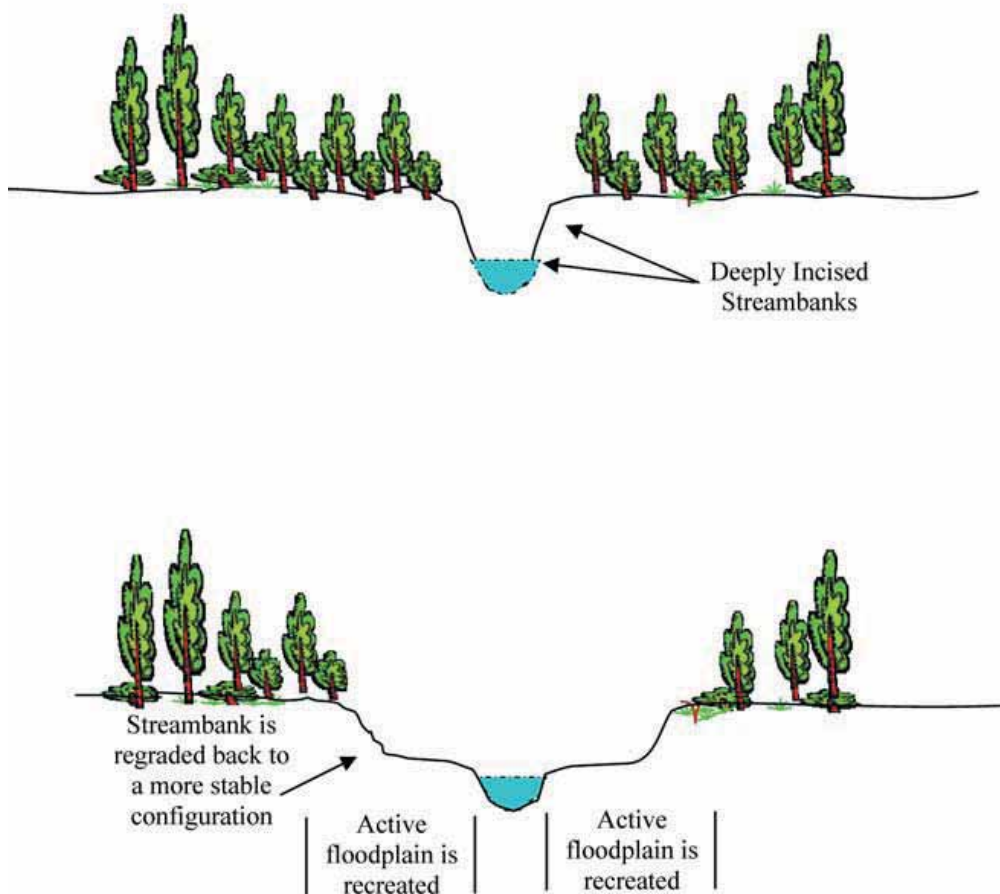


Associates in Collaboration with H. T. Harvey and Associates for the San Francisquito Creek Joint Powers Authority. They write, “The higher a bank is, the flatter the angle must be to prevent slumping. For example, most soils will support a three-foot high vertical bank, but if the river cuts a deeper channel (say five feet) the bank will collapse under its own weight. A five-foot tall bank would need to be graded to a lower gradient to be as stable as a three-foot vertical bank, and a ten-foot high bank would have to be excavated to an even lower gradient to be stable. The higher the bank, the lower the stable gradient becomes.” The best remedy for this problem—the problem of an over-steepened bank experiencing both hydraulic and geotechnical failures—combines several steps. The first step involves regrading the slope to a more stable angle, which is why it is called “laying it back.” The second step involves reinforcing the toe, where necessary, with biotechnical methods such as logs and rocks. The third step involves reducing erosive energy on the bank by planting the bank, so that it does not become over-steepened again. For an illustration, see figure 3 below.

Figure 3: Laying Back a Streambank to Increase Stability



**BANK PROTECTION/EROSION REPAIR GUIDE PART TWO:
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