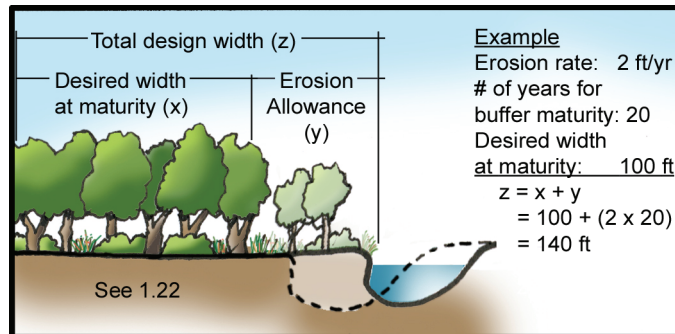




1.18 Allowances for bank erosion

Buffers implemented for reducing streambank erosion may need to include additional width to allow for erosion while vegetation matures to the point where it becomes effective. Mature vegetation may not entirely halt streambank erosion since some erosion is natural. In severely degraded watersheds, vegetation alone will not reduce streambank erosion and other causes will need to be addressed.

1.18 References

- Abernethy, B.; Rutherford, I.D. 1999. Guidelines for stabilising streambanks with riparian vegetation. Technical Report 99/10. Melbourne, Australia: Cooperative Research Centre for Catchment Hydrology. 37 p. <http://www.catchment.crc.org.au/pdfs/technical199910.pdf> [Date accessed: October 18, 2007].
- Abernethy, B.; Rutherford, I.D. 2000. Stabilising stream banks with riparian vegetation. Journal of the Australian Association of Natural Resource Management. 3(2): 2-9.
- Beeson, C.E.; Doyle, P.F. 1995. Comparison of bank erosion at vegetated and non-vegetated channel bends. Water Resources Bulletin. 31: 983-990.
- Burckhardt, J.C.; Todd, B.L. 1998. Riparian forest effect on lateral stream channel migration in the glacial till plains. Journal of the American Water Resources Association. 34: 179-184.
- Harmel, R.D.; Haan, C.T.; Dutnell, R. 1999. Bank erosion and riparian vegetation influences: Upper Illinois River, Oklahoma. Transactions of the American Society of Agricultural Engineers. 42: 1321-1329.

Micheli, E.R.; Kirchner, J.W.; Larsen, W.W. 2004. Quantifying the effect of riparian forest versus agricultural vegetation on river meander migration rates, Central Sacramento, California, USA. *River Research and Applications*. 20: 537-548.

Pizzuto, J.E.; Meckelnburg, T.S. 1989. Evaluation of a linear bank erosion equation. *Water Resources Research*. 25: 1005-1013.

Smith, D.G. 1976. Effect of vegetation on lateral migration of anastomosed channels of a glacier meltwater river. *Geological Society of America Bulletin*. 87: 857-860.

Wynn, T.; Mostaghimi, S. 2006. The effects of vegetation and soil type on streambank erosion, southwestern Virginia, USA. *Journal of the American Water Resources Association*. 42: 69-82.

Zaimes, G.N.; Schultz, R.C.; Isenhardt, T.M. 2004. Stream bank erosion adjacent to riparian forest buffers, row-crop fields, and continuously grazed pastures along Bear Creek in central Iowa. *Journal of Soil and Water Conservation*. 59: 19-27.