

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALASKA CLEAN WATER ACTION (ACWA) GRANT**

**APPENDIX A
BEACH Grant
SFY20/21**

Scope of Services

The scope of services is fully described in the attached workplan, budget, and budget narrative.

SFY19-21 WORKPLAN

PROJECT #: ACWA-19-B11

AMENDMENT #: **2** – Adds \$34,254 for additional sampling in FY21

GRANTEE: City of Kenai

PROJECT TITLE: Kenai Beach Monitoring

GRANT AGREEMENT PERFORMANCE PERIOD: July 1, 2020 – March 1, 2021

SFY	Grant Amount
2019	\$25,359
2020	\$35,418
2020*	\$26,542
2021*	\$34,254
Total	\$121,573

Description and Purpose:

Monitor Kenai beaches for a third post-Best Management Practices (BMP) installation recreation season in 2020 to evaluate the magnitude, frequency and duration of the fecal coliform and enterococci levels in the Kenai coastal marine waters; collect additional environmental beach data to aid in DEC evaluating if predictive modeling is appropriate; and assist DEC in notifying recreational beach users of bacteria exceedances.

Purpose of Amendment #2 for FY21:

Additional sampling is required to build an adequate database for future modeling efforts. In 2020 the grantee will be collecting water quality parameters (i.e., conductivity, total dissolved solids, pH, turbidity, and wave height) in addition to bacteria (enterococci and fecal coliform). These additional parameters have not been regularly collected in the past and are required for using predictive models developed by the Environmental Protection Agency. In addition to monitoring for bacteria for public safety, a major goal in 2020 will be testing if modeling efforts are feasible with current resources. Predictive modeling has great potential to reduce future monitoring cost by requiring fewer sampling events.

Grantee Responsibilities

1. Reporting Requirements:

- Semiannual Reports: Each semiannual status report consists of a progress and financial report. The financial reports will be completed using the template provided by the Grants Administrator at grant inception. The required format of the progress

report will be determined by the DEC Project Manager and communicated to the Grantee upon grant inception.

The progress and financial reports are due ten (10) days after the period ending June 30, 2020.

- Executive Compensation: The Grantee must report the names and totals of the five most highly compensated executives if awarded a federal grant that equals or is greater than \$25,000 to the Department within sixty (60) days of the award being obligated and if 1) the Grantee received 80 percent or more of its annual gross revenues from federal contracts or grants, or 2) the Grantee received \$25,000,000 or more in annual gross revenues from federal contracts or grants. The Grantee is exempt from this reporting if the Grantee had a gross income from all sources under \$300,000 from the previous tax year. The Grants Administrator will provide a template to the Grantee for completion at grant inception.
- Deliverables: (at least 1 electronic and 1 hard copy)
At a minimum, 1 electronic and 1 hard copy of all deliverables will be submitted to the Department in formats requested by the DEC Project Manager. Each deliverable, format, and submission date will be listed under the appropriate task within the workplan.
- Permits: (electronic)
The Grantee must ensure all necessary permits are identified in the workplan and obtained prior to implementation of any grant funded activity. In addition, copies of all the permits will be provided to the DEC Project Manager.

2. Project Requirements (If applicable):

- Monitoring Data Entry: Any water quality monitoring data collected by the project will be provided to the Department in accordance with the guidance and templates provided by the DEC Project Manager. The guidance and templates show the layout required for the Alaska Ambient Water Quality Management System (AWQMS)/Water Quality Exchange (WQX) compatible files and detail the valid values for metadata used in AWQMS/WQX (e.g. characteristics, analytic procedures, HUCs, etc). The data will be provided to the Department electronically via email, CD, or via a File Transfer Protocol (FTP) website. All data collected between the project start date and the project end date will be furnished to the department by November 1st, 2020, unless otherwise specified by the DEC Project Manager.
 - Provide data to the Department in the specified format suitable for AWQMS/WQX;
 - Conducting an evaluation of monitoring results, presenting the results in tables, graphs and narrative discussion, and preparing a report summarizing that evaluation; if the report includes peer review or review by a technical advisory group, the Department should be included as a member.
- Project Photographs: At least 3 electronic photograph(s) of the project will be submitted in a format suitable for publishing. Additional project photos are appreciated. These photos will represent all of the following: the problem the project addresses, the project in progress, and the environmental benefit of the project. At least one of these photos must be submitted with the first quarterly report; the remainder will be submitted with the final report or sooner if available. Each photo

