## Natural Cobble at Goleta Beach

When AMEC Foster Wheeler has been asked to consider cobble berms as an alternative form of shoreline protection for Goleta Beach Park, they have consistently produced dismissive analyses based on unfounded speculation and misinformation. Specifically, they have repeatedly stated that cobble is not present at Goleta Beach, and would cause negative downcoast impacts if introduced there.


Goleta Beach, May 2015. A natural cobble berm can be seen at the west end. Note positions of access trail at left and black boulders at lower right.


Goleta Beach, July 2017. West-end cobble berm protects access trail and vegetation from waves large enough to transport one-ton black boulders.


Natural cobble at Goleta Beach, January 2016.


Natural cobble at Goleta Beach, February 2016.


Natural cobble at Goleta Beach, March 2016


Expensive, ill-advised geotextile structure, shredded by waves, deposits a trivial amount of cobble on the beach. February 15, 2017.


Natural cobble berm at Goleta Beach, looking west.


Natural cobble berm at Goleta Beach, looking west.


Natural cobble berm at Goleta Beach is more than half the height of the old revetment.


Natural cobble at Goleta Beach, far updrift of the shredded geotextile.


Natural winter cobble berm at Goleta Beach.


Natural cobble at Goleta Beach, looking east.


Several hundred tons of wave-driven cobble fills the gap left by the shredded geotextile structure.


Natural wave-driven cobble berm approaches the volume of the new revetment.


Cobble east of Goleta Beach, March 2017.


Cobble east of Goleta Beach. Natural berm can be seen in the background.


Cobble east of Goleta Beach.


Cobble east of Goleta Beach.


Cobble east of Goleta Beach. Natural berm can be seen at upper right.


Natural cobble berm $1 / 2$ mile east of Goleta Beach pier.


Natural cobble berm 0.9 mile east of Goleta Beach pier. Berm spans the entire one-mile stretch of beach from the slough mouth to the tar seep at upper right.

