to as neoteny, this occurs in several salamander species.

## COEUR D'ALENE SALAMANDER

*Plethodon idahoensis*

Craig Groves/IDFG

### DESCRIPTION

This species is short (2 - 3 inches). The body has a black ground color with a green, orange, yellow or red stripe down the middle of the back. The stripe most often has scalloped edges, but may have even edges in some animals. There is a yellow patch on the throat.

### HABITS

Coeur d'Alene salamanders occupy three major habitats in Idaho: spray zones of waterfalls, splash zones of spring seepages and talus rocks along streams. They emerge from hibernation in March, are active on the surface through May, retreat to subterranean areas for summer and briefly re-emerge in autumn to breed (breeding may also occur in spring).

# FROGS & TOADS

*Wood Frog*

*Frogs and toads are amphibians that lack tails and have fully developed limbs in the adult stage. In general, toads are squatty in form and have a rough skin covered with poison glands. In contrast, frogs are streamlined, with well-developed, powerful hind legs. During the spring mating season many of these amphibians can be heard calling near water. Although the calls serve several purposes, they are used principally by males to attract females for mating. During courtship, males clasp females from above in an embrace called "amplexus." Following this mating, tadpoles develop from eggs that have been laid in water. In the tadpole stage, most frogs and toads are herbivorous, eating vegetation; in the adult stage, all are carnivorous, eating mostly small invertebrates. Like salamanders, frogs and toads are heavily preyed upon by snakes, birds and mammals.*

## WESTERN TOAD

*Bufo boreas*

Gary Will/IDFG

### DESCRIPTION

The western toad is 2 ½ - 5 inches long. Its general color varies from green to brown, with a white to cream-colored stripe down the middle of the back. Behind each eye are parotoid glands - oval swellings slightly larger than the eye.

### HABITS

Although generally found near some form of water, these toads inhabit a variety of habitats from sagebrush desert to mountain meadow. Western toads breed from February at lower elevations to July at higher sites. The black tadpoles of western toads characteristically swarm by the thousands along lake and pond shores.

## PACIFIC CHORUS FROG

*Pseudacris regilla*

Colleen Sweeney

### DESCRIPTION

This is a small frog ranging in size from ¾ - 2 inches. The body color is highly variable: green, brown or gray. Pacific chorus frogs usually have a conspicuous black eye stripe as well as dark spots or blotches on the head, back and legs. They are the only small frog in Idaho with enlarged terminal discs or "toe-pads" on the end of each finger and toe, an adaptation for arboreal life.

### HABITS

This frog occupies a variety of habitats from low to high elevations, provided that a source of water is nearby. It breeds in spring in marshes, lakes, ponds, reservoirs, and irrigation ditches. Once in the water, male frogs give the well known "ribbet" call to attract females for breeding. During the nonbreeding season, Pacific chorus frogs are terrestrial, inhabiting low shrubbery.

## GREAT BASIN SPADEFOOT

*Spea intermontanus*

R. A. Storm

### DESCRIPTION

Small for a "toad" (1 ½ - 2 inches), spadefoots lack the parotoid glands and warty skin of other toads. They also have a vertical eye pupil, unlike the horizontal pupil of true toads. They are characterized by a black, wedge-shaped "spade" on each hind foot, used to dig burrows. The body is primarily gray and brown or olive.

### HABITS

Spadefoots inhabit arid regions from the sagebrush desert up to juniper woodlands. They breed from April to June in a variety of temporary and permanent waters such as irrigation ditches, rain pools, reservoirs and ponds. Their call is a hoarse wah-wah-wah, produced in a short and rapid series. Spadefoots are well adapted to the desert environment. They burrow to avoid drought, and are mainly nocturnal to avoid the heat.

## BULLFROG

*Rana catesbeiana*

Michael Luque

### DESCRIPTION

Although not native to Idaho, bullfrogs are the largest frog in the state (3½ - 8 inches). Their bodies are olive, green or brown above. There is a large, conspicuous eardrum behind each eye and a conspicuous ridge above and behind the eardrum.

### HABITS

This highly aquatic species inhabits almost any permanent water including irrigation canals, marshes, slow-moving streams, reservoirs, lakes and ponds. In Idaho, it has apparently been unable to invade the colder waters of higher elevation streams and lakes. Males, highly territorial during the summer breeding season, produce a deep bass call. Invertebrates make up a substantial part of their diet but bullfrogs also eat many vertebrates including salamanders, frogs, snakes, birds, and small mammals.

## TAILED FROG

*Ascaphus truei*

Pat Olmstead

### DESCRIPTION

This is a small frog (1 – 2 inches) easily identified by the short "tail" possessed by the males. This "tail" is actually a copulatory device for inseminating females. Both sexes lack an external ear membrane. The body color is usually some shade of gray to dark brown, and a dark eyeline is often present.

### HABITS

Tailed frogs live in or around permanent mountain streams. They can be found under rocks or other stream debris during the day, but emerge at night to feed along the streamside. These frogs mate in the water during early fall. Fertilized eggs are not deposited by the females until July of the following year. Tailed frogs apparently do not make any sort of mating calls.

## WOODHOUSE'S TOAD

*Bufo woodhousei*

*Richard Wallace*

### DESCRIPTION

This toad is similar in size to the western toad (2 - 5 inches), but can be distinguished from it by L-shaped ridges on top of the head known as cranial crests. Like the western toad, the body is dark in color, varying from gray to tan, with a prominent light-colored stripe down the back.

### HABITS

This species frequents lower elevation habitats: farmland, sagebrush desert, grasslands and woodlands. It breeds from March to July in the quiet waters of streams, lakes, reservoirs, marshes and irrigation ditches.

## WESTERN CHORUS FROG

*Pseudacris triseriata*

*Charles Peterson*

### DESCRIPTION

The western chorus frog is a small frog (¾ - 1½ inches) with small toe pads. Like the Pacific chorus frog, the body color is highly variable. A dark stripe runs the length of the body from the snout, through the eye, and along the side to the groin.

### HABITS

These frogs live in damp marshes, grasslands or woods during the nonbreeding season, and may climb into low shrubs. From April to June, they move into temporary or permanent waters to breed. These are secretive frogs, seldom seen but often heard singing in great numbers both night and day during breeding season.

