Bowling Ball Beach, looking north from Highway 1.
The bluff along Bowling Ball Beach is formed from steeply dipping beds of the Miocene Galloway Formation. These rocks are younger than the rocks at Sea Ranch, but were also deposited in the Gualala basin by turbidity currents, like the rocks at Sea Ranch. The rocks dip steeply west and are on the west limb of the Ferguson anticline.

Bowling Ball Beach is in Schooner Gulch State Park, a short drive north of the Sea Ranch.

It is best to go to Bowling Ball Beach at low tide. Otherwise, the bowling balls are likely be covered by water and the trip along the beach may be difficult to impossible.

To get to Bowling Ball Beach from Gualala go north on Highway 1 to Mile Marker 11.41 and park in the designated area for Schooner Gulch State Beach on the west side of the highway facing south. There are two trails from the parking area. Take the trail at the north end of the parking area. Follow this trail 0.1 mile across the meadow and then take the path down to the beach. Continue north along the beach for half a mile to the large "bowling balls" in the surf zone.

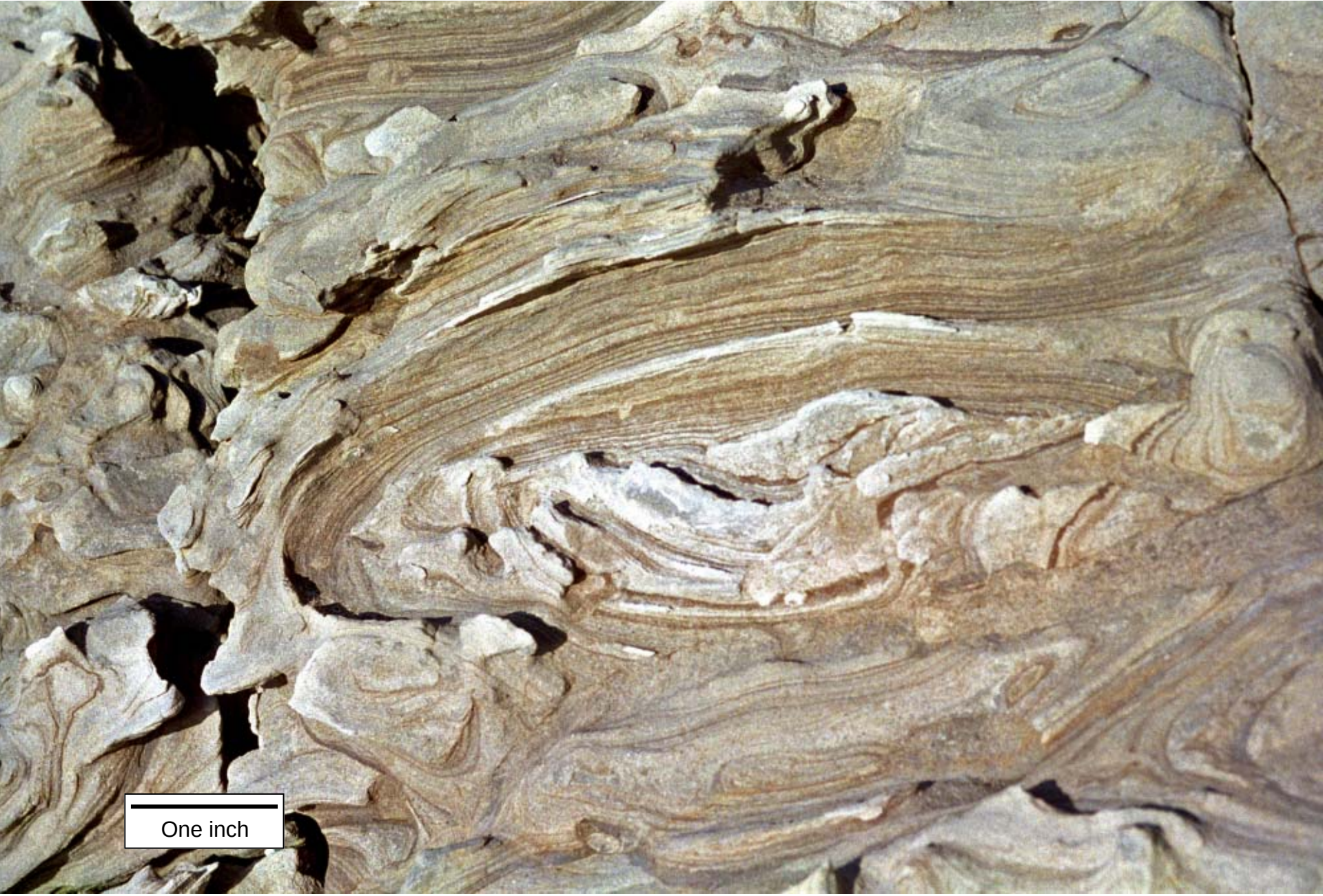
This photograph was taken looking northwest along Bowling Ball Beach from the access trail at the top of the bluff. The bowling balls are a short walk north along the beach. The soft sedimentary rocks of the Galloway Formation that form the bluff are being rapidly eroded by wave action and the bowling balls lie on a wave-cut platform that has been formed as the bluff was eroded.

