**Quarterly Report**

**Date:** 14 April 2017

**Project Title:** *Bacterial Source Tracking at Impaired Beaches in the St. Louis River Area of Concern* (Abbreviated Title: *Bacterial Source Tracking Project*)

**Grant Recipient:** University of Wisconsin-Superior’s (UWS) Lake Superior Research Institute (LSRI)

**Report Prepared by:** Heidi Saillard and Kelsey Prihoda

**Time period covered for this report:** 2017 – Q1 (January – March 2017)

**Activities completed/work accomplished this quarter:**The project activities completed this quarter are outlined in the below table:

|  |  |
| --- | --- |
| Date(s) | Description of Activities Completed/Work Accomplished |
| 10 January 2107 | 2016 qPCR Results received From McClellan Lab - School of Freshwater Sciences University of Wisconsin-Milwaukee |
| 12 January 2017 | Submitted abstract for presenting data at 2017 St. Louis River Summit March 14-15, 2017 |
| 19 January 2017 | Call with McClellan Lab to discuss difference in 2015 and 2016 qPCR data. |
| 20 January 2017 | Presented 2015 and preliminary 2016 data from Bacterial Source Tracking Project to attendees of Barker’s Island Restoration Meeting (WDNR office in Superior, WI). |
| 30 January 2017 | Blank and duplicate filters sent to UW-Milwaukee for qPCR analysis to investigate differences between 2015 and 2016 qPCR results. |
| 14 February 2017 | Remaining 2015 filters sent to UW-Milwaukee for select qPCR analysis.  |
| 23 February 2017 | Received results for additional 2015 qPCR samples. Began review of qPCR and *E. coli* data, and developed a data summary for presentation and final project deliverable.  |
| 8 March 2017 | Meeting with UW-Milwaukee to discuss 2015 qPCR contamination issue.  |
| 10 March 2017 | Received memo from Sandra McLellan with list of invalid 2015 samples and which of those samples had valid human (Lachno3) presence.  |
| 14-15 March 2017 | Presented Summary of Bacterial Source Tracking Project Data at St. Louis River Summit.  |
| 31 March 2017 | Began quality assurance review of data archives; including scanned raw data sheets and catalog of photos. Continue analysis of 2015 – 2016 data |

**Budget:**

The table below provides a summary of the project expenditures:

|  |  |  |  |
| --- | --- | --- | --- |
| Spending Category | Total Budgeted | Total Expended  | 2017 Project Balance  |
| Salaries and Wages | 42,411.00 | 44,927.94 | **-2,516.94** |
| Fringe Benefits | 15,700.00 | 9,686.83 | **6,013.17** |
| Indirect Costs | 8,716.65 | 8,192.22 | **524.43** |
| Equipment and Other Capital | 0.00 | 0.00 | **0.00** |
| Supplies | 22,709.35 | 21,483.62 | **1,225.73** |
| Supplies (UW-Milwaukee-qPCR Analysis ) | 0 | 4,350.00 | **-4,350.00** |
| Travel – Domestic(to sampling locations) | 3,226.00 | 4,202.96 | **-976.96** |
| Totals | 92,763.00 | 92,843.56 | **-80.56** |

**Subcontracts or subgrants awarded this reporting period:** None.

**QAPP (project plan) Status:**  The QAPP with associated beach-specific sampling plans and project-specific standard operating procedures were finalized on 09 September 2015. The QAPP was revised based upon discussion during WDNR Bacterial Source Tracking team meeting and was sent to Matt Steiger and Donalea Dinsmore for review on 8 June 2016. Received written approval from Matt Steiger and Donalea Dinsmore to proceed with final signatures on 8 June 2016.

**Local services and/or products purchased this reporting period:** None.

**Number of jobs created this reporting period:** None.

**Schedule:**

**Is the project on track for completion by end date?** Yes. No cost extension granted for six-month period, ending 30 June 2017.

**Grant End Date:**

Grant Year One ended 31 December 2015. 16 February 2016 - LSRI received grant agreement extension for year two funds, which will end 31 December 2016. No cost extension request filed and granted to extend project to 30 June 2017.

**Problems / Issues:**

Upon receipt of the 2016 qPCR (source tracking) data from UW-Milwaukee, the project team began to compare the 2015 and 2016 data, which led to questions regarding obvious differences between the qPCR results from the two beach seasons. UW-Milwaukee was contacted and they did some significant investigation and reanalysis, including analysis of LSRI’s procedural blanks and duplicate filters. It was determined that contamination occurred during the 2015 DNA isolation process at UW-Milwaukee. Therefore, results for many of the initial 2015 samples sent for qPCR analysis were deemed invalid. UW-Milwaukee has run additional samples that were near the dates and locations of those lost to contamination, and have agreed to run additional samples at no cost if it is determined that there is insufficient data to identify potential sources of contamination. In order to obtain additional data on human sources, UW-Milwaukee also reanalyzed the contaminated 2015 samples using the Lachno3 human marker, which wasn’t available in 2015, and could not have been present in the contaminated samples.

**Activities and work goals planned for next quarter**:

The work goals planned for next quarter are outlined in the below table:

|  |  |
| --- | --- |
| Target Date(s) | Activities and Work Goals Planned for 2017-Q2 (April – June 2017) |
| 1 April 2017-12 May 2017 | Continue quality assurance review of data archives; including scanned raw data sheets and catalog of photos. Continue analysis of 2015 – 2016 data; begin to formulate recommendations for remediation in consultation with WDNR and Beach Closings and Body Contact Restrictions BUI Technical Team. |
| 6 April 2017 | Team meeting to discuss timeline moving forward and discuss how team will determine if there is sufficient data for each location. |
| 1 April 2017 – 26 April 2017 | Complete Site-Specific Summary Documents for each beach location to aid in determining if there is sufficient data. |
| 26 April 2017 | Meeting to discuss Site Specific Summaries of 2015-2016 data and determine if there is sufficient data to identify potential source(s) of *E. coli* at each location. |
| 26 May 2017 | Complete consultation with WDNR and Beach Closings and Body Contact Restrictions BUI Technical Team. |
| 1 June 2017 | Complete Draft version of final report to share with BUI Technical Team |
| 15 June 2017 | Final report revisions by BUI Technical Team complete. |
| 30 June 2017 | Final report and deliverables submitted. |