



Alpine
A brief growing season and persistent wind and cold create desert-like conditions.

Forests
Tree roots tap water and nutrients, creating habitat for many other plants and animals.

Sagebrush Flats
What looks uniform and empty is a surprisingly diverse and complex dry habitat.

Wet Meadows
Good soils and moisture produce dense vegetation attracting a variety of wildlife.

Lakes, Ponds
Water that flows from the mountains pools on the valley floor, supporting wildlife.

Teton Range from Snake River Overlook
© CHRISTIAN HEEB / GRASS PHOTO IMAGES

Geologic Forces Still Shape This Youthful Landscape

With no foothills to obstruct your view, the jagged peaks and deep canyons of the Teton Range rise abruptly from the Jackson Hole valley. Magnificent and unusual views provoke wonder. This landscape was born out of an ancient past and shaped by recent geologic forces. The 2.7 billion-year-old rocks found in the core of the range are some of the oldest in North America, but these mountains rank among the youngest in the world.

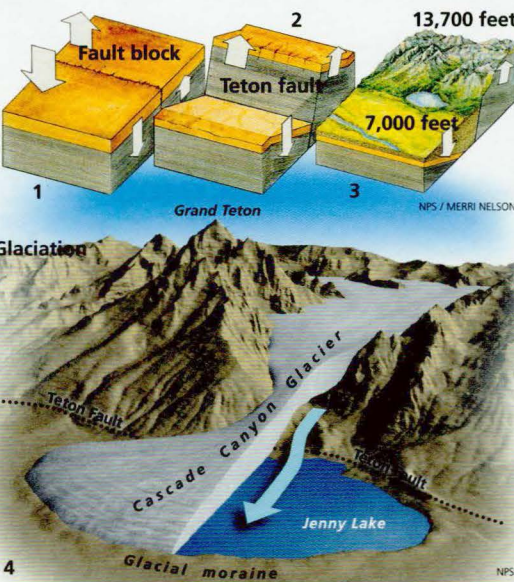
Starting 100 million years ago, long before today's mountains formed, the collision of tectonic plates along North America's west coast bowed-up a vast block of sedimentary rock deposited by ancient seas. Beginning 10 million years ago, movement on the Teton fault generated massive earthquakes causing the mountains to rise while

the valley floor dropped (see diagram at right). The vertical displacement—from the sedimentary rocks overlaying the mountaintops to the same layers buried beneath the valley floor—approaches 30,000 feet.

While movement on the Teton fault lifted the range, erosion sculpted the landscape. Starting two million years ago, massive glaciers up to 3,500 feet thick periodically flowed south from Yellowstone and filled the valley—eroding mountains, transporting and depositing huge volumes of rocky glacial debris. As ice sheets filled the valley, alpine glaciers sculpted the jagged Teton skyline. These glaciers carved the peaks and canyons, and deposited moraines along the

glacier's edge. Today these moraines dam beautiful lakes, like Jenny Lake, along the base of the Teton Range. The general color scheme of vegetation in the park hints at this geologic story (see the boxes above, keyed to color bands below).

Using geology and vegetation as clues, you can determine key wildlife habitat. Geology, plants, and animals interact dynamically over a large region, or ecosystem. The mission of the National Park Service is to safeguard these natural and cultural resources for the enjoyment of this and future generations. Please help care for this beautiful place.



Two blocks of Earth's crust moved like trap doors—one skyward to make mountains, one downward to make the valley (1, 2). Wind, rain, ice, and glaciers eroded the rising range (3).

Huge ice age glaciers and torrential meltwaters carried cobbles, gravel, and coarse sand southward. Repeatedly they re-leveled the floor of the sinking valley.

Smaller mountain glaciers (4) built moraines that impounded lakes along the range.

