

Spokane River Regional Toxics Task Force
Data Management System Development Pilot Project
Scope of Work

Scope of Work: Background

The Spokane River Regional Toxics Task Force (SRRTTF) leads efforts to find and reduce polychlorinated biphenyls (PCBs) in the Spokane River. A significant portion of the work of the SRRTTF includes collection and analysis of analytical data. To date the data has been managed via various spreadsheets with no central data repository. To facilitate effective management and analysis of data the SRRTTF seeks to develop a comprehensive data management approach.

To achieve the data management goals of the SRRTTF the data management system will need to accommodate a wide range of data including:

- Data from multiple labs
- Data from multiple analytical methods
- Data from different environmental media such as water, waste water effluent, waste water influent, sediment, and fish tissue
- Robust quality assurance data

The data management system will also need customized functions such as data loading and verification, post processing with multiple quality assurance methods (blank correction), data reporting and exporting functions, and public accessibility.

An effort similar to the SRRTTF is ongoing in the Delaware River Basin by the Delaware River Basin Commission (DRBC). They have developed a Microsoft Access database tailored to PCB data, and have made that system available for use by the SRRTTF. The DRBC database includes much of the customized functionality of interest to the SRRTTF. There are data set differences, though, which make use of the DRBC database problematic unless modified. Therefore the SRRTTF seeks the services of a contractor that can evaluate the DRBC database, the SRRTTF data and database functionality needs, and determine if a modified DRBC database can meet the needs of the SRRTTF.

This project includes an evaluation of the database, database modifications, and a pilot test with subsets of data representing the differing data sets. The SRRTTF will provide a copy of the DRBC Access database which includes documentation and a DRBC sample data set and Spokane River watershed data sets for use in the project.

Scope of Work: Pilot Project Tasks

1.0 Data Compatibility Review – Utilize the DRBC database and training materials (documentation and example data sets) to gain an understanding of the data input requirements and functionality of the DRBC database. Review Spokane River watershed data sets and determine compatibility with the DRBC database. Provide a written description of components missing from Spokane River watershed data necessary for use in the DRBC database, and modifications to the DRBC database necessary to accommodate Spokane River watershed data.

- 2.0 Database Functionality Review** – The DRBC database currently includes data loading, data export, and data reporting functions. Review the operation of these functions with Spokane River watershed data and document changes necessary to Spokane River watershed data sets, the database, or the function programming. Prepare a technical memorandum (TM) that summarizes the work of the first two tasks, note any significant issues, and make recommendations on advancing to subsequent tasks.
- 3.0 Database Modification and Data Loading** – After review of Task 1 and Task 2 outcomes with the SRRTTF project representative, make necessary modifications to the DRBC database and load the subset of Spokane River watershed data provided by the SRRTTF.
- 4.0 Development of Blank Correction Tool** – In addition to the tools included in the DRBC database (data loading and verification, reporting, and exporting) the SRRTTF anticipates the need for a tool to blank correct data. Blank correction is the process of comparing environmental results with associated laboratory and field blanks to account for results influenced by sample contamination in the laboratory, sample collection, or transportation between the sampling location and the laboratory.
- 5.0 Reporting Tools** – Review and prepare reports of results using the tools included in the modified DRBC database, which can then be referred to as the SRRTTF database. In consultation with the SRRTTF representative, develop recommendations for additional report generation tools.
- 6.0 Public Access Options** – Develop and document a range of options for making exportable data available to the public.
- 7.0 DRAFT Pilot Project Report and Documentation** – Prepare and submit a draft report documenting the DRBC database review and outcome, DRBC database modifications, development of blank correction and other tools for SRRTTF data, and recommendations for expansion of the project beyond the pilot phase. Develop draft SRRTTF database documentation describing database structure, data loading procedures, blank correction functions, reporting functions, and data export functions.
- 8.0 Live Presentation to SRRTTF** – Present activities and outcomes from the above tasks, and perform a live demonstration of the SRRTTF database use, answer questions, and record tasks for completing the pilot phase.
- 9.0 FINAL Pilot Project Report and Documentation** – Finalize report and documentation drafted in Task 7.0. Incorporate comments and associated edits from SRRTTF review.
- 10.0 Scope of Work and Budget for Services beyond the Pilot Phase (optional)** – If requested by the SRRTTF, prepare a scope of work and corresponding budget for services beyond the pilot phase.