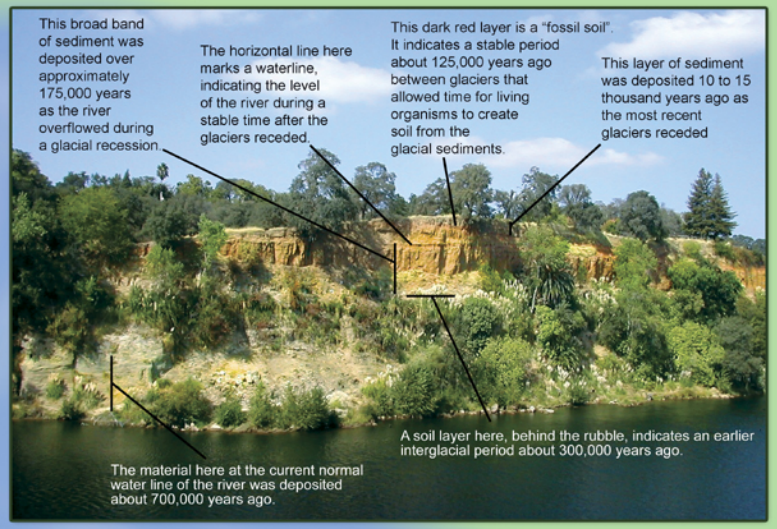
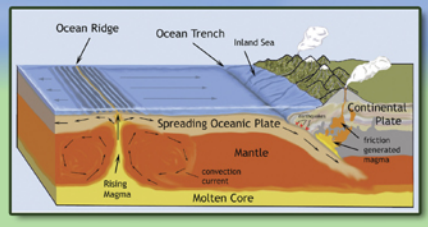
Reading the Face of the Bluff

The "lines"on the face of the Bluff tell the story of its more recent geologic history.



How did the Bluff get there?



Around 300 million years ago, the area you are now standing on was at the bottom of an inland sea near the western edge of the North American Continental Plate. Life flourished in the inland sea, where large marine reptiles ruled the waters.

As the Continental Plate was pushed over the Oceanic Plate during the next 150 million years, volcanoes and geologic forces created mountain ranges that slowly rose and fell. A mountain range built up along the western edge of the continent, blocking the ocean from the inland sea. A great die-off of the marine life resulted, the remains of which were incorporated into the sediments being washed down from the emerging inland mountain range.

Fossils of marine reptiles, such as this Icthyosaurus, were found in the sedimentary layers from about 150 million years ago.

The present Sierra Nevada range began to emerge about 145 million years ago. Periodic volcanic eruptions left layers of ash, some of it compressing and cementing together to make a rock called "tuff." One of these layers can be seen on the Bridge Street side of the Bluff (behind you and a little to the north), pictured here.

The Ice Ages

About two million years ago, a cooler climate caused glaciers to advance and recede several times. With each glacial advance, ocean levels dropped, and rivers cut deeper or changed courses.

As the glaciers melted, great fans of sediment built up at the base of the Sierra and out into the valley. This sediment was then lifted up, folded and eroded, causing the rivers that drained the mountains to change their courses as they entered the valley. Where the American River flows from the foothills, near Folsom, the sediment was rich in placer gold that washed out from fissures in the mountains.

The Bluffs are Carved Out

The American River cut into the land as it joined the Sacramento River. The edge of the land that the river cut into remains as the Bluffs we see along the north side of the river. The view from the top of the Bluff to the south is part of the ancient flood plain of the American River.

For more information visit www.arnha.org/books/fobluff.html