



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Testimony of

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Good afternoon Chairman Causer, Representative Owlett, and committee members. Thank you for the invitation to participate in this discussion on flooding and its impacts to our communities and watersheds.

As we know, homes, livelihoods, businesses, and municipal governments are dramatically impacted when severe flooding occurs. Prevention whenever possible, and rapid recovery when necessary is critical. DEP strives to assist Pennsylvania communities before flood events occur. By ensuring that stream work is done in an environmentally responsible manner, the goal is to reduce the likelihood of such future problems and limit impacts to downstream neighbors, rather than causing conditions to worsen in the future.

In addressing flooding and its impacts, it is critical to look at the watershed as a whole, taking into account those upstream, those who live downstream, and the cumulative impacts of multiple interrelated actions within a watershed. What we do at one location often has effects, positive or negative, that reach well beyond the specific location where flooding occurred during one event.

As stewards of our aquatic resources we must put forth the effort to thoughtfully tackle this issue through proper planning and implementation. Tailoring any flood mitigation to the site-specific conditions at each location. A one size fits all solution typically will not result in long-term improvement.

Past practices have been to straighten, dredge and dike streams. Historically, the mindset was to “force” these highly dynamic systems to follow a specific course and be confined within a channel. These historic alterations resulting in higher velocities over time have caused channel incision (downcutting), bank erosion, and undesirable deposition, which exacerbates stream instability and flooding problems. In other words, when we try to control these dynamic systems, the results can be unpredictable, and sometimes our best intentions end up creating conditions that are worse than the original problem.

Any solution that will have lasting, sustainable positive outcomes, needs to be well thought out, scientifically sound and designed to accommodate the natural propensity of these specific types of streams to function properly and access its floodplain to dissipate energy during flooding events. DEP encourages addressing some root causes through smaller improvement projects. These projects might include elements that improve floodplain connectivity, replacing multi-span bridges with single-span bridges, replacing undersize or misaligned culverts with larger, properly aligned culverts, restoration of riparian corridors and stabilization using woody vegetative plantings (trees and shrubs).

Flooding isn't a new phenomenon, just a more frequent one. However, frequency and duration have had devastating effects. We have all heard the phrase “You can't control mother nature” and I think we can all agree with that statement. What we can do is be proactive. One way is preventive maintenance at bridges and culverts, by removing debris we can restore the stream's free-flowing capacity. The causes of this excess material are both natural and human-caused: geology and soils, topography, weather, alteration of riparian areas, debris jams, historic stream channel alterations, past land use, increasing impervious land cover, and deterioration or lack of maintenance to existing stormwater management facilities. The resulting environmental impacts

are many, including disruption of stream flow, damage to fish species and the aquatic food chain, accelerated filling in of dams and reservoirs, and a downstream change in the water composition in the Chesapeake Bay and other estuaries. The economic and social impacts include loss of property, failure of culvert and bridge structures, threats to homes and businesses, and potential threats to public health and safety.

This is why proper planning, mapping and data gathering for projects to improve stream conditions is important. Projects could range from culvert or bridge replacements to eliminate “pinch points” where debris can lodge and accumulate causing increase flood damage. Riparian planting to help stabilize streambanks from accelerated erosion. On a larger scale carefully planned, engineered, and constructed channel and stream restoration projects can significantly reduce flooding to adjacent properties, and restore the aquatic environments in the stream channel.

There are several proactive efforts underway, some new, some with long track records of success:

- DEP initiated a three-year pilot program with Bradford County Conservation District to proceed with a stream improvement program which has shown some beneficial results. Joe Quatrini from the Bradford County Conservation District will be talking more about this effort.
- DEP’s Stream Improvement Program (SIP) which designs and constructs small projects to restore stream channels damaged by floods, and to stabilize streambanks affected by erosion at sites where there are imminent threats to the structural integrity of homes, businesses, and industries.
- The Dirt and Gravel Roads Program funded through the State Conservation Commission provides technical support for implementing best management practices on these low-volume roads.
- PEMA and the Hazard Mitigation Program provides funding for removal of structures to restore the natural floodplain and eliminate repetitive flood losses.
- The Growing Greener program can provide funding for streambank stabilization and floodplain restoration projects.

To help communities understand how they can mitigate flooding impacts, DEP has a series of fact sheets, including “Emergency Removal of Debris from Streams,” “Advice on Flood Prevention and Management,” and “Permitting Options for Flood-Damaged Bridges and Other Water Obstructions and Encroachments. As fact sheets are evaluated periodically, currently these fact sheets are under evaluation but will be republished in the first quarter and can be made available to the committee upon finalization. In 2018, a new addition to the public information available was the booklet “Guidelines for Maintaining Streams in Your Community.” The guide is a first step in determining what regulatory requirements may apply before beginning a project. It contains a helpful “green, yellow, and red light” list of potential stream activities to indicate whether permits are likely to be required. The booklet contains additional sections on myths and rules of thumb and was reviewed by local government officials who typically are the first stop for landowners seeking guidance. It also provides proactive approaches that can be incorporated with or without formal authorization. This publication is available on our website and we have copies of it with us today.

When there is an imminent threat to public health, safety or the environment which requires immediate remedial action, DEP authorizes emergency Chapter 105 permits, in writing, for work on streams, bridges, culverts, and other infrastructure. Typically, DEP issues these permits in the field and turnaround time can be as short as a few hours.

DEP encourages open communication between our local communities and our agency to quickly identify and resolve flooding problems. We also encourage proactive approaches to facilitating stream improvements. DEP is not just a regulatory agency but also a resource agency and we are here to assist local communities with these issues.

Thank you again for inviting DEP to testify before the committees on this important topic. We look forward to continuing to work with the legislature to address these issues. I thank you for your time, and I am available to respond to any questions you may have.