Guidelines for Maintaining Streams in Your Community

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Waterways Engineering and Wetlands

Guidelines for Maintaining Streams in Your Community

The Pennsylvania Department of Environmental Protection (DEP) understands the severe damage and disruption that flooding can cause to residents, businesses, and municipal governments, and the importance of prevention when possible, and rapid recovery when necessary. DEP strives to assist Pennsylvania communities by ensuring that stream work is done in an environmentally responsible manner, and in a way that reduces the likelihood of future problems.

This booklet is a simple guide to understanding what DEP requires of those who want to work in or adjacent to streams. Stream work that is not properly designed and permitted can cause conditions to worsen in the next flood event, also impacting downstream neighbors.

Whether you are a municipal official well versed in regulations or a resident experiencing flooding for the first time, this will help you figure out your next steps. When in doubt, the first step should always be to contact your regional DEP office. DEP staff are ready and willing to assist in several ways.

Green Light—Go!

Proceed—These actions do not require DEP notification, pre-approval, or permits:

- Removing non-native (manmade) material, such as litter and construction debris, from the stream, banks, and riparian areas
- Removing woody debris, such as trees, logs, or brush, from the stream while you are standing in the stream (this includes the use of hand-held equipment, such as chainsaws, but not heavy equipment)
- Removing woody debris from the stream while you are standing on the bank (this includes the use of heavy equipment, so long as it remains on the bank and is “picking out” the material and not digging into the streambed)
- Chaining or winching large woody debris and dragging it from the streambank
- Cutting trees off at the stump (keeping the stumps helps stabilize the bank)
- Cleaning out culverts
- Removing gravel and flood debris from around bridges and culverts according to the terms of your permit (contact DEP or your County Conservation District to review your permit conditions)
- Planting trees and other plants on streambanks and in riparian areas, especially native species
- Adopting or implementing stormwater management ordinances and best management practices
- Crossing the stream to access your property immediately after a flood emergency (but only if the conditions are safe)

Yellow Light—Slow Down!

Contact DEP—These actions likely require DEP notification, verbal pre-approval, emergency permits, or other permits. For projects that pose an imminent threat to life, property, or the environment, such permissions are usually readily obtained.

Call DEP before you begin:

- Rebuilding roads and bridges across streams
- Streambank stabilization projects
- Armoring streambanks with an engineered riprap design in emergency situations
- Removing gravel bars from the stream channel using heavy equipment (gravel must be safely relocated out of the floodplain to an upland area that is not a wetland)
- Repairing a bridge or culvert
- Removing a bridge or culvert in danger of failure, or in partial or complete collapse (if a bridge or culvert is no longer serviceable, it can be considered debris and removed)

Red Light—Stop!

Contact DEP—These actions definitely require permits, if allowed at all, and may require involvement of the U.S. Army Corps of Engineers or other agencies.

Call DEP before you begin:

- Redirecting the flow of a stream by reshaping gravel bars, or moving gravel to the streambank
- Armoring streambanks with concrete, construction debris, and other impervious materials
- Moving (relocating) a stream
- Dredging streams
- Creating dikes
- Damming streams
- Building a new bridge or culvert

Myth vs. Reality

Myth: DEP will arrest me if I do anything in the stream.
Reality: DEP does not arrest people. DEP can issue violations and fines. However, DEP's goal is to work with you to achieve your goals in a way that follows regulations. If ever in doubt, call DEP first to start the conversation. We can help you figure out your next steps.

Myth: Dredging the stream will eliminate flooding.
Reality: Dredging destabilizes the stream channel and alters the volume, speed, and direction of the stream flow, often in unpredictable ways. Unintended consequences of dredging can include: rapid sediment deposition in the channel, causing more damage and flooding immediately downstream; destroying streambanks and accelerating erosion and sedimentation; and disrupting or destroying the aquatic habitat and food chain.

Myth: The stream used to be over there, so that's where it belongs. The flood moved it. We should put it back.
Reality: Streams naturally move over time and will always seek to reconnect with their floodplains, no matter how much we alter them. The natural shape of a stream channel is often braided or meandering. All streams move sediment during storm events. A stream that is straight and channelized will move faster, causing increased erosion and damage; this is an unhealthy stream and will not stay that way in the long-term.