## WOOD FROG

*Rana sylvatica*

*R. A. Storm*

### DESCRIPTION

These small frogs (1⅜ – 3¼ inches) are recognized by a dark line from the snout to the eye and a dark mask from the eye to just behind the eardrum. The body is brown to gray or blue-green. Many have a light line running down the middle of the back.

### HABITS

This is a rare species in Idaho. When not breeding it is largely terrestrial, living in forests or brush adjacent to a pond, lake or stream. Very little is known about its breeding biology in the Northwest. In other areas, it breeds in early spring when males make duck-like quacks from the surface of breeding ponds.

## SPOTTED FROG

*Rana pretiosa*

*William H. Mullins*

### DESCRIPTION

Similar in size to the leopard frog (2 – 4 inches), the spotted frog is light to dark brown above with dark spots on its back. There is a light-colored jaw stripe, and the underside is usually yellow or orange. The dorsolateral folds found on leopard frogs are also conspicuous on spotted frogs.

### HABITS

Spotted frogs are usually found at the marshy edges of ponds or lakes or near slow-moving water at streamside. At lower elevations, they may begin breeding as early as March when males congregate in shallow water and begin calling during the day. In areas where bullfrogs have been introduced, spotted frogs do not appear to survive well.

## NORTHERN LEOPARD FROG

*Rana pipiens*

*Richard Wallace*

### DESCRIPTION

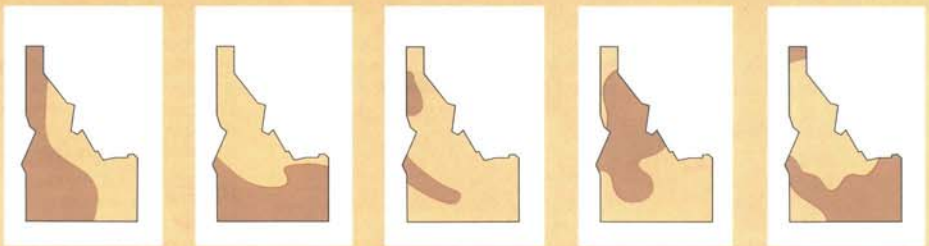
These medium-sized frogs (2 – 5 inches) are easily recognized by the dark spots with pale borders on their back, sides and legs. The upper body color varies from gray to green to brown. Well-defined glandular ridges, called dorsolateral folds, run from the eye to the hind leg on each side.

### HABITS

The leopard frog is the most widely distributed frog in North America. In Idaho it lives in marshes and wet meadows from low valleys to mountain ridges. It generally breeds in March or April in cattail marshes, sedge meadows or other waters with vegetation present. The male calls during the breeding season, making several different sounds. Like bullfrogs, leopard frogs eat vertebrates as well as invertebrates and hibernate in winter in the bottoms of ponds and lakes.

## RANGE MAPS

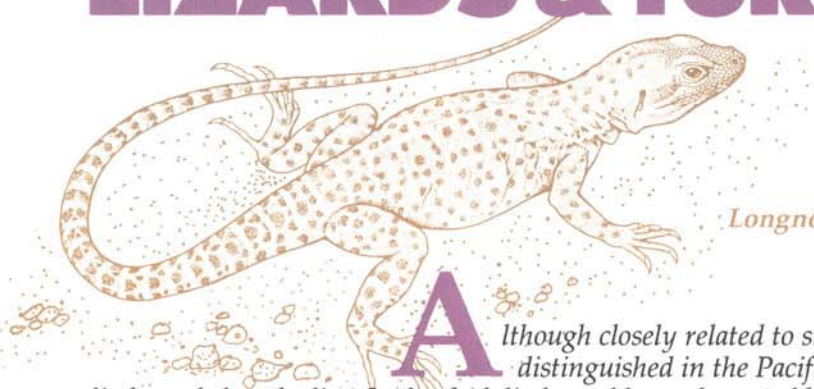
WESTERN TOAD | WOODHOUSE'S TOAD | WESTERN CHORUS FROG | WOOD FROG | SPOTTED FROG



PACIFIC CHORUS FROG | GREAT BASIN SPADEFOOT | BULLFROG | TAILED FROG | NORTHERN LEOPARD FROG

*Indicates where species live.*

# LIZARDS & TURTLES



Longnose Leopard Lizard

*Although closely related to snakes, lizards are easily distinguished in the Pacific Northwest by having limbs and short bodies. Snakes lack limbs and have elongated bodies. Most Idaho lizards live in the hot, desert canyons of the southwest. Most species lay eggs from which young hatch, generally feed on small invertebrates, and are active only during daytime. Lengths of lizards here refer to body only and do not include tail.*

*Turtles, probably the most distinctive of all animals, are recognized by their protective shell, which varies considerably in size, shape and color among the species. Turtles lack true teeth. Reproduction occurs by internal fertilization and all turtles lay eggs. Because neither eggs or young are cared for, hatchling mortality is high. Until recently it was believed there was only one species of turtle in Idaho, the painted turtle. However, in 1988 the western pond turtle* (Clemmys marmorata) *was collected along the Snake River in the Hagerman Valley. When verified, this specimen may corroborate the existence of a small population of western pond turtles, which were first reported in the area in 1894.*

## LONGNOSE LEOPARD LIZARD

*Gambelia wislizenii*

Richard Wallace

### DESCRIPTION

This large lizard (3¼ – 5¾ inches) is easily recognized by "leopard-like" spots on the body and legs, a long tail and a large head. Leopard lizards are similar in size and body shape to collared lizards, but lack the distinctive collar. The underside is white and the throat has dark streaks on it.

### HABITS

Leopard lizards inhabit sandy regions of arid, shrubby deserts, where they use the burrows of desert rodents. Mating occurs during May and June, and females deposit three or four eggs in the same sandy nest sites year after year. Their diet is similar to that of the collared lizard.

