

Options for Incorporating Biological Metadata into the Water-Cat

Requirements:

1. Provide a way to document the target of a project's monitoring activity that is searchable.
2. Provide sufficient structure to:
 - a. facilitate ease of participation by metadata providers;
 - b. allow periodic, automatic updates of metadata from STORET/WINS and other existing databases.
3. Provide sufficient flexibility to allow the description of monitoring activities for projects that are qualitative, multi-dimensional, or non-parametric.

Option 1 – Use Project Themes and Keywords

Search: Water-Cat users could select one or more Themes and/or one or more keywords for search.

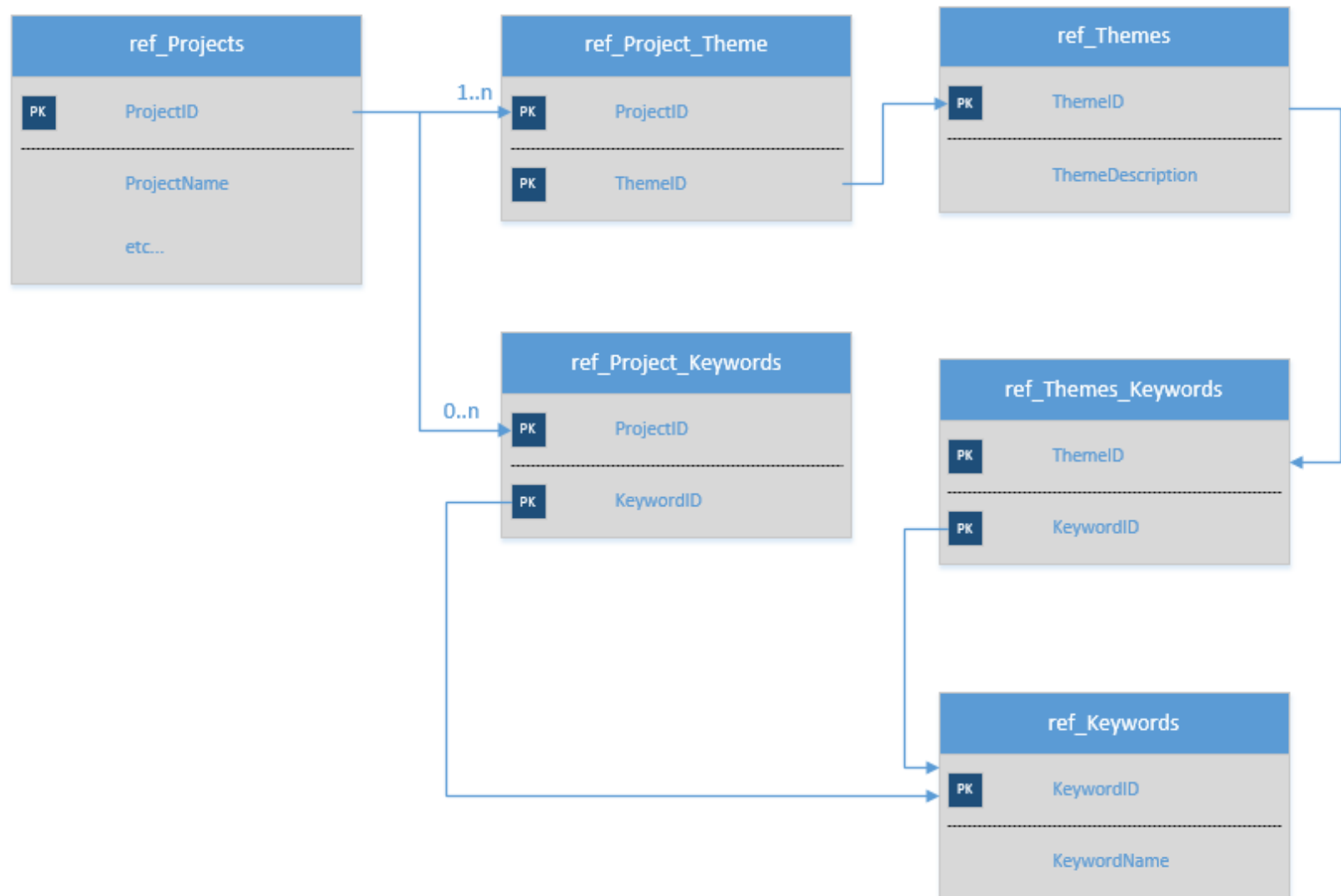
Themes:

