2019 Wildlife Contest: Birds, Mammals and Other Species

Greater sage-grouse

General information
The greater sage-grouse is a ground-dwelling gamebird of the American West that uses very large tracts of sagebrush-dominated rangeland. Sage-grouse populations have declined over many areas as a result of habitat loss and fragmentation related to land conversion, energy development, conifer encroachment, and invasive species (particularly cheat grass). Sage-grouse currently occur throughout much of the Intermountain ecoregion. A diverse plant community of native grasses, forbs, and especially sagebrush are critical for sage-grouse. Male sage-grouse display and compete for females on leks, which are small open areas surrounded by sagebrush. The USDA-NRCS included greater sage-grouse in its Working Lands For Wildlife initiative.

Habitat requirements

Diet: spring and summer – insects and green forbs; late fall and winter – sagebrush
Water: water requirements are obtained through diet, but sage-grouse will use free-standing water if available
Cover: nests are constructed on the ground, often under sagebrush; sagebrush is critical for thermal and escape cover during winter

Hairy woodpecker

General information
Hairy woodpeckers are medium-sized woodpeckers with a bill almost as long as their head. They forage primarily on tree trunks, but also on stumps, snags, downed logs, and on the ground. Hairy woodpeckers are most commonly found in mature forest, but also may frequent younger developing forests, wooded riparian areas, woodlands, backyards, and parks. They nest in cavities, which are usually in dead trees or in dead limbs of live trees. Nests contain 3-6 eggs.

Habitat requirements
Diet: insects such as ants, beetle larvae, caterpillars, and adult beetles; diet is supplemented with hard and soft mast, as well as various seeds, including sunflower seeds
Water: obtained from diet
Cover: cavity nesters; holes are excavated in mature and dying trees and snags; management efforts should focus on maintaining or creating areas with large mature and dying trees, especially in open areas; within wooded areas, at least one large snag per acre should be available
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**House finch**

*General information*

House finches are native to the western U.S., but were introduced in the eastern U.S. in 1940. Since, they have spread throughout the eastern U.S. and have become one of the most common birds in the U.S. They are found in a wide variety of urban, suburban, and agricultural areas that have trees, shrubs, and some herbaceous openings. They also are found in canyons and semi-arid regions in the western part of the country. House finches nest in a variety of locations and make a nest from weed stems, small branches, and leaves. House finches are vegetarians and eat a variety of seeds, soft mast, and buds, both from the ground and in trees.

*Habitat requirements*

**Diet:** soft mast, buds, and weed seeds; in the warm season, house finches eat some insects  
**Water:** free-standing water is needed daily in the warm season  
**Cover:** nest 5 feet to 7 feet aboveground on low branches of trees, branches of bushes, in natural cavities, old holes excavated by woodpeckers, and any projection or ledge they can find on houses and buildings

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**House sparrow**

*General information*

House sparrows are found throughout the U.S. They are an introduced species from England (they are also called English sparrows) and are found throughout the U.S., and are very common in urban areas. House sparrows also are very common in and around buildings in agricultural areas where grain is available. Because they are a nuisance, management objectives are often needed to reduce the quality and quantity of food and cover. *Wildlife Damage Management* is often needed and commonly implemented. House sparrows are cavity nesters and will frequently occupy buildings and houses to nest within the eaves or other areas with a cavity or opening. House sparrows feed on the ground and in woody vegetation for seeds, insects, and soft mast. House sparrows outcompete bluebirds for cavity nesting space and compete with several other native birds for food and space.

*Habitat requirements*

**Diet:** variety of insects, soft mast, buds, forbs, weed seeds, and waste grain  
**Water:** free-standing water is required daily in warm seasons  
**Cover:** nest in natural cavities, low branches of trees, and bushes 5 feet to 7 feet aboveground, and on any projection or ledge they can find on buildings or other structures
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**House wren**

**General information**

House wrens are found throughout the U.S. during the breeding season, and migrate to the Deep South during winter months. In **Urban** areas, house wrens prefer older residential areas with large shrubs and trees. House wrens also are found in forests with herbaceous openings at higher elevations, as well as in aspen stands. House wrens nest in a variety of elevated cavities, as high as 30 feet aboveground. They forage both on the ground and aboveground.

