

VEGETATION MANAGEMENT ON STEEP SLOPES



LOWER MINNESOTA RIVER
WATERSHED DISTRICT

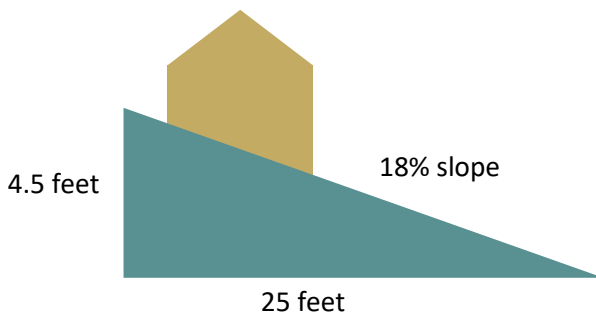
Does your property have steep slopes or bluffs?

Steep slopes and bluffs are areas that may be affected by extreme erosion due to steep grade. They are common along the Minnesota River. Properties along steep slopes and bluffs offer unique scenery but, these appealing locations require special care to preserve.

In technical terms, according to the definition of the Lower Minnesota River Watershed, steep slopes are a natural topographic feature comprising average slopes of 18 percent or greater measured over a horizontal distance of 25 feet or more.



photo: Young Environmental



Steep slopes have a 4.5 foot vertical rise over a 25 foot horizontal run, or have an 18 percent slope.

Why should I be concerned?

Development and vegetation removal along steep slopes and bluffs often results in erosion and slope failure. Altering the land how the water moves across it can increase your property's susceptibility to erosion and slope failure, creating a serious threat to your home and personal safety.

By properly taking care of vegetation on steep slopes and bluffs through removal of invasive and noxious plants as well as, maintenance, and planting, we can avoid these risks.



photo: city of Eden Prairie

Site Inventory

Before selecting the means and methods for managing your project, you should account for both the vegetation and site features. The best method for achieving this is to walk the area and note the following:

- What is the **existing vegetation**? What types of plants are on the site? Are they native or invasive?
- Are there **noxious weeds** on the site? Noxious weeds lower the quality of our natural resources and can pose a health risk. Consult the [Minnesota Department of Agriculture](#) for information on management.
- What are the **landscape** features of the site? Are there slopes, structures, hazards, adjacent land uses, or other features to be aware of?
- Are there **sensitive landscape features** on the site that are unique, rare, or that require special consideration, such as, trout streams, fens, wetlands, slopes, floodplain, or other features?

Vegetation Removal

If you plan to remove vegetation, there are several approaches to choose from that may suit your site.

Cutting is best for woody plants, and using a hand saws allows the trees to fall more slowly. There are multiple methods available, and cutting can occur throughout most of the year. Be aware that plants often resprout from stumps, and it can be hazardous to cut large trees without proper training.

Pesticides are best for most plants. They are effective but can be hazardous without proper handling. You can potentially damage desirable plants, and sensitive features need to be taken into consideration.

A **combination** of both methods, by applying herbicide shortly after cutting, reduces the chances of regrowth.



Adding Vegetation

The methods for incorporating vegetation vary in the amount of time and resources they require.

No action or natural revegetation is best for large areas with a desired seedbank. This is inexpensive and requires little effort; however, results will be uncertain.

Seeding is best for establishing a new plant community and can be inexpensive. There are many options for applying seed, but it can be labor intensive.

Planting is best for introducing new, larger plants and dealing with smaller areas or inter-planting. There is a high survival rate with planting, but it can be expensive and labor intensive for large areas.

All revegetation methods should incorporate **site stabilization** techniques. Soil stability helps ensure seedling growth by creating a site more resilient to weathering and disturbances. There are many options: natural litter, cover crops, mulch, and erosion.

Contact your city government or the Lower Minnesota River Watershed District for more resources and information at info@lowermriverwd.org.