

National Parks of Washington

Mount Rainier

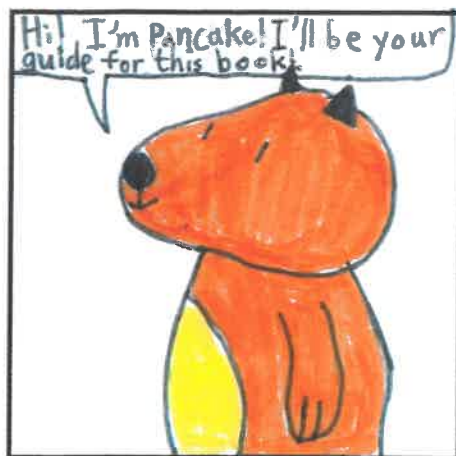
Olympic

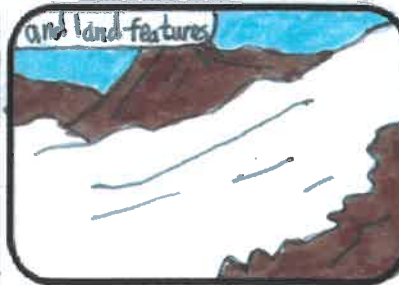
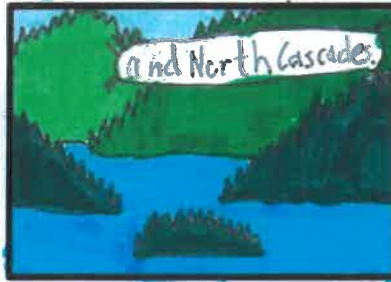
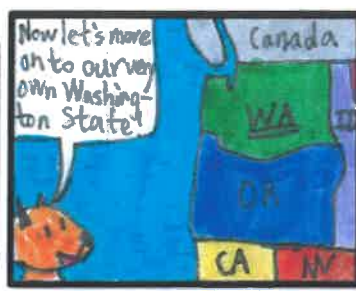
North Cascades

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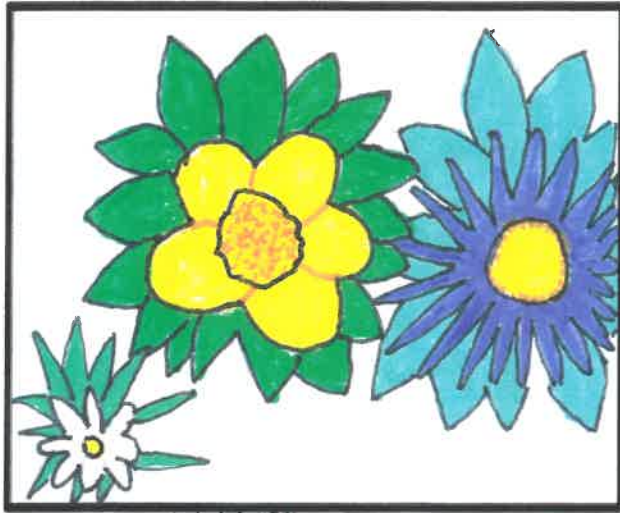




Guess the Park!

Answers at End

Mt. Rainier



Wildflowers

Mt. Rainier National Park has hundreds of different types of wildflowers growing in it. Wildflowers come in many different colors. Forest and subalpine regions of the park host distinct groups of wildflower species. Old growth forest creates the perfect conditions for wildflower species unlike those growing in the sunnier subalpine meadows. Subalpine areas usually have the most impressive wildflower displays. This is because subalpine

regions have a very short growing season, so the flowers bloom profusely to avoid the winter snow. Meanwhile, exploring the forests is like going back in time. Before Mt. Rainier became a national park, visitors traveled by horse or foot through miles of thick forests to reach the mountain. Today, you can still walk among these trees, enjoying the grandeur of the forests that once covered western Washington. In lower areas of the mountain, you will find Douglas fir, western hemlock, and western red cedar. Higher up the mountain, subalpine fir and mountain hemlock grow.

