

VEGETATION AND EROSION CONTROL ON DAMS

Problems From Trees And Brush On A Dam

Trees and brush on a dam's earthen embankment and along the downstream toe can hide developing structural problems and also create the potential for new problems in the future. The sudden uprooting of a tree by a strong wind can leave a big hole in the embankment where the tree's root ball was pulled out. Such a hole could lower the crest of the dam, reduce the effective width of the dam, and enhance seepage. A falling tree can damage concrete, steel, stone or timber structures, too.

The root system of a healthy, standing tree can be a potential hazard by creating seepage pathways through a dam. Trees eventually die, leaving their roots to rot. The decaying roots form a network of channels that increases seepage within the dam's embankment or foundation. This seepage can develop into serious piping that removes soil particles from the embankment or the foundation. Such internal erosion can lead to sudden failure of the dam.

Brush and woody vegetation can hinder the visual inspection of dam surfaces. Trees and brush hide sinkholes, animal burrows, seeps and other irregularities.

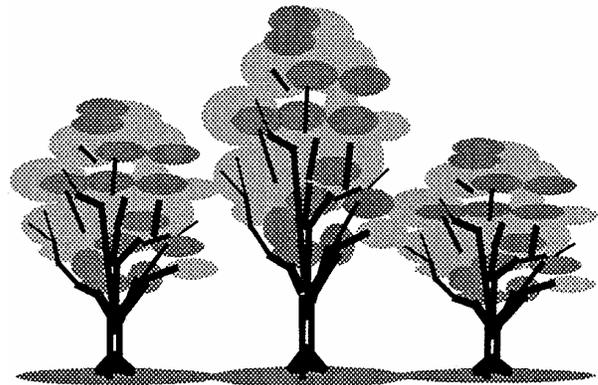
Erosion Control

Grass cover is a very effective and inexpensive way to prevent the erosion of embankment surfaces. The stems and root systems of grasses tend to trap fine particles of soil, thus inhibiting the migration of these particles. A good grass cover provides an excellent means against erosion due to runoff caused by rains, and can protect the embankment during limited overtopping.

Smaller trees and brush provide too much shade that hinders the growth of sturdy, thick grass cover on the dam. Sparse grass is more prone to surface erosion than dense turf.

Maintenance

Grass cover must be mowed periodically to permit detailed visual inspection of the dam's embankment. **Trees and brush should never be allowed to grow on or very near a dam!** Many older dams have very large trees growing on or near them. Removal of large trees and their root balls from an earthen dam should be done under the direction of a qualified professional engineer who is knowledgeable about dam safety and maintenance.



For more information contact:

Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety
P.O. Box 8554
Harrisburg, PA 17105-8554
717-787-8568

For more information, visit www.depweb.state.pa.us, keyword: Dam Safety.

DEP's Watershed Management Program Regional Offices

Southeast Region

2 East Main Street
Norristown, PA 19401
484-250-5152

Counties: Bucks, Chester, Delaware, Montgomery and Philadelphia

Southwest Region

400 Waterfront Drive
Pittsburgh, PA 15222-4745
412-442-4149

Counties: Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington and Westmoreland

Southcentral Region

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Harrisburg, PA 17110
717-705-4708

Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry and York

Northcentral Region

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Williamsport, PA 17701
570-327-3675

Counties: Bradford, Cameron, Clearfield, Centre, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union

Northeast Region

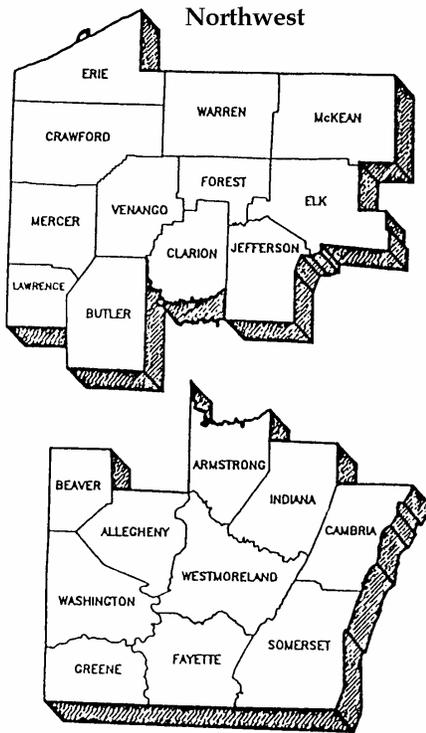
2 Public Square
Wilkes-Barre, PA 18711-0790
570-830-3093

Counties: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne & Wyoming

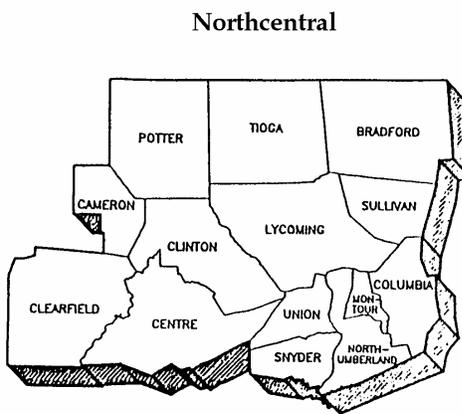
Northwest Region

230 Chestnut Street
Meadville, PA 16335-3481
814-332-6984

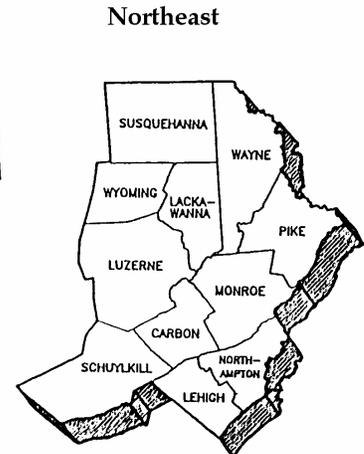
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Southwest



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