

Form Rev. 10.3.14

*Please refer to the Reporting Policy for all reporting due dates and requirements.

1. Program Number: See, Reporting Policy at III (C) (1).

Project 14120112-C

2. Project Title: See, Reporting Policy at III (C) (2).

Mitigating Stormwater Runoff in Cordova Through Snow Management Analysis

3. Principal Investigator(s) Names: See, Reporting Policy at III (C) (3).

Kristin Carpenter

4. Time Period Covered by the Report: See, Reporting Policy at III (C) (4).

February 1, 2014 – January 31, 2015

5. Date of Report: See, Reporting Policy at III (C) (5).

February 23, 2015

6. Project Website (if applicable): See, Reporting Policy at III (C) (6).

www.copperriver.org

7. Summary of Work Performed: See, Reporting Policy at III (C) (7).

To meet its objectives of analyzing the effects of snow meltwater run-off pollutants on water quality in fresh water and near shore marine water environments, the Copper River Watershed Project contracted for engineering services and held a series of site visits and roundtable meetings with project partners in Cordova in 2014. We have made progress on identifying two sites that will benefit from snow storage Best Management Practice (BMP) improvements in spite of record-low snow fall the past two winters. In 2013/2014 the maximum snow depth was 39” as of January 16, 2014 (SNOPack TELemetry site established by NRCS National Water and Climate Center, <http://www.wcc.nrcs.usda.gov/nwcc/view>). For the winter of 2014/2015, the maximum depth to date was 19” on February 12, 2015. For this reason, no samples of snow melt water have been collected yet for laboratory analysis. CRWP staff took samples of sand collected by the City’s road crew from winter 2013 – 2014, which they re-use, to determine whether the sand retains hydrocarbon pollutants (since this sampling was done in fall, 2014, this sand was exposed to weather and flushing rain over the summer of 2014).

What has been accomplished is completion of a report analyzing the snow management practices of the City of Cordova and the Alaska DOT/PF Maintenance and Operations Station in Cordova, completion of a Snowmelt Sampling Plan, and planning with project partners for BMPs at the two snow storage sites of primary concern in Cordova. These two sites were selected for construction of physical improvements because of their proximity to receiving waters and their volume of snow storage (in a more normal snowfall winter season). Although funding was budgeted for snow meltwater quality sampling, that contractual service was not needed at the level anticipated because of the low snow fall so we opted to spend 2014 contractual funds on BMP design instead. Following discussion at an August 6, 2014 roundtable meeting and agreement among City staff on the two most important snow storage sites, we directed project engineers to develop draft cost estimates for BMP enhancements at Odiak Pond and 2nd & Adams Streets snow storage sites. DOWL engineers

produced two short narratives describing the physical improvements proposed and cost estimates for two scenarios (full improvements and basic improvements) at each site. CRWP facilitated an Odiak Pond snow storage site visit on January 9, 2015 that was attended by 11 people representing City of Cordova Public Works, the Parks & Recreation Department, the Cordova Community Medical Center, City Planning Department and DOWL Engineers. The project engineer is proceeding with design drawings for the site based on partners' comments about slopes, drainage, access needs for snow equipment operators and for park users. A survey of the site was conducted for creating a design base map. Construction of actual BMP improvements is expected to take place at the Odiak Pond site in late June/early July, 2015.

8. Coordination/Collaboration: *See, Reporting Policy at III (C) (8).*

The CRWP is coordinating with the Native Village of Eyak in sharing our results on snow melt pollution and coordinating education activities for messages on reducing stormwater pollution sent out to Cordova target audiences.

9. Information and Data Transfer: *See, Reporting Policy at III (C) (9).*

- (a.) publications produced: Cordova Snow Management Practices Analysis Report, Draft Snowmelt Sampling Plan.
- (b.) Conference and workshop presentations: March 13 – 15, 2014 DOWL site visit to meet with City of Cordova and Alaska DOT/PF staff; roundtable meetings with City of Cordova and AK DOT/PF staff to review draft report on August 6, 2014, December 22, 2014, and January 9, 2015.
- (c.) data and information products: because of such limited snow fall in the winters of 2013/2014 and 2014/2015, no snow melt sampling has taken place.
- (d.) data sets uploaded to EVOS TC portal: none.

10. Response to EVOSTC Review, Recommendations and Comments: *See, Reporting Policy at III (C) (10).*

The CRWP did receive some comments on its initial submission in February, 2013 from the Science Panel, and we have addressed them as follows:

- (1.) A note was made that the proposal lacks a “detailed work plan” and “water quality monitoring plan could not be evaluated because fundamental information was missing”. The CRWP contracted with DOWL Engineers for a Snowmelt Sampling Plan designed to “characterize snowmelt runoff water quality from snow storage sites in Cordova in order to guide decisions regarding modifying snow management practices to improve the quality of urban runoff reaching receiving water bodies” (DOWL 2014). Objectives of the sampling plan include: (a.) acquire snowmelt water quality data and site specific features of snow storage sites under current practices to represent baseline conditions and prioritize modification; (b.) acquire water quality data of receiving waters for comparison; (c.) acquire snowmelt water quality data after modifications to snow storage sites or management practices have been implemented to determine effectiveness; and (d.) provide opportunities to engage the local community through educational and volunteer monitoring.
- (2.) the EVOS Science Panel questioned the decision not to use passive samplers, a method with which the CRWP is familiar because we worked with NOAA’s Auke Bay lab in 2005 to deploy passive samplers in Eyak Lake. We were told by the Alaska Department of Environmental Conservation (ADEC), however, that passive samplers could not be used to determine exceedances of State water quality standards and confirmed that with ADEC staff in October, 2013 (pers. communication, Brock Tabor, 10/3/13). Our sample plan, then, is based on collecting grab samples which measure acute, rather than chronic, toxicity in stormwater discharge receiving water bodies.

(3.) Cooperation from the City of Cordova: there was initial concern that the City of Cordova might not have been a willing partner, although we included a letter of support signed by the Cordova City Manager in the CRWP's initial application. The following City staff have participated in all of our meetings in 2014: City Manager, City Public Works Director and Engineer, Public Works Supervisor, City Planner and Assistant City Planner, Parks and Recreation Department Director, Parks and Recreation Department Maintenance Manager, City Loader Operator, and Cordova Community Medical Center Administrator.

11. Budget: *See, Reporting Policy at III (C) (11).*

See attached spreadsheet for figures of funds actually spent.

Note: although travel costs for DOWL engineers were originally budgeted as a separate line item in the CRWP's proposal, travel costs were incorporated into DOWL's lump sum billings and do not show up as separate costs on their invoices.



*We appreciate your prompt submission
and thank you for your participation.*