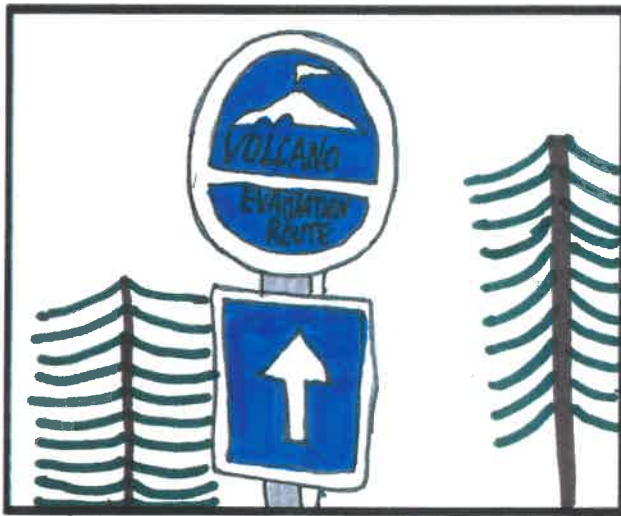
At Mt. Rainier you can find 65 mammal species, 14 amphibian species, 5 reptile species, 182 bird species, and 14 native fish species. Invertebrates still represent 85% of the animal biomass in the park, though. Efforts are being made to restore Pacific fishers to the southern Cascades and the Olympic Peninsula. There is also ongoing research to monitor the population of northern spotted owls in the park. Columbian black-tailed deer, stellar jays, common ravens, and Douglas squirrels are some animals that many people remember. The most abundant and diverse creatures in Mt. Rainier National Park,

however, are invertebrates (animals without backbones.) Insects, worms, arachnids, crustaceans, and many others occupy every habitat in the entire park all the way up to the very top of the Columbia Crest itself. About 50% of birds that live in the park build their nests here. Many are migrants that spend the winter in the southern US or Central America. Amphibians can be found in aquatic or terrestrial habitats, and reptiles are usually found in upland habitats. Some of

the more popular animals such as black bears and elk live in many habitats in the summer, but mountain goats typically stay in subalpine and alpine life zones.



Willow Flycatcher




Volcano Evacuation Route Sign

Mt. Rainier National Park includes outstanding geologic and hydrologic resources that represent important physical elements, including glaciers, watersheds, landforms, soils, and paleoecologic deposits. Mt. Rainier has 25 major glaciers (the most on any mountain in the contiguous US), along with numerous unnamed ice or snow patches. The Emmons Glacier has the largest area (4.3 square miles) and the Carbon Glacier has the lowest terminus altitude (3,600 feet) of any glacier in the lower 48. What a lot of records! Due to climate change, Mt. Rainier's glaciers have shrunk at an alarming rate. Mt. Rainier is also an episodically active stratovolcano. Volcanic activity started 1 ½ million years ago, but the last eruption was in 1894. At one time, lava flows stacked up to 1,000 feet above Mt. Rainier's current height of 14,410 feet above sea level. The upper portion of the volcano was removed by explosions and landslides. Then, Mt. Rainier's glacier system carved the mountain into its craggy form we see today.


