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**Date:** March 21, 2014

**To:** Dan Doherty; President, NLPA

**From:** Gerry Smith; President/Aquatic Biologist

**Re:** **Project Completion Report– Nabnasset Lake (2010)**

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This report summarizes our management activities performed at Nabnasset Lake in 2010.

As background information, in 2005 and 2006 we had chemically treated approximately 5-7 acres of invasive variable watermilfoil (*M. heterophyllum*) weed during each year. In 2007, the total treatment area of watermilfoil was only approximately three acres and was located in a small portion of Shipley Swamp and the lake's northern shoreline in the vicinity of Lawson Rd., and Pollyanna Lane. Since then, further expansion of watermilfoil has been fairly well contained.

During 2007, the Association and ESS noted a substantial increase in the distribution and density of curlyleaf pondweed (*P. crispus*) throughout the lake. ESS and we recommended an aggressive chemical treatment and management program to address the continuing spread of this invasive weed. Curlyleaf pondweed is another non-native and invasive weed that is common throughout MA and the northeast and has been problematic at nearby Long-Sought-For-Pond in recent years. Multiple years of treating pondweed at that pond, however, have served to reduce its growth to such an extent that treatment has not been required in some years. Unfortunately, we can't say whether Nabnasset will respond to continued treatment in the same way.

The determination of areas targeted for chemical treatment at Nabnasset in 2010 was made jointly, based upon any available plant mapping and information supplied by ESS, input from the Association and the results of the pre-treatment plant survey/inspection that I performed with you and Dave Brody during mid/late May. After filing and receiving an approved License to Apply Chemicals permit from MA DEP and following a thorough notification process to lake residents, the public at large and the Westford Conservation Commission, the identified areas of pondweed were chemically treated on June 9th..

In total, approximately 30 acres of pond area were chemically treated. Buoys were temporarily set in the lake immediately prior to treatment to demarcate the bounds for each treatment area. Once again, I performed this application from our Panther Airboat with assistance from one of our Field Technicians. We again applied the USEPA/MA registered aquatic herbicide Reward (Diquat) to each designated area of pondweed and milfoil. The diluted herbicide was applied subsurface through weighted hoses that trail the Airboat to insure there is no aerial drift of the herbicide. A GPS unit mounted on the driver's console on the Airboat provides real-time tracking of the treatment craft relative to the designated treatment areas.

That treatment proceeded smoothly and we understand it worked quite well in controlling the targeted weed growth. At no time during or following this application at Nabnasset ( or following previous treatments there) have we observed any negative effects on fish or wildlife nor have we received reports of the same from others.

Chemical treatment of the curlyleaf pondweed is very likely to be required in 2011 and perhaps beyond, before the reproductive structures (turions) of the curlyleaf pondweed are sufficiently depleted in the pond sediments to see a substantial reduction in growth/distribution. Hopefully though, we start to see a reduction in the total area requiring chemical treatment. We recommend that we perform a plant survey in mid-May to finalize the need for and areas of pondweed and milfoil treatment. Assuming a similar treatment area in 2011, treatment program costs would remain the same.

Upon reviewing this report, please be sure to forward a copy to the Conservation Commission. Thank you.