Natural Communities Color the Park's Scenery

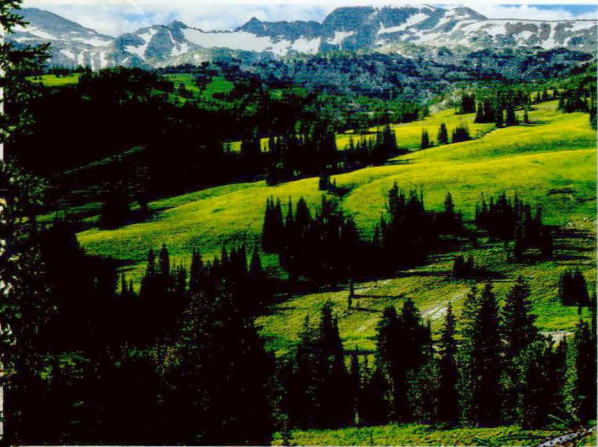
Alpine



High-elevation canyons hold lingering snow, patches of plants in crevices, and fragile meadows that will transition to bare rock higher up.
Pika

Alpine communities are harsh habitats often the color of bare rock. Elevation, hard winters, and brief summers challenge life above treeline. Lichens cling to rocks while phlox and moss campion resist the wind and cold by growing low on scant soils. Flowers emit scents that lure insects to pollinate them. The insects attract white-crowned sparrows. In summer, tiny pikas (left) dry and store plants for winter. Pikas and yellow-bellied marmots watch for predators like weasels and raptors. Most alpine residents winter at lower elevations or hibernate.

Forests



Lodgepole pine trunks served Indians as tipi poles. Adapted to fire, the lodgepoles are predominant in the park's most extensive forest community.



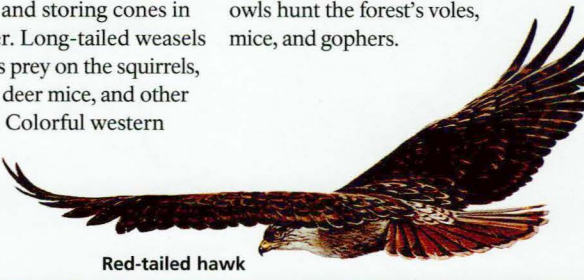
Bald eagles fish from lodgepole pines beside lakes or rivers. Only mature eagles have white head feathers.

Darker greens of Teton landscapes are forests that grow where moraines and mountainsides hold water within reach of tree roots.

Forests of lodgepole pine and other conifers—Douglas fir, Englemann spruce, limber pine, and subalpine fir—occur in lower elevations throughout the Teton Range. In summer, elk and mule deer seek their shade. Black and grizzly bears frequent this area searching for berries, insects, and small mammals. Red squirrels live in the trees, gathering and storing cones in caches for winter. Long-tailed weasels and pine martens prey on the squirrels, snowshoe hares, deer mice, and other small mammals. Colorful western

tanagers fly through less dense parts of the forest canopy.

Above 8,500 feet, whitebark pine, spruce, and fir dominate park forests. Whitebark pine—a keystone species sensitive to global climate change, insects, and disease—is an important food source for red squirrels and grizzly bears, and it helps retain moisture on high windswept slopes. On the edges of these forests ruffed grouse nest on the ground and feed on buds and insects. Great horned owls hunt the forest's voles, mice, and gophers.



Red-tailed hawk

Sagebrush Flats

Sagebrush flats color the landscape a silvery gray-green. This plant community, covering most of the valley floor, looks barren and sparse but is quite lush. Rocky, well-drained soils discourage most plants, but hardy big sage, low sage, antelope bitterbrush, and over 20 species of grasses thrive. Sage grouse use sagebrush for shelter, food, and nesting areas. Arrowleaf balsamroot and lupine add spring color. Small mammals like Uinta ground squirrels, white-footed deer mice, and least chipmunks live here



Sagebrush and its associated plants surround the Chapel of the Transfiguration in Moose, near the historic Menors Ferry on the Snake River. Cotton-

wood and aspen trees in the background show where water is close enough to the surface for these trees' roots to reach.



