

TECHNICAL CONSULTANT SUPPORT TO SPOKANE RIVER REGIONAL TOXICS TASK FORCE

PRELIMINARY SCOPE OF WORK FOR PHASE 2 THROUGH 4

April 23, 2013 -- Preliminary Final Draft

This document provides an initial estimate of the Phase 2 through 4 activities to be conducted by LimnoTech in support of the Spokane River Regional Toxics Task Force (SRRRTF). These estimates are being provided at the outset of Phase 1 to allow SRRRTF members to plan future budgets. The Scope of Work is divided into sections corresponding to: 1) Technical Scope and Deliverables, 2) Planning-Level Budget, and 3) Schedule.

TECHNICAL SCOPE AND DELIVERABLES

Work will be conducted through the following tasks:

PHASE 2: Implementation of Sampling and Analysis Plan

1. Preparation for Field Activities
2. Field Monitoring
3. Laboratory Analysis
4. Data Processing
5. Meetings and Coordination

PHASE 3: Detailed Inventory of Sources and Sinks

1. Analysis of Field Data
2. Application of Model
3. Development of Inventory
4. Meetings and Coordination

PHASE 4: Comprehensive Plan

1. Evaluation of Individual Best Management Practices
2. Assessment of Optimal Mix of Best Management Practices
3. Development of Comprehensive Plan
4. Meetings and Coordination

PHASE 2

Task 1: Preparation for Field Activities

Those organizations tasked with carrying out field monitoring will conduct the necessary preparatory activities to allow sampling to occur in accordance with the Sampling and Analysis Plan. These activities will include preparation of sampling equipment as well as sampling logs and forms for documentation of these activities. Arrangements will be made with the laboratory for sample delivery and to receive sample bottles prior to the beginning of field activities. In addition, access to sampling locations will be evaluated and permissions requested, if required.

Task 2: Field Monitoring

The objective of the field monitoring is to collect data necessary to identify potential sources of PCB and dioxins. The field monitoring program will consist of implementing the sampling events described in the Sampling and Analysis Plan. Samples will be collected according to the requirements of the Sampling and Analysis Plan as well as the Quality Assurance Project Plan. All samples will be stored properly and delivered/shipped to the laboratory for analysis under the required chain of custody. Regular progress reports will be prepared and submitted over the course of the field monitoring.

Deliverables:

- Progress reports

Task 3: Laboratory Analysis

This task covers the laboratory analysis of the field samples obtained in Task 2. It is expected that this work will either be subcontracted out or contracted directly with the SRRTTF.

Task 4: Data Processing

LimnoTech will obtain all laboratory results, perform data validation of the results, and enter the data into a database in a format suitable to SRRTTF and Ecology. The sampling results will also be evaluated to identify potential sources of PCB and dioxin. All sampling activities and results will be documented in a report which will include a description of sampling methods, problems encountered, analytical results, data validation methods and results and data interpretation.

Deliverables:

- Project Database
- Field Monitoring Report

Task 5: Meetings and Coordination

This task covers all meetings and other project coordination, and is divided into the following subtasks:

- Sub-task 5-1: Field coordination
- Sub-task 5-2: Progress meetings
- Sub-task 5-3: Project management and coordination

Sub-task 5-1: Field coordination

LimnoTech will provide field coordination with the local contractor who will be conducting the field monitoring to ensure that the monitoring is conducted according to the Sampling and Analysis Plan and the Quality Assurance Project Plan. LimnoTech will also have a staff person on site to provide oversight for all sampling activities.

Sub-task 5-2: Progress meeting

LimnoTech will present interim field results at one meeting with the SRRTTF and Ecology.

Sub-task 5-3: Project management and coordination

This task consists of project management activities, including preparation of monthly project status reports and phone participation in up to eight SRRTTF meetings.

PHASE 3

Task 1: Analysis of Field Data

LimnoTech will process all field monitoring data collected in Phase 2 into the format necessary to support their direct use in the Task 2 model application.

Deliverables:

- Technical memorandum summarizing model inputs

Task 2: Application of Model

LimnoTech will calibrate and apply the model(s) selected in Phase 1 to generate information on sources and sinks of PCBs and dioxins throughout the watershed and Spokane River.

Deliverables:

- Draft model application report
- Final model application report

Task 3: Development of Inventory

LimnoTech will process the model results generated in Task 2 into a detailed inventory of sources and sinks by source category, by watershed geographic areas, and by river segments starting at the outlet of Lake Coeur d'Alene, and progressing downstream to the terminus of the Spokane River.