## SIDE-BLOTCHED LIZARD

*Uta stansburiana*

Donald Brothers

### DESCRIPTION

This small lizard (1½ – 2⅜ inches) has a gray to brown body with dark blotches and speckling above. Males have tiny blue flecks on the back and orange patches on the throat, front legs and sides of belly. Females also have these orange areas, but they are not as vivid. Behind each forelimb is a bluish or black blotch, for which the lizard is named.

### HABITS

This is one of the most abundant lizards of the arid West, from flat deserts to rocky canyons. Mating occurs from April to June. During this time, females usually deposit an average of five eggs in sandy soil; hatchlings appear by August. Insects are the main prey item for side-blotched lizards or "utas," as they are often called.

## MOJAVE BLACK-COLLARED LIZARD

*Crotaphytus bicinctores*

Colleen Sweeney

### DESCRIPTION

As the name suggests, these lizards are distinguished by a conspicuous black and white collar on a slender neck. They are approximately 2¾ to 4½ inches long with massive heads. The back and sides of females sport broad brownish bands separated by narrow white ones. Adult males have chocolate brown bodies with rows of white flecks.

### HABITS

These lizards occupy arid, rocky canyons with sparse vegetation. As weather warms in spring, males can often be seen basking on rocks. Not much is known about their reproduction in the Northwest. Elsewhere, one to two clutches of eggs per year are deposited in sandy soil or rodent burrows. Large insects and smaller reptiles are the major prey. Collared lizards, like all lizards in the Northwest, hibernate in winter.

## SHORT-HORNED LIZARD

*Phrynosoma douglasii*

Charles Peterson

### DESCRIPTION

Horned lizards, also known as "horny toads," are flat-bodied lizards with short tails and a distinctive line of scales along each side. Short-horned lizards (1¾ to 4-5/16 inches ) are distinguished from the only other horned lizard in the Northwest by the short horns on the back of the head. Their color can vary from light to dark gray, usually matching the soil where they are found.

### HABITS

Most of Idaho's short-horned lizards live in the sagebrush desert. They burrow into sandy or loose soils to avoid predators and heat. Mating occurs from late March to early June, followed by live birth of three to 15 young in late summer to early fall. Ants are the major prey of short-horned lizards.

## DESERT HORNED LIZARD

*Phrynosoma platyrhinos*

Colleen Sweeney

### DESCRIPTION

Although usually larger than the short-horned lizard (2⅝ – 3¾ inches) in Idaho, the desert horned lizard is easily distinguished by the much longer horns on the back of the head. Its body color is also generally distinctive from the short-horned, varying from gray to tan or red.

### HABITS

Desert horned lizards are less cold-tolerant than short-horned lizards, and the two species are seldom found together. They occur at lower elevations in shrubby deserts with hardpan, rocky or sandy soils. Unlike the short-horned lizard, desert horned lizards deposit an average of eight eggs in nests of sandy soil. Hatchlings usually appear in August. Ants and beetles are the principal foods of desert horned lizards.

## WESTERN FENCE LIZARD

*Sceloporus occidentalis*

Colleen Sweeney

### DESCRIPTION

Larger than the closely related sagebrush lizard (2¼-3½ inches), fence lizards are the only lizard in the Northwest with large, spiny scales on the back. Males have a distinctive blue patch on the throat, as well as blue patches on the sides of the belly. The body above is brown to gray with two lateral rows of dark blotches on the back. The tail is nearly 1.5 times the body length.

### HABITS

These lizards inhabit rocky canyons and talus slopes of deserts and woodlands. Mating occurs from late April until early June; three to 17 eggs are laid in June or July and hatchlings first appear in August. Like sagebrush lizards, fence lizards prey mainly on insects and spiders.

## NORTHERN ALLIGATOR LIZARD

*Elgaria coerulea*

Charles Peterson

### DESCRIPTION

This small lizard (less than 4 inches) has a broad stripe of tan or golden brown with small, dark brown spots down the middle of its back. Often, dark longitudinal stripes appear on the belly between rows of scales. A lateral skin fold, which allows the body to expand after eating, is characteristic of all alligator lizards.

### HABITS

These lizards live in coniferous forests, often at the forest edge under rocks or logs. They mate in April and May and give birth to an average of four young. Alligator lizards eat invertebrates and small vertebrates.

## WESTERN SKINK

*Eumeces skiltonianus*

R. A. Storm

### DESCRIPTION

Western skinks (2⅛-3¼ inches) are characterized by a broad, brown stripe down the middle of the back. This stripe is bordered on each side by both a black and white stripe. Tails in young skinks are bright blue fading to dull blue or gray in adults.

### HABITS

Although western skinks can be found in a variety of habitats from desert canyons to forests, rocky habitats near water are preferred. They are often found under rotting logs or large stones over moist earth. These skinks mate in May or June and deposit eggs in July; hatchlings appear in August. Skinks are secretive and seldom seen. Their diet is primarily insects.

## PAINTED TURTLE

*Chrysemys picta*

Michael Luque

### DESCRIPTION

The painted turtle is the most common turtle throughout North America. The shell or carapace is smooth and olive or black in color. The species is distinguished by its red underside or plastron. There are yellow lines on the head and limbs.

### HABITS

These aquatic turtles inhabit marshes, ponds, ditches or the quiet backwaters of streams, preferring muddy bottoms with aquatic vegetation. They are often seen basking on muddy banks, logs or rocks. The female turtle digs a nest on land and lays eggs during June and July. Painted turtles are omnivorous, feeding on both aquatic plants and various small animals.

## SAGEBRUSH LIZARD

*phrynosoma platyrhinos*

Colleen Sweeney

### DESCRIPTION

These lizards are also known as "blue-bellies" or "swifts." Males have blue patches on the sides of the belly; females do not. Sagebrush lizards are 1⅞ to 2⅝ inches long with gray to brown bodies above marked by two light stripes on the back that run the length of the body. Both sexes can have a rusty red mark on the side of the throat. Similar to the western fence lizard, sagebrush lizards are smaller, have speckled blue patches on the throat and have smaller and less spiny dorsal scales.

### HABITS

This is the most common lizard of the sagebrush desert; it may also be found in open woods or forests of juniper, ponderosa or lodgepole pine. In June, females deposit two to seven eggs in loose soil under shrubs. Hatchlings appear in mid-August. These lizards eat insects and other small invertebrates.