1. Metadata Providers will select for each Project one or more “Themes”.
2. The set (domain) of available Themes will be fixed, to be defined by CWG. The set of Themes will define the universe of research/monitoring areas of interest for the Water-Cat.
3. As part of its definition, each Theme will have a description, medium, and a set of “suggested Keywords” to help metadata providers; these will be defined by the CWG.
4. Theme definitions will likely need to be revisited periodically by the CWG to expand/refine them.

Keywords:

1. Each Project may have zero or more Keywords. A Metadata Provider may select Theme(s) and no Keywords, select some or all of the Keywords suggested by the Project's selected Theme(s), and/or add additional Keywords.
2. Any Keyword already in the Water-Cat database may be associated with a Project, regardless of whether it is associated with one of a Project's Themes.
3. A Metadata Provider may specify additional Keyword(s) not already in the database.
4. The Keyword database is expandable; as new Keywords are specified by Metadata Providers, they will be added.
5. Keywords may be as general or specific as the Metadata Provider desires.
Examples: water quality, biology, vegetation, birds, water flow, NUTRIENTS-water, sediment characteristics, seagrass density, TMDL monitoring, fecal coliform, Thalassia abundance, alkalinity-hydroxide as CaCO₃, chlorophyll a-adjusted for phaeophytin, cytometry.
6. In addition to Theme-related Keywords and additional Metadata Provider-supplied Keywords, parameters from periodic STORET/WINS updates would be stored as Project Keywords.

OPTION 1 – Theme(s) and Keyword(s)



Option 2 – Use Project Themes, Keywords, and Parameter Groups

Search: Water-Cat users could select one or more Themes, one or more Keywords, and/or one or more Parameter Groups for search.

