

**TEMPLATE for: TOWN OF XXXXX, MA**  
**NEW ORGANIC LAND MANAGEMENT REGULATION\***  
**FOR TURF AND LANDSCAPES ON TOWN-OWNED/OPERATED PROPERTY**

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**Why Land Management Without Use of Glyphosate-Based Herbicides:**

Glyphosate is the primary active ingredient in glyphosate-based herbicides (GBHs) such as RoundUp® and Rodeo®; unfortunately, GBHs are the most widely used herbicides globally<sup>1</sup>. In the U.S., no pesticide has come remotely close to such intensive and widespread use. More than 3.5 billion pounds of glyphosate (active ingredient alone) have been applied on U.S. agricultural lands between 1974 and 2016. Nearly 67% of that use has occurred in the last 10 years. There's also an upward trend in use on public roads, railway lines, parks, open space, forests, and other public places as well as on private home gardens.

Glyphosate poses harm to developing children, bees and other pollinators, pets, domestic animals, wildlife and other living resources upon which we depend. Many glyphosate restrictions or bans throughout the world<sup>2,3,4,5,6</sup> have been introduced following the 2015 glyphosate report<sup>7</sup> by the World Health Organization International Agency for Research on Cancer (IARC) that concluded "Glyphosate is probably carcinogenic to humans (Group 2A)", and that there was a positive association between glyphosate exposures and non-Hodgkin's lymphoma (NHL). The report further concluded that glyphosate exposure caused DNA and chromosomal damage in human cells, as well as genotoxic, hormonal and enzymatic effects in mammals<sup>8</sup>.

Glyphosate has been linked to a number of human health issues, including, but not limited to: ADHD, Alzheimer's Disease, Autism, Birth Defects, various forms of Cancer, Celiac Disease, Colitis, Heart Disease, Inflammatory Bowel Syndrome, Kidney Disease, Liver Disease, Obesity, Parkinson's Disease and Infertility<sup>7,9,10,11,12</sup>. For one example, farmworkers and landscapers exposed to glyphosate are linked to an increased risk of non-Hodgkin's lymphoma (NHL)<sup>13</sup>: it is the high profile NHL cases that are being won against Monsanto/Bayer in California courts<sup>14</sup>. More than 18,000 people in the United States are suing Monsanto claiming that exposure to the company's glyphosate-based herbicides caused them to develop non-Hodgkin's lymphoma and that Monsanto hid the risks associated with its weed killers<sup>15</sup>.

Glyphosate contaminates food<sup>1,12,16,17,18,19</sup> (including wine and beer), water, air, soil, dust, wildlife, marine life (including shellfish), sterile cotton gauze, and tampons; and it accumulates in the food chain<sup>10,11,20</sup>. It harms our gut microbiome<sup>21,22</sup>, the microbiome of honeybees<sup>12,23,24</sup>, soil microbes and other organisms<sup>10,25,26,27</sup>. And because glyphosate harms beneficial soil microbiota, it predisposes plants and trees to disease and toxins, thus reducing carbon sequestration. In essence, GBHs contribute to the climate crisis by interfering with plant nutrient cycling. This also occurs when "small amounts" of GBH are dabbed onto unwanted plants because that typically uses a much higher concentration than spraying<sup>10</sup>. Hence, the total amount of GBH used would be about the same as spraying, but the amount entering the soil at a particular site would be much greater. Degraded soil health affects its water-holding capacity and reduces the infiltration rate, which further accelerates erosion by increasing the risk of water runoff. Glyphosate formulations pose a danger during application as well as with stormwater runoff when carried into storm drains or otherwise flow to streams, rivers, reservoirs, wetlands, ponds, beaches, bays and estuaries.

