

TESTIMONY BY THOMAS A.J. MCGOWAN, EXECUTIVE DIRECTOR OF THE LAKE WARAMAUG TASK FORCE, INC. IN FAVOR OF S.B. BILL 254 An Act Restricting the Application of Fertilizers that Contain Phosphate

For the past 37 years I have worked with the private non-profit Lake Waramaug Task Force, Inc. and the towns of Washington, Warren and Kent bordering Lake Waramaug to restore the lake's water clarity and quality which had reached a low point in the mid 1970's – the victim of accelerated lake eutrophication.

Without man's intervention eutrophication is a slow moving natural process whereby a lake over eons ultimately fills in and returns to swamp and finally land. However man, especially over the past century, has changed the game for the worse. The clearing of forest land, construction and use of homes, farms, roads, all impervious surfaces, lawns and septic systems, etc. all combine to accelerate water runoff, erosion, phosphorus (phosphate) and other nutrient loading and thus greatly increase the rate of eutrophication.

By the 70's Waramaug, previously a crystal clear lake with 30 feet of visibility, was rated eutrophic by the Ct. Agricultural Experiment Station. On a scale of 1 (best) to 4 (worst) it was a 3! During the summer of the 70's the earmarks of advanced eutrophication were all too obvious. The entire lake had become grossly discolored from excessive algae growth and lake clarity had been reduced to 3 to 4 feet. Its shores were clogged with decaying algae, often looking like an oil slick, greatly diminishing its treasured scenic and recreational values, as well as property values.

In response the Task Force was formed and after considerable study and consultation with experts we learned the main culprit in the decline of the lake was the influx of excessive amounts of phosphorous. Naturally in a lake there is water, sun light and nitrogen - all it needs to become a hydroponic garden is phosphorus. With too much phosphorus the lake grows more and more microscopic plants (algae) and weeds.

As these plants die off they absorb oxygen and sink to the bottom. After many years of this process oxygen in the lake bottom layer is depleted. When this happens during the summer comes the "double whammy". In the absence of oxygen (anoxic) the phosphorus that had been trapped in the lake bottom sediment is released into the lake water. Eventually this bottom released phosphorous builds up and begins to feed more algae growth in the mid and surface layers of the lake. When this occurs as it did at Warming in the 1970's the lake began killing itself!

All this because of excess phosphorus. Over these decades the Task Force has reduced phosphorus flow to the lake from its many sources. This work was done with funds raised by the Task Force, with State and federal grants and financing from lake towns and other private sources.

To reduce phosphorus flow to the lake we constructed dairy manure storage facilities, a wine waste lagoon, stabilized major stream and lake shore erosion sites and installed

three sedimentation catchment basins in the lake feeder streams from which collected eroded soil is cleaned out at intervals.

Continually we have assisted lake towns in the enactment of local regulations improving the control of construction related soil erosion, to protect lake shorelines, upgrade failing septic systems and to encourage use of low impact development techniques that capture and treat phosphorus rich stormwater runoff before it reaches the lake.

We created a model native shoreline planting buffer strip and encourage shoreline owners to install native plantings in place of lawns and to not rake leaves or lawn clippings into the lake.

In the lake, under the guidance of Dr. Robert Kortmann, we established and continually improved innovative water circulation systems that have greatly helped suppress the upward movement of phosphorus from the lake bottom, to fix the phosphorus in the lake with its natural iron, to improve habitat for algae eating zooplankton and cold water fisheries. For 25 years we have stocked the lake with brown trout to reduce the excessive and harmful population of zooplankton eating alewives in the lake.

We have done much more and all of this work has paid off. Today the lake's water clarity has improved significantly. But even at Waramaug we still have more to do, including reducing the use of phosphorus in lawn fertilizers where it is not needed.

Unfortunately despite an ongoing educational effort we have not been successful in weaning lawn loving landowners from the use of phosphorus based lawn fertilizers. The primary function of phosphorus in lawn fertilizer is to support new root growth and it is generally not needed on an established lawn. Used widely in a lake watershed it becomes a contributing factor to the level of phosphorous flowing to the lake and feeding algae and weed growth.

One pound of phosphorus put into a lake can support the growth of 10,000 pounds of algae and weeds! So it is imperative that we make every effort to reduce every bit of phosphorus we can from reaching our lakes.

S.B. 254 will do just that. Fertilizer companies, many of which in recent years have begun to manufacture 0 phosphorus lawn fertilizer, all will need to provide this product in Connecticut. Lawn chemical companies will not be using phosphorus for established lawns. Stores will be required to clearly label and sell 0 based lawn fertilizer for established lawns -- but can still sell phosphorus fertilizers for new lawns and lawn repair. The bill's store posting requirements will educate consumers and make them keenly aware of the importance of using 0 based phosphorus lawn fertilizer.

With the passage of this simple bill you will be taking a very important step helping all Connecticut lakes slow down the accelerated eutrophic decline they are suffering. So too you will help save these priceless scenic and recreational resources and protect an important part of Connecticut's commercial and property tax base.