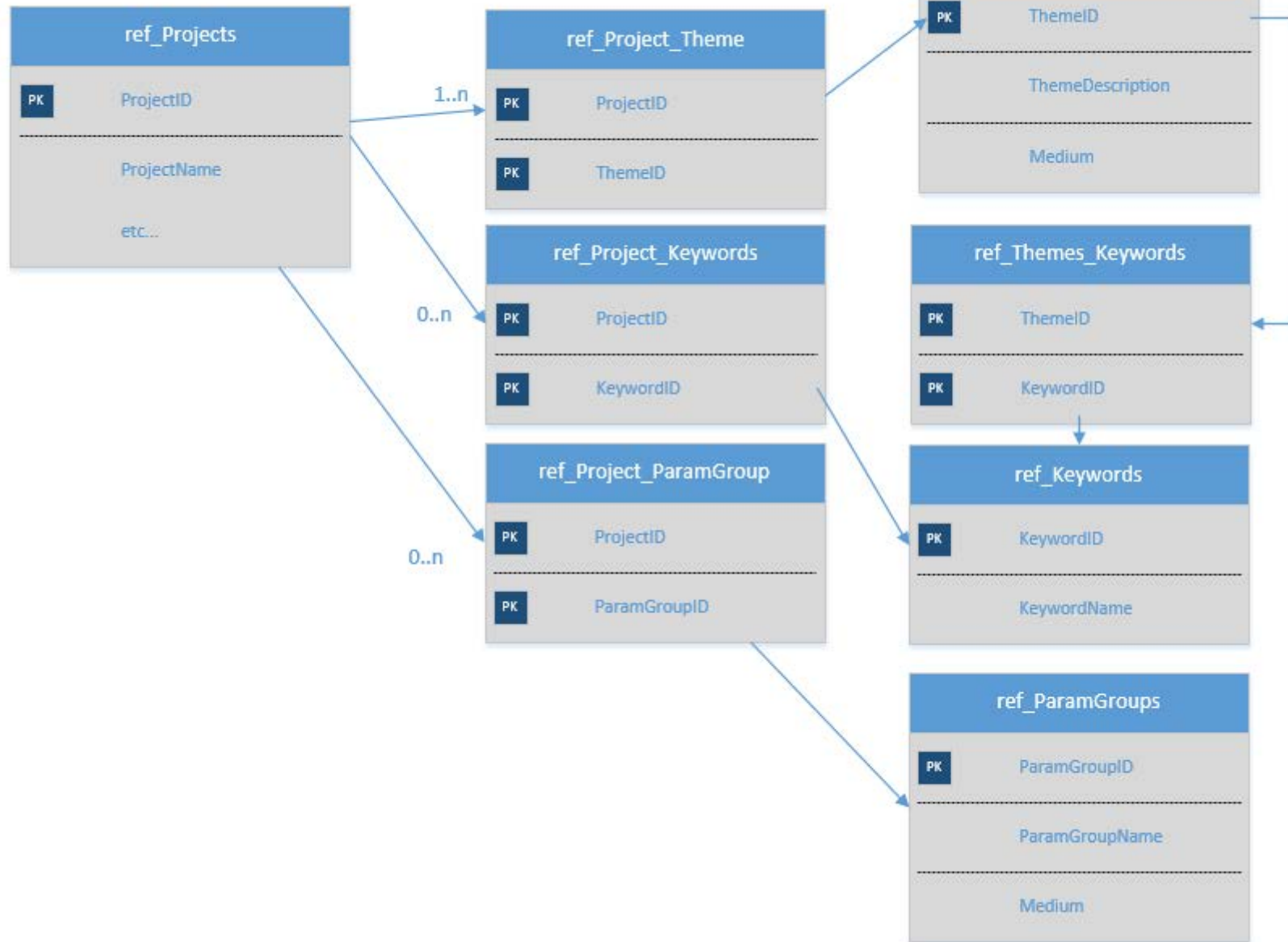
Themes and Keywords:

- Themes and Keywords would be handled as in Option 1.

Parameter Groups:

1. Metadata Providers may select for each Project zero or more Parameter Groups.
2. The Parameter Group domain is fixed, to be defined by the CWG, expanded periodically as necessary by the CWG.
3. Examples of Parameter Groups: Nutrients, metals, biological, organics, major ions.
4. A Medium would be defined for each Parameter Group. Nutrients-sediment and Nutrients-water would be separate groups with different ParamGroupID values.
5. For parametric water quality projects with metadata supplied from STORET/WINS, its monitored parameters would be stored as keywords, and specifying Parameter Group(s) would be unnecessary, but available as an option.

OPTION 2 – Theme, Keyword(s), & Parameter Group(s)



Option 3 – Use Project Themes, Keywords, and Parameters

Search: Water-Cat users could select one or more Themes, one or more keywords, and one or more Parameters for search. Tabular search tool would use Parameter Group definitions to filter selection display. A Parameter could belong to more than one Parameter Group.

Themes:

- Themes would be handled as in Options 1 and 2.

Keywords:

1. Keywords would be handled as described in Option 1 above, items 1-4.
2. Keywords would be used to describe non-parametric metadata or to provide additional information. (need examples)
3. Parameters from periodic STORET/WINS updates would not be stored as keywords, as they would be in Options 1 and 2. Instead, those parameters would be stored in the Parameter table.

Parameters:

1. Parameters would be obtained from Metadata Providers via STORET/WINS.
2. Parameters could also be specified by Metadata Providers for Projects that do not report to STORET/WINS.

OPTION 3 – Theme(s), Keyword(s), and Parameter(s)

