2 July 2024

Ms. Stacey Jensen
Acting Director, Oceans, Wetlands, and Communities Division
Office of Wetlands, Oceans and Watersheds
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W., Washington, DC 20460

RE: Docket ID No. EPA-HQ-OW-2023-0591 (WHOI LOC-NESS Project Phase 1) and EPA-HQOW-2024-0189 (WHOI LOC-NESS Project Phase 2)

Dear Director Jensen and EPA Colleagues,

Ocean Visions is excited to support the EPA's approval of the projects with Docket ID EPA-HQ-OW-2023-0591 and Docket ID EPA-HQ-OW-2024-0189.

Ocean Visions is a science-based conservation organization focused on the nexus of the interlocking ocean and climate crises. For the last four years, we have developed a core programmatic focus on accelerating research and development of marine carbon dioxide removal (mCDR) pathways. We develop open knowledge products and convene and facilitate progress among key actors to advance societal understanding and progress towards mCDR advancement.

Our work is premised on the scientific consensus that we must scale carbon dioxide removal (CDR) to about 10 billion tons per year by mid-century at the same time as we dramatically increase decarbonization across all sectors of our economy. These two strategies *combined* are the only way to meet the temperature goals of the Paris Agreement. The ocean holds outsized potential to contribute to the required scales of CDR because the ocean occupies more than 70 percent of the surface area of our planet, is the biggest part of the global carbon cycle, and mCDR pathways don't require arable land, fresh water, or nutrients in the same way as other forms of CDR. Yet mCDR pathways remain underdeveloped relative to other CDR approaches and, as a result, our knowledge base from which to assess mCDR efficacy and impacts is weaker than it is for other CDR approaches. In recognition of their outsized importance and underdeveloped body of research to date, over 450 scientists from around the world have called for more responsible mCDR research.

The two permits under consideration are our best opportunity yet to advance knowledge about the efficacy and impacts of ocean alkalinity enhancement, one of the leading mCDR approaches as identified by the United States National Academies of Science, Engineering, and Medicine's 2022 report. Well-designed controlled field trials, such as those proposed for these two permits under consideration, are our best way to gain real world information about the efficacy and impacts of mCDR approaches in ways that can never be replicated in laboratory, mesocosm, and/or modeling studies. This is the first planned field trial of ocean alkalinity enhancement on a coastal shelf environment anywhere in the world. **Simply put, the scientific merit of this work is outstanding and positions the United States as a leader in mCDR research and development.**

There are several other aspects of the proposed work under these permits that gives us further confidence in the unique scientific value of this work for advancing our collective understanding of mCDR as a potential set of climate solutions.

- Over several years of planning, the team of scientists and engineers on the LOC-NESS project has developed a research plan that leverages state-of-the-art technologies to rigorously observe, monitor, and characterize the impacts to ocean carbon storage and marine ecosystem function. They are supported by the full institutional resources of the Woods Hole Oceanographic Institution, one of our nation’s most storied independent ocean science research centers.
- The growing body of results on the environmental impacts of ocean alkalinity enhancement across a broad range of benthic and pelagic species and functional groups are collectively showing mild to negligible effects on key aspects of marine ecosystem function, especially at low levels of alkalinity enhancement as proposed in these two permits.
- The team has developed a careful plan to limit the alkalinity and pH increases both in time and space. They expect the impact to be limited to the surface and not to impact benthic communities. Further, as described in the US EPA fact sheet, four previous case studies of accidental release of liquid 30-50% sodium hydroxide released in the ocean have had brief impacts that have been limited in area. Therefore, we do not expect this trial to have any impacts on coastal communities, marine ecosystems, or local commercial activity such as fisheries.

In summary, this project is a first-of-a-kind opportunity to advance scientific understanding of ocean alkalinity enhancement, one of our best options available for scalable CDR. We strongly urge approval of the permits necessary to do this research.

Thank you for your time, consideration of this proposal, and the opportunity to submit this comment.

Best,

David Koweek

Chief Scientist, Ocean Visions