From Amy P. Smagula the Editor

The winter issue of *LakeLine* highlights the exceptional work of both staff at the Environmental Protection Agency (EPA) and the many biologists who conduct the field work associated with the National Aquatic Resource Surveys (NARS) each year. While there are national condition assessments for coastal, wetland, lakes, and rivers and streams, because this is *LakeLine*, the focus of the articles contained within is of course on the National Lakes Assessment (NLA) efforts. Each of the six articles included in this issue is provided by an EPA staff person directly tied into the National Lakes Assessment efforts.

Lareina Guenzel provides an introductory article, including an overview of NARS, and the various assessments categories and habitats within the scope of the national surveys.

Meredith Brehob, **Robert Sabo**, and **Michael Pennino** discuss the very large data sets they had at hand as a result of the NLA, to predict nutrient and chlorophyll-*a* concentrations in waterbodies that do not have rigorous data sets, which is the premise of the probabilistic monitoring framework of NARS. The authors used machine learning models to incorporate nutrient and chlorophyll-*a* data, coupled with other datasets, to predict the risk of harmful algal blooms across the United States.

Jana Compton, **Michael Dumelle, Marc Weber**, and **Amalia Handler** utilize data from the NLA to define mountain lakes by their unique characteristics and distribution, tallying over 12,000 mountain lakes within the contiguous United States, most of which are in better condition than other lake types across the country, based on indicators that were monitored as part of NLA. Despite their overall good water quality, it is a category of lakes at risk from shoreline development and other pressures.

Richard Mitchell and **Alan Herlihy** review the multi-metric index adapted from stream assessments for use in the NLA, which used both zooplankton and benthic macroinvertebrates in the assessment. Based on the index, EPA was able to categorize benthic macroinvertebrate populations in five assessment regions across the United States.

Mari Nord and **Amina Pollard** provide an overview of the 2017 sediment contaminant mass sampling component. The deep spot sediments that were collected at NLA lakes that year were analyzed for 127 different parameters, to gauge condition relative to bottom dwelling organisms in lakes. This was the first large scale assessment of contaminants across a range of lakes in the United States, and it provided useful insights into the health of our nation's lakes.

Lester L. Yuan shares an article on aquatic macrophyte communities in shallow lakes across the United States and discusses alternate stable states (clear versus turbid water) in relation to plant communities and other parameters (like turbidity, chlorophyll-*a*, and nutrients).

Also in this issue, we hear from our new (and first repeat) NALMS President, **Julie Chambers** with a President's Message; the NALMS Executive Director, **Philip Forsberg**, with a NALMS 2025 Symposium wrap-up; and **Alyssa Anderson**, NALMS Director of Development and Marketing on a rundown of the NALMS annual awards and recognitions. **Steve Lundt**, NALMS Lakespert, goes back to the future of lake assessment.

We hope you enjoy this issue of *LakeLine*!