

**Table 1. Summary of some indicator selection criteria**

[Sources: USEPA/Office of Policy, Planning, and Evaluation (OPPE), USEPA/Environmental Monitoring and Assessment Program (EMAP), USGS, U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), Ohio EPA, USEPA Region 2/Lake Ontario Stewardship Indicators, New York Bight Project]

Criteria/quality	Definition(s)
<b>Scientific validity (technical considerations)</b>	
Measurable/quantitative . . . . .	Feature of environment measurable over time; has defined numerical scale and can be quantified simply.
Sensitivity . . . . .	Responds to broad range of conditions or perturbations within an appropriate time frame and geographic scale; sensitive to potential impacts being evaluated.
Resolution/discriminatory power . . . . .	Ability to discriminate meaningful differences in environmental condition with a high degree of resolution (high signal to noise ratio).
Integrates effects/exposure . . . . .	Integrates effects or exposure over time and space.
Validity/accuracy . . . . .	Parameter is true measure of some environmental conditions within constraints of existing science. Related or linked unambiguously to an endpoint in an assessment process.
Reproducible. . . . .	Reproducible within defined and acceptable limits for data collection over time and space.
Representative. . . . .	Changes in parameter/species indicate trends in other parameters they are selected to represent.
Scope/applicability . . . . .	Responds to changes on a geographic and temporal scale appropriate to the goal or issue.
Reference value . . . . .	Has reference condition or benchmark against which to measure progress.
Data comparability . . . . .	Can be compared to existing data sets/past conditions.
Anticipatory . . . . .	Provides an early warning of changes.
<b>Practical considerations</b>	
Cost/cost effective . . . . .	Information is available or can be obtained with reasonable cost/effort. High information return per cost.
Level of difficulty . . . . .	Ability to obtain expertise to monitor. Ability to find, identify, and interpret chemical parameters, biological species, or habitat parameter. Easily detected. Generally accepted method available. Sampling produces minimal environmental impact.
<b>Programmatic considerations</b>	
Relevance . . . . .	Relevant to desired goal, issue, or agency mission; for example, fish fillets for consumption advisories; species of recreational or commercial value.
Program coverage . . . . .	Program uses suite of indicators that encompass major components of the ecosystem over the range of environmental conditions that can be expected.
Understandable . . . . .	Indicator is or can be transformed into a format that target audience can understand; for example, nontechnical for public.