Pronghorn

and attract raptors. Badgers dig burrows, and coyotes and wolves lope across cobbled plains. Pronghorns live here in summer but migrate southeast to the upper Green River Basin—to avoid deep winter snow. Evenings and mornings, elk herds feed on grasses in spring, summer, and fall. Where bitterbrush abounds, moose forage, especially in winter and early spring. Birds can find sage thrashers, green-tailed towhees, western meadowlarks, and vesper and Brewer's sparrows.

Bison freely roam the steppes between the Snake River and the forests. For Native Americans, the valley was productive for hunting and gathering, but severe winters meant they could not live here year-round. Permanent residents came eventually, beginning in the mid-1880s as farmers and ranchers. Improved shelter, irrigation, and more hardy seed varieties enabled a meager living. Now people value the valley's scenery, human history, and quality of life.



Trapper Richard "Beaver Dick" Leigh, second wife Sue Tadpole, and children. Leigh Lake and other features in the park are named for his family. The fur trade declined about 1840.



An irrigation ditch on Mormon Row, east of Moose (see map). Five Mormon families settled here from Utah in 1889. With them came

interest in community services (schools, mail service, and churches). Until then, people had known this as a rough bachelor valley.



Sagebrush



Elk herd

© KENT AND DONNA DABNEY



Beaver

© NPS

Wet Meadows and Wetlands

Green hues that fall between silvery sage and dark forest may indicate wet meadows, willow flats, or wetlands. Wet meadows and willow flats are flooded by water part of the year. A high water table and pockets of good soil make possible abundant grasses, sedges, and forbs. Many birds and small mammals eat these plants. In the West, the narrow bands of vegetation along waterways may account for over 90 percent of an entire region's biological diversity. Wetlands around rivers, lakes, and marshes share many characteristics of the neighboring aquatic community.



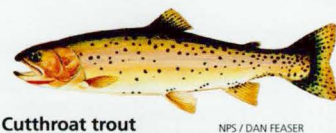
Moose often feed in willow flats but can browse underwater for aquatic plants and dive for them in water over 18 feet deep, staying under for nearly a minute.

Lakes, Ponds, Rivers

Lakes and ponds dot the landscape with shades of blue. Streams and rivers are reflected as ribbons of blue and silver. Snake River tributaries drain the mountains around Jackson Hole. Stream banks, floodplains, lakes, and ponds are rich habitats teeming with life. Snake River float trips are an excellent way to see the park's variety of wildlife. Native cutthroat trout, mountain whitefish, and other fish are crucial food for bald eagles, otters, and osprey. At Oxbow Bend you may see American white pelicans, great blue herons, and trumpeter swans.



River otters feed on fish, frogs, and snakes in the water, where they are far more agile than on land. Until the 1700s otters lived by most major rivers of North America.



Cutthroat trout

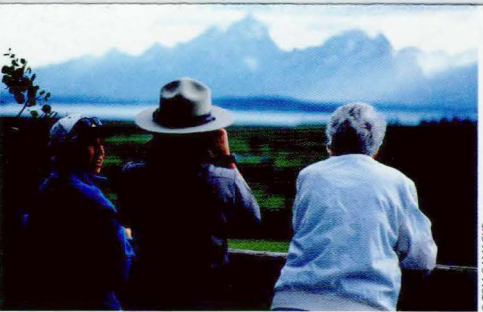
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Enjoy a Safe Visit and Be Bear Aware

The park's clean air and waters, and its natural sounds, enhance your visit and the quality of habitat for native species—1,200 plants, 300 birds, over 60 mammals, and 12 fish. The park and parkway let you enjoy nature's sights and sounds safely. Stay on trails to protect native vegetation. Recycle or reuse food and drink containers; dispose of waste properly in dumpsters or bear-proof trash cans. Observe wildlife quietly from a safe distance: 25 yards from most birds and other small animals, and 100 yards from bears, moose, elk, and bison. *Teewinot*, the free park newspaper, lists schedules of ranger-led activities like talks, walks, hikes,

demonstrations, and other programs conducted mid-June through September. Campfire programs cover a range of topics at Colter Bay, Signal Mountain, Jenny Lake, and Gros Ventre amphitheaters. The *Teewinot* lists visitor center hours and concession services, like restaurants, lodging, stores, gas stations, and mountaineering and float trip services.

