

Bois, Bob

From: Monnelly, Anne (DCR) [Anne.Monnelly@state.ma.us]
Sent: Wednesday, April 01, 2009 3:28 PM
To: Bois, Bob
Cc: Monnelly, Anne (DCR); gsmith@aquaticcontroltech.com
Subject: RE:

Bob,

Here are the responses to the Concom questions. Please feel free to call or email if you need any additional information prior to tonight's meeting. I am out of the office today but am on email and will be in all day tomorrow.

-Anne

Questions

1) "Based on the chemistry of the particular herbicide being used, along with the chemical dose, timing and method of application, these herbicides can be reasonably selective for the targeted plant species." Project Summary - Page 3
The above statement leads to a question as to actual water chemistry of the proposed treatment area. Has the applicant (DCR) and the vendor (ACT) reviewed all available data regarding the specific water chemistry of the treatment area and the potential interaction with Reward (Diquat)? If so it should be clearly stated in the NOI.

Response: Aquatic Control and DCR have reviewed water quality data for Lake Cochituate. In the (2004) Long-Term Vegetation Management Plan for Lake Cochituate prepared by Aquatic Control for MA DCR, the water chemistry of the lake was discussed, along with its thermal stratification, hydrology and other lake characteristics. In summary, Lake Cochituate's water quality falls within the spectrum of typical water quality for a suburban Massachusetts Lake and none of the standard water quality parameters are outside of the expected and acceptable range.

Reward (Diquat) has been applied to thousands of ponds/lakes that differ widely with respect to trophic condition and water chemistry. Here in New England, it's been used successfully to chemically treat hundreds of waterbodies with a wide range of differing pH, alkalinity and nutrient (phosphorus & nitrogen) concentrations, including relatively low nutrient waters such as Lake Winnepesaukee in NH, along with many different high nutrient and eutrophic ponds and lakes. Lake Cochituate falls within this range of conditions.

2) "Upon contact with the soil, it is adsorbed immediately and thereby biologically inactivated".
Re: Reward (Diquat), Project Summary - Page 4

While the quote above just uses the term "soil" there were comments made at the 3/19/2009 hearing regarding potentially differing binding affinities of Reward to different types of particles (clay vs. organic).
Will the applicant please address this issue and how it may or may not be influenced by the conditions in the proposed treatment area?

Response: Page 4 (2nd paragraph) of the hand-out provided by Aquatic Control at the Hearing on 3/19/09 provided excerpts for the Washington State Final Risk Assessment for Diquat Dibromide related to soils and binding capacity. In summary, that assessment found the binding capacity of diquat to solids of all types is very high (including sand soil, sandy loam, sandy clay loam, loam, peat soil, various sand/gravel sediment, silty clay loam, organo-clays, peat, muck, organic soil, humic substances, and expanding clays), and there is no reason to believe this strong binding capacity would be influenced by the conditions in the proposed treatment area because the treatment area soils fall within this broad range of soil types. In addition, the information and additional literature sources quoted in the hand-out report that,

"Leaching of Diquat is likely to be negligible because of the strong adsorptive capacity of soils and sediments. pH does not appear to effect the bioavailability of Diquat."

3) Would there be any value of further expanding the proposed treatment areas by non-chemical means? For example would "Scuba Diver Hand-Pulling" past the boundaries of proposed 5 acres help impede the rate expected re-infestation? If considered of potential value can the applicant conduct such activities during the 2009 season?

Response: DCR will continue to demonstrate a commitment to utilize non-chemical techniques for control of invasive watermilfoil where low (generally less than 1-5%) plant cover exists and such techniques are practical and feasible. It's difficult to say how much benefit, with respect to extending the duration of milfoil control, might be achieved by utilizing such techniques past the boundaries of the proposed 5 acre treatment area. In order to evaluate effectiveness in the future, DCR will keep detailed records of the areas controlled by hand pulling and the level of effort and cost per area.