The Maritime Natural Infrastructure Collaborative

Integrating Ecosystem Services into Land use Planning in Maritime Canada

Background
Changes in land use throughout the Maritimes are primarly driven by development pressures. This means that land use decisions typically do not consider the benefits provided by natural areas (e.g. flood and erosion protection, biodiversity, storm water management, etc.) otherwise known as *ecosystem services*. As a result, land use decisions often lead to a degradation of ecosystem services, with direct and indirect impacts on public safety and human health (e.g. increased risk of flooding, poor water quality).

Ecosystem services are services that come from nature and benefit people. For example, wetlands provide us with water purification, recreation, and flood risk reduction services simply by performing its natural functions. Consideration of ecosystem services in land use planning can help enhance the net benefits of our land use decisions, as these services provide low cost benefits that increase our prepardness to the impacts of climate change through enhanced community resilience. This project aims to broadly enhance the conversation about ecosystem services and values, especially among land use decision-makers, with particular emphasis on climate change induced inland flooding. Ultimately, the project proposes a hands-on, practical approach that has grown out of a need to address inland flood risk through well-informed decisions and real action.

Project Description
The primary goal of this project is to develop tools that will help decision makers integrate ecosystem services into land use decisions. These tools are being developed and tested in New Brunswick, Nova Scotia, and Prince Edward Island. The tools will include information on how to identify, measure, and value ecosystem services in particular sites using various models, including InVEST, and new inland flood risk models being developed by the Université de Moncton. By incorporating all of these tools into one methodology, we aim to provide planners and decision makers with a simple and scientifically sound approach for assessing land to help preserve flood risk reduction services. By sharing these tools, we believe that decision makers will be able to make more informed land use decisions that maintain, rather than compromise, existing ecosystem services that benefit of our communities. The project will also include an explanation of tools that have been used in other jurisdictions to advance this approach and how they could be used in regulatory planning contexts. Finally, this project seeks to educate various target audiences about the importance of ecosystem services and their role in enhancing land use planning and climate change decision-making. Current education plans include:
   - Working with planners/decision makers to develop support for the created tools;
   - Providing outreach to community organizations about the project and its relevance to their work and livelihoods.

By integrating ecosystem services into land use planning, decision-makers will benefit by preserving natural areas that provide low-cost services (e.g. reduced flood risks) while reducing the need for infrastructure spending in the long-term. It is anticipated that this project will also enhance climate risk/vulnerability mapping as well as community resilience in Maritime Canada.

For more information please contact Adam Cheeseman at climate@naturenb.ca.

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