**Habitat requirements**

**Diet:** spiders, grasshoppers, crickets, beetles, caterpillars, ants, bees, ticks, earthworms, and millipedes; artificial feeders are usually not used

**Water:** necessary water is obtained from the diet

**Cover:** nest in natural cavities in trees old buildings

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**Ladder-backed woodpecker**

**General information**

Ladder-backed woodpeckers are small woodpeckers of the southwestern U.S. and Mexico. They get their name from the black and white barring on their backs that resemble a ladder. Ladder-backed woodpeckers are found in wooded canyons, cottonwood groves, pine and pine oak woodlands, and desert grasslands and shrublands dominated by mesquite throughout the southwestern U.S. south to British Honduras. They also are found in riparian areas and other areas with trees. In the Hot Desert and Prairie Brushland ecoregions, they use areas with large mesquite, palo verde, agave, cholla cactus, and yuccas. They are sometimes called the cactus woodpecker as they commonly nest in various cacti where they occur.

**Habitat requirements**

**Diet:** insects including ants, beetle larvae, caterpillars, and cotton worms found on small trees, shrubs, and various cacti

**Water:** necessary water obtained from diet

**Cover:** nest in cavities in trees, shrubs, and stalks of agave and yucca cactus
Lark bunting

General information
Lark buntings are found in the Great Plains and the arid Southwest. They prefer shortgrass prairies during the breeding season, but also are found in mixed grass prairies. They nest on the ground, usually under a shrub. Nests contain 2-6 eggs. Lark buntings feed on the ground in open areas, and avoid foraging under cover. Lark buntings migrate into the southern Great Plains and Mexico during winter where they frequent grasslands, deserts, shrublands, and cultivated fields.

Habitat requirements
Diet: insects are the primary item in the diet, but seeds, soft mast, and grain are consumed as well, especially during winter
Water: necessary water is obtained from food
Cover: adequate grass cover is necessary, particularly during the nesting season

Lawrence’s goldfinch

General information
Lawrence’s goldfinch is a small and rather uncommon finch that spends the breeding season in the oak woodlands of California and Baja California and winters in southern Arizona and northern Mexico. Thus, unlike most other migratory birds, it migrates east and west, rather than north and south, between seasons. It is a nomadic species within seasons, moving about from place to place, with little predictability or loyalty in which location it will spend the breeding season from year to year. Erratic movements of the species make it difficult to monitor. Its nomadic nature is considered a response to water and food availability, which is largely seed of native annual plants that the goldfinch glean while perching on the plant. They nest about mid-way up trees; nests contain 3-6 eggs.

Habitat requirements
Diet: seeds of annual plants, such as fiddleneck, chamise, red-stem filaree, shepherd’s-purse and peppergrass
Water: freestanding water is required; Lawrence’s goldfinch may drink from creeks, water tanks, dripping faucets
Cover: blue oak savannas, digger pine-oak woodlands, wooded riparian areas
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Loggerhead shrike

General information

The loggerhead shrike is a migratory bird of prey that requires relatively large openings or fields to hunt prey. Some shrikes remain in the southern tier of the U.S. all year, whereas others migrate from as far south as northern Mexico to southern Canada to breed. The loggerhead shrike population is declining because of habitat degradation and loss from conversion of grasslands and shrublands to row-crop agriculture or overgrazed, nonnative grass pastures, and aesthetic mowing. The most important vegetation component is nesting cover (dense, thorny shrubs, and trees), but open areas with herbaceous vegetation and some bare ground are also critical for hunting prey. Shrikes will readily build nests and perch in shrubby areas less than 16 feet tall, but prefer taller trees where available. Scattered, thorny tree and shrub species, such as honey locust, are selected over non-thorny species. Taller trees are selected for perching during courtship displays and while hunting. Loggerhead shrikes uniquely utilize thorns, barbs, and barbed wire fences to impale prey.

Habitat requirements

Diet: insects and spiders, small mammals, small birds, reptiles, and amphibians
Water: water requirements are obtained through diet
Cover: nest in dense shrubs and trees; taller, thorny species are preferred; courtship and foraging sites are elevated, exposed perches over open areas with herbaceous vegetation and some bare ground; evergreens may be used in winter when available

Long-billed thrasher

General information

The long-billed thrasher is only found in southern Texas and eastern Mexico where it prefers dense, brushy areas, such as riparian woodlands and mesquite thickets. Long-billed thrashers construct nests in big trees within thick brush, making nests difficult to find. Nests resemble a big cup made of thorny twigs. Long-billed thrashers are grayish brown on top with white below, characteristically streaked with black dashes. As the name implies, it has a longer bill than its close relative, the brown thrasher, which can be found in the same ecoregion. Interestingly, there are other thrashers with even longer bills. The long bill is used to forage or “thrash” in leaf litter on the ground for insects, spiders, snails, or berries. Although the long-billed thrasher is not threatened, parts of south Texas have seen a decline over the last century as a result of clearing brush for agriculture. Long-billed thrashers are most commonly seen along the Rio Grande River and have been noted to move to the more northern areas of south Texas during winter.

