WOODS HOLE OCEANOGRAPHIC INSTITUTION

Adam V. Subhas

Associate Scientist

MS #08, 266 Woods Hole Road, Woods Hole, MA 02543

Office:508-289-2399 Cell:908-327-0319

asubhas@whoi.edu subhaslab.whoi.edu / locness.whoi.edu

Dear ASFMC, August 2, 2024

Thank you for letting us provide a comment on our project. I am the Lead Principal Investigator of the LOC-NESS Project, which stands for "Locking Ocean Carbon in the Northeast Shelf and Slope". LOC-NESS is part of a comprehensive research strategy to address the challenges associated with increasing carbon dioxide emissions.

Broad-scale decarbonization of the global economy is the number one solution to keeping future warming to a minimum. However, it is becoming increasingly clear that transitioning away from fossil fuels will not be enough. There is broad scientific consensus from the National Academies, US federal agencies, and international bodies that we should evaluate the ocean's potential to help remove carbon dioxide from the atmosphere.

Responding to this recognized need for scientific assessment of marine carbon dioxide removal (mCDR) methods, and to scientific consensus that in-water field experiments are both a logical continuation of existing laboratory research and a necessary step to completing this assessment, the LOC-NESS Project was established to evaluate one promising mCDR pathway, ocean alkalinity enhancement (OAE). Ocean alkalinity enhancement involves enhancing the ocean's natural ability to absorb atmospheric carbon dioxide (CO_2) by temporarily raising the pH of the sea surface.

The goal of LOC-NESS is not to profit by removing CO_2 from the atmosphere, but to carefully evaluate the safety and effectiveness of OAE through a multi-year, multi-disciplinary project. Pending permission from the Environmental Protection Agency, the LOC-NESS team plans to conduct a small, constrained, highly monitored field trial in Federal waters south of Cape Cod. Federal consistency review has determined the project to be consistent with MA Coastal Zone Management enforceable policies.

This initial field trial is currently planned for September 2024. The experiment involves an engineered dispersal of sodium hydroxide solution over a ~0.1 square mile patch, which will raise the surface water pH by few tenths of a unit. Protected species observers will accompany a multi-platform, multi-day monitoring campaign for both CO_2 uptake and impacts to the marine ecosystem and environment. Based on peer-reviewed international research, and our own team's assessment, we anticipate negligible impacts to the marine ecosystem. A subsequent trial is planned for the summer of 2025 in the Wilkinson Basin area of the Gulf of Maine.

The public comment period for our EPA permit has closed, but there are several opportunities for further engagement with our science and our team and we invite continued input. We will hold our third dockside session in the conference space above Superior Trawl (55 State St., Narragansett, RI, 02882) on August 14, 2024, from 4:30-6:30pm. We are hosting a virtual public event about the project on August 21st. For additional information about upcoming events, ocean alkalinity enhancement, our project, and our team, please visit our website, locness.whoi.edu.

Sincerely,

Adam V. Subhas