July 2, 2020

Dear NOAA Education Council:

On behalf of the Consortium for Ocean Leadership (COL), which represents our nation’s leading ocean science, research, and technology organizations from academia, industry, and the larger nonprofit sector (to include philanthropy, associations, and aquariums), I appreciate the opportunity to provide comments on the draft 2020-2040 NOAA Education Strategic Plan. NOAA Education plays a critical role in advancing the agency’s mission of science, service, and stewardship and in creating an ocean-literate society. A solid ocean science and technology workforce is necessary to ensure we have the means to understand and care for our ocean; a prosperous, well-understood ocean in turn strengthens our national and homeland security; underpins our economy; and ensures food, water, and energy security — a concept I refer to as ocean security. As our nation grapples with recovering from the COVID-19 crisis, we should take every opportunity to rebuild the ocean science enterprise stronger and more resilient than before—creating more jobs and more opportunities for education and growing our blue economy and the economy as a whole. Increasing ocean literacy and investing in programs that increase the demand for ocean expertise as a highly desired attribute in multiple, interdisciplinary sectors of our future U.S. workforce through education is an essential part of this effort.

I have outlined below several strengths of the draft plan, as well as suggestions for additional elements that would ensure its successful implementation.

**Leverage Partnerships to Maximize Educational Opportunities**

Educating our nation’s citizens—many of whom have never been to the coast—on the role of the ocean in all our lives is a significant endeavor, and it is clear that no single organization can do it alone. I applaud the draft plan for focusing on the importance of strong partnerships in amplifying NOAA’s impact. The agency’s collaboration with industry, academia, state and local governments, and community-based organizations allows for the leveraging of relative strengths and maximizes the effectiveness of any educational effort.

**Goal 1: Science Informed Society** would be further strengthened by specifically highlighting the importance of extramural partnerships, particularly given their role not only in achieving NOAA’s mandate to education but in helping our economic recovery from the COVID crisis. Long-standing programs like NOAA Sea Grant, which works with universities, local communities, and other partners to enable the careers of young scientists and tackle issues facing local communities, as well as newly created extramural partnerships, will help educate the future workforce and provide immediate support to struggling communities. Acknowledging the specific ways extramural partners and interdisciplinary efforts supplement NOAA’s efforts will help ensure their continued involvement in building a strong science workforce and ocean-literate public. The plan could put more emphasis on the importance of increasing extramural
partnerships with organizations that specialize in exposing students at all levels and in all
demographic sectors to ocean science and associated careers. Utilizing the combined power of
multi-sector partners, NOAA can give students the widest range of exposure to career pathways
and science and research needs.

**Capitalize on Opportunities Presented by the UN Decade of Ocean Science**

January 1, 2021 marks the beginning of the United Nations Decade of Ocean Science for Sustainable Development. This period of international emphasis also presents a unique opportunity to increase awareness of ocean issues and generate excitement for ocean matters across our country during the continued growth of U.S. ocean commerce and associated development through 2040. As the national leader in ocean science, NOAA is positioned to steer U.S. engagement in the Decade and should take advantage of the chance to stimulate education and literacy in students and the public of all ages. Strategically aligning aspects of the education plan, specifically in *Goals 1-3*, with the momentum of the Decade could produce a singular, powerful message about the importance of protecting and sustaining our marine environments as the ocean economy grows. By 2030, all U.S. citizens should have a newfound understanding and appreciation for our ocean and coasts and the opportunities to responsibly develop them.

**Invest in Virtual Education**

The COVID-19 crisis has demonstrated the imperative of adapting to a world that increasingly functions online, and robust virtual curriculums are imperative to strengthening ocean literacy in our country. As virtual reality evolves, it should be considered an essential supplement to traditional education. Materials and resources can be presented in new and innovative ways, reaching citizens across the country who otherwise may never be exposed to a vibrant coral reef or the breaching of a whale—or how a warming ocean changes a coral reef or how an integrated multi-trophic aquaculture system works. As NOAA has demonstrated with the advent of telepresence in its ocean exploration programs, this type of “hands-on” experience allows students and the public, regardless of financial or geographic limitations, to understand and feel a connection to the ocean. Adding an objective within *Goal 4: Future Workforce* to develop and expand on formal and informal virtual education opportunities would be valuable, particularly as place-based and hands-on education opportunities decrease with COVID-19. Growing the virtual learning environment should be a strategic imperative going forward, and the plan would benefit from commitments to support and advance online education to dramatic new heights.

**Develop and Fund Meaningful Implementation Plans**

The success of this plan hinges upon the specific, tangible steps NOAA takes to chart a path forward to 2040 and track progress along the way. Complementary implementation plans should include detailed actions for accomplishing the five educational goals. For example, I am pleased to see the Strategic Plan aims to build a “diverse and highly skilled workforce” and “increase opportunities for underrepresented groups in NOAA science fields.” These objectives
are commendable and imperative, yet only attainable with the addition of specific and meaningful implementation plans that are a budgetary priority for NOAA and our nation. These plans should outline not only clear-cut steps but how NOAA will evaluate progress, define priorities, and ensure community engagement as initiatives are rolled out. Metrics will be beneficial in this effort, pointing to gaps, revealing shortcomings, and highlighting successes; all of which inform and improve future decision-making.

Thank you again for the opportunity to provide comments and for your work to advance the agency’s mission through education. I appreciate all NOAA has done to advance our ocean security, and I would be happy to meet with agency leadership at any time to discuss this topic and these recommendations in more detail.

Respectfully,

Jonathan W. White, RADM (Ret.), USN
President and CEO
Consortium for Ocean Leadership

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