

Testimony of Heather Furman
State Director
The Nature Conservancy in Vermont
Before the House Natural Resources, Fish, and Wildlife Committee
Nature Based Solutions for Water Quality and TNC's Water Quality Blueprint
February 14, 2017

Thank you for asking us to be here this afternoon. My name is Heather Furman, State Director for the Vermont Chapter of The Nature Conservancy.

I'm here today to co-present with Rose Paul, TNC's Director of Critical Lands and Conservation Science.

Chairman Deen asked that we talk about our work on natural infrastructure – or what you'll hear us refer to as nature based solutions - as one important component of the State's effort to clean up Lake Champlain;

but also know that this work can be applied to ALL waters of the state, and can not only support clean water, but help protect communities from floods, attract tourism and recreation all of which supports the Governor's priority of a thriving economy.

For those of you who may not be familiar with the work of The Nature Conservancy, we are a global environmental non-profit with chapters in all 50 states and 70 countries. Our chapter was founded in Vermont in 1961 (56 years) working to protect the lands and waters that we all depend on.

We have protected over 300,000 acres of land in Vermont, much of which now makes up our state parks and wildlife management areas; we've protected over 1200 miles of river and lake shoreline. We are perhaps best known for the **producing and sharing our science, analysis and tools** that help us and many other organizations and government agencies identify strategic conservation investments.

So if there is one thing that I'd like you to remember, and take away from our testimony - is that NATURE - investments in nature – is going to be ONE OF THE MOST COST EFFECTIVE SOLUTION TO CLEANING UP LAKE CHAMPLAIN.

Not only that but we simply can't achieve our clean water goals *without* making investments in nature. I'll explain that further in a minute.

Handout: Cost of Clean Water

- Taken from state's website you can go there and download it yourself.
- Section of chart: (headers) Required **P load reduction** from source (metric ton/yr) and **cost**.
- According to this, we need to reduce P load from our natural resources by 78 metric tons/yr! This is the second largest opportunity for significant P reduction. 22% off total P comes from unstable rivers. We can start to move the needle on this with an investment of \$5 per year. Incredibly cost effective.

- This is a much less expensive approach than grey infrastructure—the wastewater treatment plants and stormwater facilities that are expensive to build and maintain. Combined they only remove 47mt/yr. at a cost of \$46M/yr.
- To be clear, we're not saying don't build these things – in many cases we need these things. We're saying **don't overlook the incredibly cost effective solution of investing in nature.**

What does this look like? Let me briefly step through a couple of framing points and then I'll turn it over to Rose to talk to you about The Nature Conservancy's latest science.

- First, just to make sure we're clear on terminology: for us natural infrastructure means using the power of our upland forests, floodplain forests, healthy river corridors and wetlands to slow water when it rains, and absorb sediments and nutrients, which filters and cleans the water as it moves down our Green Mountains and into our rivers and streams.
- If we don't slow the water, or allow it to disperse on the landscape in places where it won't do damage to our built environment, then our rivers can turn into giant firehoses, carrying pollutants and sediments like a straight-pipe right to the Lake. I want you to imagine 1 cubic foot of water. That cubic foot of water weighs 62.4 lbs. Imagine the pressure and its ability to scour – in a river at bank full ; With no outlet to dissipate that energy and deposit those sediments back on to the land where it belongs. Instead it's carrying that sediment, and all of its embedded P straight to the Lake where it contributes to algae blooms and all the rest.
- Of course we've built most of our roads and villages along our waterways, so we've lost much of that original slowing and absorbing function of these natural features, and many of our communities have suffered devastating floods as a result.

We have an opportunity now to correct that by making investments to stabilize our rivers and restore natural systems. We will not achieve our water quality goals without doing this.

We will continue to suffer poor water quality, and public safety and infrastructure failures unless we start to think differently, and make these incredibly cost effective investments in nature.

So the question becomes – for those of us who are fiscally-minded and most of us are - where should we invest and how much P can we keep out of the systems through these investments?

Turn over to Rose Paul to talk about our Water Quality Blueprint