This photograph shows a large group of the bowling balls exposed at low tide on Bowling Ball Beach. The bowling balls are round, about two to three feet in diameter, and consist of sandstone. They were formed as concretions within the sandstone beds of the Galloway Fm. The sandstone bed exposed in the bluff in the top center of the photograph has several concretions that are in the process of forming new bowling balls. As the cliff is worn back by the waves, the hard sandstone concretions are left behind.

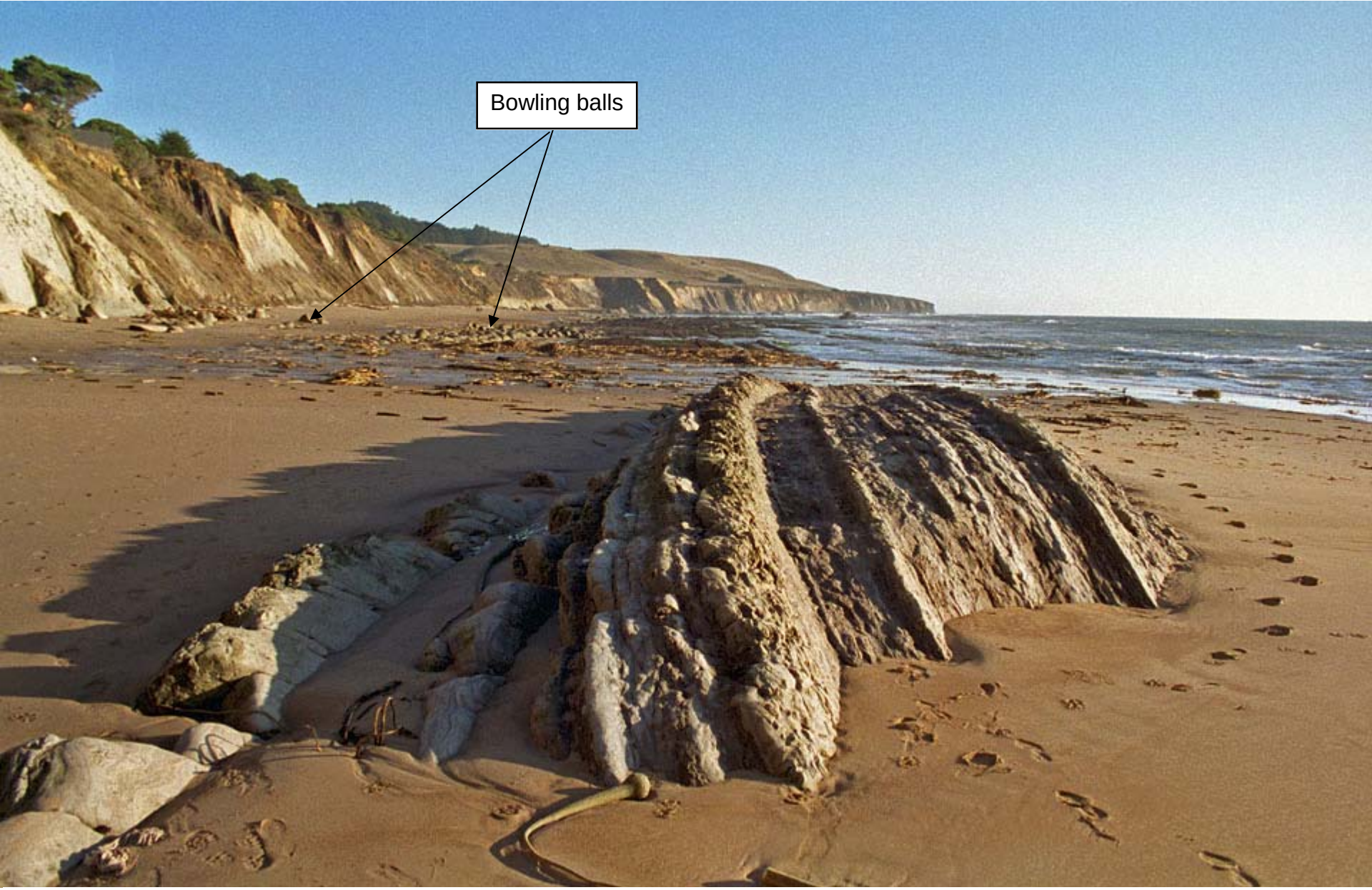
The sandstone concretion in this photograph has not yet been completely removed from its host bed. Many other bowling balls in the photo appear to be loose. Concretions result from a tendency of minerals of like composition to precipitate around a common center.