- Draft inventory report
- Final inventory report

Task 4: Meetings and Coordination

This task covers all meetings and other project coordination, and is divided into the following subtasks:

- Sub-task 4-1: Project meetings
- Sub-task 4-2: Project management and coordination

Sub-task 4-1: Project meetings

LimnoTech will participate in three meetings with the SRRTTF and Ecology staff to present results of each of the Phase 3 tasks.

Sub-task 4-2: Project management and coordination

This task consists of project management activities, including preparation of monthly project status reports and phone participation in up to eight SRRTTF meetings.

PHASE 4

Task 1: Evaluation of Individual Best Management Practices

LimnoTech will review the scientific literature to define the range of BMPs available for remediating PCBs and dioxins from the primary sources identified in Phase 3. Each BMP will be summarized to define the cost of implementation and expected pollutant removal efficiency.

Deliverables:

- Technical memorandum summarizing range of BMPs available, cost of implementation and expected pollutant removal efficiency.

Task 2: Assessment of Optimal Mix of Best Management Practices

Based on Task 1 findings, LimnoTech will work with the SRRTTF and Ecology staff to determine the specific BMPs to be considered in the comprehensive plan. LimnoTech will apply the model developed in Phase 3 to simulate a range of combinations of BMPs, and determine which specific mix of BMPs are required to meet pollutant targets.

Deliverables:

- Technical memorandum providing a range of BMP implementation options necessary to meet pollutant targets.

Task 3: Development of Comprehensive Plan

LimnoTech will work with the SRRTTF and Ecology staff to select the specific mix of BMPs that will be desired to be included in the comprehensive plan. The plan will summarize the sources of PCBs in the Spokane River, identifies potential BMPs, and recommends an implementation plan for measures (BMPs) to reduce PCBs in the Spokane River watershed.

Deliverables:

- Draft plan
- Final plan

Task 4: Meetings and Coordination

This task covers all meetings and other project coordination, and is divided into the following subtasks:

- Sub-task 4-1: Project meetings
- Sub-task 4-2: Project management and coordination

Sub-task 4-1: Project meetings

LimnoTech will participate in three meetings with the SRRTTF and Ecology staff to present results of each of the Phase 3 tasks, and will participate in one public meeting presenting results. Three meetings are expected.

Sub-task 4-2: Project management and coordination

This task consists of project management activities, including preparation of monthly project status reports and phone participation in up to eight SRRTTF meetings.

Planning-Level Budget

SRRTTF desires high level budget estimates at the outset of the project to allow members to start getting allocations into their municipal budgets and rates. The total cost for each Phase is estimated below. This estimate should be considered extremely preliminary, as actual budget for these phases will be contingent on the findings of Phase 1. The largest component of the total cost, as well as the largest source of uncertainty, corresponds to the collection and analysis of field data.

Phase 2

The Phase 2 budget is currently estimated as between \$400,000 and \$1,230,000, divided by task as follows:

- Preparation for Field Activities: \$10,000
- Field Monitoring: \$80,000 - \$160,000
- Laboratory Analysis: \$250,000 - \$1,000,000
- Data Processing: \$25,000
- Meetings and Coordination: \$35,000

Phase 3

The Phase 3 budget is currently estimated as \$160,000 to \$360,000, divided by task as follows:

- Analysis of Field Data: \$20,000
- Application of Model: \$80,000 - \$280,000
- Development of Inventory: \$25,000
- Meetings and Coordination: \$35,000

Phase 4

The Phase 4 budget is currently estimated as \$145,000, divided by task as follows:

- Evaluation of Individual Best Management Practices: \$20,000
- Assessment of Optimal Mix of Best Management Practices: \$50,000
- Development of Comprehensive Plan: \$40,000
- Meetings and Coordination: \$35,000

Schedule

The period of performance of this scope of work is expected to be March 2014 through December 2016. The completions dates associated with each task and deliverable are tabulated below.

Phase/Task	Completion Date
2-1: Preparation for Field Activities	June, 2014
2-2: Field Monitoring	May, 2015
2-3: Laboratory Analysis	June, 2015
2-4: Meetings and Coordination	Ongoing
3-1: Analysis of Field Data	September, 2015
3-2: Application of Model	December, 2015
3-3: Development of Inventory	February, 2016
3-4: Meetings and Coordination	Ongoing
4-1: Evaluation of Individual BMPs	April, 2016
4-2: Assessment of Optimal Mix of BMPs	September, 2016
4-3: Development of Comprehensive Plan	December, 2016
4-4: Meetings and Coordination	Ongoing