

ALASKA CLEAN WATER ACTIONS (ACWA)
Departments of Environmental Conservation, Fish and Game, and Natural Resources
High Priority Waters and Actions for
State Fiscal Year 2016, July 1, 2015 – June 30, 2016

Introduction

The following pages provide a list of actions needed on waterbodies (sorted by region of the state) that are considered High priority by the Alaska Clean Water Actions (ACWA) program through the State Departments of Environmental Conservation, Fish and Game, and Natural Resources. These actions are for state fiscal year 2016 (FY16) which runs from July 1, 2015 to June 30, 2016.

This list of actions listed is not a funding solicitation. The annual ACWA grant solicitation can be found http://dec.alaska.gov/water/acwa/acwa_index.htm, along with a description of currently funded (FY16) ACWA grant projects and general information about the ACWA program.

Please note, this list of actions includes those requested in the FY16 ACWA grant solicitation (high priority actions) as well as many actions that were not solicited. Some of the solicited actions were funded and are noted as such. However, the State does not have the resources to fund all high priority actions nor actions on all high priority waterbodies. As such, organizations may find this list of waters and actions useful in developing and prioritizing projects and pursuing other grant and funding requests.

In the list of waters to the left of this page, click on the waterbodies' name to see the specific Action(s) that the ACWA agencies would like conducted over the next few years to meet the Goal(s) described. The date ranges on the Action(s) shows the applicable time period. Note that some waterbodies have more than one page of actions.

If a waterbody you are concerned about is not on the list below, contact one of the staff listed to determine if it has been nominated, is considered a high priority, or if the agency currently has an on-going project or activity.

Contacts

Department of Environmental Conservation:

Northern/Interior: Chandra McGee, (907) 451-2140, chandra.mcgee@alaska.gov;

Matsu, Western: Laura Eldred, (907) 376-1855, laura.eldred@alaska.gov

Kenai, Anchorage: Jeanne Swartz, (907) 269-7523, jeanne.swartz@alaska.gov

Southeast: Gretchen Pikul, (907) 465-5023, gretchen.pikul@alaska.gov

Department of Fish and Game:

Statewide: Thomas Cappiello, (907) 267-2395, thomas.cappiello@alaska.gov

Department of Natural Resources

Statewide: David Schade, (907) 269-8645, david.schade@alaska.gov

Interior

Anvil Creek (Nome) - Fiscal Year 2016

Description Nome, Alaska

Lat/Long 64.5286440 -165.4931550

Concern: Turbidity 2013-2016

Anvil Creek is in the Data Collection and Monitoring Track with water quality and habitat as the primary concerns. Threats include sedimentation, turbidity, and metals. Other concerns include barriers to fish passage, bank erosion and riparian damage.

Goal: Determine the existing condition of the water body 2013-2016

The goal is to evaluate the current water quality.

Action a: Collect Data 2014-2016

Conduct an inventory and evaluation of existing water quality data for high priority waterbodies in the Nome area. The inventory should include a review of published reports and solicitation of information from local organizations, universities, State and Federal agencies and others. The applicant will compile all information and prepare a draft and final report. Based on the data evaluation, the report should include a summary of data, identification of data gaps, and recommendations for future data collection. The report must also include an annotated bibliography with summaries of all data sources (including unpublished information and personal communications). Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Action b: Collect Data 2013-2016

Prepare a quality assurance project plan and sampling plan (following DEC guidance) to evaluate the current water quality with respect to turbidity, flow and basic water quality parameters (dissolved oxygen, pH, conductivity and temperature). The grantee must use instruments and methods that will allow evaluation of data with respect to Alaska Water Quality Standards. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River). Deliverables will include a quality assurance project plan and sampling plan, raw data (entered in a DEC provided template), and a final report comparing the information collected to water quality standards.

Concern: Habitat degradation 2006-2016

Anvil Creek is in the Data Collection and Monitoring Track with habitat as a primary concern. The condition of fish habitat is unknown and may have been degraded from past mining practices.

Goal: Determine the existing condition of the water body 2006-2016

An assessment of current habitat condition is needed.

Action c: Collect Data 2006-2016

In collaboration with ADF&G, Federal, local watershed/environmental and/or tribal entities, survey stream and evaluate condition of fish habitat. Any existing information should be compiled and summarized before field work. Methods used should follow one or combination of standard methods found in: Bain & Stevenson 1999, U.S Forest Service Aquatic Stream Habitat Survey Manual, ENRI Stream Condition Index or similar well-documented methods. Results should identify fish use, describe condition of aquatic and riparian habitat, and identify anthropogenic alterations if possible and areas needing restoration or additional protection. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Bear Creek (Hogatza) - Fiscal Year 2016

Description Bear Creek is located on the east side of the Zane Hills at Hogatza in the Yukon-Koyukuk borough.

Lat/Long 66.1606150 -155.5497550

Concern: Sediment 2013-2017

Bear Creek stream is in the Protect and Maintain Waterbodies at Risk Track. Reclamation efforts of past mining practices may not have been adequate to restore habitat and water quality.

Goal: Determine the existing condition of the water body 2013-2017

Ensure that reclamation efforts have been successful.

Action a: Collect Data 2013-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Chena River - Fiscal Year 2016

Description Tributary to the Tanana River that flows through downtown Fairbanks, Alaska

Lat/Long 64.8403000 -147.4825000

Concern: Urbanization 2011-2016

Chena River is in the Waterbody Recovery Track, with water quality being the primary concern due to urban run-off pollutants including sediment, petroleum, metals and fecal coliform bacteria.

Goal: Reduce pollutant loading and improve water quality 2013-2016

The goals are to protect, maintain, and/or restore shoreline, substrate, and the natural processes that form and support fish habitat for waterbodies in the Chena Watershed. Previous monitoring projects funded through the ACWA program have collected data that show that the water quality of the Chena River is meeting water quality standards for petroleum products and sediment. Develop and implement best management practices (BMPs) and other actions that foster good stewardship so that these waters continue to be a resource for Alaska residents.

Action a: Implement BMPs or erosion control measures 2015-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. In conjunction with the "Cushman and Barnette Complete Streets" improvement project, implement green infrastructure best management projects to reduce stormwater runoff from residential and business properties adjacent to the road improvement project. The downtown area of Fairbanks has been previously identified as the most in need of green infrastructure improvements. Cooperate with City of Fairbanks and Alaska Department of Environmental Conservation to design and implement projects.

Chena Slough - Fiscal Year 2016

Description Tributary to Chena River that flows through the North Pole area. This water is also called Badger Slough.

Lat/Long 64.8403000 -147.9119000

Concern: Urbanization 2011-2016

Chena Slough is in the Waterbody Recovery Track, with water quality being the primary concern due to urban run-off pollutants including sediment, petroleum, metals and bacteria. There are no setback requirements in the Fairbanks area to protect against loss of riparian area. Riparian areas serve as a buffer that filter sediment and other pollutants from run-off before it enters waterbodies.

Goal: Meet water quality standards and remove impairment status 2011-2016

Provide educational opportunities in the community to targeted user groups that will foster good stewardship and increase the use of best management practices.

Action a: Conduct education and outreach 2011-2016

Develop and implement an education campaign to support the local riparian management planning efforts. This campaign will help educate local residents of the planning effort and the benefits of riparian planning/protection. The outcome of the campaign will be to increase awareness of the plan and identify strategies to ensure implementation. Activities should include a description of how the plan and educational opportunities will be advertised. Materials and presentations should incorporate nonpoint source water pollution concerns and EPA materials (e.g., watershed planning tools and best management practices). Materials should include local agency contacts.

Action b: Conduct education and outreach 2011-2016

Develop and implement an education and outreach campaign to address the most common pollutants from urban run-off (i.e., sediment, petroleum, metals, and bacteria). The strategy and subsequent campaign should be designed to support and strengthen activities with the local adopt-a-stream program and volunteer water quality monitoring program. The campaign should include a strategy for how the actions will be communicated and any specific groups that should be targeted (including homeowners, business owners, adult special interest groups and general adult audiences.) The outcome of the campaign should be to increase the number of miles adopted and increase the number of people and organizations participating each year in these 2 programs. Educational materials developed should build on existing available documents and include local agency contact information.

Clearwater Creek - Fiscal Year 2016

Description Delta Junction Area. Flows to Tanana River. AKA Delta Clearwater River.

Lat/Long 64.1013060 -145.5444290

Concern: Turbidity 2012-2016

Clearwater Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality and aquatic habitat being the primary concerns. The current watershed plan developed by the Natural Resource Conservation Service (NRCS) needs to be revised, as implementation of the actions identified in that plan increased the risk of turbidity/sediment to the Delta Clearwater River. The negative effects of the current plan are being reversed, however a revised watershed plan is needed.

Goal: Protect and maintain water quality 2012-2016

Protect and maintain water quality and prevent run-off pollution in the Delta Clearwater watershed.

Action a: Implement watershed restoration plan or TMDL 2012-2016

Coordinate with NRCS, DEC and current watershed project partners to develop a watershed plan that follows the EPA watershed planning guidance and utilizes information and research from past planning efforts. The plan will focus on implementing nonpoint source pollution best management practices (BMP's) in areas that threatened the Delta Clearwater Creek.

Colville River/Umiat Lake - Fiscal Year 2016

Description North Slope

Lat/Long 69.3847222 -152.1000000

**Concern: Toxic and Other Deleterious Organic and Inorganic Substances
2006-2017**

Goal: Determine the existing condition of the water body 2006-2017

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Crooked Creek - Fiscal Year 2016

Description Tributary of Birch Creek, near Central, Alaska.

Lat/Long 65.6279380 -144.4434790

Concern: Turbidity 2011-2016

Crooked Creek is in the Data Collection and Monitoring Track with water quality being the primary concern due to turbidity associated with placer mining activities. In 1992 the Department of Environmental Conservation (DEC) listed Crooked Creek watershed on the Clean Water Act Section 303(d) list of impaired waters for non-attainment of the turbidity standards. A water quality assessment was completed in August 1995 (Crooked Creek Water Quality Assessment, USGS, 1995). ADEC began a water quality assessment in 2014 to determine the current condition of the watershed.

Goal: Maintain water quality to meet designated uses 2013-2016

Maintain state water quality standards (WQS) for all uses - focus on sediment and turbidity.

Action a: Conduct education and outreach 2014-2016

The grantee will design and implement an outreach and education campaign. The audience is placer miners operating in the Crooked Creek and nearby watersheds. The primary method of outreach should be "in person" activities, including workshops, face-to-face visits at mine sites and community meetings. Potential venues include the Fairbanks area small miners' meetings and breakfasts. The focus of the campaign is on water quality standards for turbidity and the effects of increased turbidity and sediment on fish. DEC will provide an updated Best Management Practices guide. Education must also include how to measure turbidity, including use of instruments and correct record keeping and quality assurance and build on work already being done by DEC.