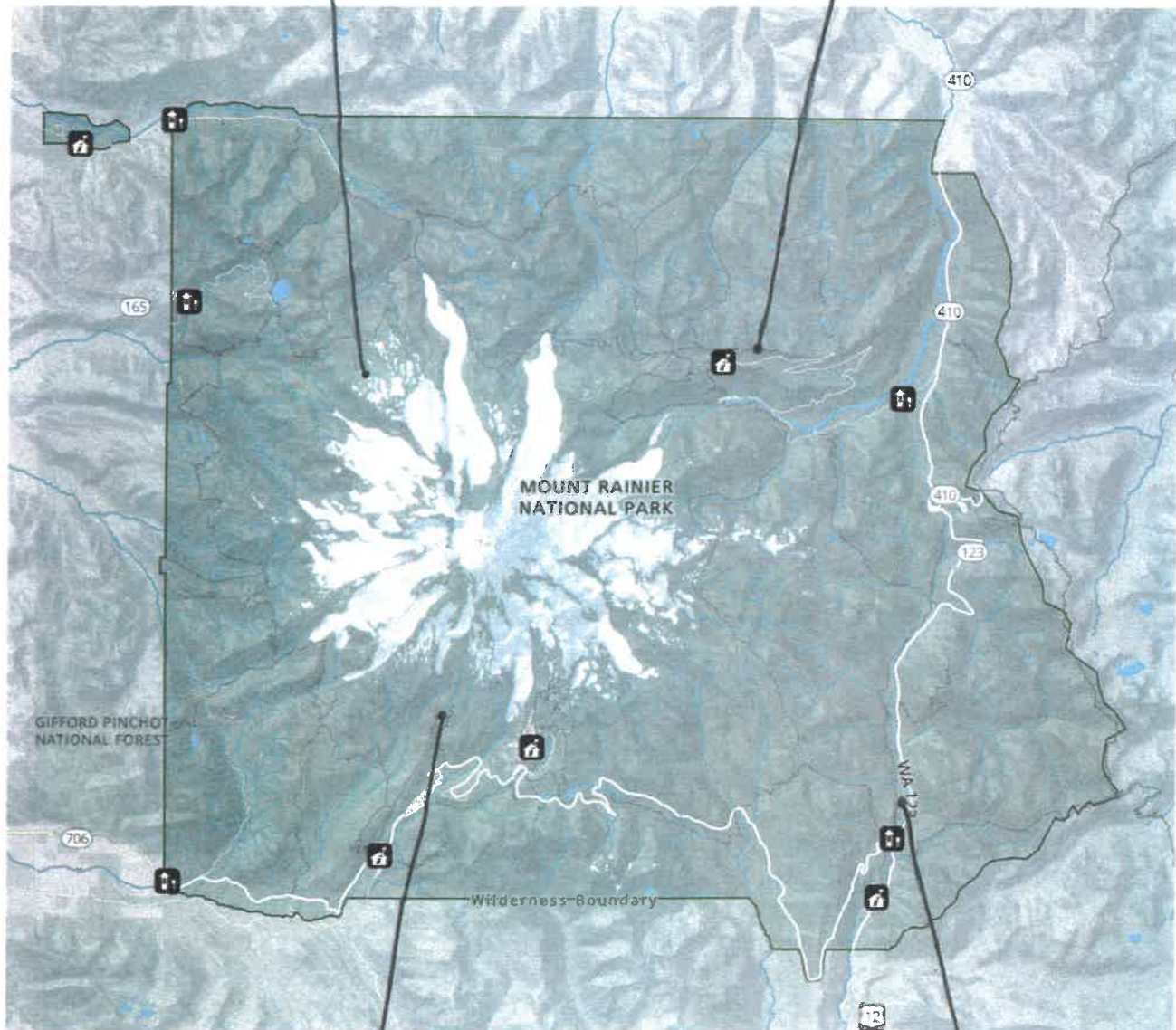
Spray Park

Some of the best meadows in the park are located at Spray Park. Along the hike, you will get great views of a waterfall. The trees fade away as you climb, opening up into a world of sparkling ponds and green heathers.



Sourdough Ridge

The historic buildings at Sunrise are surrounded by meadows and the route around Sourdough Ridge explores the biggest one in the area. Watch out for the patches of dirt scattered in the meadows. They are the burrows of beaver meadows.


Comet Falls

Many claim this is the most beautiful waterfall in the park, though there is a lot of competition. This 300-foot cascade crashes down andesite cliffs, flows across a small meadow, then drops another 20 feet. The trail climbs the Van Trump Creek Valley.



Grove of the Patriarchs

Some of the largest, oldest trees in the Cascade Range stand here. The grove is located on a low boggy island in the Ohnapewosh River. The trail starts just 0.25 miles past the entrance of the park. Some of the trees are 40 feet around, 300 feet tall, and 100 years old!



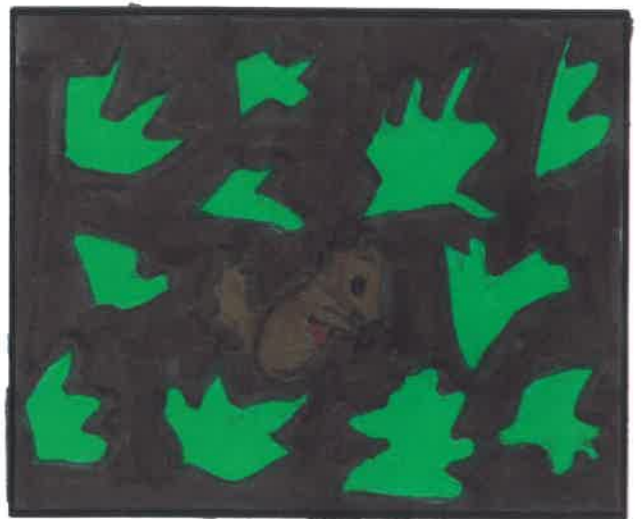
Olympic



Moss on a log

all over the park. Some types of mosses like spike mosses, stair-step mosses, club mosses and cattail mosses can intertwine to become a diverse forest of... mosses? Despite resembling many other types of foliage, mosses are very different from many of the other plants in the undergrowth. They are non-vascular and lack leaves, stems, and roots. Regardless of their structure, the lack of these systems allows mosses to be able to grow just about anywhere throughout these rainforests.