Habitat requirements

Diet: insects and berries, but also spiders and snails
Water: water needs are likely met through their diet
Cover: areas of dense brush; nest in larger trees within areas of dense, thorny brush
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**Mallard**

**General information**
The mallard is a migratory waterfowl with one of the most extensive breeding ranges of any duck in North America, extending across the northern one-third of the U.S., and up to the Bering Sea. Mallards winter south of Canada, throughout the U.S. and south to Central America. Mallards nest in tall grasses and forbs or in shrubby cover. They need open water with associated emergent aquatic vegetation to raise young. They may be found in any type of wetland with standing water and also use various upland vegetation types for foraging, especially harvested grain fields. Mallards are dabbling ducks, which means they feed at or near the surface of the water by filtering food items, such as invertebrates, seeds, and other plant material. Dabbling ducks are often seen tipping upside down in the water to reach food at the bottom of a wetland. Unlike diving ducks, they feed in much shallower water and do not dive to obtain food. Mallards have become a nuisance in some areas, particularly urban and suburban parks with ponds where they are fed. Mallards may breed with domestic ducks and with other wild duck species, especially the American black duck.

**Habitat requirements**

*Diet:* aquatic plants, insects and other invertebrates, hard mast (especially acorns), grains and other seed are primary components in the diet; ducklings eat mostly aquatic insects

*Water:* see cover requirements below

*Cover:* nest in grass and forbs and sometimes in shrub cover, preferably within one-half mile of a wetland that provides open water with some emergent aquatic vegetation; brooding cover is open water with considerable emergent aquatic vegetation for protection from predators; ideally, wetlands have a minimum of 50 percent open water and 10 to 20 percent emergent vegetation; in wintering areas, mallards often loaf on more open water, such as warm-water sloughs, streams, rivers, and flooded fields

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**Marbled murrelet**

**General information**
The marbled murrelet is a small seabird that spends most of its life within a few miles of the coastline in the Pacific Northwest. Marbled murrelets nest in large expanses of old-growth (180 years old or more) coniferous forests. Nests are located on horizontal branches in large coniferous trees up to 50 miles from the coast. The nest is not concealed, but merely positioned in a depression of moss on the limb. Marbled murrelets have low reproductive potential as a female produces only one egg per nesting attempt. The females and the males share incubation duties. Historically, logging old growth coastal coniferous forests eliminated large tracts of nesting cover for marbled murrelets. As old growth forests have become more fragmented, nest predation is thought to have increased, primarily from ravens and jays. The murrelet also is at risk from coastal oil spills and depletion of forage fish stocks.

**Habitat requirements**

*Diet:* small fish, such as anchovies, herring, and smelt, from the ocean within 1-2 miles of the coastline; small crustaceans also are eaten occasionally

*Water:* obtains most water from food

*Cover:* open ocean for most of the year; when threatened, murrelets dive or fly to avoid capture; horizontal limbs on large conifer trees for nesting
Mountain bluebird

General information
Mountain bluebirds are found across the western U.S. They use open savannas, pastures, parks, backyards, edges of hayfields and crop fields, and other herbaceous openings with scattered trees, which are used for perching and nesting (where cavities are available). Mountain bluebirds forage in open areas with short vegetation, but typically near trees or a fence that provide perches. Insects dominate the diet during spring and summer, whereas various fruits are most prevalent during fall and winter. Mountain bluebirds nest in cavities, especially old woodpecker cavities, as well as nest boxes. Clutches normally consist of 4-8 eggs.

