Wetland Reclassification of Maquam Bog and Mallet's Creek Munson Flats

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Problem Statement
Maquam Bog and the Munson Flats Wetland are two unique, complex, and irreplaceable wetland ecosystems that are potentially threatened by anthropogenic sources, which could alter the systems beyond return.

Justification:
Wetland ecosystems sometimes are overlooked as useless swamplands in the eyes of developing communities. Wetlands are quite the opposite of a wasteland, they provide important ecological functions, such as enhancing stability of whole water systems against stressors (Mitsch & Gosselink 2000). The composition of ecosystems can also be rare and diverse with a wide variety of habitat for endangered species (Mitsch & Gosselink 2000).

As resilient as wetlands can be, they are still susceptible to damage. Taking a proactive approach in regulating a water system is an important aspect to maintaining sustainability of a wetland for years to come (Scheiger et.al 2002). In order to ensure that the health of the system remains intact, adequate regulation of the wetland and surrounding areas need to be put into place (Brinson & Mal Varez 2002). The state of Vermont is taking action to reclassify specific wetlands with high levels of diversity and rarity from class II to class I wetlands, which implements the highest level of protection.

Since this type of protection is a prescient approach, the potential damage of these rare wetlands may not be fully understood by the surrounding communities. We will gather information about the important functions and features of the proposed reclassified wetlands and display the potential impacts in a manner that is obtainable for interested community members.

The goal of protecting these wetlands for the future does not just end with the understanding of the potential risks. We will investigate the methods used to assess the risks for Vermont wetlands and evaluate if other approaches could better evaluate these risks for both case studies and other potential reclassified wetlands.
**Literature Review**


- This article explains the status of wetlands and wetland threats around the world. The information that is presented for each area of the world sets up a great comparison of the status and management of wetlands of different areas on a global scale. We will use this article to investigate the threats that are common to temperate North American wetlands and also look at threats elsewhere to see if we can investigate other management tools.


- This article is about the benefits of wetlands to humans. The detail about importance and functions wetlands have with surrounding land use will help us develop our approach on presenting the information to the public.


- Article from 2012 that gives us an idea of how the fight for the protection of Munson Flats has evolved


- This article looks at different wetland assessment and the benefits and uncertainties of each. The article will be used in our section when we are evaluating different risk assessments and making future recommendations for the State of Vermont risk assessment process.
- This document is designed as a planning tool for wetlands function. The assessment uses a cost vs benefit system to determine risk, which is a useful comparison for our project.


- Peer reviewed article describing the assessment of agricultural runoff on wetlands in North America. This gives us background for


- This document fully describes Vermont’s Wetland rules. We will use this document to reference the requirements for class I and class II requirements.


- This article discusses different approaches to manage wetland areas by using public engagement and research. We will look to this article for ideas of how to engage the public with the reclassification process.
Probable Original Contribution

We hope to deliver an informational packet and presentation detailing stressors that affect wetlands, how to determine if a wetland will be affected, and specific risks that may affect our focus wetlands. We aim to conclude this packet and presentation with recommended actions and recommended risk assessment tactics.

Proposed Approach

The Agency of Natural Resources (ANR) has collected data and information on both Maquam Bog and Munson Flats, which resides in the Montpelier office. The first step of the project will be to gather important information about Maquam Bog and the Munson Flats Wetland. Having detailed background information will be beneficial when discussing whether or not to change the classification of the wetlands from Class II to Class I.

The Wetland Rules document explicitly states what changing the classification from II to I will do for landowners and other stakeholders. For example, the buffer zone around the wetlands will have to increase in size if the classification is going to change. Reading this document and analyzing how these changes will affect the surrounding area of our two case study wetlands is a critical preliminary element of our project.

Wetlands are at risk from climate change, development, and other factors. Changing the classification of certain wetlands should help protect them from factors such as these. Threats to wetlands will be researched and discussed in the final document. We will evaluate these risks using peer-reviewed literature. The proposed classification change will have to take these factors into account.

One component of the final document will be to create a recommendation of how to assess risk for potential class I wetlands. The factors that are determined to be potential threats to wetlands can be used to create such a recommendation. We will also research how other researchers and state agencies assess wetland risks. By gathering data and reviewing literature, we will make an informative recommendation of what we believe is the best process to assess wetland risks in Vermont. Hopefully, this recommendation will be taken into consideration by the Wetlands Program.

It is possible that interviewing people who have lived around Maquam Bog and Munson Flats will be helpful for our project. Reaching out to the public will give us a better understanding of how the public views the area, and highlight any of their concerns. They may also know how the wetlands have changed over time and what factors they have seen to be a threat. Any insight such as this will be beneficial.

The final report will have multiple components. It is going to include what factors affect wetlands along with what specific factors already are or may in the future affect our two specific wetlands. In the conclusion of the report, a recommended action will be included. This will incorporate the information that is compiled throughout the project and will most likely focus on what specific actions are found to be best for the two specific wetlands focused on in this project.

The final deliverable from this project will be in the form of an information packet. This packet should be beneficial to interested stakeholders in the future. This packet will most likely be applicable to all wetlands, not just the two specific ones being focused on throughout this project. The packet will include information on factors affecting wetlands and just information on wetlands in general. The deliverable will be accessible for community members to read. It should help inform people about wetlands and the important role they have.
Effort Assignment:

Research on wetland importance and threats: Megan Euclide, Christina Martin
- These members will accumulate information on the importance of wetlands in general. They will gather details on risk assessment of wetlands similar to the wetlands at the focus of our project.

Research on Munson Flats: Meghan Shanahan
- This member will accumulate information on the ecological risks that may threaten Munson Flats.

Research on Maquam Bog: Zachary Walker
- This member will accumulate information on the ecological risks that may threaten Maquam Bog.

Recommended actions and recommended risk assessment tactics: All Team Members
- These recommendations will be an accumulation of research that will be projected in the conclusions section of our manuscript. We will develop educated recommendations in our report that will be useful for further investigation by the state agency.