

Nature-Based Solutions For Vermont

Improve Water Quality and Reduce Flood Risk in the Champlain Basin

NATURE-BASED SOLUTIONS are actions that protect, manage, and restore ecosystems in order to address societal challenges such as water quality and flooding, providing benefits to both people and nature.

The Nature Conservancy and University of Vermont's Gund Institute for Environment have developed a decision support tool to optimize conservation investments. Researchers identified Vermont's highest priority restorable wetland sites, that if restored would offer the largest potential phosphorous reductions at the lowest cost.

THE ISSUE: Climate Change is expected to raise average temperatures and increase the intensity of rainfall in the Northeast, elevating flood risks and threatening water quality. Vermonters spend tens of millions of dollars each year to address flooding and pollution. Investments in nature can complement traditional methods such as wastewater and stormwater systems but only if we restore the wetlands and floodplains that naturally mitigate floods and pollution and offer an array of other benefits.

THE OPPORTUNITY: Nature-based solutions, such as floodplain and wetland restoration, can improve water quality, reduce flood risk and restore Vermont's natural resources. They make communities safer, healthier, and more livable.

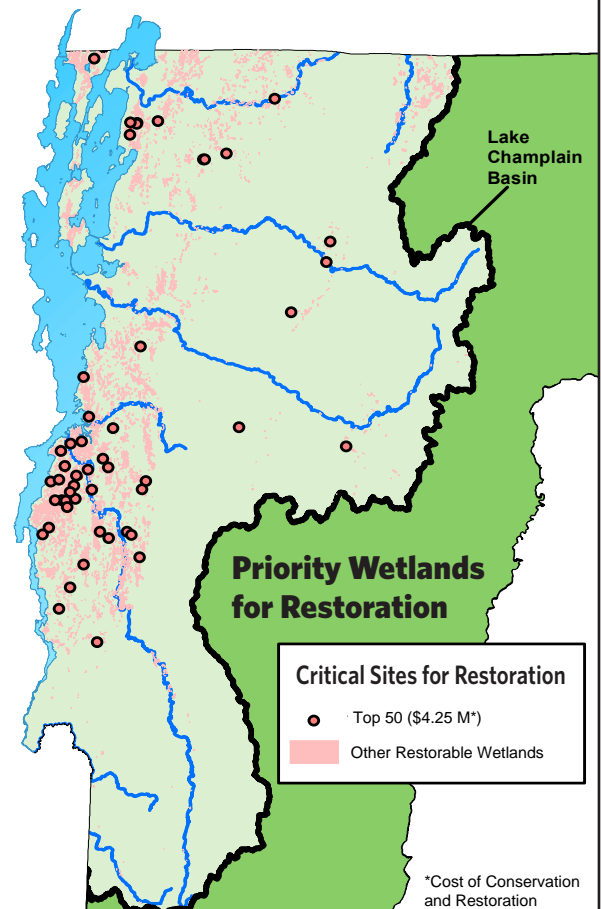
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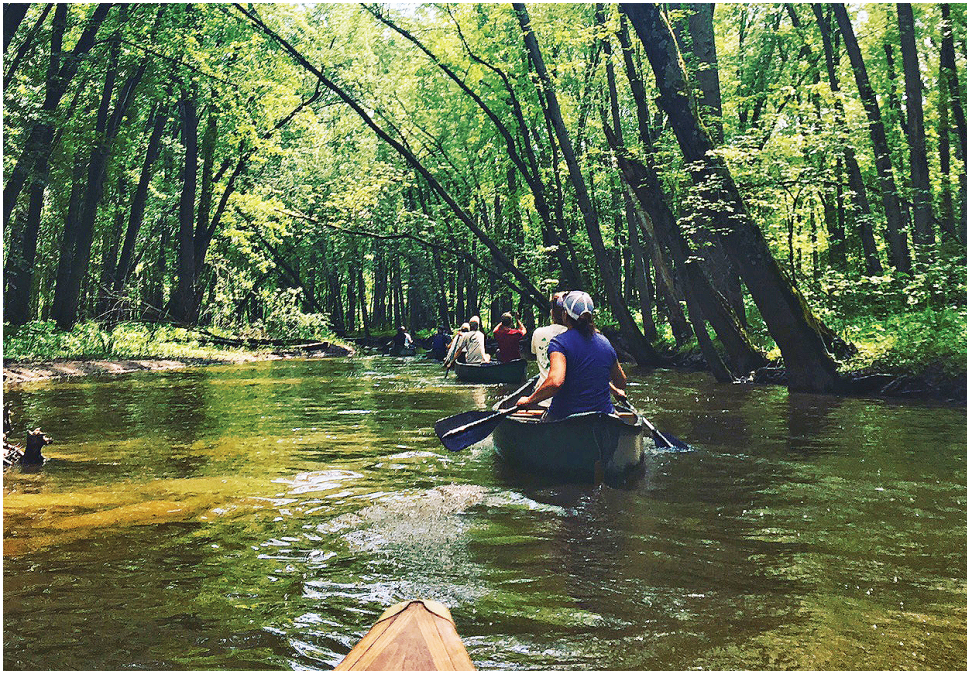
Protecting nature. Preserving life.



THE FINDINGS:

- 1** The Gund and TNC decision support tool for the Lake Champlain Basin identified the **50 most significant wetlands in need of restoration**, which will have the greatest potential impact to **reduce phosphorous pollution, at the lowest cost.**
- 2** On average, it would cost **\$84,550** to protect and restore a wetland site.
- 3** **There are over 3,000 wetlands that have the potential to be restored.** Restoring them all could meet up to 1/3 of Vermont's goals for phosphorous reduction in Lake Champlain while providing a host of other benefits like flood resiliency and expanded wildlife habitat.





Wetlands Cost-Effectively Improve Water Quality and Reduce Flood Risk in the Champlain Basin

Leading With Science



Focus investment on restoring strategic wetlands

Researchers identified the 50 highest priority wetlands for restoration in the Champlain Basin that are potentially critical to improving water quality cost-effectively.



Use watershed restoration best practices

Researchers found that reconnecting and re-vegetating floodplains reduces stream power during floods. In addition, restoring smaller wetlands close to stream networks offers the greatest reductions in nutrient pollution.



Nature-based solutions offer co-benefits

While this research targeted the benefits of reducing phosphorous pollution and decreasing flood risk, we know that many other values are realized when wetlands are restored. Wildlife habitat, carbon storage, and outdoor access are all improved when wetlands are properly protected and managed.

How can Policy Makers Engage?

- Request a presentation of TNC & Gund's new decision-support tool
- Promote projects and investments that restore Vermont's strategic wetland sites
- When allocating resources for water quality improvements and flood protection, always include investments in Vermont's natural assets that are cost-effective and have proven multiple benefits



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For more information, please contact

Phil Huffman,

Director of Government Relations and Policy for TNC

802 229 4425 x109

phuffman@tnc.org