Dry Creek (Nome) - Fiscal Year 2016

Description Creek flows approx. 6 mi. southeast into Nome, Alaska

Lat/Long 64.5014000 -165.4186000

Concern: Turbidity 2013-2016

Dry Creek is in the Data Collection and Monitoring Track with water quality and habitat as the primary concerns. Threats include sedimentation, turbidity, and metals. Other concerns include barriers to fish passage, bank erosion and riparian damage.

Goal: Determine the existing condition of the water body 2013-2016

The goal is to evaluate the current water quality.

Action a: Collect Data 2014-2016

Conduct an inventory and evaluation of existing water quality data for high priority waterbodies in the Nome area. The inventory should include a review of published reports and solicitation of information from local organizations, universities, State and Federal agencies and others. The applicant will compile all information and prepare a draft and final report. Based on the data evaluation, the report should include a summary of data, identification of data gaps, and recommendations for future data collection. The report must also include an annotated bibliography with summaries of all data sources (including unpublished information and personal communications). Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Action b: Collect Data 2013-2016

Prepare a quality assurance project plan and sampling plan (following DEC guidance) to evaluate the current water quality with respect to turbidity, flow and basic water quality parameters (dissolved oxygen, pH, conductivity and temperature). The grantee must use instruments and methods that will allow evaluation of data with respect to Alaska Water Quality Standards. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River). Deliverables will include a quality assurance project plan and sampling plan, raw data (entered in a DEC provided template), and a final report comparing the information collected to water quality standards.

Concern: Habitat degradation 2013-2016

Dry Creek is in the Data Collection and Monitoring Track with habitat as the primary concern. The condition of fish habitat is unknown and may have been degraded from past mining practices.

Goal: Determine the existing condition of the water body 2013-2016

A thorough examination and assessment of current habitat condition is needed.

Action c: Collect Data 2013-2016

In collaboration with ADF&G, Federal, local watershed/environmental and/or tribal entities, survey stream and evaluate state of fish habitat. Methods used should follow one or combination of standard methods found in: Bain & Stevenson 1999, U.S Forest Service Aquatic Stream Habitat Survey Manual, ENRI Stream Condition Index or similar well-documented methods. Results of actions should identify fish use, describe condition of aquatic and riparian habitat, and identify areas needing restoration or additional protection. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Glacier Creek (Nome) - Fiscal Year 2016

Description Creek heads on east side of Mount Brynteson, flows southwest 6 mi. to Snake River, 6 mi. northwest of Nome, Alaska.

Lat/Long 64.5961000 -165.4302000

Concern: Turbidity 2013-2016

Glacier Creek is in the Data Collection and Monitoring Track with water quality and habitat as the primary concerns. Threats include sedimentation, turbidity, and metals. Other concerns include barriers to fish passage, bank erosion and riparian damage.

Goal: Determine the existing condition of the water body 2013-2016

The goal is to evaluate the current water quality.

Action a: Collect Data 2014-2016

Conduct an inventory and evaluation of existing water quality data for high priority waterbodies in the Nome area. The inventory should include a review of published reports and solicitation of information from local organizations, universities, State and Federal agencies and others. The applicant will compile all information and prepare a draft and final report. Based on the data evaluation, the report should include a summary of data, identification of data gaps, and recommendations for future data collection. The report must also include an annotated bibliography with summaries of all data sources (including unpublished information and personal communications). Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Action b: Collect Data 2013-2016

Prepare a quality assurance project plan and sampling plan (following DEC guidance) to evaluate the current water quality with respect to turbidity, flow and basic water quality parameters (dissolved oxygen, pH, conductivity and temperature). The grantee must use instruments and methods that will allow evaluation of data with respect to Alaska Water Quality Standards. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River). Deliverables will include a quality assurance project plan and sampling plan, raw data (entered in a DEC provided template), and a final report comparing the information collected to water quality standards.

Concern: Habitat degradation 2013-2016

Glacier Creek is in the Data Collection and Monitoring Track with habitat as the primary concern. The condition of fish habitat is unknown and may have been degraded from past mining practices.

Goal: Determine the existing condition of the water body 2013-2016

A thorough examination and assessment of current habitat condition is needed.

Action c: Collect Data 2013-2016

In collaboration with ADF&G, Federal, local watershed/environmental and/or tribal entities, survey stream and evaluate state of fish habitat. Methods used should follow one or combination of standard methods found in: Bain & Stevenson 1999, U.S Forest Service Aquatic Stream Habitat Survey Manual, ENRI Stream Condition Index or similar well-documented methods. Results of actions should identify fish use, describe condition of aquatic and riparian habitat, and identify areas needing restoration or additional protection. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Kobuk River - Fiscal Year 2016

Description from headwaters to Hotham Inlet

Lat/Long 66.9074480 -160.6544490

Concern: Enterococci and/or fecal coliform bacteria 2006-2017

Goal: Determine the existing condition of the water body 2006-2017

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Kotzebue Lagoon - Fiscal Year 2016

Description Northwest tip of the Baldwin Peninsula. Includes Kotzebue Lagoon and the city shoreline along Kotzebue Sound.

Lat/Long 66.8750000 -162.6166666

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

Kotzebue Lagoon is in the Data Collection and Monitoring Track with petroleum hydrocarbons being the primary concern. Petroleum hydrocarbons exceeding contaminated sites clean-up levels have been observed in pore water.

Goal: Determine the existing condition of the water body 2013-2016**Action a: Collect Data 2013-2016**

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards. Coordinate with the DEC's Contaminated Sites Program to evaluate extent of contamination.

Nome River - Fiscal Year 2016

Description Nome, Alaska

Lat/Long 64.4833333 -165.3000000

Concern: Turbidity 2013-2016

The Nome River is in the Data Collection and Monitoring Track with water quality and habitat as the primary concerns. Threats include sedimentation, turbidity, and metals. Other concerns include barriers to fish passage, bank erosion and riparian damage.

Goal: Determine the existing condition of the water body 2013-2016

The goal is to evaluate the current water quality.

Action a: Collect Data 2014-2016

Conduct an inventory and evaluation of existing water quality data for high priority waterbodies in the Nome area. The inventory should include a review of published reports and solicitation of information from local organizations, universities, State and Federal agencies and others. The applicant will compile all information and prepare a draft and final report. Based on the data evaluation, the report should include a summary of data, identification of data gaps, and recommendations for future data collection. The report must also include an annotated bibliography with summaries of all data sources (including unpublished information and personal communications). Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Action b: Collect Data 2013-2016

Prepare a quality assurance project plan and sampling plan (following DEC guidance) to evaluate the current water quality with respect to turbidity, flow and basic water quality parameters (dissolved oxygen, pH, conductivity and temperature). The grantee must use instruments and methods that will allow evaluation of data with respect to Alaska Water Quality Standards. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River). Deliverables will include a quality assurance project plan and sampling plan, raw data (entered in a DEC provided template), and a final report comparing the information collected to water quality standards.

Concern: Habitat degradation 2013-2016

The Nome River is in the Data Collection and Monitoring Track with habitat as the primary concern. The condition of fish habitat is unknown and may have been degraded from past mining practices.

Goal: Determine the existing condition of the water body 2013-2016

A thorough examination and assessment of current habitat condition is needed.

Action c: Collect Data 2013-2016

In collaboration with ADF&G, Federal, local watershed/environmental and/or tribal entities, survey stream and evaluate state of fish habitat. Methods used should follow one or combination of standard methods found in: Bain & Stevenson 1999, U.S Forest Service Aquatic Stream Habitat Survey Manual, ENRI Stream Condition Index or similar well-documented methods. Results of actions should identify fish use, describe condition of aquatic and riparian habitat, and identify areas needing restoration or additional protection. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Noyes Slough - Fiscal Year 2016

Description Tributary to Chena River and located in the Fairbanks City Limits.

Lat/Long 64.8424830 -147.8089430

Concern: Urbanization 2011-2016

Noyes Slough is in the Waterbody Recovery Track with water quality being the primary concern due to urban run-off and debris. There are no setback requirements in the Fairbanks area to protect against loss of riparian area. Riparian areas serve as a buffer that filter sediment and other pollutants from run-off before it enters waterbodies.

Goal: Protect and maintain water quality 2011-2016

Provide educational opportunities in the community to targeted user groups that will foster good stewardship and increase the use of best management practices.

Action a: Conduct education and outreach 2011-2016

Develop and implement an education campaign to support the local riparian management planning efforts. This campaign will help educate local residents of the planning effort and the benefits of riparian planning/protection. The outcome of the campaign will be to increase awareness of the plan and identify strategies to ensure implementation. Activities should include a description of how the plan and educational opportunities will be advertised. Materials and presentations should incorporate nonpoint source water pollution concerns and EPA materials (e.g., watershed planning tools and best management practices). Materials should include local agency contacts.

Snake River (Nome) - Fiscal Year 2016**Description** Nome, Alaska**Lat/Long** 64.5000000 -165.4166666**Concern: Turbidity 2013-2016**

The Snake River is in the Data Collection and Monitoring Track with water quality and habitat as the primary concerns. Threats include sedimentation, turbidity, and metals. Other concerns include barriers to fish passage, bank erosion and riparian damage.

Goal: Determine the existing condition of the water body 2013-2016

Evaluate the current water quality.

Action a: Collect Data 2014-2016

Conduct an inventory and evaluation of existing water quality data for high priority waterbodies in the Nome area. The inventory should include a review of published reports and solicitation of information from local organizations, universities, State and Federal agencies and others. The grantee will compile all information and prepare a draft and final report. Based on the data evaluation, the report should include a summary of data, identification of data gaps, and recommendations for future data collection. The report must also include an annotated bibliography with summaries of all data sources (including unpublished information and personal communications). Several waterbodies are included on this solicitation and the grantee should submit one proposal to address this action for all of the waterbodies (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Action b: Collect Data 2013-2016

Prepare a quality assurance project plan and sampling plan (following DEC guidance) to evaluate the current water quality with respect to turbidity, flow and basic water quality parameters (dissolved oxygen, pH, conductivity and temperature). The grantee must use instruments and methods that will allow evaluation of data with respect to Alaska Water Quality Standards. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River). Deliverables will include a quality assurance project plan and sampling plan, raw data (entered in a DEC provided template), and a final report comparing the information collected to water quality standards.

Concern: Habitat degradation 2013-2016

The Snake River is in the Data Collection and Monitoring Track with habitat as the primary concern. The condition of fish habitat is unknown and may have been degraded from past mining practices.

Goal: Determine the existing condition of the water body 2013-2016

A thorough examination and assessment of current habitat condition is needed.

Action c: Collect Data 2013-2016

In collaboration with ADF&G, Federal, local watershed/environmental and/or tribal entities, survey stream and evaluate state of fish habitat. Methods used should follow one or combination of standard methods found in: Bain & Stevenson 1999, U.S Forest Service Aquatic Stream Habitat Survey Manual, ENRI Stream Condition Index or similar well-documented methods. Results of actions should identify fish use, describe condition of aquatic and riparian habitat, and identify areas needing restoration or additional protection. Several waterbodies in Nome are included on this solicitation and the grantee may submit one proposal to address the same action in more than one Nome area waterbody (Anvil Creek, Dry Creek, Glacier Creek, Nome River and Snake River).