Olympic National Park is home to a wide variety of wildlife. Just offshore, in the Northeast Pacific Ocean, dolphins, whales, sea lions, seals, and sea otters feed. Invertebrates of all shapes and sizes live in the tide pools scattered along the coast. Some land animals, like raccoons, beavers, and minks, live mostly in the lowlands, but others, such as deer, elk, bears, and mountain lions, range from low valleys to high alpine meadows. The park's waters are



A Douglas Squirrel eating an acorn

home to some of the healthiest salmon in the US! Well, outside of *Alaska*. That state always gets the good stuff! Over 300 species of birds live in the park for at least a part of the year, from tiny, penguin-resembling, rhinoceros auklets to soaring golden eagles. The park is a refuge for animals dependent on old growth forests. Olympic contains one of the largest areas of primeval forest in the contiguous US (*Alaska* probably has an even larger one.) These forests are essential habitats for marbled murrelets, northern spotted owls (read more about those on page 4) and many amphibians. The wildlife on the Olympic Peninsula is unique. The community is noteworthy not only for its endemic animals (species that are found nowhere else in the world) but also for species who were not found in the Olympics but were in other western mountains. Pika, lynx, red foxes, bighorn sheep, coyotes, ptarmigan, wolverine, ground squirrels, grizzly bears, and, some time ago, mountain goats, did not occur on the peninsula. But endemic species such as the Olympic snow mole, Olympic marmot and Olympic torrent salamander are found only here!



Hurricane Ridge

Just 33 miles from the 7,980 foot (2,432 meter) summit of Mt. Olympus (not the one in Greece) the Pacific Ocean sparkles in the distance. Between the highest peaks in the Olympic Mountains and the depths of the sea is a jumbled mess of jagged mountains decorated with meadows and lakes. Below treeline, subalpine forests give way to forested slopes ending in U-shaped valleys. Mountain ranges radiate out of Mt. Olympus in all directions. The Olympics are relatively young,

as they started to rise just 34 million years ago. The geology of the park is a story of change. Tectonic plates collide beneath the state we call Washington. While the Juan de Fuca plate subducts underneath the North American plate, the Olympics Mountains are rising higher. However, the rate of rise is contradicted by the rate of erosion on the range's rugged peaks.

Sol Duc Valley

The Sol Duc Falls Trail goes through an old growth forest along the Sol Duc River. The trail leads to a scenic waterfall that drops into a narrow gorge. The round trip is 3.8 miles long.



Klahhane Ridge Trail

This 5-mile trip climbs through steep meadows filled with wildflowers before reaching the top of Klahhane Ridge. Marmots and mountain goats can be found here.



Ruby Beach

Some of the most remote areas of Olympic provide the best wilderness, but they often are hard to reach. To get an amazing taste of the park's beaches, drop down from US 101 to Ruby Beach. It has a mix of sand and cobble-like pebbles.



Hoh River Trail

This iconic hike through the rainforest starts on US 101, leads deep into the rainforest. Enjoy a short walk of just a few yards in, or go all the way to the slopes of Mt. Olympus. The Hoh River Trail winds through massive old-growth trees.



North Cascades



Fir trees

Among all of America's national parks, North Cascades is probably one of the most biodiverse. Extreme variation in a very small area creates diverse ecosystems. More than 1,600 different vascular plant species have been found in the park's 8 major zones, and we don't even know how many different non-vascular and fungal species call the park home! (Real plants and fungi don't talk, so they can't *really* call the park home, but you

get the point.) Scientists say there might be about twice the number of vascular plants, though. Ferns thrive in the dark, moist, forests. Deer, lace, bracken, licorice, parsley, maidenhair, wood, lady, and oak ferns blanket the forest floor. They do not have seeds, instead, they reproduce using spores. Grasses (family Poaceae), rushes (family Juncaceae) and sedges (family Cyperaceae) occupy a wide variety of habitats, from a low-lying wetland to the crest of a mountain ridge. There are about 150 species of grasses, but only half are native. The worst invader is red canary grass (*Phalaris arundinaceae*.) Conifers dominate the forests of North Cascades. These trees are often referred to as evergreens because their needle shaped leaves stay green during the winter, but two species of larch are deciduous.

