



Figure 4-51. Presence or absence of bank failures and the percent of the longitudinal extent of left and right banks undergoing active mass-wasting processes along Edgewood Creek.

4.7 Basin-Wide Evaluations of Channel Conditions

To provide greater spatial resolution around the Lake Tahoe, watersheds particularly in those locations where no stream gage data exists, RGAs and sampling of streambeds and banks were conducted. Including the evaluations that were carried out in the seven intensely studied watersheds, 304 sites were visited between September and November, 2002 (Figure 4-3). The combined stability index for all sites is shown in Figure 4-52 providing a basin-wide management tool to identify potentially high-erosion stream reaches. As with the larger-scale maps of individual watersheds, those sites marked by red, have index values of 19 or above, indicating a marked degree of instability and enhanced sediment production. Sites shown in green and yellow conversely are relatively stable. Maps showing the relative contributions of channel and side-slope characteristics making up the combined stability index are shown in Figure 4-53 as a means of assessing the dominant processes effecting a given reach or stream. It deserves repeating that the side-slope index is not a measure of upland sediment production throughout a given watershed, but instead represents potential sediment contributions to channels from adjacent slopes and terraces.

With streambanks providing a significant proportion of the suspended sediment in streams in the Lake Tahoe watershed, critical areas can be identified in Figure 4-54 by locating those sites that have a combination of a high percentage of banks failing and relatively high silt-clay contents in their banks. Reaches of the Upper Truckee River stand out in this regard as do sections of the wetter western streams. For overall channel-stability conditions across the Lake Tahoe Basin, evaluations of stage of channel evolution provides information on the ongoing vertical and lateral processes for assessed stream reaches. Stages I and VI are indicative of stable channels, while III, IV, and V indicative of varying degrees of instability. Bank failures and channel widening peak during stage IV and are shown in red. Note the generally stable conditions for streams draining the eastern quadrant of the watershed as well as tributaries in the southwest, and even the middle and upper reaches of Incline Creek in the north. Unstable conditions are typical along the Upper Truckee River (except for the boulder reaches) as well as