European Naiad in Northeast Pond

The threat: European Naiad (EN)

Northeast Pond, connecting waters and their surrounding economy and recreation culture face a potential calamity. European Naiad (*Najas minor*), found in Northeast pond in 2015, is an aquatic plant recognized by biologists and Maine and New Hampshire law as invasive.

This aggressive plant grows and reproduces rapidly and is able to overtake lakes by shading and outcompeting native vegetation as well as choking lake-bottom habitat. A threat to water quality, dense and widespread mats of EN decay concurrently and are able to deplete dissolved oxygen necessary to support wildlife.

Potential effects of EN invasion include the following:

- fish kills, reduced quality of sportfishing, boating, swimming and other recreational activities,
- decline in surrounding real estate values, and
- rapid proliferation: one-acre infestation generates millions of seeds per year; stem fragments, often with seeds, attach to boats, gear and wildlife.

Rapid response: Mechanical and chemical control

Early treatment delivers the most promising outcomes in combatting invasive plants. While rapid response does not guarantee eradication, it does, at minimum, reduce the environmental impact and associated social costs of infestation.

Efforts to mechanically remove EN using a professional Diver Assisted Suction Harvester in 2016 proved that the invasive species was especially well established. The infestation was beyond the capacity of these mechanical removal efforts, leaving EN poised to infest other regions of the impoundment. An early autumn survey reveals EN in downstream Spaulding Pond although the degree of infestation remains to be determined.

The application of diquat dibromide (trade name: Reward) is the most effective management option for the dense and extensive beds of EN, with the objective of limiting further spread of EN and preventing new seed formation.

DEP considers herbicide treatment only in the rarest of circumstances when other control options are less effective and when the risk of aggressive spread is imminent. Application of diquat dibromide by a commercial applicator certified and licensed by the Maine Board of Pesticides Control may be recommended by DEP in 2017 for the following reasons:

- acceptable risk to humans through drinking water, acceptable risk to fish and wildlife
- most manageable environmental fate; i.e., fast breakdown in water column, least mobility through substrate and soils, and
- greatest efficacy for desired control of dense growth of European Naiad.

Final recommendation for breadth of treatment will depend on plant survey results next year.