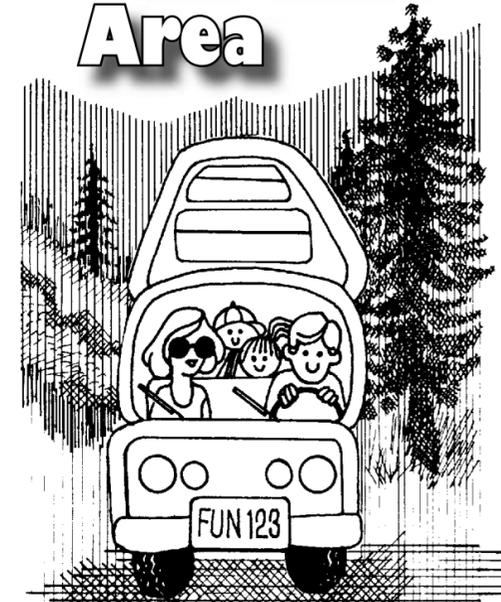


# Geology of the Fish Lake Area



Fish Lake and the surrounding countryside is a scenic and diverse landscape. This landscape is the result of millions of years of activity by deep-seated mountain-building forces and surface erosion processes.



United States Department of Agriculture  
Forest Service  
Intermountain Region  
Fishlake National Forest

## 1 TWIN CREEKS VISITOR CENTER

Mileage Log

0.0 mile

This auto tour highlights some of the unique geology of the Fish Lake area. Geological information in the tour guide corresponds with numbered signs at viewpoints along the route. A mileage log giving distances from the Visitor Center parking will aid the traveler in locating each viewpoint.

Most of the tour is on paved roads. The guide lists one side spur road. The road is rough and narrow, therefore caution should be exercised in traveling it.

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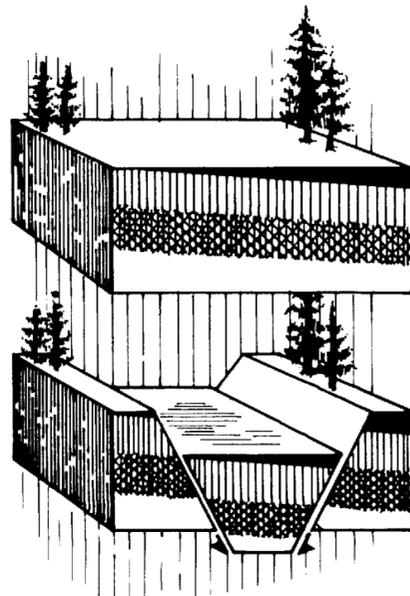
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## 2 FISH LAKE

0.7 mile

Fish Lake occupies a basin surrounded by steep-sided mountains. The basin was formed when a section of land lying between fault lines along the base of the Mytoge Mountain on the south, and Fish Lake Hightop to the north dropped. The down-drop block is called a graben. The graben was not formed by a sudden shift of the earth's crust, but was the result of movement along both faults over a period of many millions of years.

Water trapped on the surface of the graben created Fish Lake, thus Fish Lake owes its existence to geological forces deep within the earth.



## 3 GLACIATED CANYON

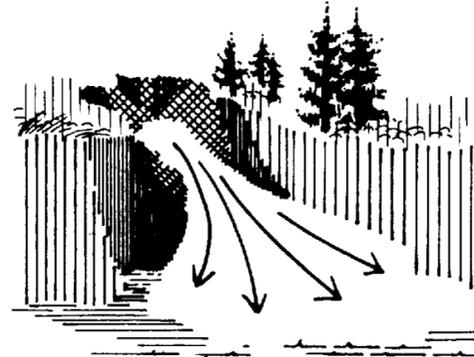
2.1 miles

To the north is Pelican Canyon which was occupied by a glacier many thousands of years ago. Snow which fell during the Ice Age (Pleistocene Epoch) accumulated above the head of the canyon. This continuing accumulation became compressed into ice which eventually formed the glacier which filled the canyon.

The glacier carved a bowl-like depression or cirque at the head of the canyon. Part of this cirque is still visible as cliffs at the upper end of the canyon.



