



DAM OWNERSHIP

FACT SHEET

TOPIC: TREES AND BRUSH

The establishment and control of proper vegetation is an important part of dam maintenance. Properly maintained vegetation can help prevent erosion of embankment and earth channel surfaces and aid in the control of groundhogs and muskrats. The uncontrolled growth of vegetation can damage embankments and concrete structures and make close inspection difficult.

Trees and Brush

Trees and brush should not be permitted on embankment surfaces or in vegetated earth spillways. Extensive root systems can provide seepage paths for water. Trees that blow down or fall over can leave large holes in the embankment surface that will weaken the embankment and can lead to increased erosion. Brush obscures the surface limiting visual inspection, providing a haven for burrowing animals, and inhibiting the growth of grass vegetation. Tree and brush growth adjacent to concrete walls and structures may eventually cause damage to the concrete and should be removed.

Stump Removal & Sprout Prevention

Stumps of cut trees should be removed so vegetation can be established and the surface mowed. Small



stumps may be entirely removed if removal does not

Tree roots growing into the dam's earth embankment causing failure.

require extensive excavation into the embankment which could compromise the structural integrity of the dam. If the stump is of sufficient size where complete removal would require significant excavation into the embankment, then the stump should be ground down to about 6 inches below the surface. All other woody material should also be removed or ground down to about 6 inches below the ground surface. The cavity should be filled with well-compacted clay soil with a surface dressing of top soil to promote a vigorous grass cover.

Stumps of trees in riprap should be cut as close to the rock layer as possible and then chemically treated so

they will not form new sprouts. Certain herbicides are effective for this purpose and can even be used at water supply reservoirs if applied by licensed personnel. These products should be applied in strict coherence with local and state herbicide regulations. Other instructions found on the label should be strictly followed when handling and applying these materials. Only a few commercially available chemicals can be used along shorelines or near water.

Embankment Maintenance

Embankments, areas adjacent to spillway structures, vegetated channels, and other areas associated with a dam require continual maintenance of the vegetal cover. Grass mowing, brush cutting, and removal of woody vegetation (including trees) are necessary for the proper maintenance of a dam, dike, or levee. All embankment slopes and vegetated earth spillways should be mowed at least twice per year: once in the late spring and then during fall when the growing season subsides. Aesthetics, unobstructed viewing during inspections, maintenance of a non-erodible surface, and discouragement of burrowing animal habitation are reasons for proper maintenance of the vegetal cover.

Methods used in the past for control of vegetation but now are considered unacceptable include chemical spraying and burning. Acceptable methods include the use of weed whips or power brush-cutters and mowers. Chemical spraying to first kill small trees and brush is acceptable if precautions are taken to protect the local environment.

It is important to remember not to mow when the embankment is wet. It is also important to use proper equipment for the slope and type of vegetation to be cut. Also, always follow the manufacturer's recommended safe operation procedures.



Properly maintained embankment.



Slope Mower

RESOURCES

ASDSO Resources

The ASDSO website houses national guidelines on plant impacts on dams. Go to:

[DamSafety.Org/ManualsandGuidelines](https://www.dam-safety.org/ManualsandGuidelines)

For more information, videos and tools for dam owners go to:

[DamOwner.Org](https://www.damowner.org)

Watch for training in your area sponsored by ASDSO or your State Dam Safety Office.

Access your state's Dam Safety Program by clicking your state at: [DamSafety.Org/States](https://www.dam-safety.org/States)

DHS/FEMA Resources

DHS and FEMA make several publications and videos available to dam owners through:

[FEMA.gov](https://www.fema.gov) and [DHS.gov](https://www.dhs.gov) (search "dam safety")