

WQX v2.0 Draft Bio Schema Issue Log – updated 10/19/2007

Issue No.	Issue Name	Description	Examples	Options	Action as of 10/19/07
1	Accuracy and reporting of Terms (Metrics vs Results)	Given similarities between the types of data that we report as Metrics as opposed to Results, is it possible that same items are being reported in a different manner (leading to less consistent data).	In evaluating an IBI Score, we might have metrics like the following (among others): 1. Number of Native Species 2. Percent Anomalies 3. etc. Likewise, the following might be reported as Results rather than Metrics: 1. Number of Brook Trout (reported as Multi-Taxon Population Census) 2. Number of Anomalies (reported as Single Taxon Frequency Class). These concepts seem very similar.	Tweaking Metrics or Frequency Class Information would allow us to model the same things in two different places. After the Pilot, and with feedback, determine if it is appropriate to merge certain concepts.	STORET Team will go through STORET characteristics domain list and determine what characteristics may be metrics
2	Index vs. Metric vs. Result	Should Indices and Metrics be separate at all or should they just be characteristics that results get reported under? What is the value of having a separate area in the schema for metric and index?		If index and metric remain as separate data blocks, there will be a domain value list for both index and metrics (those that may be considered widely used or "national" in use), as well as the ability for users to define their own. This is similar to the way the analytical method domain value list works.	Index and metric will remain separate data elements
3	Total Sample Weight	Should total weight of a sample just be captured as a characteristic versus a separate sample description?			Total sample weight will be result level characteristic.
4	ActivityIndex and ActivityMetric Citation	Should we add a citation data element for ActivityIndex and ActivityMetric data blocks?			Include citation elements for Index and Metric data blocks.

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5	TaxonomicDetails Citation	Should an optional citation data element be available for the TaxonomicDetails data group: FunctionalFeedingGroupName, TaxonomicPollutionTolerance, and TrophicLevelName? Different sources may cite different values for the same organism.			Include citation elements for taxonomic details data group.
6	Citation for other areas of schema	Citations at all areas of the schema that seem appropriate? <ul style="list-style-type: none"> ■ reference location indicator ■ all methods (sample prep, collection, analytical) 			Include citation in these areas of the schema as well.
7	ActivityIndex and ActivityMetric structure	Are ActivityIndex and ActivityMetric modeled properly so that Indices may pertain to a given site, monitoring location, or geographic area (i.e. transcend multiple activities or activity locations)?		Have an Activity Type of "Index" that would restrict Activity data to just ActivityIndex and Activity Metric data blocks so that you could ensure that the Index is associated with a given Monitoring Location. Possibility of also having an Activity Group Type of Index to allow other activities to be associated with the Index.	Need to follow up and model out, depending on decisions for issues 1 and 2.
8	Index and Metric scale	How do the Index or Metric Scale data elements indicate whether a value is "good" or "bad" (e.g. when high scores are bad)? What about "1-3-5" scales?		Already planning on making the Scale data elements have lower and upper bounds, so that both end values are ensured to be provided. Not sure where description of the scale would be provided. Would having a citation be enough?	Group recommends that a citation will be sufficient to provide information about what an index or metric value or score means.
9	Index and Metric comment	Should we add comment data fields to Index and Metric data blocks?			Will add comment fields
10	Metrics with no Indexes	How Index and Metric are modeled currently, Metrics can't exist without an Index as a parent. What happens to Metrics that don't end up getting rolled up into Indices?		May have an Index name or type of "dummy index" that provides a place for metrics that aren't associated with an index.	Will have index name of "dummy index"
11	Statistical approach to indexes	How do you capture the statistical approach to many indices?	O/E; RIVPACS		Will be addressed by index and metric citation
12	Metric calculation from replicates	Could the current model handle a scenario where a metric is calculated based on the average of two metrics drawn from 2 replicate samples?			No Change, but still needs discussing (FL currently doing)

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13	Sites that don't allow for Index calculation	What about sites that don't yield enough individuals for index calculation? Should be able to indicate this (that the index wasn't calculated). Should a qualifier to indicate this be added to the Activity Index?	"Z" qualifier may indicate that index was not calculated because there weren't enough bugs		Will add qualifier, only at the index level EPA will look at remark codes to determine domain value list; field length?
14	Reporting site condition	Will the schema allow for reporting condition (good/fair/poor) as determined within a probabilistic monitoring design?			NOT GOING TO DO
15	Other biological methods	Separating out just electrofishing and net tow methods for biological monitoring seems narrow in that there are many other methods for biological monitoring that states use	WI Lake fish surveys use passive nets, no data elements for net type, size, duration		Need to capture volume of water sampled: net area, mesh size, duration, current
16	Unidentified Species Indicator field length	Should we make the UnidentifiedSpeciesIdentifier a longer field to be able to handle full taxa names (ie a taxa is reported that is not in ITIS)			Will make the field longer
17	Reference site date range	Should there be a date range for reference site within the monitoring location weighting block?	A given site is a reference site for a specific amount of time		Will add date range for reference site at the project level
18	Control sites	What about monitoring locations that are "control sites" – not reference sites, but sites that are used for comparison	Monitoring is done before and after a change in a point source's permit – the monitoring done before the change may have series of "control sites"		ReferenceLocationIndicator or data element be have a domain value list and will capture the monitoring location function (random, control, reference, treatment site)
19	Groundwater	Ground water data elements???			Need to look at ESAR, USGS aspect, larger community input
20	Dilution data element	Do we need to add a dilution data element for sample preparation data elements?			Still discussing, potential need
21	Geo method accuracy data elements	Need to add Geopositioning Method accuracy data elements (MAD Codes)		Note: This addition will cause WQX v1.0 to no longer function if mandatory	MAD Codes will be optional
22	"as N" issue	Need to add Chemical speciation data element (e.g. "as N" issue)			Still need to determine name of data element