Be Bear Aware! All odorous items must be stored properly at all times to protect people and bears. Ask at a visitor center or check the park newspaper to learn about proper food storage in bear country.



View all wildlife from a safe distance and respect their need for space. People too close to wildlife risk serious

harm when animals defend themselves or their young. See the *Teewinot* for more safety information.



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Exploring Grand Teton

Camping
Camping is permitted in five campgrounds on a first-come, first-served basis. Trailers, RVs, and tents are allowed in all campgrounds except Jenny Lake, which is tents only. Only dead and down wood may be collected as firewood. See the *Teewinot* for group camping information.

Backcountry camping is permitted only in designated areas; permits are required, and reservations are accepted from January 1 through May 15. A service fee is charged for advance reservations.

Water Safety and Protection
Floating the Snake River in the park is allowed only in hand-propelled boats and rafts; inner tubes are prohibited. Only experienced floaters should launch on the river. Motorboats are permitted on Jackson and Jenny lakes; Jenny Lake has a 10-hp limit. Hand-propelled craft are permitted on Jackson, Jenny, Phelps, Emma Matilda, Two Ocean, Taggart, Bradley, Bearpaw, Leigh, and String lakes. Sailing, windsurfing, and water skiing are allowed on Jackson Lake only. All craft require permits and must be registered yearly at park visitor centers.

Swimming in park waters is generally a cold experience. Shallow areas of Jackson, String, and Leigh lakes have reasonable water temperatures during July and August. There are no lifeguards. Swimming in the Snake River is not recommended. Water in streams and lakes should be boiled or treated to kill or remove harmful organisms like *Giardia* and *Campylobacter* that may cause severe gastrointestinal distress.

Fishing is allowed in most park streams and lakes. Wyoming fishing licenses are required and are sold at

Dornan's, Signal Mountain Lodge, and Colter Bay Marina. Visitor centers have information on park fishing regulations. Aquatic nuisance species are a concern. Clean and dry boats, boots, and waders before you enter a new body of water—and *never empty containers of bait, fish, plants, or animals into park waters.*

Vehicles
Drive only on established roadways and observe posted speed limits. Pass bicyclists with caution. Dawn and dusk are excellent times to see wildlife; watch other drivers for sudden stops. Park vehicles completely

out of the road to observe or photograph wildlife and scenery. Use turnouts when possible. Be alert for animals along or crossing roadways.

Wildlife
Feeding any wildlife is prohibited. Animals in the park are part of complex, protected natural systems. Let animals find natural foods. Never handle smaller animals like ground squirrels. They can carry disease. Larger animals are unpredictable and can cause serious injuries. Approaching too closely is prohibited. Regulations prohibit destruction, injury, disturbance, or removal of

cultural or natural features, including all plants, animals, rocks, and arrowheads or other historic artifacts.

Pets
Pets must be leashed (maximum length six feet) at all times. Pets are not permitted in public buildings, on trails, in the backcountry, on most ranger-led activities, or in visitor centers. They are prohibited in boats on rivers and on lakes other than Jackson Lake. Never leave pets unattended, especially in a closed vehicle. Temperatures can rise quickly, and pets can die in a short time. Pet regulations are strictly enforced.

Service animals, like guide dogs, are welcome; contact the park for details.

Climbing
Climbing mountains is a technical sport requiring proper knowledge, experience, physical condition, and equipment. Overnight trips require a backcountry permit. From June through mid-September the center for climbing information is Jenny Lake Ranger Station. Solo climbing is not advised.

For firearms regulations see our website or ask at a visitor center.

More Information
Grand Teton National Park
P.O. Drawer 170
Moose, WY 83012-0170
307-739-3300
TTY 307-739-3400

For trip planning information: call 307-739-3600 or visit www.nps.gov/grte.

Grand Teton is one of over 390 parks in the National Park System. To learn more about national parks and National Park Service programs in America's communities, please visit www.nps.gov.

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