## WESTERN WHIPTAIL

*Cnemidophorus tigris*

Dale Towell/IDFG

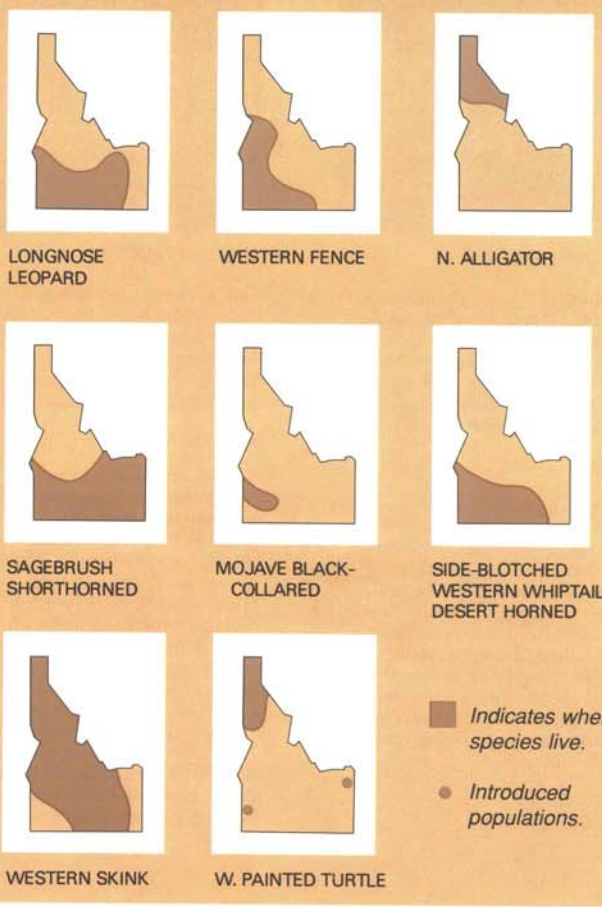
### DESCRIPTION

This large lizard (2⅜ to 4½ inches) is characterized by a tail more than twice as long as its body. It has four light stripes on its upper back and light spots between the stripes. The lower back, hind legs and tail are covered with brown spots. The color of the body grades from olive on the head to black in the rear.

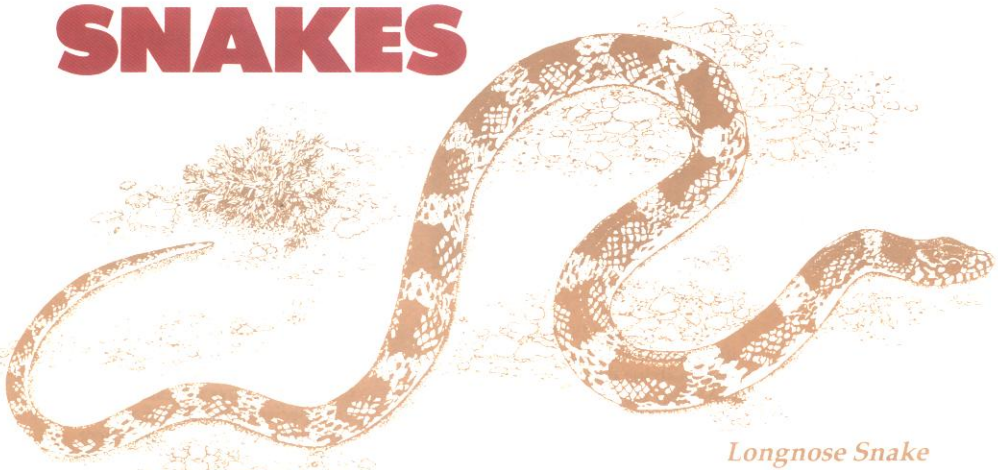
### HABITS

This lizard is found primarily in deserts with dense or sparse shrubby vegetation. It is common in sandy, rocky areas where it uses desert rodent burrows or digs its own. Its tail drags between its hind feet as it travels about, leaving a distinctive track. It eats mostly insect larvae. Mating occurs in June, one to four eggs are deposited by early July and hatchlings appear in August. In the hottest part of the summer, some individuals may become inactive or aestivate.

## RANGE MAPS



# SNAKES



*Longnose Snake*

*Unlike lizards, serpents can be found throughout the state in a variety of habitats. Although most snake species in Idaho are egg-layers, a few give birth to live young. Idaho snakes hunt in the daylight, except the night snake, ground snake, longnose snake, and rubber boa. Unlike lizards, snakes can eat prey larger than themselves, generally swallowing it whole, thanks to their uniquely flexible jaw. The only poisonous snake of concern to humans in Idaho is the western rattlesnake (see Snakebite! Page 11). For more information on Idaho's snakes, see Ron Pace's article in the Sept.-Oct. 1983 issue of Idaho Wildlife.*

## RUBBER BOA

*Charina bottae*

Jeff Marks

### DESCRIPTION

(14 - 33 inches) This stout-bodied snake looks and feels like rubber. It is sometimes referred to as the "two-headed" snake because its head and tail look similar. Rubber boas are uniformly brown above and yellow below.

### HABITS

Rubber boas occupy a wide range of habitats from deserts to montane forests. These snakes rarely bite and are generally very calm. They are primarily nocturnal predators of small mammals, which they kill by constriction, hence the name "boa constrictor." Mating occurs from April to May, and two to eight young are born alive in September.

## STRIPED WHIPSNAKE

*Masticophis taeniatus*

R. A. Storm

### DESCRIPTION

This long (36 - 72 inches), slender snake can be identified by the dark and light stripes that run along both sides of the body. The back is black, dark brown or gray, and the underside is white in the front grading to pink near the tail.

### HABITS

Striped whipsnakes prefer grasslands, sagebrush desert or rocky canyons. Over winter they hibernate communally with other species such as rattlesnakes and gopher snakes. They emerge from their dens from March to May, mate in May, deposit eggs by July and the young hatch in late August to early September. These fast-moving snakes forage in the daytime for lizards, snakes and small mammals.