Solomon River, East Fork - Fiscal Year 2016

Description Seward Peninsula, east of Nome, near Safety, Nome Council Road

Lat/Long 64.6923838 -164.2782598

Concern: Sediment 2006-2016

Solomon River, East Fork is in the Data Collection and Monitoring Track with sediment being the primary concern.

Goal: Determine the existing condition of the water body 2013-2016

Action a: Collect Data 2013-2016

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Stampede Creek - Fiscal Year 2016

Description in Kantishna Hills, flows NE 2.5 mi. to Clearwater Fork 4 mi. S of that stream's junc. with Toklat River, Alaska Range

Lat/Long 63.7591500 -150.3267100

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2006-2016

Stampede Creek was included on the 2012 Section 303(d) list for non-attainment of the toxic and other deleterious organic and inorganic substances standard for antimony exceedances resulting from past mining activity within Denali National Park and Preserve. The largest antimony producer in Alaska, Stampede Mine, was located near the headwaters of the creek. Mining ceased in 1970 and the National Park Service policy will not permit future mining. Historical and more recent data show exceedances of antimony. There are currently fine tailings in the banks of Stampede Creek and adjacent to the creek.

Goal: Determine the existing condition of the water body 2006-2016**Action a: Collect Data 2006-2016**

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Wulik River - Fiscal Year 2016

Description Kivalina

Lat/Long 67.7320000 -164.5170000

**Concern: Toxic and Other Deleterious Organic and Inorganic Substances
2006-2017**

Goal: Determine the existing condition of the water body 2006-2017

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

South Central

Anchor River - Fiscal Year 2016

Description Lower Kenai Peninsula, confluence with Cook Inlet at Anchor Point

Lat/Long 59.7750000 -151.8583333

Concern: Urbanization 2011-2017

Anchor River is in the Protect and Maintain Waterbodies at Risk Track with water quality and aquatic habitat being primary concerns due to land use activities. Properties located adjacent to or that drain to the Anchor River are being developed by property owners that may not understand the function of riparian habitat and its role in maintaining water quality.

Goal: Protect and maintain water quality 2011-2016

The goal is to educate Anchor River property owners in ways to minimize their impacts on riparian habitat.

Action a: Conduct education and outreach 2014-2016

Working with DEC, Alaska Department of Fish and Game, and other stakeholders prioritize watershed educational opportunities and ways to distribute outreach materials to property owners within the Anchor River, Deep Creek, Ninilchik River, and Stariski Creek watersheds. Educational opportunities should focus on gatherings where property owners from all four watersheds might attend and ones that target specific watersheds. Providing incentives for property owners to attend meetings is highly recommended. Educational material should focus on ways property owners can minimize impervious surfaces, reduce stormwater run-off, promote healthy riparian habitat, and improve water quality and quantity (reduce peak flows and increase base flows). Materials should contain current contact information for agencies and organizations that can assist property owners wishing to implement recommendations made in the educational material. Applicants should try to leverage funding and incorporate ideas from other successful outreach programs, e.g., Great Land Trust, National Fish Habitat Partnership, and Matsu's King Maker. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Anchor River, Deep Creek, Ninilchik River and Stariski Creek watersheds).

Big Lake - Fiscal Year 2016

Description Matanuska Susitna Borough, Alaska. Big Lake drains an area of 90 square miles; surface area of 2495 acres; 26 miles of shoreline

Lat/Long 61.5333333 -149.9000000

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

Big Lake is in the Waterbody Recovery Track with water quality and habitat being primary concerns. In 2006, the Department of Environmental Conservation (DEC) listed the east basin of Big Lake on the Clean Water Act Section 303(d) list as impaired for petroleum hydrocarbons due to the use of motorized watercraft during open water months. Follow-up petroleum hydrocarbon monitoring occurred in the summer of 2009 and the summer of 2013. This post-impairment listing sampling showed that the east basin still exceeds the water quality standard for aquatic life. Key areas in the east basin are near boat launches, marinas, major traffic lanes and areas of concentrated use. Key time periods to focus pollution prevention are high motorized use days especially sunny weekends and the holiday weekends during summer months.

A total maximum daily Load (TMDL) was approved by the Environmental Protection Agency (EPA) in 2012. Implementation includes a Community Water Quality Action Plan (Feb. 2012) developed by community members. Copies of the action plan and prior water quality sampling results can be found on DEC's Big Lake web site (http://dec.alaska.gov/water/wnpssp/protection_restoration/biglakewq/index.htm)

Goal: Meet water quality standards and remove impairment status 2012-2016

Develop and implement management measures to reduce petroleum hydrocarbons in the lake. Maintain and improve water quality through implementing stewardship and protection activities including education and outreach.

Action a: Conduct education and outreach 2013-2016

THIS IS A HIGH PRIORITY ACTION AND FUNDED IN FY16. In coordination with the Department of Natural Resources (DNR) State Parks, continue implementing education and outreach efforts for the "Keep Big Lake Clean" campaign started in 2011. Continue development and implementation of the Launch Host program. (see DEC website Clean Boating on Big Lake 2012 and 2013 Reports). Primarily focus is the Launch Host at the public boat launches in the east basin. Project should include education efforts at the borough public launch in the west basin as resources allow. Outreach should be conducted to maximize resources and should be at times throughout the open water months when the launches are busy (weekends/holidays). The outreach message should also include general information on the negative impacts from petroleum on aquatic life. Work to establish longer-term sustainability of the outreach activities including support and funding for the Launch Host program. A report summarizing and evaluating the outreach efforts is required at the end of the project.

Bodenburg Creek - Fiscal Year 2016

Description Groundwater-sourced stream flowing into Knik R. supports river-type sockeye salmon

Lat/Long 61.5090610 -149.0309760

Concern: Instream flow 2012-2017

Bodenburg Creek is in the Protect and Maintain Track with habitat erosion and water quantity being the primary concern. Currently, instream flow protection does not exist. Illegal stream crossings by ATVs, and development on streambank occurring.

Goal: Protect and maintain instream flow and aquatic habitat 2012-2017

Use biological, streamflow and other pertinent information to support an application(s) for a reservation of water for one or more of the purposes allowable under the Alaska Water Use Act.

Action a: Collect Data 2012-2017

Following USGS protocols, collect streamflow data to meet the requirements for reservation of water application to protect fish and wildlife habitat, migration, and propagation or for sanitary and water quality purposes. Establish appropriate site and permanent elevation reference marks, and use electronic sensors and data loggers to record continuous water levels; measure discharge to accurately adequately capture flow characteristics at the range of flows during all seasons for developing a stage-discharge relationship (rating). Provide data to ADF&G or qualified contractor for analysis. Prior to commencement of field work a project Quality Assurance Project Plan should be developed and approved by ADF&G or DNR. Data collected should be provided in a format that can be easily transferred to AWQMS (consult with DEC).

Action b: Reservation of water 2012-2017

In consultation with ADF&G and DNR, apply for a reservation of water to protect fish and wildlife habitat or water quality, or for one or more of any other purposes allowable under the Alaska Water Use Act. The applicant will need to compile, and summarize seasonal fish use information for the selected portion(s) (or points) within stream to be protected (consult with DNR or ADF&G). Five years of streamflow data are also needed and if not available or cannot be estimated using hydrological modeling, will have to be collected, (see above action request). Other information such as public land survey info (PLSS), basic description of watershed or drainage characteristics maybe also be required.

Bridge Creek - Fiscal Year 2016

Description Near Homer. Tributary to Twitter Creek and Anchor River

Lat/Long 59.7042520 -151.6203400

Concern: Urbanization 2006-2016

Bridge Creek is on the Protect and Maintain Waterbodies at Risk Track. The City of Homer currently owns and operates a water reservoir within the Bridge Creek watershed. Potential impacts could occur from land development and recreational use within the watershed, upstream of the reservoir.

Goal: Protect and maintain water quality 2006-2016

Protect and maintain existing water quality so water can continue to be used as a public water source for the City of Homer.

Action a: Develop planning documents 2006-2016

Update watershed planning documents as necessary to address new and existing residential development and recreational uses.

Campbell Creek - Fiscal Year 2016

Description Anchorage, Alaska. The Campbell Creek watershed is approximately 72 square miles and includes drainages for its main tributaries—South Fork Campbell Creek (28.7 sq mi), North Fork Campbell Creek (16.5 sq mi) and Little Campbell Creek (13.3 sq mi).

Lat/Long 61.1379430 -149.9246480

Concern: Enterococci and/or fecal coliform bacteria 2011-2017

Campbell Creek is in the Waterbody Recovery Track with water quality being the primary concern due to fecal coliform bacteria pollution. DEC originally listed the waterbody as impaired in 1990 for fecal coliform bacteria and identified urban runoff as the expected pollutant source. It was unclear at the time if the entire creek or just the urban portion of the creek was impaired. Sampling conducted in 2005 narrowed the impaired portion of the creek to just the urban area. A Total Maximum Daily Load (TMDL) was completed for both Campbell Creek and Campbell Lake in 2006.

Goal: Meet water quality standards and remove impairment status 2011-2017

The goals are to implement best management practices and collect data to determine what additional Best Management Practices (BMP's) are needed.

Action a: Implement BMPs or erosion control measures 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. In 2014 DEC received an assessment report describing the location, status and condition of existing pet waste stations located in the Anchorage bowl and recommendations on where additional stations could be installed. Using recommendations included in the assessment report, the applicant will work with the Municipality of Anchorage to install new stations where recommended (8 stations), replace stations determined to be unusable (3 stations), relocate stations recommended for relocation (4 stations), and install trash receptacles (8 stations). A final report is required that describes the work performed and must include an updated mutt mitt station matrix spreadsheet. A letter of authorization to install structures from the landowner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Creek, Little Campbell Creek, Fish Creek, and Furrow Creek).

Action b: Document existing BMPs and assess additional BMP needs 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this

project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Campbell Lake - Fiscal Year 2016

Description Anchorage, man-made lake in the Campbell Creek drainage near the mouth. ~125 acres

Lat/Long 61.1320900 -149.9466630

Concern: Enterococci and/or fecal coliform bacteria 2011-2016

Campbell Lake is in the Waterbody Recovery Track with water quality being the primary concern due to fecal coliform bacteria pollution. DEC originally listed the waterbody as impaired in 1990 for fecal coliform bacteria and identified urban runoff as the expected pollutant source. It was unclear at the time if the entire creek or just the urban portion of the creek was impaired. Sampling conducted in 2005 showed the lake and the urban portion of the creek were impaired. A TMDL was completed for both Campbell Lake and Campbell Creek in 2006.

Goal: Meet water quality standards and remove impairment status 2011-2016

The goals for this waterbody are to document and implement best management practices within the watershed that will reduce bacteria loading.

