

SRHCES



Susquehanna
River
Heartland
Coalition for
Environmental
Studies

February 29, 2012

To Whom It May Concern:

The impact of Tropical Storm Lee was devastating to personal and business properties, roads and bridges with associated dramatic and staggering effects such as steam and bank erosion and other channel alterations. The response to this extraordinary event has been to 'clean' stream channels. The need for action was obvious. The question is: What is the appropriate course of action?

The Susquehanna River Heartland Coalition for Environmental Studies (SRHCES) believes, as the Center for Rural Pennsylvania does, that "listening sessions" are necessary to allow those impacted by the flooding to express their views to policymakers on actions needed to improve flood mitigation policies. However and equally important, we believe that there is strong need to include the voice of the scientific community in any such discussions.

Enclosed here is a statement, "Stream Cleaning: Striving for a Balanced Approach," that expresses the view of the SRHCES, a major scientific and non-biased resource in Central and Northeastern Pennsylvania, and offers its resources in partnership with the Center for Rural Pennsylvania and state agencies to help provide a scientific perspective that we hope can add to the discussion on this important issue.

Sincerely,

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“STREAM CLEANING:” STRIVING FOR A BALANCED APPROACH

The Susquehanna River Heartland Coalition for Environmental Studies (SRHCES) is a unique, non-political partnership of scientists, scholars and environmental experts from six regional colleges and universities (Bloomsburg University, Bucknell University, King’s College, Lock Haven University, Lycoming College and Susquehanna University) and numerous non-governmental health and environmental organizations within the Susquehanna River Watershed. A major role is to advocate for the sustainability of the Watershed and research and study the ecological conditions and processes in the Susquehanna River and its tributaries and headwaters.

Tropical Storm Lee delivered over 18 inches of rain to many parts of the central Susquehanna watershed resulting in historic flooding. The effects were dramatic, with staggering amounts of bed and bank erosion and other channel alterations. In many places, bridges and homes were destroyed. Although changes in the position and configuration of stream channels following flood events are natural, the flooding associated with Lee created much anxiety about the potential for future flood damage in this region. Consequently, the response to this extraordinary event has been to “clean” stream channels by actively straightening streams, bulldozing and realigning the channels, creating dikes with bed materials and removing large wood.

The need for action is apparent, recognizing the emotional and economic impact of the flooding on farmlands, business properties and residents. The question is: What is the appropriate course of action. We believe, too, that it has been important, as Senator Yaw has stated, for the Center for Rural PA as well as other interested groups to “hear from local officials and residents impacted by the flooding so that we can work to improve and enhance current state regulations for stream maintenance.” We believe, however, that there is strong need to include the voice of the scientific community in any such discussion.

Although stream “cleaning” has the potential to temporarily alleviate some of the negative effects of local flooding in the near future, there is potential for these activities to considerably undermine many economically important features associated with unaltered streams. For example, coldwater streams in Pennsylvania contribute to a greater than 1.5 billion dollar per year sport fishery (PA Fish and Boat Commission). In addition, small streams have the ability to remove up to 50% of nitrogen pollution from the water before it is exported downstream to receiving waters, such as Chesapeake Bay. This feature is especially important given that considerable public funding is

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currently being directed towards reducing nitrogen, phosphorus and sediment loads to Chesapeake Bay to achieve the federally mandated total maximum daily load (TMDL) of nutrients. Preventing small streams from naturally removing nitrogen could potentially waste the state, federal and local resources currently used to enhance sewage treatment and employ agricultural best management practices.

Because stream “cleaning” involves a massive disturbance that results in a simplification of stream channels, it is likely that there is a considerable tradeoff between the economic gain associated with short-term flood mitigation and the potential loss of economically valuable stream features. However, there are few studies that have investigated whether there are tradeoffs between economically valuable features of unaltered stream channels and the potential gains associated with substantial channel alterations that are made for flood mitigation.

Therefore, the SRHCES would like to partner with the Center for Rural PA and state agencies such as the Department of Community and Economic Development, Department of Conservation and Natural Resources, Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission in a project that will study and quantify the effects on two economically important features of natural streams – sport fish and nitrogen retention - in stream reaches that have undergone “cleaning”. Our goal is to provide empirical data to managers and environmental regulators that establish whether or not there may be economically significant tradeoffs when these activities are allowed to proceed. We hope that this work will help improve understanding of all impacts of “cleaning” and assist in determining the appropriate balance (and best practices) of stream rehabilitation/restoration that are in the best interests of all interested parties. Furthermore, we would be committed to work with regulators to increase outreach and public awareness on this important issue.