

# Town of

P.O. Drawer 519

Department of Planning &  
Inland Wetlands Agency

*Gary A. Goeschel II, Director of Planning /  
Inland Wetlands Agent*



# East Lyme

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## MEMORANDUM

**To: East Lyme Inland Wetlands Agency**

**From: Gary A. Goeschel II, Director of Planning/ Inland Wetlands Agent**

**Date: November 12, 2020**

**Re: Application of the Town of East Lyme Inland Wetland Agency for a text amendment to amend Section 2.1 of the East Lyme Inland Wetland Regulations to change the Definition of a "Regulated Activity" by enlarging the distance of the boundary for a regulated activity from 100' from an inland wetlands and/or watercourse to 500'**

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Upon review of the public hearing record for the above referenced application, I offer the following findings:

Exhibit E - a letter of support from the East Lyme Commission for the Conservation of Natural Resources dated June 4, 2020, recommends "the Review area be extended to at least 300-feet to facilitate expert and nonpartisan review by the Inland Wetlands Agency of development projects that have the potential to degrade town wetlands, surface waterbodies, or underground drinking water aquifers."

Exhibit DDD – Letter from Margret Miner, Environmental Consultant to Gary Upton, Chairman and Members of the East Lyme Wetlands Agency dated July 13, 2020, does not specify the impacts of activities on inland wetlands and watercourse from developing sites but, rather states "the hydrology and ecology of a site can be significantly altered by activities when done outside the regulated/review area". While certain activities can significantly alter the hydrology and ecology of a site, such alteration may not necessarily result in adverse impacts wetlands, watercourses, or even groundwater.

Exhibit UUU - Demonstrates the hydraulic connection between surface waters and groundwater. However, it does not provide scientific evidence to indicate that activities beyond 100-feet from an inland wetlands or watercourse would in fact adversely impact such water resources thus supporting an increase in the upland review area.

Exhibit VVV – Chapter 3: Freshwater Resources, does not provide the document or source from which the Chapter comes from. However, the record's Exhibit List indicates "IPCC", which, most likely stands for Intergovernmental Panel on Climate Change. This document provides technical evidence as to the risks and impacts of climate change on surface and groundwater as well as the

impact of an increase of 1.5°C of global warming on natural and human systems. It does not provide any specific scientific evidence relative to how an increase in the upland review area would further mitigate the impacts of regulated activities or climate change on East Lyme's inland wetlands and watercourses.

Exhibit LLLL, Effect of Highway-Related Pollutant on the Groundwater Quality of Turfy Swamps in the Changbai Mountain Area, considers the impact of activities such as fuel consumption, vehicle wear and road deicing on groundwater quality of fragile roadside wetland environments. The Results and Discussion, indicate the maximum concentrations of all heavy metals in this area were lower than the drinking water quality of China. Their results indicate that the concentrations of Cu, Pb, Zn, Cr, Cd, Na, K, and Cl varied greatly in different distances from the highway, which lead to the speculation that the concentrations of Cu, Pb, Zn, Cr, Cd, Na, K, and Cl in groundwater were most likely related to human activities along the highway. The study, in conclusion, indicates the concentration of pollutants were greatest at the edge of the highway followed by an exponential decay away from the highway with affected distances of 15 to 100 meters dependent on location and pollutant. It is worth noting, given the sensitivity and the sensitivity and vulnerability of turfy swamps in Changbai, China, long-term monitoring of pollution in roadside groundwater is important to establish recommendations for minimal distances of roadways from wetlands. In addition, the study does not identify the impact, if any, that these heavy metals may have on a wetlands or watercourse. Therefore, while the study demonstrates the distance pollutants may travel, it does not provide any further recommendations besides long-term monitoring to establish further recommendations.

Exhibits MMMM – Inland Wetland and Watercourse Review Areas by James G. MacBroom, P.E. dated November 2002 and Exhibit NNNN – Position Statement, A Statement on Upland Review Areas for Connecticut Municipal Inland Wetlands and Watercourse Commissions by CACIWC July 2006, both support upland review areas of 100-ft. Exhibit NNNN indicates CT DEP Inland Fisheries Division published a position statement "Utilization of 100 Foot Buffer Zones to Protect Riparian Areas in Connecticut" by Brian D. Murphy that sets policy for the division that a 100-foot protective buffer is a minimum setback along perennial streams. Similar scientific evidence supports the establishment and maintenance of a minimum 100-foot vegetative buffer to protect inland wetlands from no-point source pollution impacts."

Pursuant to the Section 22a – 36 to 22a-45, inclusive, of the Connecticut General Statutes and the East Lyme Inland Wetlands and Watercourses Regulations, the Agency's jurisdiction lies in the regulation and protection of inland wetlands and watercourses which, are defined in the East Lyme Inland Wetlands and Watercourses Regulations as follows:

- "Wetlands" means land, including submerged land as defined in this section, not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial and floodplain by the National Cooperative Soils Survey, as it may be amended from time to time, of the Natural Resources Conservation Service of the U.S. Department of Agriculture (USDA). Such areas may include filled, graded, or excavated sites which possess an aquic (saturated) soil moisture regime as defined by the USDA Cooperative Soil Survey.

- "Watercourses" means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the Town or any portion thereof not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (a) evidence of scour or deposits of recent alluvium or detritus, (b) the presence of standing or flowing water for a duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation.

Pursuant to Section 1.1 of the East Lyme Inland Wetlands and Watercourses Regulations, it is the purpose the regulations to protect the citizens of the state by making provisions for the protection, preservation, maintenance and use of the inland wetlands and watercourses by minimizing their disturbance and pollution; maintaining and improving water quality in accordance with the highest standards set by federal, state or local authority; preventing damage from erosion, turbidity or siltation; preventing loss of fish and other beneficial aquatic organisms, wildlife and vegetation and the destruction of the natural habitats thereof; deterring and inhibiting the danger of flood and pollution; protecting the quality of wetlands and watercourses for their conservation, economic, aesthetic, recreational and other public and private uses and values; and protecting the state's potable fresh water supplies from the dangers of drought, overdraft, pollution, misuse and mismanagement by providing an orderly process to balance the need for the economic growth of the state and the use of its land with the need to protect its environment and ecology in order to forever guarantee to the people of the state, the safety of such natural resources for their benefit and enjoyment and for the benefit and enjoyment of generations yet unborn.

Although groundwater can be hydrologically connected to watercourses, it is worth noting the above is specific to the protection preservation, maintenance, and use of the inland wetlands and watercourses whereas, the jurisdiction for the protection of groundwater currently resides with the East Lyme Aquifer Protection Agency.

At the Agency's October 19, 2020 meeting, the Agency moved to direct staff in consultation with the Town Attorney, to draft a resolution that contemplated enlarging the 100-foot Upland Review Area to 300-feet versus the proposed 500-feet as noticed in the The Day newspaper. As such, enclosed is a draft resolution based on the above findings regarding the Agency's Application for a text amendment to amend Section 2.1 of the East Lyme Inland Wetland Regulations to change the Definition of a "Regulated Activity" by enlarging the distance of the Upland Review Area (URA) for a regulated activity from 100-feet from an inland wetlands and/or watercourse to 500-feet.