Adding to this overall contamination problem are: mixing errors (wrong concentration) and accidental spillage of GBHs by applicator personnel (groundskeeper, landscaper, homeowner, etc.). The label is the law, yet errors occur and add to the harm of all life forms. In more than a dozen recent studies, glyphosate is proven to not be safe for applicator use, and any use on land or elsewhere poses risks. Knowing that a seemingly insignificant concentration of 1ppt (parts per trillion) glyphosate can stimulate the growth of breast cancer cells *in vitro*<sup>28</sup> makes us realize that this chemical is a significant problem. To help with visualize that concentration, 1ppt is equivalent to 1 drop in 20 Olympic-size swimming pools.

\*Regulation via a town or city Board of Health

Reducing harmful chemicals on town-owned properties frequently used by residents and tourists alike will show residents and businesses that their town leaders are making decisions for the betterment of the town as a whole, and provides a model that all land owners should follow. Not using GBHs on any municipal-owned/operated land, as well as outsourced contractor-managed land, eliminates concerns of glyphosate exposure that have been raised by parents with children who wish to play in parks, on school grounds, or on golf courses.

It is important to note that even when applied according to the label on the GBH product container, glyphosate can have a negative effect on the applicator's health at extremely low doses. Both short-term and long-term exposures have resulted in GBH applicators developing non-Hodgkin's lymphoma as evidenced by recent court cases in California<sup>8</sup>.

### **Guidelines for Basic Plan Components:**

#### **Section -- 1: Findings and Purpose**

The *Board of Health* of the Town of XXXXX does hereby find that:

To eliminate the use of the herbicides that have glyphosate as an active ingredient (GBHs) for it is glyphosate that has been proven harmful to developing children, pollinators, soil microbes and all other life forms, and is found to widely contaminate our natural resources.

To not use GBHs on any town-owned/operated properties, grounds, or other outdoor facilities.

To have all town departments that have jurisdiction of town properties or buildings adopt the same practices, including: board of health, conservation commission, DPW, planning board, library and board of trustees, school committees, water department, or other.

All pesticides are toxic to some degree and the commonplace, widespread use of GBHs is both a major public health issue and environmental problem; and

All citizens, and children in particular, as well as other inhabitants of our natural environment, have a right of protection from exposure to hazardous chemicals and GBHs in particular; and

A balanced and healthy ecosystem is vital to the health of the town and its citizens and, as such, is also in need of protection from exposure to hazardous chemicals and pesticides; and

When an activity such as municipal land management raises threats of harm to human health and/or the environment, precautionary measures should be taken, even if some cause and effect relationships are not yet fully established or are slow to be manifested (as in the onset of cancer).

To form a town Ecological Advisory Committee\*\* that will help to guide this regulation and educate the citizens as to why we need to eliminate the use of GBHs in the care and maintenance of properties throughout the town.

In order to foster a balanced and healthy ecosystem, towns should adopt organically-based alternative practices and products from NOFA's (Northeast Organic Farming Association) Standards for Organic Land Care: Practices for the Design and Maintenance of Ecological Landscapes<sup>29</sup> and/or Beyond Pesticides' Products Compatible with Organic Landscape Management<sup>30</sup> (see p.4 & 5 - Alternative Management Practices/Products).

This glyphosate-free regulation shall apply to the following spaces owned and managed by town park commissioners, school committee, conservation commission and library board of trustees on the grounds listed below, but not limited to: athletic fields, playgrounds, grounds of town buildings (police, fire, town hall), town greens, parks, picnic areas, cemeteries, conservation areas, water protection districts, traffic islands, parking lots, beaches, roadsides, golf courses, food production plots and cranberry bogs.

\*\*Suggested to consist of five members, e.g., 1 Board of Health, 1 Conservation Commission, 2 independent professionals (re. non-toxic pesticides/ecological landscaping) & 1 town resident

It is in the best interest of public health and the environment to eliminate the use of synthetic toxic herbicides (e.g., GBHs) on town-owned/operated lands, ponds and waterways; to encourage the reduction and elimination of the use of such herbicides on private property; and to introduce and promote ecologically sound, organic and other management practices to prevent and/or manage unwanted vegetation on town owned/operated land.

