To the NOAA Education Council:

Representing the leading oceanographic research and education institutions, the Consortium for Ocean Leadership’s mission is to shape the future of ocean sciences. Ocean Leadership ardently supports NOAA’s education mission, as the ocean scientific community as a whole—not only NOAA—benefits from a Science-Informed Society and growing and training our nation’s ocean science Future Workforce. Ocean Leadership and its members represent a network of partners available to NOAA to implement the education strategic goals, and we appreciate the opportunity to comment on the draft update of the NOAA Education Strategic Plan 2015-2035: Advancing NOAA’s Mission through Education (Draft Plan). We commend the agency for the Draft Plan’s interrelated goals that cut across NOAA’s mission and line offices, as well as for the streamlined objectives and consistent evaluation metrics.

We are particularly interested in partnerships and diversity, which permeate the Draft Plan, and the Future Workforce, and Safety and Preparedness goals. The emphasis on partnerships is important, and we encourage the Education Council to think broadly about how partnerships can continue to be used in implementing this strategy. The Final Plan should highlight the importance of competitive grants as a strategy for building and maintaining partnerships that have proven valuable in helping NOAA meet its education goals and objectives. The National Ocean Sciences Bowl (NOSB) is a program managed by Ocean Leadership and one successful example of a partnership funded through NOAA’s education competitive grants process. This partnership supports all of NOAA’s objectives under the Draft Plan’s Education Goals 1 (Science-Informed Society), 2 (Conservation and Stewardship), and 4 (Future Workforce). NOSB has engaged more than 27,000 U.S. high school students and educators since 1998 and has built a collaborative learning environment in partnership with more than 35 U.S. academic and research institutions, professional associations and societies, and ocean-related companies. The result of this competitive grant-based partnership is an expansive community that gains a broad and deep understanding of mission-related science
and policy, an appreciation for our marine resources, and exposure to NOAA’s assets and the workforce opportunities within NOAA and its partners.

The need to engage youths and adults from diverse backgrounds in ocean science research, education and literacy opportunities through NOAA’s education efforts cannot be overstated. This is particularly challenging, as the ocean (beyond the beach) is difficult to access for many and therefore a remote idea rather than part of an everyday experience. However difficult, this engagement is critical for ensuring vulnerable communities are prepared for severe weather and environmental disasters, as well as for building a strong ocean and atmospheric science workforce that represents our nation’s diversity. Unfortunately, it should be noted that the Draft Plan does not identify strategies specific to increasing diversity. We recommend NOAA create programs and opportunities that build on and scale successful local approaches; enable existing partners to incorporate targeted efforts to reaching underrepresented populations into their activities; and support a continuum of opportunities that enable a student to stay engaged as he or she progresses through school. In doing this, students (and their families) must be engaged at a young age, before career expectations are set, and we suggest that more diversity-focused programs be undertaken at the K-12 level. NOAA’s assets provide an ideal toolbox for hands-on experiences proven successful in engaging students in STEM. Relevant assets also exist within the academic, research, and industry sectors; and these additional assets, in partnership with NOAA, are important for leveraging opportunities to engage students and educators. There are many examples within the NSF-supported Centers for Ocean Sciences Education Excellence (COSEE) and a local exemplar in the annual teen conferences of the Ocean Institute. Additionally, the agency should facilitate greater collaboration between NOAA-supported programs in this area. For example, the NOAA Enrichment in Marine Science and Oceanography (NEMO) program successfully (and symbiotically) leverages the NOSB in its efforts to teach students the marine sciences. As part of the education program, NEMO students prepare for and participate in the NOSB’s regional competition, enhancing their educational experience while helping each program meet its goals. This model of mutual collaboration and leveraging of NOAA-supported education programs is replicable and can be deployed in all parts of the country where NOAA laboratories and NOSB regional competitions coincide.

Within the Future Workforce goal, we recommend that the Final Plan includes an objective targeting training for active scientists, particularly early career scientists. NOAA’s Sea Grant Knauss Fellowships are an excellent example of training opportunities for marine science graduate students interested in resource management and policy; however, marine scientists of all levels would benefit from training in how to effectively communicate science to the stakeholders who need it. While the language of this goal specifically indicates that the audience includes students, educators, researchers, policy makers, managers, and institutions, it is not reflected in the objectives (p. 22, line 518). The NSF-supported Marine Geosciences Leadership Symposium is an example of training for early career scientists in science communication, policy, leadership, and interdisciplinary collaboration. Successful models like these can be leveraged, expanded, and customized to support NOAA’s workforce needs and target goal audiences not identified in the current objectives.
Goal 3 specifically underscores the importance of educating individuals and communities in order to enhance the nation’s capacity for safety and preparedness. The objectives and strategies of Safety and Preparedness should reflect that industry, state agencies, local governments, tribes, and non-government organizations represent important audiences for this goal.

Lastly, the Draft Plan clearly outlines NOAA’s educational strategy; however, other federal agencies support activities that complement this plan or can be leveraged to ensure federal dollars are spent effectively, e.g., Organizational Excellence across agencies. We encourage NOAA (and the other federal agencies) to take advantage of the National Oceanographic Partnership Program, the National Ocean Council, and other interagency forums to share information and identify opportunities to maximize assets and resources.

In closing, we strongly support this update to NOAA’s Education Strategic Plan and look forward to working with the Education Council for any needed development and inclusion of these recommendations in the Final Plan.

On behalf of Ocean Leadership and its members,

[Signature]
Sherri W. Goodman
President and CEO
Consortium for Ocean Leadership