Myth: DEP won't let us do routine maintenance.
Reality: Conducting routine maintenance is required under

many DEP permits for structures in the stream, such as bridges and culverts. If done properly, routine maintenance will reduce the buildup of debris after large storm events.

Myth: DEP won't give me a permit, it will take too long, or it will cost too much.
Reality: The activities in the “Green” category do not require any DEP involvement. Most of the activities in the “Yellow” category can be approved or permitted quickly with little cost. Following flooding events, DEP, working with our federal counterparts, has issued numerous Emergency Permits to alleviate an imminent threat to life, property, or the environment. Work done under these permits includes bank stabilization and debris and sediment removal from stream channels at bridges, culverts, and other infrastructure.

Myth: DEP just doesn't want anyone to touch the streams.
Reality: DEP recognizes that well-designed stream restoration projects can improve the stream channel's ability to transport sediment and maintain its natural capacity, making the stream more resilient to future flooding and less likely to cause property damage. DEP has funded more than 1,000 stream improvement projects through its Stream Improvement Program, and has permitted thousands more that have been carried out by others, such as Conservation Districts, non-profit organizations, municipal governments, and landowners. DEP also has one of the most extensive flood protection and flood control programs in the nation.

Good Rules of Thumb

- You are not alone! Your County Conservation District is a tremendous resource for guidance when working in the stream. Watershed organizations and other non-profit groups in your community may have access to technical assistance, grants, and loans to finance your stream stabilization project.
- Maintain bridges and culverts so that they work as planned when flooding occurs. Proper operation and maintenance of existing, permitted structures may reduce flooding damage. Without periodic operation and maintenance of these structures to maintain free-flowing passage, conditions often worsen.
- Removing debris from the stream channel should generally be done in a way that avoids altering the stream channel or banks, including vegetation.
- Root systems hold soil in place and keep it from eroding. Riparian buffers (trees and vegetation) in the floodplain help to absorb and slow down flood waters. Keeping vegetation intact and increasing vegetative cover, especially trees, is the best way to reduce erosion of streambanks and loss of property in the long term. A simple first step is to stop mowing streambanks.
- If your home is in the floodplain and you've experienced repeated flooding, contact your municipal or county government for assistance. Money for mitigation activities, such as elevating utilities or your home, or for floodplain buy-outs may be available.
- When a bridge or culvert is repeatedly washed out, it may be too small or improperly placed. Consider working with an engineer to design a structure that will be resilient to future flooding events, which may occur more frequently as land in your watershed is developed (which reduces stormwater infiltration) and as climate and weather patterns change.
- Keep structures/materials away from the top of the streambank, including the materials you remove from the stream. These all can become debris during a flood event.
- Never drive through standing or flowing water.

Remember: When in Doubt, Call DEP!

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Find your DEP Regional Office here:
http://www.dep.pa.gov/About/Regional/Pages/default.aspx

Visit the DEP website at http://www.dep.pa.gov
for more information about relevant permits and programs.

PA Department of Environmental Protection Regional Offices

Northwest (Meadville) Regional Office

230 Chestnut St.
Meadville, PA 16335-3481
Telephone: 814.332.6945

North-central (Williamsport) Regional Office

208 W. 3rd St., Suite 101
Williamsport, PA 17701-6448
Telephone: 570.327.3636

Northeast (Wilkes-Barre) Regional Office

2 Public Square
Wilkes-Barre, PA 18701-1915
Telephone: 570.826.2511

Southwest (Pittsburgh) Regional Office

400 Waterfront Dr.
Pittsburgh, PA 15222-4745
Telephone: 412.442.4000

South-central (Harrisburg) Regional Office

909 Elmerton Ave.
Harrisburg, PA 17110-8200
Telephone: 717.705.4700

Southeast (Norristown) Regional Office

2 East Main St.
Norristown, PA 19401
Telephone: 484.250.5900

Notes

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