November 1, 2012

Bruce Woodruff
Town of Moultonborough
6 Holland St.
PO Box 139
Moultonborough, NH 03254
bwoodruff@moultonboroughnh.gov

Dear Mr. Woodruff:

Thank you for meeting New Hampshire Lakes Association (NH LAKES) staff on Wednesday, October 3, 2012, to look at the stormwater runoff issues at the State's Landing boat ramp. The purpose of this letter is to summarize observations made during the site visit and provide you with some concepts for improvements that could be made on the property to reduce the amount stormwater runoff that flows off the site and into Lake Winnipesaukee.

Site Evaluation Observations:
During the October 3, 2012, site visit, it had been raining heavily earlier in the day. There was evidence that runoff water had been flowing along and across the length of the asphalt/sand boat ramp and into Lake Winnipesaukee. Extensive rill and gully erosion of sand and soil along the length of the boat launch roadway and a significant build up of sediment carried from upgradient was observed. The launch was sediment-laden and a delta of sediment was visible in the nearshore area of the lake located immediately downgradient of the boat ramp.

Existing Conditions Photos with Recommendations:
Lake Winnipesaukee, Moultonborough, NH
Pictures taken: 10/03/2012

Remove asphalt apron along ramp. On both sides of ramp, install a series of stone check-dams and pocket rain gardens planted with native vegetation.

Install an open top culvert across top of access road that will convey flow into naturally vegetated areas.

Improve boat launch into lake by upgrading to a concrete ramp with drywells located on either side to collect runoff and allow for infiltration.

Solutions:
There are a number of stormwater runoff best management practices that could be installed on the landscape in the vicinity of the boat launch to reduce the amount of stormwater runoff that flows into Lake Winnipesaukee during rain events.

- **Remove the asphalt apron** along the both sides of the boat ramp access road and retrofit this area with a series of stone check dams and pocket rain gardens planted with native vegetation. This will allow runoff water from the roadway to slowed down, in and effort to drop out sediment and also infiltrate into the ground.
- **Install an open top culvert across access road** to allow runoff water and sediment to divert away from the lake and into the surrounding vegetated areas for infiltration.
- **Improve the ramp surface** by installing a concrete launch/ramp that would reduce the amount of erosion occurring as boats enter and leave the launch site.

These improvements, because they would occur within the 250-foot Protected Shoreland Zone and may involve heavy machinery, excavation, fill, and possible temporary disturbance to resource areas, would likely trigger New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau and/or Shoreland Permits. However, it is possible that these activities could fall under a Permit by Notification process since they would be directly related to stormwater management improvement and erosion control projects and environmental restoration, and are involve repairs and improvements of public roads and public access facilities. For more information, please visit http://des.nh.gov/organization/divisions/water/wetlands/cspa/permit-by-notification.htm.

Options:
Below are some options on how to proceed with the recommendations that have been presented.

1. Hire NH LAKES to provide a conceptual plan and project oversight that will be evaluated, modified, and finalized by a town engineer. This work would be billed out to the Town at an hourly rate of $25 for members of NH LAKES and $30 for non-members with an additional mileage rate of $0.555 (the federally mandated rate) for all miles accrued by NH LAKES staff driving to and from NH LAKES' headquarters to the project site. The Town could then implement the plan, once any necessary state approvals/permits are received.

2. NH LAKES and the Town DPW staff could work with high school or career training students to create a concept that can be passed to town Engineers for modification and finalization. The Town, once any necessary state approvals/permits are received, could work with students on installing the proejct.

3. The Town could work with NH LAKES to implement a watershed-wide Lake Conservation Corps Program to address this site and the other sites that drain into Lake Winnipesaukee and other waterbodies located within Moultonborough. This type of program would be contingent upon funding made available by town/association and or other funding sources (grants, etc.).

Again, prior to the commencement of any work, please consult the NHDES Shoreland Program at (603) 271-2147 or shoreland@des.nh.gov to inquire if the Town would be authorized to address the runoff problems at the State's Landing launch through a permit by notification process.

If you have any questions please feel free to contact me via phone (603-226-0299) or email (rparsons@nhlakes.org). Thank you for your interest in protecting and improving the health of Lake Winnipesaukee!

Sincerely,

Robie Parsons
Program Coordinator