As the glacier moved down, it gouged out materials from the sides and bottom of the canyon. This rock and soil debris was carried along within the glacial ice until it was deposited as a moraine, the steep hummocky hill in the foreground. Imagine – all the material in this hill was torn loose from Pelican Canyon and transported to its present location by slowly moving glacier ice.



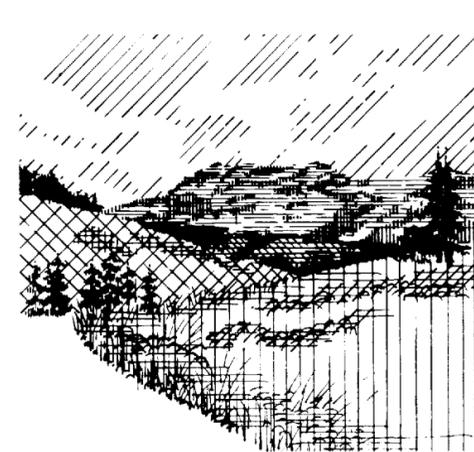
## 4 ORIGIN OF WIDGEON BAY

2.9 miles

Widgeon Bay is the result of material scoured out by the Pelican Canyon glacier being deposited into Fish Lake. Water from the melting glacier was laden with silt, sand, and rock which flowed into the lake, forming a fan-like deposit. The deposits intruded into the lake forming the narrow channel which now connects Widgeon Bay with the main area of the lake.

### DRAINAGE CHANGE

When Fish Lake was originally formed, it drained through an outlet to the southwest. Movement along the two faults tilted the graben and lowered the northeast end. As a result a new stream outlet was formed, which is the course it now follows as it drains into Johnson Reservoir.



## 5 MOUNT MARVINE

5.2 miles

Directly ahead, to the east, is craggy Mount Marvine. This 11,599-foot peak stands as a remnant of a once eminent plateau. Landslides around the plateau edge gradually peeled away material until only this narrow, ridge-like highland, known as Mt. Marvine, remained. Fifty-four square miles of landslide debris surround Mt. Marvine, attesting to its landslide origin – a phenomenon first recognized by geologist C. E. Dutton, who originally named it "The Blade."

## 6 OLD LAKE BEDS

5.8 miles

The broad, wet meadow on the north side of the road is an old lake bed. Glacial material (moraine) to the east apparently blocked the valley leading to Johnson Reservoir area. During the Ice Age (Pleistocene Epoch) or shortly after, a lake formed behind the moraine dam. After a long period, an outlet stream overtopped the dam, cut a channel, and drained the lake into the Johnson Reservoir area. The sand and clay deposited in the lake bottom is now the wet, grassy meadow.

## 7 SEVEN MILE CREEK TURNOFF SPUR #1 SEVEN MILE GLACIAL MORAINES (3.4 miles) CAUTION: ROUGH ROAD

6.1 miles

The road up Seven Mile Valley passes along the edge of several large glacial moraines. These moraines are the largest in the area. From the turnoff to the broad part of the valley, the Rock Springs Canyon moraine rises next to the road on the west side. This material was deposited by a four-mile long glacier. About 2.5 miles up the valley is a similar large moraine deposited by a two-mile long glacier. At several points, you can look up these canyons to the high cliffs from which the glaciers descended into the Seven Mile Valley.

