



# CANDLEWOOD LAKE AUTHORITY

P.O. BOX 37 • SHERMAN, CONNECTICUT 06784-0037 • (860) 354-6928 • FAX (860) 350-5611

## ***Public Hearing – March 7, 2012***

### **Environment Committee**

**Testimony Submitted by the Candlewood Lake Authority  
Larry Marsicano, Executive Director**

*In Support of*

#### **S.B. 254 – AN ACT RESTRICTING THE APPLICATION OF FERTILIZERS THAT CONTAIN PHOSPHATE**

The Candlewood Lake Authority supports S.B. 254 – “An Act Restricting the Application of Fertilizers that Contain Phosphate” as an important step in slowing the nutrient enrichment or cultural eutrophication process which has accelerated dramatically over the past 50 years due primarily to increased phosphorous loading. These harmful changes have been scientifically documented in Candlewood Lake and in many lakes and ponds in the State. Excessive phosphorous is harming our lakes and ponds in Connecticut, diminishing their environmental quality, recreation and economic values.

Since the 1970s scientists have learned that algae and plant growth in freshwater is limited by the availability of phosphorus (Schindler, 1977). There are a number of comparative studies looking at CT lake water quality and land use between the 1930s and 1970s, the 1970s and 1990s, and the entire span (Canavan & Siver, 1994; Field et. al., 1996; Siver et. al., 1996; Siver et. al., 1999). In general the studies showed that lake phosphorus levels were increasing and at a more rapid rate between 1970 and 1990. Those increases were always associated with decreased water clarity and other lake degradations. The lakes that saw the greatest degradation were also usually those with the greatest increases in development (residential, commercial, industrial) within the watershed; those that saw little or no change in phosphorus concentration or water clarity were those that were and remained in watersheds that were not highly developed.

Candlewood Lake was no exception. A study (Marsicano et. al., 1995) revealed that phosphorus levels in the State’s largest and one of it most important lakes started increasing in the 1950s. The rate of increase in phosphorus concentrations accelerated between 1960 and 1980 and closely paralleled the development of the five

municipalities surrounding Candlewood Lake: Brookfield, Danbury, New Fairfield, New Milford, and Sherman.

The scientific data is crystal clear – as a society we are increasing the levels of phosphorus in our lakes at a rate far greater than they would increase without us. Those increases come with a price - loss of water clarity and increase in algae concentrations and in advanced cases increased algae blooms. Those blooms are often by Cyanophyta or blue-green algae which can result in increases in cyanotoxins which at high concentrations are a human health hazard. Other symptoms included anoxia, fish kills, and internal nutrient loading, which reduce water resource values for recreation and water supply in lakes and downstream waterbodies.

As a culture we utilize many phosphorus based products that impact our environment and are washed into our lakes with surface rain runoff. Some public actions have helped, such as the organized efforts that have succeeded in reduction or removal of phosphorus from cleaning products like laundry soap. Sewer treatment plants in Connecticut are now facing expensive treatment upgrades to meet new requirements for reducing phosphorus in their discharge.

Bill 254 will address the fertilizers we disperse in our lawns which are also contributing to increased phosphorus concentrations in lakes and streams. Lawn fertilizers are a phosphorus source we can greatly reduce as a community and we look to you for help in doing that. Reducing fertilizer applications to lawns and switching to phosphorus-free fertilizer formulations is a low-cost means to help Connecticut's water resources.

It is also noteworthy that phosphorus is a finite resource mined for the production of agricultural and lawn fertilizer. Phosphorus has been identified as a natural resource that faces future scarcity. Conserving our use of phosphorus helps preserve both water quality and phosphorus supply for future generations.

Despite the issues listed above and resulting educational efforts by environmental advocates, phosphorus is misused or overused by many consumers in the interests of lawn care. Recent research at Cornell University has shown that after a lawn is established, the addition of phosphorus does not affect overall turfgrass quality (Petrovic et. al., 2005). Greg Bugbee, who runs the Soil Testing Laboratory for the Connecticut Agricultural Experiment Station has reported that a vast majority of lawn soil samples he receives for nutrient analysis have phosphorus levels sufficient to sustain a healthy lawn.

By now I'm sure you know that if this bill were to be approved, Connecticut would be the twelfth state to pass similar legislation. It is important to note that many of the states that have passed it are those rich in inland water resources that are an important part of state economy. One of those States, Minnesota, has produced an excellent publication on this for the general public entitled PHOSPHORUS IN LAWNS, LANDSCAPES, AND LAKES. We encourage you to visit and review the document at <http://www.mda.state.mn.us/Global/MDADocs/chemfert/reports/phosphorusguide.aspx>.

We believe Candlewood Lake and all Connecticut lakes need the protection provided by Bill 254 for both environmental and economic reasons and we urge your approval of this legislation.

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