As I said (or typed) at the start of the first paragraph, North Cascades is a very biodiverse place. Fins, fur, feathers, and scales are all present here. Elusive mammals such as wolves, fishers, and wolverines wander through the deep wilderness in small groups, while more adaptable creatures like Columbian black-tailed deer (read about those on page 4), Douglas squirrels (read about those on page 4, too and see a drawing on page 7) and pikas (read about those on page 8) are more popular among visitors. Many birds build their nests and breed within the park boundaries, including rare animals such as the Harlequin

duck, the osprey, and the bald eagle. Fish and amphibians swim around in the park's mountain lakes and streams. The park is home to a wide variety of invertebrates like butterflies, dragonflies, stoneflies, and mayflies. Those all end in "flies"! Just three hours outside Seattle, you'll find 504,000 square miles of wilderness home to about 75 mammal species from 20 families, 21 species of reptiles and amphibians in 4 orders, around 200 types of birds representing 38 families, at least 28 species of fish, over 500 species of terrestrial insects, and about 250 types of aquatic invertebrates. From banana slugs to grizzly bears, everyone in North Cascades National Park plays a role in the ecosystem, no matter what size or shape.



Mountain Goat



Diablo Lake

Many major rivers scrape at the sides of the Cascades and provide habitats for thousands of types of animals and plants. The Chilliwack, Nooksack, Baker, Skagit, and Stehekin rivers all pass through the park. The mountains of North Cascades also are home to a wide variety of living things. From old-growth forests in the valleys of rivers to stunted krummholz (German for crooked wood) trees on mountain ridges, the northern Cascades are full of contrast. As you hike away from the lush river valleys towards montane forests, the ecosystem around you changes. Lowland forests of Ponderosa pine slowly turn into Douglas fir and Pacific silver fir. The mergansers and harlequins of the river valleys give way to dippers and spotted sandpipers. As you leave the river, you enter a world of subalpine meadows and twisted krummholz trees. And at the top of the mountain ridges, the only living things you can find are lichens, a few insects and a pair of finches.