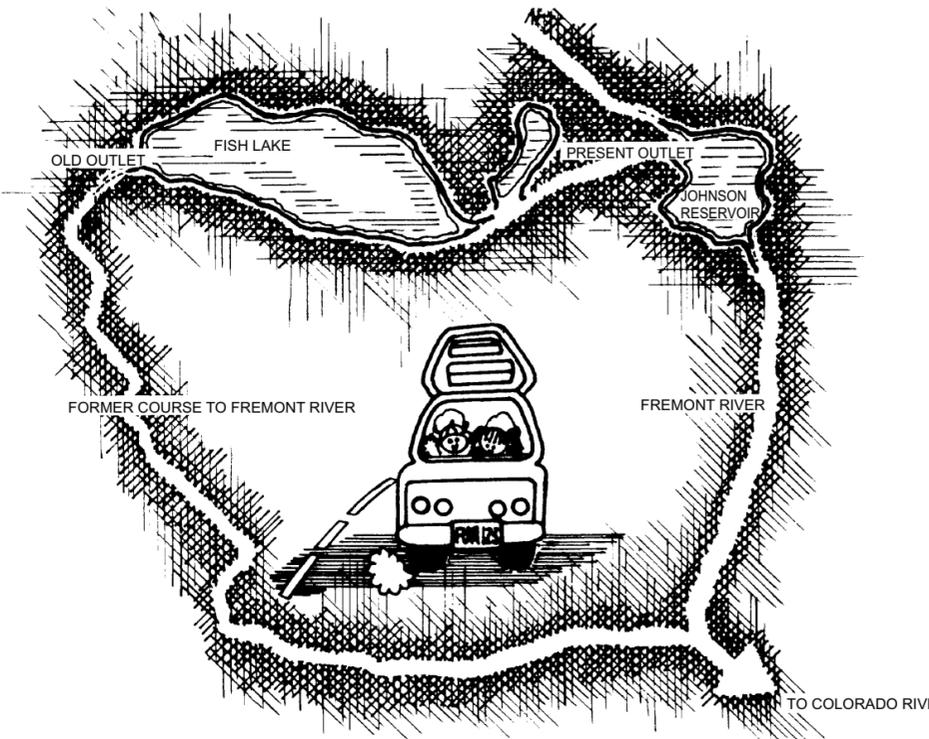
## 8 JOHNSON RESERVOIR BOAT RAMP

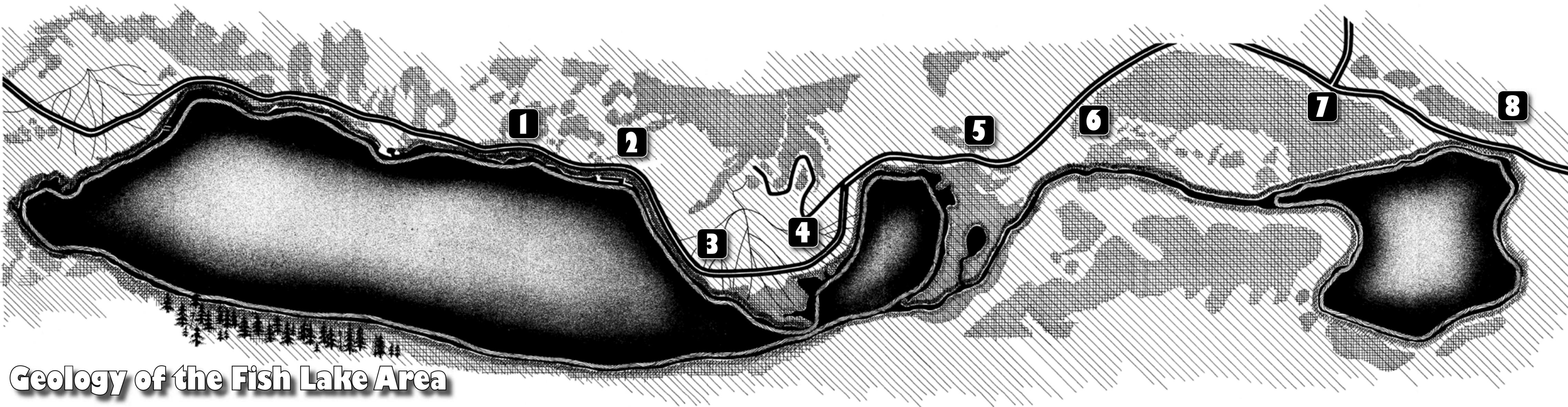
7.2 miles

When Fish Lake drained from the western end, it flowed around to Rabbit Valley, toward Capitol Reef National Park, before joining the Fremont River. Now outflow from Fishlake and Seven Mile Creek pass through Johnson Reservoir to form the Fremont River below the dam. The river is part of the Colorado

System which drains into the Pacific Ocean through the Gulf of California.

Fish Lake Hightop forms part of the divide between the Colorado River System and those streams that flow north into the Great Basin dry lakes, such as Sevier Dry Lake where the water eventually evaporates.





**Geology of the Fish Lake Area**