## GOPHER SNAKE

*Pituophis catenifer*

Charles Peterson

### DESCRIPTION

This is a large (36-80 inches) snake with a heavy body colored above in tan or light brown with dark brown or black blotches. The blotches are in rows, one on the back and one on each side.

### HABITS

Gopher snakes, also known as "bullsnakes" or "blowsnakes," are common in many habitats from desert to coniferous forest, although generally not at higher elevations. They are active primarily in daylight, preying on rodents, rabbits and birds, which they kill by constriction. Gopher snakes emerge from hibernation in late April to early May and deposit eggs in late June to early July. Young hatch in communal nests shared by other gopher snakes. Because of the rattler-like pattern on their back and their aggressive displays, they are sometimes confused with rattlesnakes.

## WESTERN TERRESTRIAL GARTER SNAKE

*Thamnophis elegans*

Charles Peterson

### DESCRIPTION

(18 - 43 inches) This geographically variable snake is brown or dark gray on the back with a dull yellow or brown stripe down the middle of the back. This stripe is uneven and often invaded by black spots.

### HABITS

Garter snakes are the most common snakes in Idaho. They occur in a variety of habitats but most often near water. They also have a varied diet including fish, slugs, worms, small mammals, lizards, frogs and salamanders. They give birth to four to 19 live young, usually in August or September.

## WESTERN GROUND SNAKE

*Sonora semiannulata*

Charles Peterson

### DESCRIPTION

This is a small snake (8 - 19 inches) that has two color phases in Idaho: orange and black bands or uniform olive, gray, reddish or tan. Some unbanded snakes may have a broad pink or red stripe down the back.

### HABITS

Western ground snakes live in desert regions with loose or sandy soil. They are secretive, nocturnal hunters of spiders, centipedes and insects. They may be mildly venomous, but are not known to bite humans. Like the longnose snake, little is known about their reproductive habits in Idaho except that they deposit an average of four eggs.

## RACER

*Coluber constrictor*

Charles Peterson

### DESCRIPTION

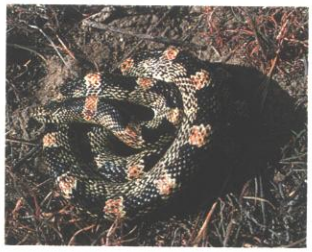
(20 – 73 inches) This slender snake is brown or olive above and yellow below. The dorsal scales are smooth. The racer is different from all other snakes in Idaho in that juveniles do not obtain adult coloration until growing to about 18 inches.

### HABITS

This fast-moving snake occupies open areas – meadows, grassland, shrub desert, and woodland and forest edges. It is generally not found in mountains or forests. It hibernates in dens, often with other snake species. Racers mate in May and lay eggs in July; young hatch in August. They hunt for insects, small mammals and small reptiles during the day.

## LONGNOSE SNAKE

*Rhinocheilus lecontei*



Charles Peterson

### DESCRIPTION

The longnose snake is slender, medium-sized (20 – 41 inches) and colorful. Its upper surface shows dark saddles interspersed with bands of red, orange or yellow. As its name suggests, it has a long, pointed snout and a head barely wider than its body.

### HABITS

Inhabitants of deserts, grasslands and rocky canyons, longnose snakes are largely nocturnal. They feed mostly on lizards and small mammals. Little is known about their reproductive habits in Idaho. In other areas, females lay five to eight eggs in July.

## RINGNECK SNAKE

*Diadophis punctatus*

Charles Peterson

### DESCRIPTION

This small snake (8 - 30 inches) has a slate green back with a bright orange underside. Most sport a bright orange neck band from which it draws its name.

### HABITS

Ringnecks occur in a variety of habitats including woodlands, grasslands, shrubby areas and rocky canyons. They are seldom seen since they are most often under rocks or logs. These snakes lay an average of three eggs during July with young hatching in September. They feed primarily on salamanders and lizards and are mildly venomous, though not dangerous to humans.

## NIGHT SNAKE

*Hypsiglena torquata*

Charles Peterson

### DESCRIPTION

Like the ringneck snake, the night snake is small (12 - 26 inches). It is gray or beige with dark blotches and usually has large dark brown markings on the sides and rear of the head and neck. It resembles the gopher snake, but can be readily distinguished from it by its smooth scales, vertical pupil, and smaller size.

### HABITS

This is a mildly venomous snake restricted to rocky outcrops in arid parts of the state. Night snakes, as the name implies, are nocturnal and prey mainly on lizards. They are active in Idaho from April until October, with eggs layed in late June or early July.

## COMMON GARTER SNAKE

*Thamnophis sirtalis*

Charles Peterson

### DESCRIPTION

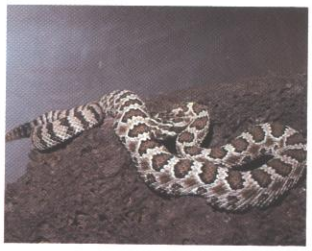
(18 - 52 inches) Like its close relative, the terrestrial garter snake, the common garter snake varies in color geographically. In Idaho the body is black with red blotches on the side. A buff or yellow lateral stripe on each side of the body touches the red blotches. A bright yellow stripe runs down the middle of the back.

### HABITS

Common garter snakes are the most widely distributed reptile in North America and live in many different environments. They tend to stay near water and are at home on land or swimming. Adults eat toads, frogs and salamanders. Garter snakes emerge from hibernation in early spring, mate and give live birth to 10 to 15 young in August or September. When approached, common garter snakes may strike viciously. Like other species of snakes, they may also spray their captor with musk.