will be at least 800 x 600 pixels in size and in JPEG format or other format acceptable to the Department. Included will be background information on what the photo represents and when and where it was taken. If possible, the information will be in the photo's file name, such as "Fish_Ck_samplesite1_iron_floc_1016XXXX". Alternatively, it may be provided with a caption that states the date, location, and describes the subject: for example "MCV-023X.JPG. Taken 10-16-XXXX, Ditch along south side of Alaska Highway that empties into Fish Creek: Note channelization."

- Web Map Applications and GIS Data: Web map applications and interactive map components of web applications must utilize a standard web map framework – the ArcGIS Online Web Map. Grantee must provide documentation for all web map applications and GIS produced data in accordance with EPA's National Geospatial Data Policy (NGDP) (see <https://www.epa.gov/irmpoli8/epas-national-geospatial-data-policy-and-procedure>).

Grantee Project Manager:

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DEC Grant Administrator

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DELIVERABLE SUMMARY TABLE

Task	Deliverable Narrative	Due Date
1	Conduct monitoring and send sanitary surveys, copies of the chain-of-custody forms, and site photos	Within 36 hours of the sampling event from mid-May through
2	Analytical data results electronically reported within 36 hours of the sampling event (fecal coliform/enterococci)	Within 36 hours of the sampling event from late May through early September
3	Analytical data results electronically reported at testing completion (MST)	As received in 2020 (SFY20 only)
4	Monitoring data and results in DEC-provided electronic template	November 1, 2020
5	Draft and final 2020 Kenai Beach Monitoring Report	January 15, 2021 & February 28, 2021

PROJECT TASKS

TASK 1: Monitoring. Collect weekly water quality samples for fecal coliform bacteria and enterococci during the 2020 recreational use season using the DEC-approved QAPP.

Deliverable(s) and Permits:

KWF will conduct 14 sampling events during the weeks of May 25 through August 28th on a Monday, Tuesday or Wednesday at the same 2019 monitoring locations using the final 2019 Kenai Beach Sampling Plan and QAPP and Beach Monitoring Handbook.

The marine water samples will be analyzed for fecal coliform bacteria (SM 9222D) and enterococci (ASTM D6503-99). One (1) replicate sample for each analytical test per sampling event will be collected for quality assurance. The bacteria samples will be collected and submitted to a DEC-approved microbiological laboratory for analytical testing.

Microbial source tracking (MST) tests to help determine fecal bacteria sources will be performed once prior to the personal use fishery, and once during the most active recreational use period. MST hosts will include human, gull and dog markers to further assess the bacteria sources at the Kenai beaches. The MST samples will be collected and shipped immediately (within 6 hours from collection) to SGS Anchorage with the request to filter and freeze the samples. To capture a period of elevated fecal bacteria so that the host markers will be the most defined, the fecal coliform bacteria and enterococci results reported by the DEC-approved project laboratory will be assessed and if elevated, DEC will request MST tests to be conducted on those samples, at which point, SGS Anchorage will overnight the samples to Source Molecular, Inc. in Miami, FL; dry ice will be used in the cooler to ensure the filters stay frozen. If dry ice is not available then the alternative preparation method using Source Molecular provided preservatives is possible, but will need to be arranged. If the bacteria results are not elevated, then the process of collecting, shipping, and filter/freezing MST samples will be repeated. The MST sample selection goal is to select elevated bacteria samples to obtain the most robust host marker.

KWF field technicians will record observations listed in EPA's Marine Beach Sanitary Survey, such as wildlife presence, water clarity, and water and air temperature. Field technicians will use portable water quality meters to record pH, conductivity, total dissolved solids, and water temperature. A water sample will be collected for turbidity as well. All data and time of collection will be recorded.