## **Section -- 2: General Best Practices**

The *Board of Health* in XXXXX hereby adopts the following best practices by any town employee and private contractors working on behalf of the town:

- A. To develop and follow organically-based integrated pest management (IPM) practices for all land management.
- B. Seek alternative methods to eliminate the use of GBH products on any town owned/operated land.
- C. Use cultural, physical or other non-toxic interventions when needed to remove unwanted plant species.
- D. If there is no alternative non-toxic intervention or organic product that will eliminate the problem(s) or reduce the problem(s) to acceptable levels, then a least-toxic herbicide can be used only if all possible non-toxic products/interventions have been attempted in the situation, and if approved by the Ecological Advisory Committee\*\* and the Board of Health.
- E. A plan is written and discussed on the *Board of Health's* agenda for public awareness and full transparency. The *Board of Health* publicizes the regulation, and holds a Hearing for public comment.

## **Section -- 3: Authority**

This land management regulation is promulgated under the authority granted to the Town of XXXXX Board of Health under various provisions of Massachusetts General Law relative to the protection of public health, the promotion of sanitary living conditions, and protection of the environment from damage and pollution<sup>31,32</sup>. This includes reasonable health regulations regarding pesticides; and regulations that a Board of Health adopts may deal with land use if there is a solid connection between the use and a health issue.

On a quarterly basis, the *Board of Health* shall seek the advice and counsel of the Ecological Advisory Committee\*\* and independent experts and scientists in the fields of organic landscape management and organically-based integrated pest management on fulfilling the requirements of this land management regulation.

## **Section -- 4: Definitions**

**Authority clarified:** a **regulation** written by a Board of Health is enforceable and provides the strongest protection against potential liability for the Town. If a Town chooses to write a “policy” (e.g., by a Conservation Commission, Select Board, Town Council), it can be done without a public Hearing and would not withstand litigation in Court as well as a “regulation”.

**Pesticide:** a substance used to manage any unwanted organism - insects, rodents, birds, unwanted plants (“weeds”), fungi, or microorganisms such as bacteria and viruses. The term *pesticide* applies to insecticides, rodenticides, herbicides, fungicides, microbiocides, and various other substances used to manage unwanted species. Pesticides can have profound impacts on the developing child; even minute amounts can adversely affect the developing brain, endocrine system, etc. The American Academy of Pediatrics recommends implementing public policies that prioritize least-toxic pesticide use<sup>11</sup>.

**Herbicide:** a substance that is toxic to plants, used to destroy unwanted vegetation.

**Pest:** any organism that is unwanted in a particular place at a particular time (typically, an animal or plant); it may or may not have a harmful effect on humans, their food or their living conditions. The desirability or tolerance of a species depends upon the attitudes and perceptions of human residents and varies widely with cultural and socioeconomic differences, as well as legal standards.

**Glyphosate:** the primary ingredient in many broad-spectrum herbicides (e.g., Roundup®, Rodeo®, Ranger Pro®, Bonide® Ground Force® Vegetation Killer). Also, it is a microbiocide (antibiotic); and a metal chelating agent that binds macro- and micronutrients essential for many plant growth and development processes and pathogen resistance<sup>22,24</sup>. This dangerous toxic chemical was originally patented to remove mineral deposits from boilers and steam pipes; it is a synthetic amino acid that does not exist in nature.

**Imminent threat to public health by plants:** an unpredictable, significant outbreak of poisonous or stinging plants that threaten public health. Such events should rarely, if ever, occur. Best landscaping management practices would include periodic surveys (monitoring) that should reveal any problem before it becomes significant.

**Organic land management:** see NOFA's Standards for Organic Land Care: Practices for the Design and Maintenance of Ecological Landscapes<sup>29</sup> and/or Beyond Pesticides' Products Compatible with Organic Landscape Management<sup>30</sup>.