## WESTERN RATTLESNAKE

*Crotalus viridis*



Ron Pace

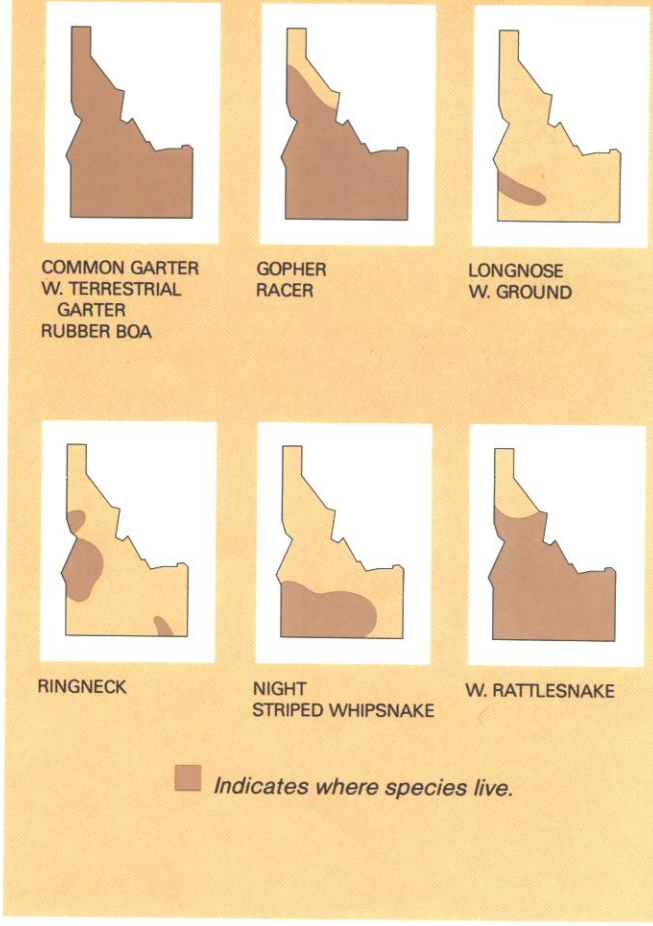
### DESCRIPTION

(15 - 65 inches) There are three different subspecies of western rattlesnakes in Idaho. They differ mostly in color pattern, which usually resembles the environment where they live. Western rattlesnakes have a large triangular head, thin neck, thick body and a short tail ending in a rattle. They generally have dark brown or black blotches on a lighter background.

### HABITS

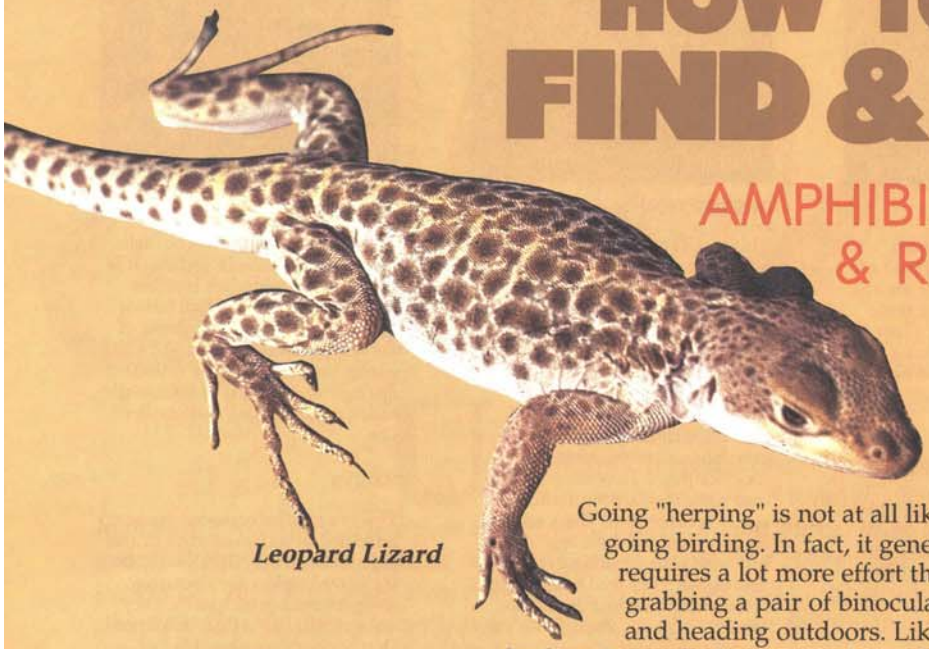
Western rattlesnakes mate in spring, summer, and autumn. Females give live birth to three to 12 young in September. They eat mostly mice, ground squirrels and young rabbits, which they kill by striking and injecting with venom. Western rattlesnakes are not as aggressive as other species of rattlesnakes, but should still be treated with respect. Although few people suffer rattlesnake bites in Idaho, bites can be painful and cause illness (See Snakebite!, page 11).

## RANGE MAPS



# HOW TO FIND & OBSERVE

## AMPHIBIANS & REPTILES



*Leopard Lizard*

Going "herping" is not at all like going birding. In fact, it generally requires a lot more effort than grabbing a pair of binoculars and heading outdoors. Like birding, however, its success depends on the season, temperature, rainfall, time of day, and habitat being searched. It may mean overturning logs, stones and other objects, or getting wet and muddy in search of slithery salamanders. A few suggestions may make your "herp hunting" trips more successful.

Charles Peterson

*Painted turtle*

All species of amphibians and reptiles are more active during the mating season, which generally occurs in spring. Many species are concentrated at breeding ponds or dens at this time. Turning over rocks, logs, talus, leaves or other surface material often reveals amphibians and reptiles because most species do not dig their own burrows. Searching along streams or the edges of ponds at night with a flashlight or headlamp is probably the best way to locate many amphibians. Reptiles, on the other hand, are active primarily during the day. Driving slowly along rural roads on warm rainy nights can also be a profitable way to find amphibians; snakes and lizards can often be found by "road hunting" during the day or on warm, dry nights. Perhaps the best way to observe reptiles in Idaho is a spring or early summer hike in the desert canyons of the southwest. Here numerous species of lizards can be seen basking on rocks. Snakes frequently hunt among the shrubs, grasses and rocks of these desert "herping hotspots." Similarly, in northern Idaho, painted turtles can often be seen basking on logs or other objects next to lakes, ponds or rivers.

William H. Mullins

*Gopher Snake*

A recent publication, the **Idaho Wildlife Viewing Guide**, may be helpful in locating areas throughout the state where amphibians and reptiles can be observed. Available in regional bookstores and from IDFG, this multi-agency guidebook provides directions and descriptions for 94 of the best wildlife viewing sites in Idaho. Those sites at which amphibians and reptiles can be observed are pinpointed, and the species likely to be seen are noted.

