How much dead wood is there?

The number of dead trees and shrubs or the amount of dead branches in their canopies can be a signal of declining health of a riparian reach. A number of factors could be contributing to this:

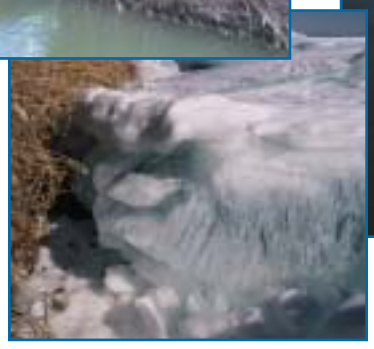
- Large amounts of dead wood may indicate a change in water flow through the system due to either human or natural causes;
- De-watering of a reach, if severe enough, can dry the reach, changing vegetation potential from riparian to upland species;
- Flooding of a reach, or a persistent high water table, from beaver dams, crossings that restrict flow or man-made dams can kill and eliminate some riparian species;
- Heavy use of browse can stress woody plants, resulting in their eventual death;
- Physical damage from rubbing and trampling, if chronic, can result in the death of woody vegetation; and
- Climatic impacts (drought), weather (severe winters), disease and insect infestations can affect woody vegetation.

In all these cases, a high percentage of dead wood reflects declining vegetation health. This can lead to reduced streambank integrity, increased channel incisement, excessive bank and shoreline erosion and reduced shelter values.

A water level increase from a beaver dam flooded and killed these willows.

This willow has been severely browsed, rubbed and trampled by livestock.

Are streambanks and lakeshores held together with deep-rooted vegetation?



Only deep-binding roots, such as those of willows, can protect shorelines from ice, wind and wave erosion.

Kentucky bluegrass roots have very limited bank holding capabilities.

Streamside vegetation maintains the integrity and structure of the streambank by dissipating energy, resists erosion and traps sediment to build and restore banks. On lakeshores and wetland margins, vegetation resists wave action, ice movement and traps sediment.

Root systems bind soil particles together and provide the glue that stabilizes the zone where stream flow and wave energy have the most consistent, regular effect. Vegetation with deep and binding roots best accomplishes this function, especially if there is a diversity of these species found on the reach. Most tree and shrub species provide such deep roots. Herbaceous annuals and weeds lack this quality. Perennial herbs provide it in varying degree. Some species, such as sedges, are excellent streambank stabilizers, while others, such as Kentucky bluegrass and timothy, have shallow root systems and have limited capability.