Habitat requirements
Diet: invertebrates, especially grasshoppers, crickets, beetles, and spiders; various fruits in fall and winter
Water: necessary water obtained from diet
Cover: nest in cavities of trees and fence posts

Mourning dove

General information
Mourning doves may be found throughout much of the lower 48 states. They prefer areas of annual and perennial grasses and forbs for feeding with some shrubs and trees nearby for perching, nesting, and roosting. Interspersed bare ground is an important component of foraging sites because mourning doves do not scratch in the litter to find seed. Bare ground is also beneficial for doves to obtain grit (small gravel) to help in digesting food. Nests are made of twigs and placed on branches of shrubs or trees. Nests also may be placed on the ground in areas where trees are generally lacking. Mourning doves often use agricultural areas for feeding on a variety of grass and forb seeds. They also forage on waste grain from cropland and livestock feedlots. Mourning doves prefer shallowly sloping or flat shorelines without vegetation for drinking.

Habitat requirements
Diet: a variety of grass and forb seeds, as well as several agricultural grains; small areas of bare ground are beneficial for obtaining grit (small gravel) to help digest food
Water: freestanding water required daily
Cover: shrubs and trees are used for nesting and loafing
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Northern bobwhite

General information
The northern bobwhite is a stocky gamebird about 6 inches tall. They are considered shrubland obligates, which means they depend on low-growing shrubby cover, but also use grasslands, fallow fields, and savannas and woodlands with well-developed groundcover for foraging, nesting, brooding, and loafing. Ideally, bobwhite habitat consists of scattered patches of shrubby cover well interspersed with native grasses, forbs, and bare ground. Nests are on the ground, usually made of dead grass leaves, and often located at the base of a clump of native warm-season grasses, such as broomsedge and little bluestem. A typical clutch is about 12 eggs. Both the male and female may incubate nests, with nesting primarily occurring May through August. Early successional areas dominated by forbs, such as ragweeds, are commonly used for brooding. Northern bobwhite eat a wide variety of seeds, leaves, and insects. Bobwhite chicks primarily eat insects during the first 6-8 weeks of life. Some agricultural crops can provide seasonal food for bobwhites, but they are not a substitute for diverse native plant communities. Northern bobwhite populations have been declining precipitously for more than 40 years. Habitat loss and degradation is the primary reason for the decline.

Habitat requirements

Diet: young quail eat insects and other invertebrates (such as spiders); adult quail eat a variety of seeds (especially legumes, ragweed, crotons, lespedeza, etc.), green vegetation (mostly forbs), invertebrates, various crops (corn, soybeans, wheat, millets, grain sorghum), and mast (such as acorns and blackberries)

Water: necessary water is obtained through the diet

Cover: shrub cover for escape and thermoregulation throughout the year; native grasses for nesting; native forbs for brood rearing
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Northern flicker

General information
Northern flickers occupy all of North America, and inhabit most of the U.S. year-round. Flickers are found in forests and woodland interspersed with herbaceous openings. Northern flickers are often found along riparian zones and urban areas. They prefer older urban residential areas with large trees, golf courses, and parks. Flickers create cavities in trees for nesting; these cavities later become nesting and roosting sites for other species. Thus, flickers are considered an important species for biological diversity. Flickers eat insects, especially ants, as well as soft mast and seeds. Flickers can become problematic in urban areas where they may create holes in wood siding on houses or damage ornamental trees. Wildlife damage management may be necessary. European starlings often take-over flicker cavities for their own nests. Appropriate action should be taken to prevent starlings from occupying nesting cavities of flickers and other cavity-nesting wildlife.

Habitat requirements

**Diet:** ants are a favorite food and make up about 50 percent of the diet; seeds, soft mast, and earthworms are also eaten; flickers are partial to poison ivy fruit and may use artificial feeders

**Water:** daily water requirements unknown; sufficient water is probably obtained from diet

**Cover:** tree cavities are used for nesting; old, mature trees that show signs of senescence (old age) or decay are often used; softwood trees, such as yellow poplar, cottonwood, and willow, are preferred; flickers will nest in posts, holes in banks, and holes in houses and structures where trees are unavailable

Northern goshawk

General information
Northern goshawks are relatively large raptors found throughout the northern, central, and western regions of the U.S. They prefer dense, mature woodlands where they nest 20 to 80 feet aboveground on a large horizontal limb of a mature tree. Nests are often used for up to five consecutive years. As a raptor, goshawks are fierce predators, commonly eating large birds, squirrels, rabbits, and hares. Goshawks perch while hunting and descend on prey. They will pursue prey for quite a distance when necessary. Goshawks do not prefer to be around human establishments.

