Maine Corporate Wetlands Restoration Partnership

Project Request for Funding ***Date***: April 23, 2007

Project Name: Spruce Creek Mill Pond Restoration Opportunity Assessment

Location (Town, ME): Kittery, ME

Project Purpose: To determine the tidal curves and stormwater influences, as well as historic value and landowner interests in the partially-restricted intertidal area of an old Mill Pond, and to then assess feasibility of restoration and remediation work to the pond and its marsh, dam and stormwater features.

Brief Description: The focus of this project is to ultimately enable greater tidal flow and diadromous fish passage in the old Mill Pond area of Spruce Creek and to restore its salt marsh while protecting the significant historical value of the site.

The dam is purported to be one of Maine's oldest mill sites. Since 1991, the Kittery Land Trust has had a conservation easement over the 9.5 acres of the dam, pond and marsh, as well as on 8.5 acres of the abutting wooded upland. The Town of Kittery owns land abutting to the East (Eagle Point park).

The site includes an approximately 75-foot long earthen dam that is open in the center (a span of about 20 feet) and allows some tidal exchange. Long-time residents in the area have noted a change in the amount of dirt and salt marsh in the pond, potentially due to silt and stormwater influences at the headwaters of this marsh area. Potential restoration options include reduction of silt loading, deepening of trench, as well as maximization of dam opening, all while preserving historical values. This feasibility work will help with future stormwater work in this area.

Scope of feasibility work: In order to capture a log of tide levels and understand how much tidal restriction currently exists, pressure transducers are

to be deployed upstream and downstream of the structure. Pressure transducers will be installed and maintained in situ for 14 days to record tidal heights over a two-week lunar tide series and will be anchored to the creek bottom and surveyed-in to determine elevation relative to tide charts and/or local benchmarks. At the conclusion of the two-week deployment, tide level data will be downloaded as an MS Excel spreadsheet on CD and will be provided to the project partners as well as the analysis determining the size, position and elevations of potential modifications.

In order to understand the potential environmental benefits of returning functions and values to the area via modifications to the dam, pond, marsh, or stormwater features**,** an assessment of habitat suitability will be conducted of the existing marsh to determine the species present and the abundance. At the conclusion of the assessment, a report will be delivered and presented to the project partners including analysis of current state and potential impacts.

To understand flooding impacts for adjacent property owners, the elevations of the existing marsh and adjacent properties will be determined and a topographic analysis of the area will be delivered to the project partners.

Additionally, the owners of the Mill Pond and surrounding parcels will be contacted to determine their willingness to support any recommended modifications to the area and the increased or altered tidal flow that will result. Consultation with the Maine State Historic Preservation Commission will also be included to assist in identifying and protecting historically significant features.

Resource values (e.g. xx acres of salt marsh): Spruce Creek is a "new England type" marsh system which makes up only 2% of all marshland along the Atlantic coast of the United States and contains rare and endangered species and habitats identified by Maine Department of Inland Fisheries and Wildlife (MIFW GIS Habitat Maps 2001).

The project will give needed information to take the next steps to further open up fish passage to diadromous species including smelt, blueback herring, American eels, tomcod, and sea-run brook trout. Other species (historically cod, haddock, flounder, halibut; currently clams, bait-worms, lobster, urchins, scallops, mussels, clams, quahogs and more) also benefit, because of foraging opportunities and nutrients exported from the marsh into the estuary.

Some breeding and many migrating shorebirds and ducks depend on salt marshes. These birds will find increased habitat range in the restored Spruce Creek. Other local benefits include flood protection, the slowing down of pollutants entering the estuary, and increased recreational and educational opportunities.

CWRP Technical Committee Sponsor: Jon Kachmar, Gulf of Council/NOAA Habitat Restoration Partnership and Maine Coastal Program

Cost/Budget: Total project costs for tidal analysis ($3,000), habitat suitability assessments ($3,000), topographic analysis ($5,000) and historical research will be $11,000.

Schedule: ***Permit Status (e.g. permittable in next phase***): This is a multi-year project and permit status has not yet been determined. However, the tasks to be supported by the requested CWRP funding do not require permits as it is feasibility work.

Restoration Success Monitoring Protocol: Pre-restoration monitoring, conducted summers of 2005 and 2006, will continue and during the 2007 field season in Spruce Creek. This pre-monitoring utilizes the GPAC monitoring protocols established for water quality monitoring and assessment.

List of Partners:

- Kittery Land Trust
- Town of Kittery
- Spruce Creek Association
- *Maine Department of Marine Resources (To be confirmed…)*

What is requested from the ME-CWRP (e.g. $XX or Services): $11,000 cash for implementation of the scope of work developed above.

Amount of federal or other funding the CWRP contribution would secure:
Total cost of work plan from SWRP is $11,000 cash with work to be completed by November 2007.

Project Contact (name, number and e-mail):
Melissa Paly
Kittery Land Trust
PO Box 467
Kittery ME 03904-0467
(207) 439-8271

Project Status Checklist:

PROJECT COMPONENT	Completed (√ if completed)	Initiated (√ if underway)	Expected Completion Date
Engineering/Construction Design			*Undetermined*
Fundraising			*Undetermined*
Local Outreach		√	*Undetermined*
Local Support Established	√	√	*Partnership established.*
Permitting Status (by permit)			*Not initiated yet*
Monitoring Design			*Undetermined*
Key Partners In Place/Participating		√	*Identified above*
Media Coverage Plan			*Undetermined*