**Alternative management practices/products to be used instead of GBH products:**

A management strategy for unwanted vegetation must be specific to the site and to the plant species; thus, there can be no set approach for all situations. Practices would include, but are not limited to: hand pruning, repeat cutting, mowing, manual uprooting/pulling, mulching, geotextile application, solarizing, goat grazing, competition planting/smart design, hot water systems, infra-red and flame weeding<sup>33,34,35,36,37,38</sup>. Organic products could include, but are not limited to: acetic acid (vinegar), fatty acids, herbicidal soaps, salt, organic corn gluten and essential oils<sup>30,35</sup>. While upfront costs of organic products exceed GBHs, such costs for glyphosate do not consider or include: human morbidity and mortality, habitat and/or direct damage to pollinators, destruction of soil microbiota (soil health), contribution to the climate crisis, reduction in plant nutrient density, and settlement of potential lawsuits.

**Section -- 5: Prohibition**

The use and application of synthetic toxic chemical herbicides by town employees and/or by private contractors for managing lawns, turf, ornamental beds, and trees is prohibited on all town-owned/operated lands unless an exemption has been granted by the *Board of Health*, with corroboration by the Ecological Advisory Committee\*\*, due to an imminent threat to public health. An “exemption” shall only be granted after all non-toxic interventions have been exercised and failed to produce a tolerable outcome.

**Section -- 6: Management of Unwanted Vegetation**

Organic Land Management shall be the methodology of choice to understand, prevent and manage unwanted vegetation problems. This limits management products and interventions to those approved by NOFA<sup>29</sup> and/or Beyond Pesticides<sup>30</sup> or the equivalent as determined by the Board of Health and the Ecological Advisory Committee\*\*. Included are: regular soil testing; addition of organic soil amendments; selection of plants grown without synthetic toxic pesticides, appropriate for local conditions, disease and pest resistance and efficiency of maintenance; and overall organically-based IPM practices.

**Section -- 7: Inventory of Herbicides**

All herbicide products currently stored in or on town-owned premises shall be compiled by the DPW director who shall have the authority to dispose of any such products, including all GBHs, through the County's Toxic Hazardous waste collection program.

**Section -- 8: Exemptions**

None

**Section -- 9: Training and Education**

Educational programs will be established to educate town administrators, workers and residents on alternatives to GBHs and other synthetic toxic pesticides for organic/non-toxic land management and promotion of soil health.

The Town of XXXXX shall serve as an appropriate model for residents and businesses to encourage the voluntary adoption of the same organic/non-toxic practices on their own properties for the betterment of all town residents, visitors and natural resources.

NOTE: *Due to the current State preemption law, it is illegal in Massachusetts for any town to ban the sale or use of a pesticide (herbicide, fungicide, insecticide, rodenticide). HOWEVER, any town or board or business or persons can VOLUNTEER to not purchase and/or not use any GBH's. As a reminder, with regard to private property this policy is a volunteer effort only. If your town wishes to enact an overall ban on the sale or use of GBH's, please contact [John Lebeaux@state.ma.us](mailto:John_Lebeaux@state.ma.us) of the Massachusetts Pesticide Board.*

### **Section -- 10: Complaints**

The Town of XXXXX shall investigate complaints received about any parties or acts that may violate any provision of this regulation.

### **Section -- 11: Effective Date & Signatures**

This regulation shall be effective upon publication. Town of XXXXX, *Board of Health* sign and date and share with all town residents and businesses their decision to do more to help protect us all from the ill effects of GBHs.

( ~HERE~ Signatures of all members of the *Board of Health* with effective date of regulation)

### **Contacts:**

For further information, consultation and/or Board/Public Presentations & Discussions, please contact the authors of this Template. Every Board of Health in the Commonwealth will be sent this regulation (template) in order for them to craft it into a new town regulation to be voted into effect by March 31, 2020. We hope that GBHs will not be purchased for the Spring of the year. All Town Managers will be copied on this Template in order for them to collaborate with Boards of Health to maximize protection of their town residents and the environment, including soil health. Thank you most sincerely for caring and taking appropriate action.

••**Ms. Laura Kelley**, Organic Horticulturist and President of Protect Our Cape Cod Aquifer (POCCA Cape Cod), North Eastham, MA ~ [pocccapecod@gmail.com](mailto:pocccapecod@gmail.com)

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