

## National Lakes Assessment 2027

### Supplemental or Research Indicator Call for Proposals

4/10/25

This is a call for supplemental or research indicators (see definitions below) to be considered for inclusion in the 2027 National Lakes Assessment (NLA). Those interested in proposing new indicators should submit a 1-2 page proposal containing the elements requested in **Table 1** to Lareina Guenzel ([guenzel.lareina@epa.gov](mailto:guenzel.lareina@epa.gov)), NLA Lead, by May 30, 2025<sup>1</sup>. Any NLA partner (state, tribe, federal agency, etc.) is invited to submit a proposal for a supplemental or research indicator. If you have not done so already, partners interested in submitting a proposal are encouraged to schedule a preliminary discussion with Lareina Guenzel as soon as possible.

The NLA is a statistically valid survey of U.S. lakes, ponds and reservoirs (hereafter referred to as lakes) that is conducted by the EPA Office of Water in partnership with the EPA Office of Research and Development and state and Tribal water quality agencies. As part of the National Aquatic Resource Surveys (NARS), the NLA samples ~1,000 sites, on a one day visit, every five years during the summer index period (1 June to 30 September). Rigorous quality assurance protocols and standardized procedures allow the NLA to report national and regional estimates of lake biological, chemical, and physical condition based upon core indicators (see the last page for a list of NLA 2022 indicators collected at each site in 2020).

NLA core indicators are typically collected during every survey. See **Table 2** for the list of NLA indicators for the 2022 survey. They are routine indicators that are used to develop condition assessments. While reviewed for relevance prior to each survey, core indicators typically do not change from survey-to-survey, allowing the EPA and our partners to monitor for changes in condition over time. Details on the field collection and laboratory analysis for the core indicators are available on the NLA website. Funding for the field crews and lab analyses of core indicators comes from CWA §106 Monitoring Initiative Grants.

Supplemental indicators have fully developed protocols suitable for use in the NLA within the constraints of its design and implementation; they answer questions that the core indicators do not address, and methods or protocols have already been published in scientific literature. Under most circumstances, supplemental indicators are applied to the entire survey population, but if appropriate may be applied to a defined subpopulation. Supplemental indicator equipment and processing costs are typically covered by the requesting partner offices or agencies. Population estimates for supplemental indicators may be included in the final public report.

Research indicators often address new or emerging issues. They may rely on methods that are still under development or have not been tested for use in a survey such as the NLA. As is the case for supplemental indicators, additional research indicator equipment and processing costs are typically born

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<sup>1</sup> Note that submission of research indicator proposals from U.S. EPA offices must follow standard strategic planning procedures. Please contact Lareina Guenzel if you have any questions.

by the requesting partner. Data analyses and results are expected to be published by the requesting partner. See **Table 3** for a full list of supplemental and research indicators for past NLAs.

Proposals should include the elements listed in **Table 1** and limited to 1-2 pages. Protocols may be referenced online or submitted as an attachment to the proposal. This information will be shared with the NLA Steering Committee. Discussions about proposed indicators/data collection will also include information on expected timelines for data processing, QC, analysis and reporting (including when information and presentations are expected to be shared with state/tribal partners, the public, etc.) The champion may be invited to present the proposal to the NLA Steering Committee for discussion during the Summer/Fall 2025 or Winter 2026.

Because of funding and fieldwork time constraints, research and supplemental indicators undergo a thorough review prior to being selected for inclusion in the NLA. Inclusion of any research or supplemental indicator in the NLA 2027 is subject to availability of funding. Typically, external partners fund the costs of additional indicators.

The NARS program, including the NLA is working to improve transparency by expediting data availability to our partners and the public. Data for core and supplemental indicators are targeted for release to NLA Partners within 12-18 months of completion of the field season. Preliminary quality-checked core and supplemental indicator data are targeted for release to the public within 18-24 months of completion of the field season. Any research indicator data collected as part of the NLA must be made available to the public when the research results are published. Additionally, project cooperators should plan to provide periodic updates to NLA partners on their progress and results.