Of course, there are more sophisticated field techniques for surveying and capturing amphibians and reptiles. Most of the references listed in this pamphlet will help. If you catch a frog, lizard, or snake in the wild and have no legitimate reason to keep it, please let it go where you captured it. Although having a snake as a pet or watching a tadpole metamorphose into an adult frog can be great fun, most of us are poorly prepared to keep these animals alive very long in captivity. If that is your goal, check regulations and do some research in advance. References 5, 6 and 7 in *Recommended Further Reading* will discuss the proper care of captive amphibians and reptiles.

Dale Toweill/IDFG

*Western Rattlesnake*

# CONSERVATION

Where have all the frogs gone? This is a question biologists throughout the world have been asking themselves. As reports of amphibian declines have become more widespread and numerous, particularly in the western United States, concern for their conservation has grown, too. Biologists are now busy trying to assess which species are declining and where, as well as the causes of these declines. Various explanations for the declines have been advanced including acid rain, increased ultraviolet radiation due to thinning of the ozone layer, pesticide contamination, habitat loss, predation from introduced species such as bullfrogs and non-native fish stocked in previously barren lakes, and global climate change linked with drought.

The exact causes of many of these declines remain obscure, and their determination is hampered by little information on distribution and population trends. Biologists from IDFG and Idaho State University recently conducted a mail survey to better determine the population status and distribution of Idaho's amphibians. Their survey resulted in over 60 new potential county distribution records, indicating how poorly the distribution of Idaho's amphibians is known. The survey results emphasized the need to gather better distributional information on amphibians throughout Idaho and establish long-term monitoring sites to assess population trends.

Individuals wanting more information on declining amphibians are encouraged to write to:

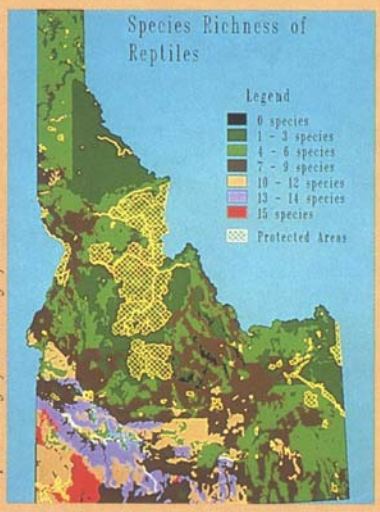
**Declining Amphibian Population Task Force**
**Center for Analysis of Environmental Change**
**200 S. W. 35th St.**
**Corvallis OR 97333**

Although Idaho's reptiles may not be experiencing the widespread declines of some western amphibians, there are reasons to be concerned about them, too. IDFG has received numerous reports concerning export of native snakes and lizards from southwestern Idaho for sales in out-of-state pet shops. Because many of the state's native reptiles are uncommon and restricted to southwestern Idaho, such collection and export could be damaging to local populations. In response, IDFG has established regulations which limit the take and possession of all amphibian and reptile species. A second concern is the loss of shrub-steppe habitat from wildfires, an increasingly frequent event related to the drought which Idaho has been experiencing in recent years. Because most of Idaho's reptiles make a living in the desert country of southern Idaho, the loss of shrubby habitats may portend some long-term population declines for Idaho's reptiles. As with amphibians, there is little to no information on population trends in Idaho's reptiles.

Because the majority of Idaho's reptiles live in the southwestern portion of the state, efforts to conserve them should be concentrated there. Using a geographical information system (see Gap Analysis, Idaho Wildlife Winter 1992), Idaho biologists have mapped the distributions of the state's snakes and lizards and overlayed this information with land management patterns. As the accompanying figure reveals, there is very little land under any sort of permanent protection where most of Idaho's reptiles occur. Thus, the conservation challenge is to ensure that some areas in southwestern Idaho are managed for the long-term maintenance of reptilian biodiversity.

