May 16, 2019

The Honorable Anne Gobi
Joint Committee on Environment, Natural Resources and Agriculture
State House, Room 513
Boston, MA, 02133

The Honorable William Pignatelli
Joint Committee on Environment, Natural Resources and Agriculture
State House, Room 473F
Boston, MA, 0213

Dear Chair Gobi and Chair Pignatelli,

On behalf of The Trustees, Massachusetts Rivers Alliance, The Nature Conservancy, and Mass Audubon, we appreciate the opportunity to respectfully offer testimony in support of **H.873/S.438** ***An Act to promote healthy soils and agricultural innovation within the Commonwealth*** **(Representative Paul Schmid and Senator Joanne Comerford)**, otherwise known as the Healthy Soils bill.

Our organizations advocate for ecologically healthy land management practices that support farming and forestry while also improving water quality and providing important habitat for a variety of birds (including several species with declining populations) and other wildlife, including pollinators. In addition, both Mass Audubon and The Trustees own and operate community farms.

The Healthy Soils bill has a worthy goal: to protect and improve soil health in Massachusetts. Soils are essential for life on earth; everything we need, including food, fiber, habitat, shelter, open space, clean air and water, and more, relies on the existence of soil. Policy makers have an important role to play in publicly recognizing the critical importance of maintaining and rebuilding healthy soils, particularly in terms of long-term sustainable agriculture, which is one of the goals of the Massachusetts Local Food Action Plan[1] and the New England Food Vision.[2]

Soil health is defined as the capacity of the soil to function, which, in agriculture, is highly influenced by management practices such as tillage, nutrient additions, and cover-cropping. Soil management practices influence global carbon emissions; improving soil health for agriculture has the co-benefit of improving the soil's capacity to support ecosystem services, such as carbon sequestration. Carbon stored in soils represent the third largest carbon sink on the planet; however, its ability to store carbon depends on how the soil is managed and other environmental conditions.

Globally, about 24% of greenhouse gas emissions come from agriculture, forestry and land use. In the United States, approximately 10% of all greenhouse gas emissions come from agricultural activities[3]. These emissions are in the form of carbon dioxide (CO_2), nitrous oxide (N_2O), and methane (CH_4). However, with improved management techniques, agricultural lands can both sequester carbon and reduce CO_2, CH_4, and N_2O emissions, thereby reducing agriculture's greenhouse gas footprint.

Passing legislation to enhance soil health would complement the Commonwealth's nationwide leadership in protecting natural resources and fighting climate change. Last summer, The Nature

[1] https://www.mass.gov/service-details/ma-local-food-action-plan
[2] http://www.foodsolutionsne.org/new-england-food-vision
[3] U.S. EPA. "Inventory of U.S. Greenhouse Gas Emissions and Sinks"

Conservancy, as well as other NGOs, joined the U.S. Climate Alliance States (of which Massachusetts is a founding member) for a workshop exploring the power of working forests, farms, and natural areas to sequester and store carbon. As part of this, an opportunity assessment was conducted to evaluate the potential for various natural climate solutions in Massachusetts. Three opportunities to reduce and remove greenhouse gases related to working farmland were identified:

1. Silvopasture – The intentional combination of trees, forage plants, and livestock together as in integrated, intensively-managed system. This pathway examined the opportunity to increase carbon storage by planting trees in pasture land.
2. Cover crops – Additional soil carbon sequestration gained by growing a cover crop in the fallow season between market crops
3. Cropland nutrient management – Avoided nitrous oxide emissions due to more efficient use of nitrogen fertilizers

These, and other, farming practices having been demonstrated to increase soil health and soil carbon; however, they are still not widely implemented. The Healthy Soils bill would advance these pathways through state incentives and support. In addition, these practices are not only good for carbon sequestration, they also help farms to improve water quality and quantity, become more resilient to extreme weather, and become more profitable.

We note that this bill also supports the ongoing efforts of the Executive Office of Energy and Environmental Affairs to draft a Massachusetts Healthy Soil Action Plan, and that Mass Audubon and The Trustees are both contributing to this plan. The Plan will be a blueprint for improving forestry, farming, turf care, and other land and soil management practices across the Commonwealth by implementing practices that reduce erosion and carbon emissions, improve production, increase carbon storage, reduce stormwater pollution and build resilience to intensive weather events and droughts. The plan will also support policy makers, regulators, and program administrators in shaping current and future soil-related efforts to help the Commonwealth achieve its climate change and resiliency goals. The Healthy Soils bill would provide important support for implementing this plan.

Our organizations respectfully urge the Committee to provide a favorable report on the Healthy Soils bill. Thank you for your time and consideration of this legislation. Please feel free to contact Mike Cusher should you have any questions.

Sincerely,

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