**Table 1. Required elements for supplemental and research indicator proposals**

<b>Proposal Element</b>	<b>Description</b>
Proposal Title	
Objective	What will the indicator tell you?
Scale	<ul style="list-style-type: none"> <li>National, regional, state or other subpopulation (e.g. NEP study area)-scale survey</li> </ul>
Field Protocol	<p>Summary of field protocols, including:</p> <ul style="list-style-type: none"> <li>Field sampling equipment/consumable supplies and reagents, training, etc., and associated costs.</li> <li>Time required to sample</li> <li>Shipping and handling costs</li> <li>If available, protocol reference(s) or URL(s) where they can be located</li> </ul>
Laboratory Protocol	<p>Summary of laboratory protocols, including:</p> <ul style="list-style-type: none"> <li>Startup costs for equipment, consumable supplies and reagents, training, etc.</li> <li>Analysis costs per sample</li> <li>Bulk discounts</li> <li>If available, protocol reference(s) or URL(s) where they can be located</li> </ul>
Funding Source	Documentation of funding sources, if any.
Quality Assurance Commitment	<p>Identify:</p> <ul style="list-style-type: none"> <li>who will write material for inclusion in the Quality Assurance Project Plan and Standard Operating Procedures for inclusion in the NLA 2027 Field and Laboratory Operations Manuals.</li> <li>who will manage and quality check the data, and work with EPA to format and upload the data into the NARS Information Management system.</li> </ul>
Analysis Responsibility	Identify who will provide data analysis and interpretation of the indicator results.
Timeline	If different from the primary NLA schedule, identify when laboratory analysis, data analysis, report or journal development, etc. will be completed; frequency of updates to partners, when data will be made available, etc.
Champion	<p>Identify the point of contact leading the indicator analysis and working closely with the NLA team. Provide name, affiliation, email address and phone number.</p> <p>This person will likely be responsible for compiling and writing the results for potential manuscripts and publication to the NLA website, either as a survey highlight or part of the national report.</p>

**Table 2. 2022 NLA Indicators**

PARAMETER	MATRIX	CORE/ SUPPLEMENTAL/ RESEARCH
Atrazine	Water sample	Core
Total nitrogen	Water sample	Core
Total phosphorus	Water sample	Core
Dissolved nitrogen	Water sample	Supplemental
Dissolved phosphorus	Water sample	Supplemental
Chlorophyll <i>a</i>	Water sample	Core
Enterococci (qPCR)	Water sample	Core
Microcystins (ELISA)	Water sample	Core
Cylindrospermopsin (ELISA)	Water sample	Core
Phytoplankton assemblage	Water sample	Supplemental
eDNA	Water sample	Research
Dissolved oxygen (profile)	Water - field	Core
Secchi depth	Water - field	Core
Zooplankton assemblage	Vertical tow	Core
PCBs	Fish	Supplemental
PFAS	Fish	Supplemental
Mercury	Fish	Supplemental
Benthic macroinvertebrate assemblage	Littoral benthic composite	Core
Physical habitat	Field measurements and observations	Core

**Table 3. NLA supplemental and research indicators in prior surveys.**

PARAMETER	MATRIX	Scale	Survey Year(s)
Aquatic macrophytes	Field observation	National	2012
CH <sub>4</sub>	Gas	National	2017
N <sub>2</sub> O	Gas	National	2017
eDNA	Water sample	National	2017, 2022
Total phosphorus	Water sample	National	Core
Chlorophyll <i>a</i>	Water sample	National	Core
Mercury*	Sediment	National	2012, 2017
PCBs*	Sediment	National	2017
Metal(oids)s*	Sediment	National	2017
PAHs*	Sediment	National	2017
Diatoms	Sediment	National (Regional)	2012 (2022)
Invasive species	Multiple	Regional	2012

\*these contaminants in sediment are being considered for a future core indicator that will be collected on a rotating basis (10-15 years) rather than every 5 years