Action a: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. The applicant will work with the Municipality of Anchorage, United States Fish and Wildlife Service (USF&WS) and DEC to develop and implement an education and outreach plan that informs the public that feeding waterfowl is unhealthy for Anchorage streams and lakes and the waterfowl that live in and around these waterbodies. The plan should include developing and installing signage at known waterfowl feeding areas on Fish Creek, Chester Creek, University Lake, West and East Chester Lagoons and Campbell Lake asking people not to feed the waterfowl. A second component of the plan is to develop educational materials that inform the public why feeding waterfowl is detrimental to waterfowl and humans. The applicant should determine if material can be placed in existing kiosks or if new kiosks are required. Applicants should propose to place the materials in the kiosks. The budget for this project must include the cost of the educational materials, signage, labor, and new kiosks where needed. A letter of authorization to install structures from the land owner is required. Several watersheds are included on this solicitation and the grantee should submit one proposal to address this action for all of the watersheds (Campbell Lake, Chester Creek, Fish Creek, University Lake, and Westchester Lagoon).

Action b: Document existing BMPs and assess additional BMP needs 2014-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones

recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Cheney Lake - Fiscal Year 2016

Description Anchorage, former material site. ~22 acres, mean depth 5.8 feet, maximum depth 14 feet

Lat/Long 61.2024160 -149.7597890

Concern: Urbanization 2006-2017

Cheney Lake is in the Protect and Maintain Waterbodies at Risk track because of urban location and it was a 303(d) water impaired for fecal coliform bacteria until it was delisted in 2007. This watershed is very small and is located in the urban portion of East Anchorage and contains a high percentage of impervious surfaces.

Goal: Protect and maintain water quality 2006-2017

Continue to reduce impacts from impervious surfaces and pet waste

Action a: Implement BMPs or erosion control measures 2006-2017

Work with the Municipality of Anchorage, NGOs neighborhood groups and other interested stakeholders to maintain existing BMPs to ensure water quality meets state standards and all designated uses.

Chester Creek - Fiscal Year 2016

Description Chester Creek watershed is located in south-central Alaska and is bounded on the east by the Chugach Mountains, on the north by the Ship Creek watershed, and on the south by the Campbell Creek watershed. The basin lies entirely within the Municipality of Anchorage and drains an area of ~30.2 square miles.

Lat/Long 61.2079350 -149.9238970

Concern: Enterococci and/or fecal coliform bacteria 2011-2016

Chester Creek is in the Waterbody Recovery Track due to fecal coliform bacteria pollution. Chester Creek was placed on the Section 303(d) list in 1990 for non-attainment of the fecal coliform bacteria criteria. A TMDL for fecal coliform bacteria was developed and approved by the Environmental Protection Agency (EPA) in May 2005.

Goal: Meet water quality standards and remove impairment status 2011-2016

The goal is implement best management practices.

Action a: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. The applicant will work with the Municipality of Anchorage, United States Fish and Wildlife Service (USF&WS) and DEC to develop and implement an education and outreach plan that informs the public that feeding waterfowl is unhealthy for Anchorage streams and lakes and the waterfowl that live in and around these waterbodies. The plan should include developing and installing signage at known waterfowl feeding areas on Fish Creek, Chester Creek, University Lake, West and East Chester Lagoons and Campbell Lake asking people not to feed the waterfowl. A second component of the plan is to develop educational materials that inform the public why feeding waterfowl is detrimental to waterfowl and humans. The applicant should determine if the material can be placed in existing kiosks or if new kiosks are required. Applicants should propose to place materials in kiosks. The budget for this project must include the cost of the educational materials, signage, labor, and new kiosks where needed. A letter of authorization to install structures from the land owner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Lake, Chester Creek, Fish Creek, University Lake, and Westchester Lagoon).

Action b: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this

project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Cooper Creek - Fiscal Year 2016

Description Cooper Creek at Cooper Landing on the Kenai Peninsula

Lat/Long 60.4843950 -149.8798520

Concern: Turbidity 2012-2017

Cooper Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality being the primary concern due to past land use activities. Historic hydraulic placer mining near the confluence with the Kenai River has left a large soil embankment unstable. Each spring and during heavy rain events sections of the embankment slump and erode into Cooper Creek, causing an increase in the sediment load and turbidity levels.

Goal: Restore habitat or improve fish passage 2012-2017

Stabilize a large sloughing embankment to reduce the amount of sediment entering the creek.

Action a: Restore habitat 2012-2017

Develop and implement a plan to stabilize the eroding embankment or capture and stabilize slumping soil to prevent sediment from entering Cooper Creek. The plan should include an educational kiosk, to be installed early in the implementation phase of the project, that explains why the work is being performed and the environmental benefits achieved. The plan will need approval by DNR, DEC, and ADF&G.

Copper River - Fiscal Year 2016

Description enters Gulf of Alaska near Cordova

Lat/Long 60.4636000 -144.8908000

Concern: Habitat degradation 2013-2016

Copper River is in the Data Collection and Monitoring Track with population growth, mineral and other resource development posing a persistent threat.

Goal: Protect and maintain instream flow and aquatic habitat 2013-2016

While instream flow is protected on two reaches, unprotected segments in the upper river remain. Little is known about fish habitat use in this large glacial river.

Action a: Collect Data 2013-2016

Baseline monitoring and assessment of habitat use, especially during winter, by important salmon and resident species is needed.

Cottonwood Lake - Fiscal Year 2016

Description in Wasilla, flows into Wasilla Lake via Cottonwood Creek

Lat/Long 61.5978000 -149.3161000

Concern: Urbanization 2006-2016

Urban growth has the potential to degrade water quality and habitat.

Goal: Maintain water quality to meet designated uses 2006-2016

Maintain water quality including shoreline, fisheries, and aquatic habitat protection

Action a: Conduct education and outreach 2006-2016

Working with DEC, ADF&G, and other stakeholders develop and provide educational material to property owners on ways they can minimize impacts when developing and maintaining their property. Existing or new education material should be cost effective and distributed to all shoreline and surrounding area property owners. Educational material should focus on ways property owners can minimize impervious surfaces, maintain on-site septic systems, reduce stormwater run-off, and promote healthy riparian habitat. Material should contain contact information for agencies and organizations that can assist (e.g., cost share programs) property owners wishing to implement recommendations made in the educational material.

Deep Creek - Fiscal Year 2016**Description** Lower Kenai Peninsula**Lat/Long** 60.0333333 -151.7000000**Concern: Urbanization 2011-2017**

Deep Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality being the primary concern due to land use activities. Properties located adjacent to or that drain to Deep Creek are being developed by property owners that may not understand the function of riparian habitat and its role in maintaining water quality.

Goal: Protect and maintain water quality 2011-2017

The goal is to educate Deep Creek property owners in ways to minimize their impacts on riparian habitat.

Action a: Conduct education and outreach 2014-2016

Working with DEC, ADF&G, and other stakeholders prioritize watershed educational opportunities and ways to distribute outreach materials to property owners within the Anchor River, Deep Creek, Ninilchik River, and Stariski Creek watersheds. Educational opportunities should focus on gatherings where property owners from all four watersheds might attend and ones that target specific watersheds. Providing incentives for property owners to attend meetings is highly recommended. Educational material should focus on ways property owners can minimize impervious surfaces, reduce stormwater run-off, promote healthy riparian habitat, and improve water quality and quantity (reduce peak flows and increase base flows). Materials should contain current contact information for agencies and organizations that can assist property owners wishing to implement recommendations made in the educational material. Applicants should try to leverage funding and incorporate ideas from other successful outreach programs, e.g., Great Land Trust, National Fish Habitat Partnership, and Matsu's King Maker. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Anchor River, Deep Creek, Ninilchik River and Stariski Creek watersheds).

Deshka River (Kroto Creek) - Fiscal Year 2016

Description Western tributary to the Susitna River approximately 9 miles west of Willow

Lat/Long 61.6992530 -150.3197050

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

Deshka River is in the Protect and Maintain Track with water quality and aquatic habitat being primary concerns. The Deshka River receives intensive motorized boat use (especially the lower 3 miles) during summer fisheries. The river also serves as a transportation corridor for boats traveling to cabins or other nearby rivers. Impacts from these activities to water quality and aquatic habitat are unknown but of concern for maintaining a healthy aquatic system.

Goal: Reduce pollutant loading and improve water quality 2015-2016

Reducing the amounts of petroleum hydrocarbon pollution entering the river is expected to improve water quality and better protect aquatic species.

Action a: Conduct education and outreach 2015-2016

THIS IS A HIGH PRIORITY ACTION AND FUNDED IN FY16. This action models and builds on the educational outreach campaign started by DEC in 2011 for the Little Susitna River to the extent practicable but applies the education focus to users of the Deshka River. The campaign is designed to educate river users on the impacts of petroleum hydrocarbons and turbidity pollution to aquatic species and on ways to reduce this pollution. The campaign must target the appropriate user groups for the Deshka river recreational fishery, transportation corridor, and other users accessing the river. Education must include on-the-ground outreach as well as participating in the spring Mat-Su Outdoorsman Show with a staffed booth. The educational campaign must demonstrate measureable results such as the number of people reached. The campaign should also provide tools to help reduce petroleum inputs to the river. A final project report that describes the outreach activities, public response and an evaluation of success including recommendations is required. The DEC has developed outreach materials that may be helpful. Contact Laura Eldred, 376-1855, for more information.

Dutch Harbor - Fiscal Year 2016

Description Unalaska, Alaska in Aleutian chain

Lat/Long 53.8992400 -166.5250200

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

Dutch Harbor is in the Waterbody Recovery Track with water quality and aquatic habitat being the primary concern. In 1994, the Department of Environmental Conservation (DEC) listed Dutch Harbor on the Clean Water Act Section 303(d) list an impaired waterbody for petroleum hydrocarbons. Monitoring conducted by DEC in 2007–2008 found that Dutch Harbor remains impaired for petroleum, specifically polycyclic aromatic hydrocarbons (PAH), due to oil sheens on bottom sediments. Surface water quality in Dutch Harbor currently meets applicable water quality criteria for petroleum hydrocarbon concentrations. In 2010, EPA approved a total maximum daily load (TMDL) that addresses PAHs in bottom sediments. PAHs may be causing deleterious effects to aquatic life. Sediment contamination is thought to be primarily the result of historic spills and releases on the uplands and on water, which have been spread throughout the area by rain, wind, and tidal and wave action. Current activities at docks and harbors may be adding to the historic pollution.

Goal: Implement actions specified in TMDL 2012-2016

The petroleum hydrocarbon TMDL developed for Dutch Harbor outlined several implementation actions to help reduce additional hydrocarbon pollution to the harbor. This goal applies to Iliuliuk Harbor as well.

Action a: Collaboration 2016-2016

THIS IS A HIGH PRIORITY ACTION. The grantee will convene a group of stakeholders to develop uniform best management practices for area docks and harbors given that the most elevated concentrations of PAHs in sediments occur at these locations. The group should include private enterprises that would be directly affected, tribal organizations, interested non-government organizations, and local, state, and federal government agencies that have a presence in Iliuliuk and Dutch Harbors. This action must include similar work on Iliuliuk Harbor since the waters are connected. The project must provide a final report on the work conducted, participants and outcomes.

