

**Little Sur River Survey Area- Large Woody Debris Threat
Assessment - Pico Blanco Boy Scout Camp Area and Downstream**



Figure 1: Little Sur River evaluation: Google Earth aerial photo of the survey area. Pico Blanco Boy Scout Camp and survey area is in middle of photo. Helicopter survey was conducted over the area. The area about 5 miles downstream of Pico Blanco Camp towards the Pacific Ocean was unburned in 2008 Basin-Indians Fire, vegetative ground cover is mostly intact. The river gradients lessen along the lower reaches to the Pacific and should be able to spread and slow peak flows and debris in flood prone areas, slowing potential impacts downstream. Large wood should have the ability to drop out along the reach and add to channel function and integrity.



Figure 2: Topographic Map of the middle reaches of the Little Sur River, showing the same area as seen in Google earth image (Figure 1). Pico Blanco Boy Scout Camp is just south of the Little Sur River text in the middle left of map. Stream for ½ mile above camp was surveyed.



Figure 3: Little Sur River ½ mile upstream of the Pico Blanco Boy Scout Camp. Large fir tree that fell into channel shows minor congestion point for wood materials and sediment. Large wood is embedded in to stream banks and hold slope ravel. Sediment and debris can trap and slow behind this feature. Overall stream gradient in the reach surveyed was 2 to 5 % and moderately to highly confined, valley widths range from 40 feet to approximately 80 feet. Channel is moderately sinuous with several stream bends.



Figure 4: Little Sur River ½ mile above Pico Blanco Boy Scout Camp. Channel has narrow valley with large trees stabilizing stream banks and slope materials. Channel capable of moving large wood, large pieces were found entrained into stream banks and channel. The recent fire has contributed to additional amounts of downed wood that may be transported downstream. Large wood could gather and congest the channel in narrower, more constricted reaches of the channel. The fish ladder and back water pond at the Boy Scout Camp is susceptible to large amount of wood and sediment deposition that may transport out of the burn area during a flood this coming winter.



Figure 5: Pico Blanco Boy Scout Camp, camp outpost and store with Little Sur River channel in foreground. This building has the highest probability of flooding of all of the large structures in the camp. It is located on the inside of a short river bend and the bulk of flood energy is focused on the bank opposite of the building. The development of the camp has confined the channel along this reach, note the steep stream banks.



Figure 6: Little Sur River and camp foot bridge at Pico Blanco Boy Scout camp and access road low water ford. Bridge is a potential constriction point for large wood debris at bridge and may cause flows to flood terrace to the left of bridge. Building shown in Figure 5 (store) is to the left of the footbridge in photo. Channel banks have been built up as result of the camp development.



Figure 7: Lower Little Sur River valley just upstream of the Highway 1 Bridge from helicopter view. Wide valley above bridge is able to have flood water and debris settle on adjacent fill terrace. Valley at this point and upstream is wider and with a lower gradient with well developed stream side vegetation that should buffer high peak flows and allow the majority of floatable large wood and sediment to deposit and store over the valley reach. Threat of damage to Highway 1 Bridge over Little Sur River by large wood is unlikely.

