

THE FOSSIL RECORD

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Field Trips:

THE HISTORY OF THE NORTHWEST

Cascade Natural History

Newberry Volcano, a geothermal hot spot

Date: Saturday & Sunday, September 8 & 9.

Cost: \$15 for non-members, Free for members.

Call: (503) 358-9030 or

e-mail blitz124@comcast.net

Trip leader: Dave Taylor

This weekend trip is to Mount Newberry located in Central Oregon south of Bend. We will be spending our days learning about the fascinating geology of this volcano, 600,000 years in the making.

Newberry's history began with a succession of fluid basaltic flows to form a massive shield volcano stretching 20 to 30 miles in diameter. This first phase of earth building was followed by a second phase, more localized and smaller in diameter. Building upon the original shield, the cone reached nearly 8,000 feet in altitude. Similar to Crater Lake, Newberry's cone eventually collapsed following massive ash-flow eruptions, leaving the caldera that we see today.

We will learn about Newberry Crater and its environs through several short hikes in the area. These remarkably varied volcanic flows are now characterized by the voluminous basalts as well as obsidian accumulations, domes, ash-flows, and cinder cones. Other features in the area include a lava cast forest, East Lake and Paulina Lake, both within the caldera, and an ice cave.

Newberry is still considered active even though it has not erupted for nearly 1,300 years.

Magma chambers not too far below the surface make this volcano a veritable "hot spot", and a potential source for geothermal power.

The volcano is named after John S. Newberry, who contributed to Oregon geology and botany in the mid-1800's.

Meeting time: 11:00 a.m., Saturday at Newberry National Monument.

Accommodations: Camping or lodging options are available. Call for more information.

Coast Range Fossils

Vernonia, Oregon

Date: Saturday, September 29, 2012.

Cost: \$15 for non-members, Free for members.

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This day trip takes us to the environs of Vernonia in the coast range of northern Oregon. We will look for invertebrate fossils in the Pittsburg Bluff and Keasey Formations. The rocks, some 25- 35 million years old, were deposited in a sea that once covered most of Oregon west of the Cascades. While in the Portland area these types of sediments are covered by many thousands of feet of lavas, the upwarped and eroded Coast Range has brought these sediments to the surface allowing us access to a variety of fossilized sea creatures. We will expect to find nicely preserved clams, snails, a variety of other invertebrates, and perhaps a rare shark tooth.