KWF will conduct the sampling events and ensure that proper sampling techniques are followed, chain-of-custody is correct, and samples are received and analyzed by the laboratory to meet the analytical holding time requirements. Samples will be delivered to the DEC-certified laboratory within six (6) hours, to meet the eight (8) hour holding time for analysis. In coordination with KWF, the DEC project manager will issue beach advisory press release(s) if the sampling data exceeds the Alaska water quality criteria; KWF will conduct notification outreach as necessary.

- The analytical data results, sanitary surveys, copies of the chain-of-custody forms, and site photos will be provided to the DEC Project Manager within 36 hours of the sampling event.
- No permits necessary.

Deliverable	Due Date:
Conduct monitoring and send sanitary surveys, copies of the chain-of-custody forms, and site photos	within 36 hours of the sampling event from late-May through June

TASK 2: Bacteria Laboratory Analysis. Bacteria laboratory will analyze marine water samples for fecal coliform bacteria and enterococci.

Deliverable(s) and Permits:

DEC-approved project laboratory will analyze marine water samples collected by KWF from the 5 monitoring sites for fecal coliform bacteria (SM 9222D) and enterococci (ASTM D6503-99). One (1) replicate sample for each analytical test per sampling event will be analyzed for quality assurance. A total of 84 samples will be analyzed for fecal coliform bacteria and enterococci from late-May through August 28th, 2020. Sample collection will occur early in the week when safely possible (Monday and Tuesday; Wednesday if necessary) to allow time for the results to be communicated to the community before weekend activities.

- Analytical data results electronically reported to KWF and the DEC Project Manager within 36 hours of the sampling event.
- No permits necessary.

Deliverable	Due Date:
Analytical data results electronically reported within 36 hours of the sampling event (fecal coliform/enterococci)	within 36 hours of the sampling event from late - May through June

TASK 3: MST Laboratory Analysis. MST laboratory will analyze marine water samples for human, gull and dog bacteriodes.

Deliverable(s) and Permits:

Source Molecular Corp laboratory will analyze one monitoring event for MST testing from the 5 marine water samples collected by KWF prior to the personal use fishery. MST hosts will include absence/presence and quantification of human, dog and gull bacteriodes. The MST samples will be collected and shipped immediately to SGS in Anchorage, Alaska with the request to filter and freeze the samples. SGS Anchorage will overnight the samples to Source Molecular, Inc. in Miami, FL; dry ice will be used in the cooler to ensure the filters stay frozen. The MST sample selection goal is to select elevated bacteria samples to obtain the most robust host marker. A total of 5 samples will be analyzed for absence/presence and quantification of human, dog and gull bacteriodes.

- The analytical data results will be electronically reported to the DEC Project Manager at the completion of the laboratory tests.
- No permits necessary.

Deliverable	Due Date:
2020 analytical data results electronically reported at testing completion (MST)	As received in 2020

TASK 4: Data Submission. Compile and enter project data into DEC-data template, and update GIS geodatabase and map.

Deliverable(s) and Permits: KWF will compile and enter the project data into DEC-supplied data template which the DEC project manager will transfer to the DEC water quality database (AWQMS). KWF will update the GIS geodatabase and map showing the spatial relationship between residential/public waste treatment and septic, topographic contours, surface water hydrology, potential pollution sources, and beach survey data; and provide the data in NAD83/Alaska Albers.

- Draft and final 2020 Kenai Beach Monitoring Data Template.
- No permits necessary.

Deliverable	Due Date:
Monitoring data and results in DEC-provided electronic template	November 1, 2020

TASK 5: Reporting. Prepare and submit a project report; and evaluate whether beach modeling is appropriate using all available project data.

Deliverable(s) and Permits: KWF will evaluate all sample results, and submit a draft and final report of findings and conclusions. Report design should follow 2018 and 2019 Kenai Beach Monitoring reports (<http://dec.alaska.gov/water/water-quality/beach-program/>). KWF will assess the project data to evaluate whether beach modeling is appropriate using EPA's Virtual Beach model.

