SMART Monitoring Program
Metadata Levels

Indicator Group	Data Level	Description
Biology	1	Visual observation, no reference condition, professional biologist not required
	2	One assemblage, single sampling, reference condition established by professional biologist
	3	One assemblage, one season, quantitative, reference condition, professional biologist
	4	Two assemblages (for rivers invertebrates and fish, and for lakes algae and macrophyton),1-2 seasons
Chemistry Nutrients Toxics Bacteria	1a	Evaluation based on old data, BPJ, land use, source locations, modeling
	1b	Limited data during critical hydrologic regime, e.g. single sample, summer low flow
	2	Limited sampling but both wet and dry periods during low flow covered
	3	Key seasons and flows covered, 1-3 years of quarterly or monthly sampling
	4	Quarterly or monthly sampling > 3 years duration
Flow	1	Observation/inference, regional model
	2	Limited field measurements
	3	Seasonal field measurements/ River specific model
	4	Continuous gage
Habitat	1	Visual observations/stream walk, no reference conditions
	2	Visual assessment with predetermined reference condition
	3	Visual assessment, SOP's, supplemented with quantitative measures of selected parameters, professionally supervised/conducted
	4	Quantitative assessment, established reference condition, 1-2 seasons, commensurate with biological sampling
Aesthetics	1	Limited information/cursory observations
	2	Systematically collected screening level information
	3	Comprehensive study with multiple sites and/or multiple observations /site
	4	Multiyear comprehensive study

In each case the data levels are assumed to contain the information from lower levels

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Sediments	1a	Old data, inference, BPJ
	1b	Data from one chemical group
	2	Data from two or more chemical groups
	3	Data from sediment toxicity tests
	4	Corroborative tissue data and/or biocommunity information
Tissue		No data levels are assigned. Advisories are based on risk assessments. The degree of information available is factored into the final determination.

In each case the data levels are assumed to contain the information from lower levels