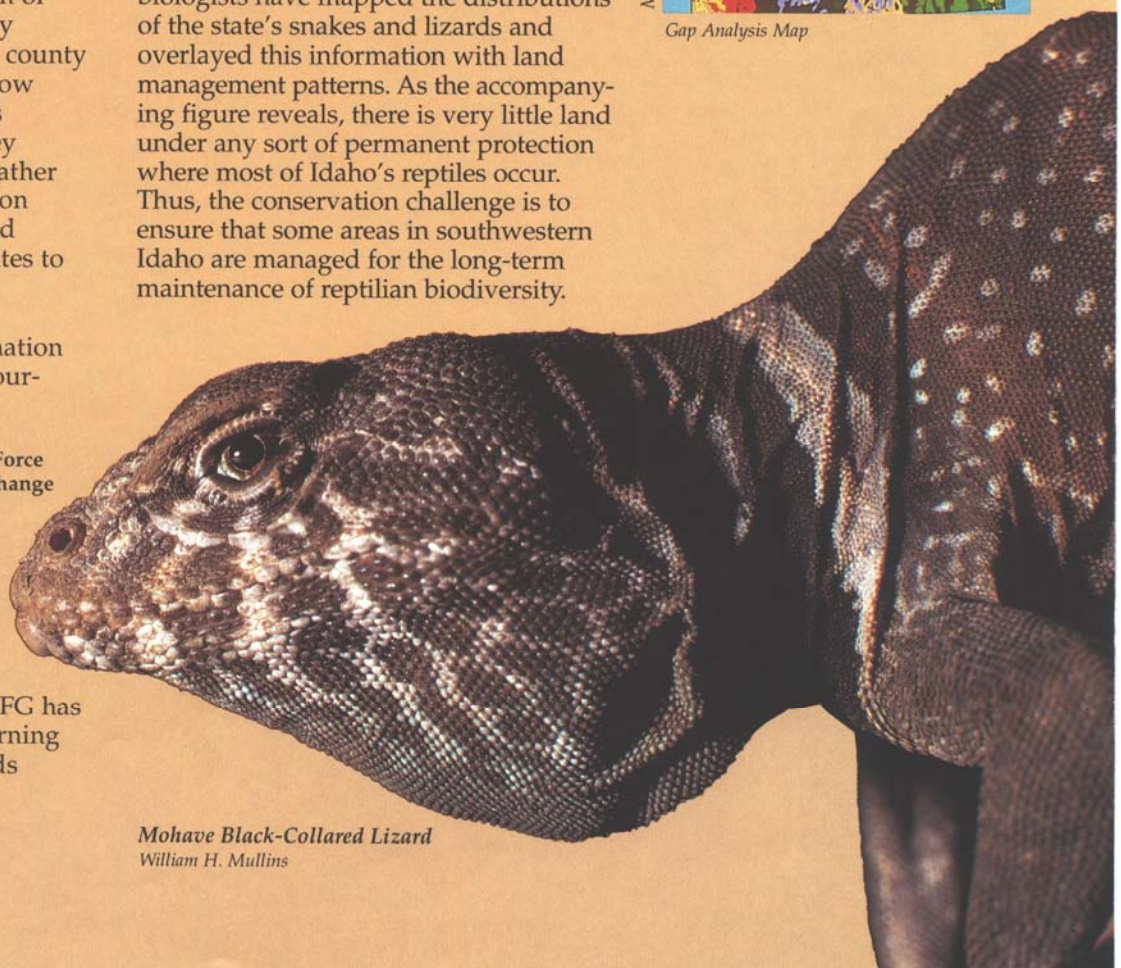
*Wayne Melquist/IDFG*

*Biologist Lowell Diller holds a rattler safely with snake tongs.*




*Map Courtesy of University of Idaho*

*Gap Analysis Map*



***Mohave Black-Collared Lizard***
*William H. Mullins*

# Snakebite!

About 8000 cases of venomous snakebites are reported annually in the United States, but only a handful of people die from them. Rattlesnakes are the only strongly venomous reptiles in Idaho. Unfortunately, the Center for Health Statistics of the Idaho Department of Health and Welfare does not keep a record of reported rattlesnake bites.

The chances of being bitten are remote if a few precautions are taken. If you are working or playing in rattlesnake country, it's a good practice to wear tall, leather boots and long, loose pants not tucked in the boots. Be smart - don't use your hands to lift anything a snake could be under. Do not disturb or handle a live or recently-killed snake unless you are experienced in doing so and can positively say it is **not** a rattlesnake. Roughly half the reported snakebites come from people who deliberately put themselves at risk.

If you or a friend are bitten, move away from the snake's territory and cleanse the wound with soap and water (don't use alcohol or other drugs). Apply a commercial suction device (Sawyer Extraction Pump) within 3 minutes and leave it on for 30 minutes. Immobilize the affected extremity and get to a medical facility as quickly as possible. The use of ice, tourniquets, or incisions are no longer recommended for field treatment of bites.

## RECOMMENDED FURTHER READING


**1.** Blackman, J. R. and S. Dillon. 1992. *Venomous Snake Bite: Past, Present and Future Treatment Options.* Available from: James Blackman, M.D., Family Practice Residency of Idaho, 777 N. Raymond, Boise ID 83704.

**2.** Carpenter, L. B. 1990. *Idaho Wildlife Viewing Guide.* Falcon Press, Helena MT. 104p. (A good starting point for information on where to observe amphibians and reptiles.)

**3.** Groves, C. R. and C. Peterson. 1992. *Distribution and Population Trends of Idaho Amphibians as Determined by Mail Questionnaire.* Available from Conservation Data Center, IDFG, Boise.

**4.** Halliday, T. and K. Adler, 1986. *The Encyclopedia of Reptile and Amphibians.* Facts on File, NY, NY. 143 p. (An excellent introduction to the field of herpetology.)

**5.** Linder, A.D. and E. Fichter. 1977. *The Amphibians and Reptiles of Idaho.* Idaho State University Press, Pocatello. 78 p. (paperback).

**6.** Nussbaum, R.A., E.D. Brodie, and R.M. Storm. 1983. *Amphibians and Reptiles of the Pacific Northwest.* University Press of Idaho, Moscow. 332p. (paperback) (The best source for identification, ecology and distribution of Idaho's amphibians and reptiles.)

**7.** Stebbins, R.C. 1985. *A Field Guide to Western Amphibians and Reptiles* - 2nd edition, revised. Peterson Field Guide Series, Houghton Mifflin Co., Boston. (An excellent up-to-date field guide with range maps and colored illustrations of all western U.S. herps.)

**8.** Wyman, R. L. 1990. *What's Happening to the Amphibians?* Conservation Biology 4:350-352.


## ACKNOWLEDGEMENTS


**Text:** Craig Groves (Idaho Department of Fish & Game)
**Design:** Beth Workman/Graphic Design, Boise
**Editing:** Diane Ronayne (Idaho Department of Fish & Game), Debra Patla, (Idaho State University student), Christine Saxton (Idaho Department of Fish & Game)
**Illustrations:** Erica Craig, Leadore (except page 6, from Field Guide to Western Reptiles and Amphibians, by Dr. Robert C. Stebbins. Copyright © 1966 by Robert C. Stebbins. Reprinted by permission of Houghton Mifflin Co.)
**Consultation:** Richard Wallace (University of Idaho); Don Brothers (Idaho Herpetological Society); Jeff Marks (University of Montana); Charles Peterson, Allan Linder (Idaho State University); Ron Pace (McCall); Lowell Diller (Simpson Timber Co., CA), Edward Koch (U.S. Fish and Wildlife Service); Colleen Sweeney (Idaho Department of Health & Welfare, Division of Environmental Quality)

**Second Publication:** 1994 (35M)
This publication was produced at a cost of $.33 per copy to inform the public about the importance of Idaho's nongame wildlife.

Donations to the Idaho Nongame and Endangered Wildlife Program may be made to IDFG Nongame Trust Fund, P.O. Box 25, Boise, ID 83707.


## IDAHO HERPETOLOGICAL CONTACTS


Dr. Charles R. Peterson
Department of Biological Sciences
Idaho State University
Pocatello, ID 83209

Nongame & Endangered Wildlife Program
Idaho Department of Fish and Game
PO Box 25
Boise, ID 83707

Idaho Herpetological Society
P.O. Box 6329
Boise, ID 83707