The report will include background information, and the project need, objectives, and approach taken to meet the project objectives. The report will evaluate and describe project accomplishments, the environmental benefit, and suggest future actions. Water quality analysis will use the DEC's updated Listing Methodology for Determining Water Quality Impairments from Pathogens guidance, to compare results to the Marine Water Quality Indicator Criteria for bacteria. The report will include narrative description and tabular/graphical formats to evaluate the monitoring results. The report will include a quality assurance review describing the integrity of the reported analytical results as presented in the QAPP and data quality objectives. Appendices will incorporate all project data, and appropriate references. The data and associated report will aid in planning for the 2021 recreational season. DEC will assess the feasibility of using an EPA predictive modeling tool for long term sustainable monitoring.

- Draft and final 2020 Kenai Beach Monitoring Report.
- No permits necessary.

Deliverable	Due Date:
Draft and final 2020 Kenai Beach Monitoring Report	January 15, 2021 & February 28, 2021

LINE ITEM BUDGET**GRANT**

Cost Category	SFY20, Amendment 1 <i>March 1, 2020 – June 30, 2020</i>	SFY21, Amendment 2 <i>July 1, 2020 – Feb 28, 2020</i>	TOTAL Amendments
Salaries/Benefits	0	0	0
Travel	\$244	\$235	\$479
Equipment/Freight	0	0	0
Materials/Supplies	0	0	0
Contractual	\$26,298	\$30,903	\$57,201
Insurance	0	0	0
Other	0	0	0
Administration/Indirect	0	\$3,116	\$3,116
Total:	\$26,542	\$34,254	\$60,796

BUDGET NARRATIVE

SFY20 (March 1, 2020 – June 30, 2020) – Amendment 1

Grant Funds

Salaries/Benefits:	-0- Total Salaries/Benefits: \$0
Travel:	Seven (7) site visits which include an initial site visit and 6 weekly events, and travel to/from Kenai airport for a total of 425 miles @ \$0.575/mile = \$244.38 Total Travel: \$244.38
Equipment/Freight:	0- Total Equipment/Freight: \$0
Materials/Supplies:	-0- Total Materials/Supplies: \$0
Contractual:	<p>Bacteria Testing - SGS North America, Inc.</p> <p>6 Weekly sampling Fecal coliform bacteria SM9222-D 5 locations - North & South Beach (NKB4 and SKB3, 2 total), above/below Gull Rookery (KRGR1 and KRGR2, 2 total), Ames Bridge (BRG1, 1 total), and QC lab sample (alternating between NKB4 and SKB3, 1 total) for a total of 6 samples for 6 events @ \$100/sample = \$3,600</p> <p>Enterococcus (ASTMD-6503-99 by Most Probable Number) 5 locations - North & South Beach (NKB4 and SKB3, 2 total), above/below Gull Rookery (KRGR1 and KRGR2, 2 total), Ames Bridge (BRG1, 1 total), and QC lab sample (alternating between NKB4 and SKB3, 1 total) for a total of 6 samples for 6 events @ \$100/sample = \$3,600</p> <p>MST Testing - Source Molecular, Inc.</p> <p>MST analysis-filter/freeze: 1 x 5 samples, 3 test types (human, dog, gull) @ \$516.75/sample=\$2,583.75</p> <p>MST sample preservation in Anchorage @ 160/sample = \$800</p> <p>MST shipping = \$250</p> <p><i>Total Analytical: \$10,833.75</i></p> <p>Beach Sampling/Reporting - Kenai Watershed Forum</p> <p>KWF Project Manager: 7 days, 8 hours @ \$67.14 = \$3,759.84</p> <p>KWF Enviro. Scientist: 12.5 days, 8 hours @ \$47.31 = \$4,731.00 Additional 12hours @ \$47.31 for MST sampling = \$567.72</p>