Diablo Lake

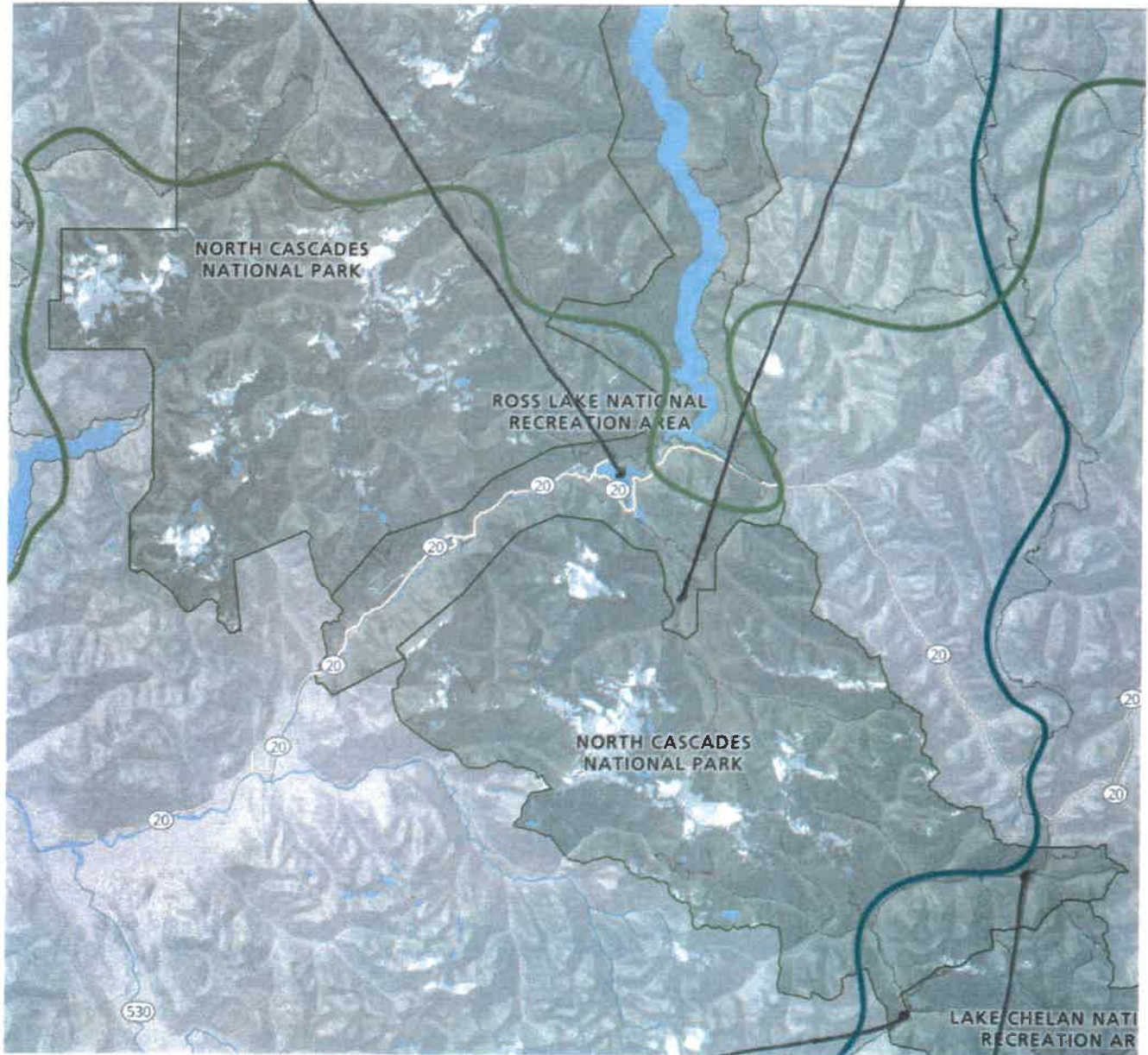


The Diablo Lake Trail travels across the slopes of Sourdough Mountain through an old-growth forest. About 1.5 miles in, take a side trip to a vista of Diablo Lake, famous for its bright blue water.

Thunder Creek



The 1-mile long Thunder Woods Nature Trail provides a great lesson in the local plants and animals. Many birds can be seen on the trail. If you want a challenge, try the 12-mile Thunder Creek Trail.



Agnes Gorge Trail

The Agnes Gorge Trail is just 2.5 miles long, and it provides some of the area's most scenic hiking. It ends above a beautiful waterfall plunging into a dramatic 210-foot gorge.



Bridge Creek Trail



Experienced backcountry hikers looking for solitude can take the Bridge Creek Trail in the Upper Stehekin Valley. A side trip on the Goodridge trail takes visitors into a spectacular horse shoe.

Fun Facts

Mt. Rainier



Mt. Rainier was the fifth national park in the USA. It was created in 1899, an entire 17 years before the National Park Service was created in 1916 and just 10 years after Washington became a state!

The largest volcanic mudflow ever was the Osceola Mudflow, which happened 5,600 years ago on the slopes of Mt. Rainier. It removed 7 cubic miles of ground from the mountain and created the Enumclaw Plain by burying the Puget Lowland (which was rugged at that time) in volcanic mud.

Wow! That's crazy!



Olympic



The world's largest dam removal took place in Olympic. In 2014, two dams on the Elwha River (the 210-foot Glines Canyon Dam and the 108-foot Elwha Dam) were taken down, and thousands of fish returned to the area. Even though the two dams supported growth in the region, they blocked salmon migrations and disrupted the flow of sediment and debris.

The park was established on June 29, 1938, by President Franklin D. Roosevelt. June 29 happens to be the author's birthday.

North Cascades



Many mountains in the park have - er - unsettling names. These include Mount Terror, Mount Fury, Mount Despair, Desolation Peak, Mount Torment, Ghost Peak, Phantom Peak, and Poltergeist Peak. Yikes!

There are more than 300 glaciers in North Cascades! This is equal to $\frac{1}{3}$ of all of the glaciers in the lower 48!

References

- National Geographic - Guide to National Parks of the United States (Eighth Edition)
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Game Answers