Habitat requirements

**Diet:** mostly small- and medium-sized birds and mammals

**Water:** obtain necessary water from diet

**Cover:** mature forest and woodland; nest in mature trees
Eastern fox squirrel

General information
The eastern fox squirrel is found in the eastern half of the U.S., except for areas of New England. Eastern fox squirrels use mature forest interspersed with small openings, as well as oak and pine woodlands and savannas. Riparian areas are important in the Midwest. Fox squirrels also may be found in urban areas where there are lots of trees. Fox squirrels spend much time foraging on the ground. They build a leaf nest, usually in the crotch of the main trunk of a tree more than 30 feet aboveground, but will regularly use natural cavities in trees, especially in winter.

Habitat requirements

Diet: a variety of hard mast, acorns, seeds, tree buds and flowers, mushrooms, soft mast, eggs, and corn

Water: necessary water generally is obtained through diet, but freestanding water may be used in late summer

Cover: mature hardwood and pine forest, small openings, woodland, and savannas; nest in tree cavities or build a nest of twigs and leaves

Eastern gray squirrel

General information
The eastern gray squirrel lives primarily in mature deciduous forests and woodlands. They also forage along the edge of crop fields, especially mature cornfields. Eastern gray squirrels have adapted to parks and other urban areas where mature trees are available. Eastern gray squirrels forage both in trees and on the ground. They den in cavities of mature trees and also build nests, generally 30 feet or more aboveground. Eastern gray squirrels will use nest boxes, but nesting structures are not necessary because squirrels build nests when cavities are not available. Thus, cavities are not a limiting factor for eastern gray squirrel populations.

Habitat requirements

Diet: a variety of hard and soft mast, miscellaneous seeds, grains, bark, buds, and mushrooms; they also may eat bird eggs

Water: necessary water generally is obtained through diet, but free-standing water is also used

Cover: mature forest and woodlands; suburban and urban areas with mature trees; den in tree cavities and also build nests of leaves and twigs
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Elk

**General information**
Elk primarily occur in mountainous regions of western North America (from New Mexico to Oregon and Canada). They also have been reintroduced in multiple states of the eastern United States. Elk are ruminants (animals with a four-chambered stomach), as are the other ungulate species common to North America, such as white-tailed deer and mule deer. Elk stomachs are much larger than those of deer, which allows elk to eat more and bed down to chew their cud for an extended period. For this reason, elk may only feed twice a day during some portions of the year to avoid risk of predation. Elk use mature forest with interspersed openings. This type of cover supplies food and provides protection from predation and weather. Male elk (bulls) rigorously defend a harem (breeding groups of up to 30 cows) during breeding season (September – October). Nutritional requirements and diet change seasonally. Elk rely on forbs and grasses in spring and summer, and eat browse such as aspen, maples, and poplar, during winter when food availability is limited. Cows that occupy ranges with high elevations will migrate to lower elevations and south-facing slopes in winter to find food and avoid deep snow and cold winds. When overabundant, elk can cause significant damage to ornamental plantings, forest crops, and row crops, and can be hazardous for motor vehicles.

**Habitat requirements**
- **Diet**: predominantly forbs and grasses, but also browse, especially when palatable forbs and grasses are not available
- **Water**: free-standing water used regularly in summer; water should be within one-half mile
- **Cover**: mature woods for loafing and calving; early successional openings and young forest for foraging

Fisher

**General information**
Fishers are furbearers found in forests in the upper Great Lakes area and the mountains of the Pacific and northeastern U.S. Fishers were once a valuable fur resource that led to over-trapping and population decline in many areas. Fishers are likely more adept at preying on porcupines than any other predator. A desire to control porcupines in some areas because of the damage they cause to trees has led to large-scale reintroduction of fishers throughout many portions of their former range. Fishers are now re-established as far south as West Virginia and Pennsylvania along the Appalachian Mountain range.

**Habitat requirements**
- **Diet**: primarily small rodents and snowshoe hare; will readily consume other rodents, rabbits, porcupines, insects, reptiles, soft mast, and carrion; and small domestic pets
- **Water**: necessary water obtained from diet
- **Cover**: mature conifer or mixed hardwood forests with abundant down woody debris; den in hollow logs, snags, or live trees
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**Gray fox**

**General information**
Gray foxes are common and widespread in North America. They are typically associated with deciduous forest landscapes, and generally avoid areas with large expanses of agriculture. They are most active at night or near dawn and dusk. Dens are used primarily during the breeding season. Gray foxes are unique among canids (species in the family that includes dogs) because of their ability to climb trees.