This close-up photograph of one of the bowling balls shows that the sandstone concretion has a complex wavy pattern. These “convolute laminations” were formed in the very soft sediments during the final stages of a turbidity flow. The water-saturated sediments of the turbidity flow were contorted in the weak current. The convolute laminations extend across the boundary between the host sandstone bed and the hard concretion, confirming that the concretions were formed by differential cementation within the sandstone bed and were not large boulders deposited in the sandstone bed.

This photo shows several concretions in the host sandstone bed. The concretions are more resistant to weathering than the host sandstone bed. With further weathering, these concretions will be released from the sandstone bed and added to the other bowling balls that litter the beach.



The highly irregular pattern in this sandstone bed resulted from weathering of a sandstone bed with convolute laminations.



Many of the thin sandstone and shale beds that make up this small “hogback” north of the bowling balls have tracks of boring animals. The next photograph shows is a close up of these tracks.

These pencil-shaped structures were made by organisms living in the mud on the sea floor. The borings can best be seen on clean fresh surfaces of shale below thick sandstone beds. Similar “bioturbation” can be seen in shale of the German Rancho Formation at Sea Ranch.

The “flatiron” in this photo resulted from erosion of the steeply dipping sandstone and shale of the Galloway Fm. The hard layers of sandstone have shielded the underlying softer sediments from more rapid erosion. The remnant of beach sandstone perched on the shoulder of the flatiron records of an earlier beach level several feet higher that the present beach. Higher beach levels occur in the summer and lower beach levels occur in the winter when the sand is removed by heavy storms.

Further north along the beach there are some large yellow rocks that look like huge toasted muffins. The muffins are concretions that lie within a bed of gray shale. Some of the concretions are in place where they were formed in the shale bed and others have slid down the bluff so that they now rest at the base of the bluff.

Further north along the beach there is a broad wave-cut platform. The thin resistant sandstone beds that form the ridges on the platform can be traced into the bluff. The platform is extended landward as the bluff is eroded by wave action.

This photograph looks south from the northern part of Bowling Ball Beach and shows bowling balls within bowling lanes that were formed by hard sandstone beds on the wave-cut platform.