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23	Personnel and lab cert fields	Should we add personnel, and Lab Certification fields?			Will add the following data elements: - Lab certification (Y/N) - Lab certifying authority (allow many) - Taxonomist certification (Y/N) - Taxonomist certifying authority (allow many)
24	Metric and Index citation/comments at the project level	From a data modeling perspective, may be good to allow metric and index citations/comments at the project level, so that this is defined for all data reported, doesn't need to be repeated over and over again.		May want to allow for multiple index/metric citations at the project level, so different projects/activities can reference them	EPA to look at ESAR bibliographic data standard for adding in citation elements
25	Taxonomic details business rules	Schema only allows for one set of taxonomic details for a result, when some results may need multiple details	e.g. one habit and functional feeding group per result	STORET also only allows one per result	
26	Taxonomic details domain values	Schema does not have domain values for TaxonomicPollutionTolerance, TrophicLevelName, FunctionalFeedingGroup		No domain values exist in STORET, will need to determine	EPA to look at possible domain values; FL to send examples of their domain values for taxon details; see issue #37
27	New "Count" Characteristic	Within the WQX characteristic domain values, there is no characteristic name that allows for "taxon abundance" or population census counts	e.g. characteristic name is "count" for population census intent; characteristic = count, species subject taxonomic name= sperchonidae, result measure value = 7	Newly added characteristic called "count". This can be used for frequency class counts as well Group discussed raw counts vs. counts of individuals per unit area	Will need to add – what about "# of individuals"? FL to send examples of how their DB tracks; see issue #38
28	New "# of Individuals" Characteristic	Within the WQX characteristic domain values, there is no characteristic name that allows for "taxon abundance" or population census counts		Should "# of Individuals" replace "Count" Characteristic or be added on?	
29	Frequency Class Descriptors as characteristics	Some of the frequency class descriptors are also characteristic names in the domain value list. This leads to inconsistency with use of the frequency class data elements	e.g. characteristic = count measure value = 7 measure unit = count species name = sperchonidae frequency class descriptor code=larva	Could use the new "count" characteristic as a way to report frequency class results	NO LONGER AN ISSUE

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30	Biological Intent domain values	New values: Individual, Tissue, Population Census, Frequency Class, Group Summary		Need to discuss adding "Tissue" to Activity Media. Would we then take out of the intent, or just add to media?	Since most tissue sample results are usually similar to chem/phys results, recommendation is to have "tissue" as media type
31	Frequency Class Business Rule	For frequency class information, characteristic name must always be "# of Individuals"			
32	Frequency Class Business Rule	Limit frequency class information block to 3 entries to limit number of data elements / columns in the STORET Warehouse			
33	Population Census Business Rule	For population census information, characteristic name must always be "# of Individuals"		Issue came up of how do you report the total weight of a taxa? Biomass? This is different from "# of individuals". Besides "# of individuals", could you also allow "total sample weight" as one result characteristic? Will depend as well on what type of results are being reported – relative abundance? Presence/absence?	May have a business rule that char name is either "# of individuals" or "total sample weight"
34	Group Summary Business Rule	For Group Summary intent, must have one result with characteristic name "# of Individuals"			
35	Metric Value vs. metric score	Should the schema capture metric values (pre scaled values) as well as metric scores?	e.g. Metric value = %EPT: 10% (200 organism sample) Metric score = %EPT score: 20 score units, out of 100	Makes sense to do – discuss, but should be a yes?	Need to add, as well as unit data element
36	Other business rules	What other business rules should we include? The schema as is is very open and flexible.			
37	Pollution Tolerance scale	Should a data element for pollution tolerance scale be included within Taxonomic Details data block?	Pollution tolerance scale would allow us to assign a value (e.g. from 0-10) for tolerance level. Given a the average poll'n tolerance, the scale would better inform the data value	Would adding citation data elements help?	Need to determine if we will add

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38	Raw Counts vs. # per unit area	How does "# per unit area" or "# per sample area" get reported?	e.g. # of fish species sampled for area electrofished	Measure units domain value list includes #/unit area; #/ unit volume – does this cover?	
39	Index and Metric reporting	New proposal for reporting Index and Metrics outside of Activity.		Need to make sure Index and Metric are strongly tied to monitoring location. Question: do you ever have multiple activities make up the calculation of a metric?	Need to model both proposals with sample data.
40	Toxicity Data Elements	Need to add elements for toxicity data			Look at needed data elements for toxicity
41	Summary Data Elements	Need to add in summary data elements			Need to look at proposed summary data elements
42	Isotopic Chemical Measurements	Need to add ability to capture isotope ratio type characteristics	e.g. Oxygen, isotope of mass 18/oxygen, isotope of mass 16, of nitrate ratio		