**Habitat requirements**

**Diet:** primarily small mammals, birds, insects, hard and soft mast, and occasionally carrion  
**Water:** requirements largely unknown; gray foxes likely drink free-standing water and get some water from the foods they consume  
**Cover:** mostly deciduous forest; breeding dens are located in brushy or wooded areas and found in hollow trees or logs, under large rocks, or in underground burrows; daytime resting sites are generally aboveground in trees, thickets, and brushy areas, or rocky crevices.

**Indiana bat**

**General information**

The Indiana bat is an endangered species that occurs over most of the eastern United States. The Indiana bat population is in decline because of susceptibility to disturbance during hibernation and a disease known as white nose syndrome. Bats must store fat reserves and then hibernate (from October – April) to survive through winter when food is limiting. If they are disturbed by human activity or if cave temperatures increase, they may starve from using critical energy reserves. Male Indiana bats roost alone or in small groups during spring and summer, whereas females roost in larger maternal colonies (100+ individuals). Females give birth to one pup in June, and then young are nursed under loose tree bark, usually in wooded areas near water. Inserting gates in front of cave openings that allow passage of bats but prevent human intrusion can prevent disturbing Indiana bats during hibernation.

**Habitat requirements**

**Diet:** insects (up to half their body weight per night)  
**Water:** although they get some from their food, they require considerable free-standing water  
**Cover:** winter hibernation occurs in caves, also known as hibernacula, or other areas that are cool, humid, with stable temperatures of 33-50 F (nearly half of all Indiana bats use caves); trees with flaky bark (like shagbark hickory or mature white oak) or snags along forest edges and water bodies are used for roosting; mature mixed deciduous forest with canopy gaps and riparian zones are used for foraging.
Eastern snapping turtle

General information

The eastern snapping turtle is found across much of the U.S. east of the Rocky Mountains. It occurs in most permanent bodies of water, but prefers soft mud-bottomed ponds, lakes, and slow streams with dense vegetation. It is one of the more aquatic freshwater turtles and spends most of its time lying on the bottom of deep pools or buried in the mud in shallow water with only its eyes and nostrils breaking the surface of the water. The primary nesting season is May-June with the female digging a hole and laying about 30 eggs. Eastern snapping turtles are omnivorous and will consume relatively large invertebrate and small vertebrate prey. If approached, snapping turtles will turn to face the potential predator, lunge forward, and strike quickly with powerful beaked jaws. Eastern snapping turtles grow slowly, but can attain very large sizes (>50 lbs.) They have heavy muscular legs and are often harvested for human consumption.

Habitat requirements

**Diet:** insects, crayfish, clams, earthworms, fish, frogs, toads, salamanders, snakes, small turtles, birds, and small mammals; also consumes various aquatic plant species

**Water:** requires permanent bodies of water; obtains water from food

**Cover:** permanent water bodies with muddy bottoms and thick vegetation; hides underwater beneath submerged stumps, roots, brush, and buried in the mud

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Gila monster

General information

The Gila monster is the largest lizard native to the U.S., and one of only a few venomous lizard species in the world. Most of the Gila monster’s teeth have two grooves that allow its venom, a nerve toxin, to flow into the wound as the lizard holds its prey. Gila monster venom is not fatal to humans. Furthermore, the Gila monster is not aggressive and prefers to avoid people. It is restricted to the arid regions of the desert southwest. It is most active during the spring and summer months, but spends more than 95 percent of the active season in burrows or under rocks emerging mainly to bask and feed. The Gila monster is a carnivore that feeds on nesting mammals and birds, eggs of birds and reptiles, lizards, and carrion. They are able to go months between meals and store fat reserves in their stout tails.

Habitat requirements

**Diet:** young of small mammals and birds, eggs of lizards and ground nesting birds, carrion

**Water:** receives necessary water from diet

**Cover:** typically found in desert grasslands, Mojave and Sonoran Desert scrub, and thorn scrub (Sonora); less often oak or pine-oak woodland; sub-surface shelters are important components of its habitat
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Amphibians

Monterey salamander

General information
The Monterey salamander occurs along the Pacific coast from Washington to southern California. This species is treated as a “ring” species whose subspecies form a ring-shaped distribution around the Central Valley of California and do not interbreed where the ends of the ring overlap in southern California. It inhabits a wide variety of vegetation types in hilly or mountainous terrain from near sea level to approximately 10,000 feet in elevation. Monterey salamanders occur in chaparral, wet coastal forests, coastal sagebrush, pine-oak woodlands, and mixed conifer-hardwood forests. Moist soil conditions are necessary for Monterey salamanders to occur because they lack lungs and respire through their moist skin.