Action b: Implement watershed restoration plan or TMDL 2016-2016

The grantee will encourage, through phone calls, brochures, and other outreach avenues, the City of Unalaska to participate in the Alaska Clean Harbors program. If interest is shown, the grantee will assist the City with the certification process. This action must include Iliuliuk Harbor as well.

Eyak Lake - Fiscal Year 2016

Description near Cordova

Lat/Long 60.5502320 -145.6727890

Concern: Invasive species 2006-2017

Elodea present.

Goal: Maintain water quality to meet designated uses 2006-2017

Eradicate elodea to the fullest extent possible.

Action a: Restore habitat 2006-2017

Work with state and federal invasive species coordinators and local entities to develop elodea eradication plan.

http://dnr.alaska.gov/ag/ag_Elodea.htm

Fish Creek (Anchorage) - Fiscal Year 2016

Description Anchorage, south of Chester Creek

Lat/Long 61.2057800 -149.9327160

Concern: Enterococci and/or fecal coliform bacteria 2011-2017

Fish Creek is in the Waterbody Recovery Track with water quality being the primary concern due to fecal coliform bacteria pollution. Fish Creek was listed on the Section 303(d) list since 1990 for non-attainment of the fecal coliform bacteria standard and the turbidity standard. A 1995 waterbody assessment concluded Fish Creek was impaired only for fecal coliform bacteria. A TMDL for fecal coliform bacteria was developed and approved by EPA in March 2004.

Goal: Meet water quality standards and remove impairment status 2011-2016

The goal is to implement best management practices and collect data.

Action a: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. The applicant will work with the Municipality of Anchorage, United States Fish and Wildlife Service (USF&WS) and DEC to develop and implement an education and outreach plan that informs the public that feeding waterfowl is unhealthy for Anchorage streams and lakes and the waterfowl that live in and around these waterbodies. The plan should include developing and installing signage at known waterfowl feeding areas on Fish Creek, Chester Creek, University Lake, West and East Chester Lagoons and Campbell Lake asking people not to feed the waterfowl. A second component of the plan is to develop educational materials that inform the public why feeding waterfowl is detrimental to waterfowl and humans. The applicant should determine if the material can be placed in existing kiosks or if new kiosks are required. Applicant should propose to place the materials in kiosks. The budget for this project must include the cost of the educational materials, signage, labor, and new kiosks where needed. A letter of authorization to install structures from the land owner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Lake, Chester Creek, Fish Creek, University Lake, and Westchester Lagoon).

Action b: Implement BMPs or erosion control measures 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. In 2014 DEC received an assessment report describing the location, status and condition of existing pet waste stations located in the Anchorage bowl and recommendations on where additional stations could be installed. Using recommendations included in the assessment report, work with the Municipality of Anchorage to install new stations where recommended (8 stations), replace stations determined to be unusable (3 stations), relocate stations recommended for relocation (4 stations), and install trash receptacles (8 stations). A final report is required that describes the work performed and must include an updated mutt mitt station matrix spreadsheet. A letter of authorization to install structures from the landowner is required.

Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Creek, Little Campbell Creek, Fish Creek, and Furrow Creek).

Action c: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Fritz Creek - Fiscal Year 2016

Description Homer, 7 Miles NE of Homer. Crosses East End Road. Confluence with Kachemak Bay.

Lat/Long 59.6819980 -151.3726330

Concern: Urbanization 2011-2017

Fritz Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality being a primary concern due to land use activities. Fritz Creek is identified as a potential future public water source for the City of Homer.

Goal: Protect and maintain water quality 2011-2017

Protect existing water quality to ensure water can be used as drinking water for the City of Homer and other communities in the future.

Action a: Develop planning documents 2011-2017

Working with City of Homer and local stakeholders develop a Waterbody Action Plan for Fritz Creek. The plan would review existing water quality information, conduct a habitat assessment, and include action steps to educate watershed land owners on the need to protect water quality for use a future public water source for the City of Homer and surrounding communities.

Furrow Creek - Fiscal Year 2016

Description South Anchorage, Turnagain Arm confluence, headwaters near Elmore Road. Flows through John's Park

Lat/Long 61.1042730 -149.8899080

Concern: Enterococci and/or fecal coliform bacteria 2011-2017

Furrow Creek is in the Waterbody Recovery Track with water quality being the primary concern due to fecal coliform bacteria pollution. Furrow Creek was placed on the 1990 Section 303(d) list for non-attainment of the fecal coliform bacteria standard. A TMDL for fecal coliform bacteria was developed and approved by EPA in March 2004.

Goal: Meet water quality standards and remove impairment status 2011-2016

The goal is to implement best management practices.

Action a: Implement BMPs or erosion control measures 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. In 2014 DEC received an assessment report describing the location, status and condition of existing pet waste stations located in the Anchorage bowl and recommendations on where additional stations could be installed. Using recommendations included in the assessment report, work with the Municipality of Anchorage to install new stations where recommended (8 stations), replace stations determined to be unusable (3 stations), relocate stations recommended for relocation (4 stations), and install trash receptacles (8 stations). A final report is required that describes the work performed and must include an updated mutt mitt station matrix spreadsheet. A letter of authorization to install structures from the landowner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Creek, Little Campbell Creek, Fish Creek, and Furrow Creek).

Action b: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Halibut Cove - Fiscal Year 2016

Description Southcentral

Lat/Long 59.5990000 -151.1860000

Concern: Enterococci and/or fecal coliform bacteria 2006-2017

Halibut Cove is in the Data Collection and Monitoring Track because of a concern for pollution from onsite septic systems.

Goal: Protect and maintain water quality 2006-2017

Protect water quality and existing designated uses.

Action a: Collect Data 2006-2017

Using a DEC approved Quality Assurance Project Plan (QAPP), conduct bacteria monitoring from discrete sampling locations to determine if designated uses are being impacted. Sampling should be done twice a month between May and September.

Homer Harbor - Fiscal Year 2016

Description Homer, Homer Spit

Lat/Long 59.6027777 -151.4188888

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2006-2017

Homer Harbor is in the Data Collection and Monitoring Track with discharges from boats and nonpoint source discharges from upland portions of the harbor property the primary concern.

Goal: Maintain water quality to meet designated uses 2006-2017

Work with the Harbor Master to maintain the harbor's Clean Harbors Certification and make other improvements as funding becomes available.

Action a: Conduct education and outreach 2006-2016

Continue to work with the Harbor Master to maintain existing BMPs and look for opportunities to implement other BMPs that would help protect water quality.

Iliuliuk Harbor - Fiscal Year 2016

Description located in Dutch Harbor, Unalaska

Lat/Long 53.8773530 -166.5533350

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

Iliuliuk Harbor is in the Waterbody Recovery Track with water quality and aquatic habitat being the primary concern. Iliuliuk Harbor was listed as an impaired waterbody for petroleum hydrocarbons in 1990. Monitoring conducted by the DEC in 2007–2008 found that Iliuliuk Harbor remains impaired for petroleum, specifically polycyclic aromatic hydrocarbons (PAH), due to oil sheens on bottom sediments. Surface water quality in Iliuliuk Harbor currently meets applicable water quality criteria for petroleum hydrocarbon concentrations. A TMDL was approved in 2010 that addresses PAHs in bottom sediments. PAHs may be causing deleterious effects to aquatic life. Sediment contamination is thought to be primarily the result of historic spills and releases on the uplands and on water, which have been spread throughout the area by rain, wind, and tidal and wave action. Current activities at docks and harbors may be adding to the historic pollution.

Goal: Implement actions specified in TMDL 2012-2016

The petroleum hydrocarbon TMDL developed for Iliuliuk Harbor outlined several implementation actions to help reduce additional hydrocarbon pollution to the harbor.

Action a: Collaboration 2016-2016

THIS IS A HIGH PRIORITY ACTION. The grantee will convene a group of stakeholders to develop uniform best management practices for area docks and harbors given that the most elevated concentrations of PAHs in sediments occur at these locations. The group should include private enterprises that would be directly affected, tribal organizations, interested non-government organizations, and local, state, and federal government agencies that have a presence in Iliuliuk and Dutch Harbors. This action must include similar work on Dutch Harbor since the waters are connected. The project must provide a final report on the work conducted, participants and outcomes.

Action b: Implement watershed restoration plan or TMDL 2015-2016

Encourage City of Unalaska to participate in the Alaska Clean Harbors program. Assist them with the certification process. Work must include waters of Dutch Harbor waters as well since connected.

Kenai River - Fiscal Year 2016

Description Kenai Peninsula, Alaska. Drainage from Kenai Lake, ~82 miles long
Lat/Long 60.5485000 -151.2628000

Concern: Enterococci and/or fecal coliform bacteria 2010-2016

The Kenai River is in the Data Collection and Monitoring Track with water quality and habitat being the primary concerns. In 2010, 2011 and 2012, elevated levels of enterococci and fecal coliform bacteria were measured during the July dipnet salmon fishery. Exceedances of the water quality criteria for bacteria were found at the North and South beaches at the mouth of the Kenai River and at acceptable background levels at the Warren Ames Bridge location. A large number of birds were observed on the beaches likely coming from an adjacent bird colony and attracted by fish waste left on the beach. The birds are a likely bacteria source. Adequate sanitary facilities were available on both North and South beaches.

Goal: Reduce pollutant loading and improve water quality 2012-2016

The goals are to conduct water quality monitoring to determine if exceedances persist and evaluate existing data to identify opportunities for improving water quality.

Action a: Develop planning documents 2014-2016

THIS ACTION IS ELIGIBLE FOR BEACH FUNDING AND FUNDED IN FY16. Bacteria monitoring has been conducted at the Kenai River beaches each summer since 2010. Exceedances of state's bacteria water quality standards were found during each sampling period. The objective of this action is to create a final report that can be used by the City of Kenai and state agencies to make future management decisions. The report will include an evaluation of the bacteria data collected from 2010-2015 and a comparison of the results to the State's water quality standards. The report will compare the data to water quality criteria protecting the designated uses for both recreation and harvesting of raw mollusk and other aquatic life in marine waters including single sample or 10% exceedance criteria and the geometric mean exceedance criteria. The applicant will conduct a trend analysis to determine if bacteria levels have increased or decreased over the five year sampling period. The report should also include a discussion of the human health risk based on the source of the bacteria. The report will include a history of services provided by the City of Kenai to beach users such as: beach raking, dumpsters, toilets, fresh water, beach access and camping; a comparison of the personal use fishery harvest records for the last 10 years to the levels of bacteria found; a discussion on other possible bacteria sources such as: waterfowl, other wildlife (seals, belugas), the City of Kenai wastewater treatment facility, beach dumpsters and toilets; and information on the size, growth, and timing of the gull rookery located upstream of the beaches and possible relationship to tidal influences. The applicant will provide a draft report to DEC and the City of Kenai for review and comment; comments will be incorporated into a final report.

Concern: Turbidity 2010-2016

Recreational activities may be causing turbidity levels that exceeds state water quality standards.

Goal: Determine the existing condition of the water body 2010-2016

Sufficient data collection to establish the natural condition for turbidity in the lower river during ice free periods. Minimum of two years data required. Actions to improve water quality.

