

**Testimony of Bigelow Laboratory for Ocean Sciences in Support of LD 416**

*An Act to Authorize a General Fund Bond Issue for Research and Development and Commercialization*

April 24, 2023

To Senator Rotundo, Representative Sachs, and members of the Committee on Appropriations and Financial Affairs,

Good morning, I am Valerie Young, chief of staff at Bigelow Laboratory for Ocean Sciences, and I am here on behalf of Bigelow to speak in favor of LD416: An Act to Authorize a General Fund Bond Issue for Research and Development and Commercialization. We believe that strategic investments in research and development is essential for the growth and prosperity of our state.

Bigelow Laboratory for Ocean Sciences is an independent, nonprofit research institute located in East Boothbay, Maine. From the Arctic to the Antarctic, our scientists use innovative approaches to study the foundation of global ocean health and unlock its potential to improve the future for all life on our planet.

Creative, cutting-edge science is our hallmark. We've reimaged ocean research – fusing the best of scientific inquiry and entrepreneurial ingenuity. This bold and nimble approach has transformed Bigelow from a scrappy start up into a world-renowned hub of ocean discovery over the last 50 years. With a combination of support from federal and private funds, we're empowering diverse researchers to collaboratively explore and exceed the traditional boundaries of their fields.

By authorizing this general fund bond issue, you will allow Maine's research and development sector to leverage those federal and private dollars already being allocated to Maine, to bring new discoveries and technologies that can help to protect and preserve the ocean and its ecosystems that are so critical to sustaining life on our planet.

Indeed, Bigelow has benefited from similar, past bonds distributed through the Maine Technology Institute, which we used to help build our state-of-the-art laboratory facilities and to expand our research capability. Over the past ten years that I've worked at Bigelow – starting when the building was constructed – we've grown from a staff of 70 to 110, with our operating budget growing from \$8M to \$20M. That growth has now brought us to our next expansion phase slated to begin this fall. The planned Education and Innovation Wing will provide dedicated teaching labs and classrooms, additional laboratories to hire more scientists, and much needed space to continue to grow our



footprint as a national repository for microbes and seeds involved in patent filings, an activity that has grown from ~\$50,000 in annual revenue in 2018 to over a million dollars in 2022.

Another example of how we have leveraged our past MTI funding is in our Coast-Cow-Consumer Project. Suppression of methane emissions (burps) from livestock has the potential to drastically reduce the global production of this greenhouse gas, which has over 25 times the warming potential of carbon dioxide if released into the atmosphere. This project aims to develop a well-balanced seaweed additive for cattle feed that dramatically reduces methane production while providing major benefits to the environment, dairy and beef farmers, and the working waterfront. This project started with \$25K of seed funds and has now brought in \$26M from a mix of private and federal funding sources.

Bond funding such as this would be of utmost importance to get creative solutions like these off the ground in a variety of research sectors across Maine. The Maine Technology Institute, the Maine Innovation Economy Advisory Board, and the Department of Economic and Community Development's Office of Innovation have worked hard, with important stakeholder input, to craft action plans and identify sectors of importance to help maximize where this investment can have the most impact for Maine.

Bigelow Laboratory for Ocean Sciences urges the Maine Legislature to support LD416 and to authorize a general fund bond issue for research and development and commercialization. This is a critical investment in the future of our planet, and it is an investment that will pay dividends for generations of Mainers to come.

Thank you for your consideration.

Respectfully submitted,  
Valerie Young  
Chief of Staff  
Bigelow Laboratory for Ocean Sciences