Habitat requirements

Diet: invertebrates, such as sow bugs, mites, spiders, centipedes, and beetles
Water: moist soil required for respiration
Cover: large amounts of downed woody debris; they also hide beneath moss mats, rocks, leaf litter, and within rodent burrows

Northern red-legged frog

General information
Northern red-legged frogs are found in low, moist forests of the Pacific Northwest. They typically occur near permanent, quiet water, such as stream pools, marshes, and ponds. During wet weather, they can be found in damp woods and meadows, as well as ephemeral pools. They are active mostly at night, especially during wet periods. Northern red-legged frogs usually remain motionless when approached before bounding away with long, evasive jumps. The breeding call is relatively weak and consists of 4-7 notes that sound like “uh-uh-uh-uh.” When captured by a predator, they often emit a loud scream.

Habitat requirements

Diet: tadpoles are herbivores, consuming algae and organic debris; adults consume small invertebrates, including beetles, caterpillars, and isopods
Water: non-flowing water is required for reproduction
Cover: breeding ponds must not contain fish, and limbs or stems must be present at the surface to attach egg masses; adults use damp woods and meadows with permanent water; fallen logs and other coarse woody debris must be present
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Fish

Coho salmon

General information
The Coho salmon is an anadromous fish species, which means they live part of their lives in saltwater before migrating to freshwater to spawn. They can attain weights of about 35 pounds, but 10 pounds is the average. The range of the Coho salmon in the U.S. is from Alaska southward to northern California. While in the ocean, Coho salmon have dark bluish backs and silver sides and are therefore often called silver salmon. When mature (3 years old), Coho salmon migrate to freshwater to spawn (November to January) and their coloration darkens with reddish sides. Males develop a pronounced hooked jaw/nose during the spawning season. Adults return to their stream of origin to spawn and die after spawning. The eggs are laid in nests called redds and hatch 6 to 7 weeks later in the spring. Young Coho salmon remain in streams and freshwater tributaries for more than a year before migrating (they are called smolts in this life stage) to the ocean. The life cycle is complete when they return to their freshwater stream of origin to spawn. The Coho, like many other salmon species found on the west coast, have experienced severe population declines in the past several decades. Reasons for these declines are complex, but include siltation of spawning areas, blockage of migratory routes by dams, and inadequate water flows in spawning areas as a result of water diversion for other purposes. Estuarine and marine ecosystems are often negatively impacted by shoreline development, residential drainage, and filling marine wetlands. Several Coho salmon populations occurring from California to Oregon have been listed as federally endangered or as species of concern. However, this species is an important recreational and commercial fish where populations remain strong, especially in Alaska.

Habitat requirements

**Diet:** in the freshwater juvenile or fingerling stage, Coho salmon feed on plankton, insects, and small fish; smolts switch to a diet comprised solely of fish upon entering the ocean

**Water:** obtained from aquatic environment and food

**Cover:** Coho salmon need pollution-free freshwater and marine ecosystems; spawning streams must have a stable gravel substrate for construction of redds
Cutthroat trout are native to the western U.S. They are found in diverse areas, such as the Rocky Mountains, the valleys of the Great Basin, and inshore areas of the Pacific Ocean, especially along the Washington coastline. They prefer rivers and streams with a gravel bottom, but several subspecies mate in lakes and ponds. Cutthroat trout are carnivores, eating a variety of organisms found in streams and lakes.

**Habitat requirements**

*Diet:* young cutthroat trout eat algae and small crustaceans; adults eat crustaceans, eggs, aquatic insects, mollusks, amphibians (tadpoles), and other fish; adults also eat terrestrial organisms if they fall into stream, but they are not a major part of their diet

*Water:* streams, lakes, and ponds where water does not rise above 70 F in summer; ideally streams should have a variety of riffles, runs, and pools; basic requirements include dissolved oxygen (minimum 6 parts per million); pH range between 6.5 and 9.0

*Cover:* prefer streams with overhanging vegetation along the shore that provides shade and reduces water temperature, providing terrestrial organisms for food; rocks, as well as debris on the bottom of the river or lake, provide cover that will hide them from prey