Action b: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION. Turbidity data collected from 2008 through 2010 indicates human caused turbidity levels in the lower Kenai River (RM 13.0 to RM 5) are elevated above natural conditions. Elevated turbidity levels and changes in turbidity outside of natural occurrences can have negative impacts to fish, other aquatic life, and recreational users. This action will begin a public dialogue concerning human caused turbidity in the lower Kenai River and seek input on possible solutions. The grantee will engage the public and agencies (DNR, F&G, and Kenai Peninsula Borough) and other interested parties in gathering and evaluating actions that can be taken to reduce turbidity in the river. The grantee will compile the information gathered and submit the draft report to DEC and involved parties for review and comment. The report will include a discussion on each potential action gathered from the public, the pros and cons (in tables) for each action and the steps that must be taken before an action can successfully be implemented (e.g., voluntary action vs. regulatory action, and if regulatory, what agency has the authority to regulate). The grantee will incorporate comments into the final report for submittal. The 2008-2010 lower Kenai River turbidity report can be viewed by clicking on the following web link:
http://dec.alaska.gov/water/wnpspc/protection_restoration/KenaiRiverWQ/pdfs/KWF_KENAI_RIVER_TURBIDITY_REPORT.pdf

Lake Lucille (also spelled Lucile) - Fiscal Year 2016

Description Wasilla, Alaska; lake surface acres: 362, shoreline: 4.3 miles

Lat/Long 61.5747490 -149.4735430

Concern: Urbanization 2012-2017

Lake Lucille is in the Waterbody Recovery Track with water quality being a primary concern. In 1994 the Department of Environmental Conservation (DEC) listed Lake Lucille on the Clean Water Act Section 303(d) list as impaired for low dissolved oxygen and nutrients. In 2002, a total maximum daily load (TMDL) was completed. Increased phosphorus loading has led to a reduction in dissolved oxygen. Additionally, there is documented seasonal and localized petroleum water quality standard exceedance from motorized watercraft recreational uses of the lake near the public boat launch.

Lake Lucille is a receiving water for the Department of Transportation (DOT) and City of Wasilla's stormwater drainage system. There are two active stormwater discharge outfalls into Lake Lucille along the north shore. One is in the east end of the lake and the other in the west end. Stormwater quality studies conducted by DEC in 2011 - 2013 indicate metals (copper, lead and zinc) and polycyclic aromatic hydrocarbons (PAH) pollution in the lake bed sediment above recommended levels for aquatic life surrounding both outfall discharge points extending several meters across the lake. The DEC is considering an additional impairment listing for Lake Lucille based on these sampling results.

Goal: Meet water quality standards and remove impairment status 2012-2017

Meet water quality standards for dissolved oxygen and petroleum hydrocarbons in the water column year round. Be able to document recovery of Lake Lucille's water quality and move to Category 2 (attaining uses) for dissolved oxygen.

Additionally, the lake sediments at both stormwater discharge areas are above recommended action levels for copper, lead, zinc and PAH. Develop and continue implementing pollution prevention controls within watershed with a focus on reducing the volume and toxicity of stormwater runoff to the lake.

Action a: Develop planning documents 2016-2017

THIS IS A HIGH PRIORITY ACTION. The grantee will develop plans and cost estimates to reduce the amount of metals and PAH being discharged through the two stormwater outfalls into Lake Lucille. The main source for the metals and hydrocarbons in the stormwater is vehicles and oils and grease washed from the Parks Highway, area parking lots and roads that is collected in the stormwater system during times of runoff. Addressing stormwater discharges to the lake will also assist in addressing the lake's low dissolved oxygen. The grantee will develop an enforceable long-term plan that addresses stormwater management practices to reduce the amount of stormwater discharged to the lake as well as implement management practices to improve the stormwater quality (e.g., fewer pollutants). To be eligible, this action must demonstrate local government and Department of Transportation support.

Little Campbell Creek - Fiscal Year 2016

Description Anchorage, Alaska tributary to Campbell Creek

Lat/Long 61.1555770 -149.8768780

Concern: Enterococci and/or fecal coliform bacteria 2006-2017

Little Campbell Creek is in the Waterbody Recovery Track with water quality and aquatic life being a primary concern due to urban run-off and fecal coliform bacteria pollution. The State of Alaska included Little Campbell Creek on its 1998 303(d) list as water quality-limited due to fecal coliform, identifying urban runoff as the expected pollutant source. A TMDL was completed in 2004.

Goal: Meet water quality standards and remove impairment status 2011-2017

The goal is to implement best management practices.

Action a: Implement BMPs or erosion control measures 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. In 2014 DEC received an assessment report describing the location, status and condition of existing pet waste stations located in the Anchorage bowl and recommendations on where additional stations could be installed. Using recommendations included in the assessment report, work with the Municipality of Anchorage to install new stations where recommended (8 stations), replace stations determined to be unusable (3 stations), relocate stations recommended for relocation (4 stations), and install trash receptacles (8 stations). A final report is required that describes the work performed and must include an updated mutt mitt station matrix spreadsheet. A letter of authorization to install structures from the landowner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Creek, Little Campbell Creek, Fish Creek, and Furrow Creek).

Action b: Document existing BMPs and assess additional BMP needs 2011-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Action c: Document existing BMPs and assess additional BMP needs 2012-2016

Assist the National Resource Conservation Service in their efforts to work with equestrian facilities and horse boarding property owners to evaluate existing BMPs

and install BMPs where needed to reduce bacterial contamination and sediment loading in Little Campbell Creek.

Concern: Turbidity 2012-2016

The Little Campbell Creek is in the Waterbody Recovery Track. In 2005 the USF&WS issued a report entitled "Frequency and Distribution of Fish Kills in Little Campbell Creek". The reported indicated turbidity and high sediment flows were likely responsible for the frequent fish kills recorded in 2005 and previous years. There is concern sediment and turbidity may be having a long term impact on fish and other biotic life that live in Little Campbell Creek.

Goal: Reduce pollutant loading and improve water quality 2012-2016

The goal is to reduce the amount of sediment and turbidity entering the stream from high flow events.

Action d: Restore habitat 2016-2016

Develop a riparian habitat restoration plan. A 2005 USF&WS report, "Frequency and Distribution of Fish Kills in Little Campbell Creek" documented numerous fish kills. The report linked fish kills to increase sediment loading. A subsequent 2007 Municipality of Anchorage report, "Identification of Sediment Sources in Little Campbell Creek" concluded the majority of sediment loading was from adjacent stream banks eroding during high water events. The riparian habitat restoration plan should focus on stabilizing eroding stream banks and protecting adjacent riparian habitat to reduce sediment loads and future fish kills.

Little Rabbit Creek - Fiscal Year 2016

Description South Anchorage, above Potter's Marsh

Lat/Long 61.0779360 -149.8199240

Concern: Enterococci and/or fecal coliform bacteria 2011-2017

Little Rabbit Creek is in the Waterbody Recovery Track with water quality being the primary concern due to fecal coliform bacteria pollution. The State of Alaska included Little Rabbit Creek on its 1998 303(d) list as water quality-limited due to fecal coliform, identifying urban runoff as the expected pollutant source. A TMDL was completed in 2004.

Goal: Meet water quality standards and remove impairment status 2011-2017

The goal is to initiate activities, implement best management practices and collect data to support removal of Little Rabbit Creek from the State's list of impaired waterbodies.

Action a: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Little Survival Creek - Fiscal Year 2016

Description South Anchorage, small tributary to Potter's Marsh

Lat/Long 61.0665550 -149.8004190

Concern: Enterococci and/or fecal coliform bacteria 2011-2017

Little Survival Creek is in the Waterbody Recovery Track for fecal coliform bacteria pollution being the primary concern. The State of Alaska included Little Survival Creek on its 1998 303(d) list as water quality-limited due to fecal coliform, identifying urban runoff as the expected pollutant source. A TMDL was completed in 2004.

Goal: Meet water quality standards and remove impairment status 2011-2017

The goal is to initiate activities, implement best management practices and collect data to support removal of Little Survival Creek from the State's list of impaired waterbodies.

Action a: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Little Susitna River - Fiscal Year 2016

Description Matanuska Susitna Borough, Alaska; headwaters in Talkeetna mountains, crosses Parks Highway near Houston and empties into Cook Inlet.

Lat/Long 61.5147000 -149.4714000

Concern: Turbidity 2016-2017

The Little Susitna River is in the Waterbody Protection Track, with water quality and aquatic habitat being primary concerns. The lower Little Susitna is at risk of water quality impairment from turbidity pollution and also petroleum hydrocarbon pollution. The source of both pollutants is motorized boats. The river area of concern is upriver and downriver from the Public Use Facility boat launch at river mile 25. DEC conducted water quality monitoring from September 2007 – June 2011 and coinciding with the king salmon (May – June) and silver salmon (July – September) fisheries. Data collected has documented concentrations of turbidity 5 – 25 NTUs above natural conditions. This means the turbidity is not naturally occurring.

Goal: Reduce pollutant loading and improve water quality 2016-2017

The goal is to reduce turbidity levels caused by human activities in order to improve water quality and protect fish and other aquatic life.

Action a: Develop planning documents 2016-2017

THIS IS HIGH PRIORITY ACTION. Turbidity data collected by DEC in 2007-2011 indicate human caused turbidity levels in the lower Little Susitna River are elevated above natural conditions. Elevated turbidity levels and changes in turbidity outside of natural occurrences can have negative impacts to fish and other aquatic life. This action will begin a public dialogue concerning human caused turbidity in the lower Little Susitna River and seek input on possible solutions. The grantee will engage the public and agencies (DNR, ADF&G, and Matanuska-Susitna Borough) and other interested parties to solicit and evaluate potential actions that can be taken to reduce turbidity in the river. The applicant will compile the information gathered and submit the draft report to involved parties for review and comment. The report will include a discussion on each potential action identified by the public, the pros and cons (in tables) for each action and the steps that must be taken before an action can successfully be implemented (e.g., voluntary action vs. regulatory action, and if regulatory, what agency has the authority to regulate). The applicant will incorporate comments into the final report for submittal.

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2016

The Little Susitna River is in the Waterbody Protection Track, with water quality and aquatic habitat being primary concerns. The lower Little Susitna is at risk of water quality impairment from petroleum hydrocarbon pollution. Starting in the fall of 2007, the DEC conducted screening petroleum hydrocarbon sampling on the Little Susitna River from the Parks Highway Bridge downstream to below the Public Use Facility located at river mile 25. Results led to more intensive petroleum hydrocarbon investigations [for total aromatic hydrocarbons,(TAH)] in 2008, 2009, 2010 and spring 2011 coinciding with the Chinook salmon (May – June) and coho salmon (July – September) fisheries. In summer of 2014 DEC conducted intensive TAH sampling over multiple consecutive days to determine chronic toxicity to aquatic life. Data collected has documented concentrations of TAH that exceed the water quality standard of 10 µg/L, especially during the coho

fishery. The only known source of the hydrocarbons is motorized boat engines. Known affected river miles are 15 to 27.

