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Testimony of Representative Laurie Osher presenting
**LD 1678, Resolve, Directing the Department of Agriculture,
Conservation and Forestry to Study and Report on Soil Carbon
Sequestration Incentive Programs**
Before the Joint Standing Committee on Agriculture, Conservation and Forestry

Senator Ingwersen, Representative Pluecker and esteemed members of the Agriculture, Conservation and Forestry Committee, I am Laurie Osher and I represent District 25, the majority of Orono. Thank you for the opportunity to present **LD 1678, a Resolve Directing the Department of Agriculture, Conservation and Forestry to Study and Report on Soil Carbon Sequestration Incentive Programs.**

Soils play an important role in the global carbon cycle. Here in Maine, we are uniquely positioned to make our soils a key part of our overall strategy to lower net greenhouse gas emissions and pursue a more sustainable future.

Many of us are used to thinking about how above-ground biomass - the vegetation, including the forest, grassland, and wetland plants as well as the agricultural crops, that make up the beautiful landscapes of our state - capture and store carbon dioxide. But the role of soil as a site of carbon sequestration is less widely appreciated. Depending on how we manage soils, they can be a net source of carbon to the atmosphere or a net carbon sink.

Because of Maine's rural, forested character and relatively cool climate, we know our ecosystems provide the valuable benefit of pulling CO₂ from the atmosphere and storing it for long periods of time, both in above-ground biomass and in our soils. In fact, the mean age of soil carbon in Maine soil is roughly 1,000 years - between 10 and 100 times longer than the mean sequestration time of carbon in our state's above-ground biomass.

More than 30 years ago, I transitioned from working as a field soil scientist to being a research soil scientist studying the mechanisms that control soil carbon sequestration and loss. My projects were funded by many grants, including substantial support from NASA's 'Mission to Planet Earth' and the

USDA's CSREES 'Soils and the Global Carbon Cycle' Program. From the decades of research by so many scientists, we know that specific land management practices increase soil carbon storage - and we have an ever-increasing appreciation of the role these practices could play in our response to climate change.

Land managers know that there are successful practices they could be implementing, but despite this knowledge, that is not happening and very little additional carbon is being stored. This is for the simple reason that the cost to implement carbon-sequestering practices is too high for land managers to do so without support. LD 1678 will advance our work to put that support in place.

During the 130th Legislature, I sponsored LD 937,¹ which became law and directed the Department of Agriculture, Conservation and Forestry and the Department of Inland Fisheries and Wildlife to jointly develop recommendations regarding carbon storage programs and policies. The resulting report is a useful survey of ways to maintain soil carbon, which we know is important, and a collection of broad recommendations. The bill before you today, LD 1678, is the next step toward focusing our efforts to identify and distribute funding to Maine farmers, foresters and others who are doing the right thing to not only maintain but increase soil carbon sequestration.

LD 1678 directs the Department of Agriculture, Conservation and Forestry to study and report on soil carbon sequestration incentive programs and determine potential funding sources for them. These programs would aim to increase the amount of CO₂ stored in the soils of our forest land, agricultural land, conserved lands and wetlands. The bill requires the department to return to this committee with its report by Dec. 6, 2023, and empowers the committee to report out legislation based on the report so that we may consider any such legislation during the Second Regular Session of the 131st Legislature.

My intent is that department staff will look at what programs are being implemented in other states and then filter it through the lens of what will work best here, taking Maine's unique character into account. Ultimately, the goal is to answer the questions: How much funding do we need, how should it be distributed and what specific land management activities should be prioritized for incentives?

Maine's soils are already a valuable carbon sink, but to truly offset human carbon emissions and promote climate resilience, we need to manage our soils in a way that optimizes their natural carbon-storing potential in order to sequester even more CO₂. In order to accomplish this, we need the information we will gain through LD 1678.

I ask you to please support this measure. Thank you for your consideration. I would be happy to answer any questions you may have.

¹ 130th Maine Legislature, LD 937, Resolve, To Facilitate the Provision of Incentives for Soil Carbon Storage: <https://legislature.maine.gov/LawMakerWeb/summary.asp?paper=HP0693&SessionID=14>