

Care of Flood-Damaged Lawns and Turf

Tony Koski, Extension Turf Specialist

Department of Horticulture and Landscape Architecture

<http://csuturf.colostate.edu> <http://csuhort.blogspot.com>



Lawns that are covered by flood waters, even temporarily, may be subject to various types of damage. In general, most turf species will tolerate a few days of flooding without any negative effects. However, turf that remains flooded for more than a few days (especially when it is hot) can rapidly decline due to lack of oxygen and light. Substantial turf loss can be expected after 4 days of continued submersion. Other factors associated with flooding of turf include: soil coverage, water contaminated with petroleum or pesticides, high water temperature and algae scum. The most significant long-term effect of flooding is the deposit of sediment ("muck"), primarily silt and clay, over turf surfaces. This can lead to serious soil layering problems and even death of the existing grass.

Short-Term Care of Flooded Turf

Once flood waters have receded, pick up any debris, such as wood, glass, stones, nails and other metal objects deposited on lawn areas. This debris could pose a safety hazard to mower operators and damage power mowers or other equipment later used to maintain the lawn, as well as to people and pets who may use the lawn for recreation. Remove leaves or any other material that may smother grass.

Soil ("muck") deposited on a lawn can sometimes be removed before drying by a combination of scooping/shoveling and washing with a jet of water using a hose-end sprayer. However, removal of soil may be impractical or impossible due to the size of the lawn area, the depth of the soil, the weight of the wet soil, and ability to move it to another location.

Soil deposits on golf greens and other sand-based turf systems (soccer, football or baseball fields) should be removed as quickly and thoroughly as possible to reduce the potential for silt and clay to move into the sand root zone, clogging the pores and reducing infiltration and permeability. The use of shovels, sweepers and water to move/remove soil deposits will reduce the potential for damage. However, these affected turf systems will likely require aggressive core cultivation and topdressing to restore and maintain acceptable infiltration and aeration.

After the Turf has Dried

It is often not possible or practical to remove deposited soil from flooded turf while it is still wet. The drying process may take two or three weeks, perhaps longer, depending on weather, soil, and drainage characteristics of the underlying soil and turf. Remediation at this point is largely dependent upon the depth of deposited soil.

Lawn repair with less than 1-2 inches of soil

Lawns submerged less than 4 days and covered with an inch or less of soil have a good chance to recover. Assessment of potential lawn damage and recovery may not be possible until those areas have dried. Checking for new shoots emerging from the soil or the emergence of new

shoots from surviving plants is a good way to make an early assessment of damage. Usually, once regrowth has begun, it will continue, although it may take several weeks before the lawn has completely filled in.

Core cultivation/aerification is one of the most important and beneficial operations conducted where soil deposits are less than an inch. When the lawn has begun to grow (green leaves begin to appear), go over the lawn 3-4 times with a core type aerifier. This will help improve overall soil structure, improve soil oxygen levels, help break up soil layering problems caused by the deposited soil and encourage recovery during the fall. The lawn should also be fertilized (using any lawn fertilizer, following label instructions for applying the correct rate) at this time (September-October).

Overseeding can also be done at the time of aerification. The aerification holes provide perfect conditions for the germination of grass seed. Lawn areas that are thin (or the entire lawn can be overseeded at this time) can be overseeded with Kentucky bluegrass or a Kentucky bluegrass/perennial ryegrass mix (tall fescue lawns should be overseeded with tall fescue seed), using a seeding rate of 5-6 pounds of seed per 1000 square feet. Rake the lawn lightly after seeding to work seed into the aeration holes. Irrigate the lawn to maintain moist, but NOT saturated, soil conditions.

Lawn repair with greater than 2 inches of soil

Lawns covered with more than 2 inches of soil may be heavily damaged, with only a slight chance of recovery. Degree of recovery will vary with grass species and depth of soil. The greater the depth of soil, the slower the recovery and the less likely the lawn will recover. If the lawn area is completely buried with many (3 or more) inches of soil, then the best strategy may be to accept that the majority of the lawn has already been severely damaged or killed and it will be necessary to reestablish a "new" lawn.

Reestablishment of a "new" lawn over a flood-damaged lawn

To reduce the future potential for soil layering to cause drainage and rooting problems for the new lawn, there are two ways of dealing with the deposited soil. One is to remove as much of the soil as possible, down to the original lawn surface. Understanding that this may be difficult or impractical, the deposited soil may be left on the lawn and rototilled into the lawn as deeply and thoroughly as possible. This, in essence, will create a "new" lawn root zone that is a mix of the deposited soil and the underlying lawn and its soil. The goal is to eliminate, as much as possible, the formation of layers in the "new" lawn root zone by thoroughly mixing the original lawn's soil, the layer of the original, dead lawn, and the flood-deposited soil.

After leveling and firming the "new" lawn soil, it can be sodded or seeded as any new lawn would be established. Cool-season grasses can be seeded anytime between Aug. 20 and Sept. 30 (buffalograss should be seeded in April/May). Sod can also be used to provide an instant lawn. Do not sod over existing dead or buried vegetation. The old dead layer of lawn grass must be thoroughly tilled into the soil before laying new sod.

Written 18 September 2013