Goal: Reduce pollutant loading and improve water quality 2012-2016

Reducing the amounts of petroleum hydrocarbon pollution entering the river is expected to improve water quality and better protect aquatic species.

Action b: Conduct education and outreach 2014-2016

THIS IS A HIGH PRIORITY ACTION AND FUNDED IN FY16. This action builds on the educational outreach campaign started in 2011. The campaign is designed to educate river users on the impacts of petroleum hydrocarbons and turbidity pollution to aquatic species and on ways to reduce this pollution. The campaign must target the appropriate user groups for the lower Little Susitna river recreational fishery, and other users accessing the public boat launch, through on-the-ground outreach. This should include outreach on weekends at the Public Use Facility during the height of the coho salmon fishery in August and the Chinook fishery in the spring. The education campaign should also include participating in the spring Mat-Su Outdoorsman Show with a staffed booth and other venues that will reach the target audience. The educational campaign must demonstrate measureable results such as the number of people reached. The campaign should also provide tools to help reduce petroleum to the river. A final project report that describes the outreach activities, public response and an evaluation of success including recommendations is required. The DEC has developed outreach materials that may be helpful. Contact Laura Eldred, 376-1855, for more information.

McRoberts Creek - Fiscal Year 2016**Description** Drains Matanuska Creek E of Palmer**Lat/Long** 61.5541666 -148.9597222**Concern: Instream flow 2006-2017**

No instream flow protection exists; the stream is subject to additional residential development and hydropower.

Goal: Protect and maintain instream flow and aquatic habitat 2006-2017

A minimum of 5 years streamflow data are needed to achieve this goal.

Action a: Reservation of water 2006-2017

Following USGS protocols, collect streamflow data to meet the requirements for reservation of water application to protect fish and wildlife habitat, migration, and propagation or for sanitary and water quality purposes. Establish appropriate site and permanent elevation reference marks, and use electronic sensors and data loggers to record continuous water levels; measure discharge to accurately adequately capture flow characteristics at the range of flows during all seasons for developing a stage-discharge relationship (rating). Provide data to ADF&G, DNR, or qualified contractor for analysis.

Montana Creek (Talkeetna) - Fiscal Year 2016

Description Talkeetna in South Central. Flows into Susitna River.

Lat/Long 62.1048260 -150.0601960

Concern: Habitat degradation 2006-2017

Use of ATV's in stream and adjacent riparian area without regard to environmental damage and residential development along riparian corridor are of concern. Few protections or enforcement of existing laws.

Goal: Protect and maintain instream flow and aquatic habitat 2006-2017

Although instream flow protection exists, aquatic habitat remains vulnerable. Goal is to prevent further habitat degradation.

Action a: Implement BMPs or erosion control measures 2006-2017

Landowner education and outreach program to encourage landowners the importance of intact riparian habitats to fish productivity. Also, efforts directed to prevent ATVs riders from using stream as a trail.

Ninilchik River - Fiscal Year 2016

Description Lower Kenai Peninsula, Alaska

Lat/Long 60.0550770 -151.6661160

Concern: Urbanization 2011-2017

Ninilchik River is in the Protect and Maintain Waterbodies at Risk Track with water quality and aquatic habitat being a primary concern due to land use activities. Properties located adjacent to or that drain to the Ninilchik River are being developed by property owners that may not understand the function of riparian habitat and its role in maintaining water quality.

Goal: Protect and maintain instream flow and aquatic habitat 2011-2017

The goal is to educate Ninilchik River property owners in ways to minimize their impacts on riparian habitat.

Action a: Conduct education and outreach 2014-2016

Working with DEC, ADF&G, and other stakeholders prioritize watershed educational opportunities and ways to distribute outreach materials to property owners within the Anchor River, Deep Creek, Ninilchik River, and Stariski Creek watersheds. Educational opportunities should focus on gatherings where property owners from all four watersheds might attend and ones that target specific watersheds. Providing incentives for property owners to attend meetings is highly recommended. Educational material should focus on ways property owners can minimize impervious surfaces, reduce stormwater run-off, promote healthy riparian habitat, and improve water quality and quantity (reduce peak flows and increase base flows). Materials should contain current contact information for agencies and organizations that can assist property owners wishing to implement recommendations made in the educational material. Applicants should try to leverage funding and incorporate ideas from other successful outreach programs, e.g., Great Land Trust, National Fish Habitat Partnership, and Matsu's King Maker. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Anchor River, Deep Creek, Ninilchik River and Stariski Creek watersheds).

Action b: Conduct education and outreach 2011-2016

Working with DEC, ADF&G, and other stakeholders develop and provide educational material to Ninilchik River property owners on ways they can minimize impacts on the river when developing and maintaining their property. Existing or new education material should be cost effective and shall be distributed to all Ninilchik River property owners. Educational material should focus on ways property owners can minimize impervious surfaces, reduce stormwater run-off, and promote healthy riparian habitat. Material should contain contact information for agencies and organizations that can assist property owners wishing to implement recommendations made in the educational material.

Nushagak River - Fiscal Year 2016

Description This river drains into Bristol Bay at Dillingham

Lat/Long 59.0447930 -158.3816530

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2006-2017

Nushagak River is in the Data Collection and Monitoring Track with water quality, specifically metals as the primary concern.

Goal: Determine the existing condition of the water body 2006-2016

Baseline water quality data is needed for the Nushagak River to establish background conditions.

Action a: Collect Data 2006-2016

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Seldovia Bay - Fiscal Year 2016

Description 5 mi. long and 0.7 mi. wide, on SW shore of Kachemak Bay, Kenai Peninsula.

Lat/Long 59.4240000 -151.7250000

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2006-2017

Seldovia Bay is on the Protect and Maintain Waterbodies at Risk Track with water quality being the primary concern.

Goal: Reduce pollutant loading and improve water quality 2006-2017

Alaska E-Map monitoring of Seldovia Bay found high levels of polycyclic aromatic hydrocarbons (PAHs) in the sediment. Past fuel spills and poor boat maintenance operation are likely sources of the high levels of PAHs. The goal is to reduce future inputs of PAHs and promote clean boating best management practices (BMPs) in the bay and Seldovia Harbor.

Action a: Conduct education and outreach 2006-2017

Reduce petroleum spills and promote clean boating practices in Seldovia Bay and Seldovia Harbor.

Seldovia Bay (Harbor) - Fiscal Year 2016

Description In Kachemak Bay

Lat/Long 59.4240000 -151.7250000

**Concern: Toxic and Other Deleterious Organic and Inorganic Substances
2006-2016**

Seldovia Harbor is in the Data Collection and Monitoring Track with water quality being the primary concern.

Goal: Determine the existing condition of the water body 2006-2016

The goal for Seldovia Harbor is to determine if current water quality supports all designated uses for this waterbody.

Action a: Other 2014-2016

Work with the City of Seldovia and key stakeholders to develop a clean boating program for Seldovia Harbor and the surrounding bay. Encourage, through phone calls, brochures, and other outreach avenues, the City of Seldovia to participate in the Alaska Clean Harbors program. Assist the City with the certification process.

Action b: Collect Data 2010-2016

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Ship Creek-Glenn Hwy. Bridge Down to Mouth - Fiscal Year 2016

Description Anchorage, Glenn Highway to mouth

Lat/Long 61.2270100 -149.9025900

Concern: Enterococci and/or fecal coliform bacteria 2016-2017

Ship Creek from the Glenn Highway to the confluence with Cook Inlet is on the Waterbody Recovery Track because the creek is listed as impaired for fecal coliform bacteria. A TMDL was completed and approved by EPA in 2004.

Goal: Meet water quality standards and remove impairment status 2016-2016

The goal for lower Ship Creek is to remove it from the State's list of impaired waterbodies.

Action a: Document existing BMPs and assess additional BMP needs 2016-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. Applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Action b: Collect Data 2016-2016

The grantee will collect and present information on the number and location of scoop the poop stations located in this and other impaired Anchorage bowl watersheds. The grantee will also conduct an assessment of each station (condition and needs), and assess the need for additional stations for the Anchorage bowl watersheds listed below including a cost estimate for installing the additional stations. The grantee will submit a final report that includes the information collected, a map showing the locations of existing stations, recommendations of where potential stations could be located, a cost estimate for installing new stations and recommendations for improving maintenance and functionality of the stations. The list of Anchorage streams and lakes to be considered under this solicitation are: Ship Creek, Chester Creek, University Lake, Westchester Lagoon, Fish Creek, Campbell Creek, Campbell Lake, Little Campbell Creek, Furrow Creek, Rabbit Creek, Little Rabbit Creek and Little Survival Creek.

Slikok Creek - Fiscal Year 2016

Description Tributary of the lower Kenai River

Lat/Long 60.4824310 -151.1265560

Concern: Urbanization 2010-2016

Slikok Creek is in the Protect and Maintain Waterbodies at Risk Track with changes in land use the primary concern.

Goal: Protect and maintain water quality 2010-2016

Protect water quality as land use changes in this watershed.

Action a: Collaboration 2010-2016

Work cooperatively with riparian property owners to ensure land development and stormwater doesn't negatively impacted water quality in the stream and surrounding wetlands.

Stariski Creek - Fiscal Year 2016

Description Lower Kenai Peninsula, Alaska. North of Anchor Point, south of Happy Valley.

Lat/Long 49.8917790 -151.7846630

Concern: Urbanization 2011-2016

Stariski Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality and aquatic habitat being a primary concern due to land use activities. Properties located adjacent to or that drain to the Stariski River Creek are being developed by property owners that may not understand the function of riparian habitat and its role in maintaining water quality.

Goal: Protect and maintain instream flow and aquatic habitat 2011-2016

The goal is to educate Stariski Creek property owners in ways to minimize their impacts on riparian habitat.

Action a: Conduct education and outreach 2014-2016

Working with DEC, ADF&G, and other stakeholders prioritize watershed educational opportunities and ways to distribute outreach materials to property owners within the Anchor River, Deep Creek, Ninilchik River, and Stariski Creek watersheds. Educational opportunities should focus on gatherings where property owners from all four watersheds might attend and ones that target specific watersheds. Providing incentives for property owners to attend meetings is highly recommended. Educational material should focus on ways property owners can minimize impervious surfaces, reduce stormwater run-off, promote healthy riparian habitat, and improve water quality and quantity (reduce peak flows and increase base flows). Materials should contain current contact information for agencies and organizations that can assist property owners wishing to implement recommendations made in the educational material. Applicants should try to leverage funding and incorporate ideas from other successful outreach programs, e.g., Great Land Trust, National Fish Habitat Partnership, and Matsu's King Maker. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Anchor River, Deep Creek, Ninilchik River and Stariski Creek watersheds).

University Lake - Fiscal Year 2016

Description Anchorage, part of Chester Creek

Lat/Long 61.1859140 -149.8027900

Concern: Enterococci and/or fecal coliform bacteria 2012-2016

University Lake has been on the Section 303(d) list since 1990 for non-attainment of the fecal coliform bacteria standard. The Chester Creek Drainage Water Quality Assessment, focusing on an area that included University Lake, was completed in April 1993. It determined that the waterbody was impaired only for FC bacteria. A TMDL for fecal coliform bacteria was developed and approved by EPA (dated May 2005).