	<p>Tasks include: 6 monitoring events, logistical planning/working with labs, data entry/submission, prepping/submitting outreach material, site visits, etc.</p> <p>Intern: 13 days, 8 hours @\$17.01= \$1,769.04 Intern: 10 days, 8 hours @\$17.01= \$1,360.80 Tasks include: 6 sampling days, 1 site visit, data entry, sample prep, instrument calibrations, etc.</p> <p><i>Total salaries/benefits: \$12,188.40</i></p> <p>Equipment/Freight</p> <p>2 4x4 trucks 6 days + 1 truck for site visit @\$75/day/vehicle = \$975</p> <p>1 boat, 7 days @ \$250/day= \$1,750</p> <p>Shipping and handling Flight \$40 and courier \$30 for 7 events = \$490.00</p> <p><i>Total Equipment/Freight \$3,215.00</i></p> <p>Materials/Supplies</p> <p>Misc. sampling supplies: \$60</p> <p><i>Total Materials/Supplies \$60</i></p> <p>Total Contractual \$26,297.15</p>
Insurance	<p>No insurance costs.</p> <p>Total Insurance: \$0</p>
Other:	<p>No other costs.</p> <p>Total Other: \$0</p>
Admin/Indirect:	<p>No Admin/Indirect</p> <p>Total Admin/Indirect \$0</p>

SFY21 (July 1, 2020 – Feb 28, 2021) – Amendment 2 – Revised Contractual Line 7/9/2020

Grant Funds

Salaries/Benefits:	-0- Total Salaries/Benefits: \$0
Travel:	Seven (7) site visits and travel to/from Kenai airport for a total of 408 miles @ \$0.575/mile = \$235 Total Travel: \$235
Equipment/Freight:	0- Total Equipment/Freight: \$0
Materials/Supplies:	-0- Total Materials/Supplies: \$0
Contractual:	<p>Bacteria Testing - SGS North America, Inc.</p> <p>7 Weekly samplings</p> <p>Fecal coliform bacteria SM9222-D 5 locations - North & South Beach (NKB4 and SKB3, 2 total), above/below Gull Rookery (KRGR1 and KRGR2, 2 total), Ames Bridge (BRG1, 1 total), and QC lab sample (alternating between NKB4 and SKB3, 1 total) for a total of 6 samples for 7 events @ \$100/sample = \$4,200</p> <p>Enterococcus (ASTMD-6503-99 by Most Probable Number) 5 locations - North & South Beach (NKB4 and SKB3, 2 total), above/below Gull Rookery (KRGR1 and KRGR2, 2 total), Ames Bridge (BRG1, 1 total), and QC lab sample (alternating between NKB4 and SKB3, 1 total) for a total of 6 samples for 7 events @ \$100/sample = \$4,200</p> <p>MST analysis-filter/freeze: 1 x 5 samples, 3 test types (human, dog, gull) @ \$516.75/sample=\$2,583.75</p> <p>MST sample preservation in Anchorage @160/sample = \$800</p> <p>MST shipping = \$250</p> <p><i>Total Analytical: \$12,033.75</i></p> <p>Beach Sampling/Reporting - Kenai Watershed Forum</p> <p>KWF Project Manager: 7 days, 8 hours @ \$67.14 = \$3,759.84</p> <p>KWF Enviro. Scientist: 24 days, 8 hours @ \$47.31 = \$9,083.52 Tasks include: 7 monitoring events, logistical planning/working with labs, data entry/submission, prepping/submitting outreach material, site visits, etc.</p> <p>Intern: 9 days, 8 hours @\$17.01 = \$1,224.72 Intern: 9 days, 8 hours @\$17.01 = \$1,224.72</p> <p><i>Total salaries/benefits: \$15,292.80</i></p>

	Equipment/Freight 2 4x4 trucks 7 days @\$75/day/vehicle = \$1,050.0000 1 boat, 7 days @ \$250/day = \$1,750.00 <i>Total Equipment: \$2,800</i> Materials/Supplies Shipping Fees/Misc. sampling supplies: \$776.81 <i>Total Materials/Supplies \$776..81</i> Total Contractual \$30,903.36
Insurance	No insurance costs. Total Insurance: \$0
Other:	No other costs. Total Other: \$0
Admin/Indirect:	10% Indirect to City of Kenai Total Admin/Indirect \$3,115.64