Goal: Meet water quality standards and remove impairment status 2012-2016

The goal is implement best management practices.

Action a: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. The applicant will work with the Municipality of Anchorage, United States Fish and Wildlife Service (USF&WS) and DEC to develop and implement an education and outreach plan that informs the public that feeding waterfowl is unhealthy for Anchorage streams and lakes and the waterfowl that live in and around these waterbodies. The plan should include developing and installing signage at known waterfowl feeding areas on Fish Creek, Chester Creek, University Lake, West and East Chester Lagoons and Campbell Lake asking people not to feed the waterfowl. A second component of the plan is to develop educational materials that inform the public why feeding waterfowl is detrimental to waterfowl and humans. The applicant should determine if the material can be placed in existing kiosks or if new kiosks are required. Applicants should propose to place the materials in kiosks. The budget for this project must include the cost of the educational materials, signage, labor, and new kiosks where needed. A letter of authorization to install structures from the land owner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Lake, Chester Creek, Fish Creek, University Lake, and Westchester Lagoon).

Action b: Document existing BMPs and assess additional BMP needs 2013-2016

Work with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek,

Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

Westchester Lagoon - Fiscal Year 2016

Description Anchorage, part of lower Chester Creek

Lat/Long 61.2051030 -149.9172020

Concern: Enterococci and/or fecal coliform bacteria 2012-2016

Westchester Lagoon was Section 303(d) listed in 1990 for non-attainment of the fecal coliform (FC) bacteria standard. The Chester Creek Drainage Water Quality Assessment (which also included Westchester Lagoon), from April 1993, indicated Westchester Lagoon was impaired only for FC bacteria. A TMDL for FC bacteria was developed and was approved by EPA (dated May 2005).

Goal: Meet water quality standards and remove impairment status 2012-2016

The goal is implement best management practices.

Action a: Conduct education and outreach 2016-2016

THIS IS A HIGH PRIORITY ACTION AND IS FUNDED IN FY16. The grantee will work with the Municipality of Anchorage, United States Fish and Wildlife Service (USF&WS) and DEC to develop and implement an education and outreach plan that informs the public that feeding waterfowl is unhealthy for Anchorage streams and lakes and the waterfowl that live in and around these waterbodies. The plan should include developing and installing signage at known waterfowl feeding areas on Fish Creek, Chester Creek, University Lake, West and East Chester Lagoons and Campbell Lake asking people not to feed the waterfowl. A second component of the plan is to develop educational materials that inform the public why feeding waterfowl is detrimental waterfowl and humans. The applicant should determine if the material can be placed in existing kiosks or if new kiosks are required. Applicant should propose to place the materials in kiosks. The budget for this project must include the cost of the educational materials, signage, labor, and new kiosks where needed. A letter of authorization to install structures from the land owner is required. Several watersheds are included on this solicitation and the applicant should submit one proposal to address this action for all of the watersheds (Campbell Lake, Chester Creek, Fish Creek, University Lake, and Westchester Lagoon).

Action b: Document existing BMPs and assess additional BMP needs 2013-2016

Work in cooperation with the Municipality of Anchorage to document best management practices (BMPs) being implemented in this watershed to reduce fecal coliform and other pollutant loading. The applicant should assess the need for additional BMPs based on known fecal coliform source types identified in the 2010 ARRI Fecal Coliform Bacteria Assessment report. Generate a report that describes the location and type of BMPs currently implemented, ones recommended, the pollutant(s) they are designed to address, and a priority ranking for installation or replacement if needed. For cost effectiveness this project may be combined with one or more of the following Anchorage waters with similar actions and submitted as one

application: Campbell Creek, Campbell Lake, Chester Creek, Fish Creek, Furrow Creek, Little Campbell Creek, Little Rabbit Creek, Little Survival Creek, Ship Creek, University Lake, and Westchester Lagoon. To emphasize the cost savings in assessing multiple waters, please include the cost of assessing a single water in your combined application.

South East

Auke Bay - Fiscal Year 2016

Description Juneau

Lat/Long 58.3680000 -134.6780000

Concern: Urbanization 2013-2017

Auke Bay is in the Protect and Maintain Waterbodies at Risk Track with water quality and habitat being primary concerns. Numerous anadromous streams are associated with this bay, including the presence of eel grass beds. Threats to the bay include Municipal storm and sewer point sources, onsite septic systems, underground storage tanks, and non-point source pollutants associated with land use.

Goal: Protect and maintain water quality 2013-2017

The goal is to maintain water quality and aquatic habitat by implementing stewardship and protection activities including education and outreach activities. The applicant will coordinate activities with other agencies and organizations working in the watershed to maintain water quality for all uses with a focus on urban runoff and fecal coliform bacteria. The project will apply best management practices (BMPs) and existing regulatory means to reduce non-point source pollutants.

Action a: Conduct education and outreach 2013-2017

This action was on the FY16 grant solicitation and not funded. The applicant will develop and implement an education program in collaboration with local community members, local watershed environmental groups, tribal entities, resource agencies (e.g., Alaska Departments of Fish and Game, Natural Resources), and other stakeholders (e.g., City/Borough of Juneau, Auke Lake Homeowners Association). The program should encompass both clean boating practices (where applicable) and other best management practices. Clean boating activities suggested in the Clean Boating Stewardship Action should be augmented with information about actions landowners can take to protect and improve adjacent land uses and how adjacent land use activities affect water quality. Proposals should specify how and where information will be distributed. For example, proposals could suggest attending workshops, hosting tours, attendance at specific community meetings, and/or distributing information to property owners adjacent to the waterbody and riparian areas. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several waterbodies are included on this solicitation and the grantee should submit one proposal to address this action for all of the waterbodies (Auke Bay, Auke Lake, Auke Creek, and Lake Creek). Contact the Gretchen Pikul (465-5023) for recent and ongoing watershed studies.

Action b: Collect Data 2015-2017

Conduct water column and sediment monitoring of the recreational usage on Auke Lake and its effect on the water quality. Using the DEC Petroleum

Hydrocarbons, Oils and Grease Supplemental Listing Methodology and the 2014 Auke Lake Water Quality Monitoring report, prepare and implement a monitoring program to further evaluate petroleum hydrocarbon concentrations.

Auke Creek - Fiscal Year 2016

Description Flows 0.3 mi. SW from Auke Lake to Auke Bay. On N. end of Mendenhall Peninsula, 1 mi. W of Juneau Airport

Lat/Long 58.3809740 -134.6421720

Concern: Urbanization 2012-2017

Auke Creek is in the Protected and Maintain Waterbodies at Risk Track with water quality being a primary concern and aquatic habitat as a secondary concern. Threats to the creek include petroleum hydrocarbons and other pollutants associated with road runoff, on-site septic systems, and construction development on sites less than one acre in size on sites adjacent to the creek.

Goal: Protect and maintain water quality 2012-2017

The goal is to maintain water quality and aquatic habitat through implementing stewardship and protection activities including education and outreach. The applicant will coordinate activities with other agencies and organizations working in the watershed to maintain state water quality standards for all uses focus on urban runoff and fecal coliform bacteria. The project will apply best management practices (BMPs) and existing regulatory means to reduce non-point source pollutants.

Action a: Conduct education and outreach 2014-2017

This action was on the FY16 grant solicitation and not funded. The applicant will develop and implement an education program in collaboration with local community members, local watershed environmental groups, tribal entities, resource agencies (e.g., Alaska Departments of Fish and Game, Natural Resources), and other stakeholders (e.g., City/Borough of Juneau, Auke Lake Homeowners Association). The program should encompass both clean boating practices (where applicable) and other best management practices. Clean boating activities suggested in the Clean Boating Stewardship Action should be augmented with information about actions landowners can take to protect and improve adjacent land uses and how adjacent land use activities affect water quality. Proposals should specify how and where information will be distributed. For example, proposals could suggest attending workshops, hosting tours, attending specific community meetings, and/or distributing information to property owners adjacent to the waterbody and riparian areas. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report must also include recommendations for future effective outreach activities. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Auke Bay, Auke Lake, Auke Creek and Lake Creek). Contact the Gretchen Pikul (465-5023) for recent and ongoing watershed studies.

Auke Lake - Fiscal Year 2016

Description Located near Juneau, mile 11.5 Glacier Highway

Lat/Long 58.3833333 -134.6333333

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2012-2017

Auke Lake is in the Protect and Maintain Waterbodies at Risk Track with water quality a primary concern and aquatic habitat a secondary concern. Threats to the lake include petroleum hydrocarbons from motorized water craft in areas of concentrated use including boat launches. National Oceanic and Atmospheric Administration (NOAA)/National Marine Fisheries Service (NMFS) conducted periodic water quality sampling between 1999 and 2008 for polycyclic aromatic hydrocarbon (PAH) discharges. The data collected by NMFS used different test methods than those required by Alaska's water quality standards (WQS).

In 2013 and 2014, monitoring and outreach was conducted under the ACWA Grant (ACWA-13-08 and 14-05). Two sampling events conducted in June/July 2013 were above WQS of 10 ug/l for Total Aromatic Hydrocarbons (TAH). The days of elevated air temperatures and heaviest motorized use on the lake correlated with the highest levels of TAH concentrations.

Goal: Protect and maintain water quality 2012-2017

The goal is to maintain water quality and aquatic habitat through implementing stewardship and protection activities including education and outreach. The applicant will coordinate activities with other agencies and organizations working in the watershed to maintain state water quality standards for all uses focus on urban runoff and fecal coliform bacteria. The project will apply best management practices (BMPs) and existing regulatory means to reduce non-point source pollutants.

Action a: Conduct education and outreach 2015-2017

This action was on the FY16 grant solicitation and not funded. The applicant will develop and implement an education program in collaboration with local community members, local watershed environmental groups, tribal entities, resource agencies (e.g., Alaska Departments of Fish and Game, Natural Resources), and other stakeholders (e.g., City/Borough of Juneau, Auke Lake Homeowners Association). The program should encompass both clean boating practices (where applicable) and other best management practices. Clean boating activities suggested in the Clean Boating Stewardship Action should be augmented with information about actions landowners can take to protect and improve adjacent land uses and how adjacent land use activities affect water quality. Proposals should specify how and where information will be distributed. For example, proposals could suggest attending workshops, hosting tours, attending specific community meetings, and/or distributing information to property owners adjacent to the waterbody and riparian areas. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report must also include recommendations for future effective outreach activities. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Auke Bay, Auke Lake, Auke Creek, and Lake Creek). Contact the Gretchen Pikul (465-5023) for recent and ongoing watershed studies.

Black Bear Creek - Fiscal Year 2016

Description near Klawock, Prince of Wales Island; Southeast Alaska

Lat/Long 55.5500000 -132.8666666

Concern: Residues 2006-2017

Black Bear Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality (residues: debris, foam and scum) being the primary concern.

Goal: Determine the existing condition of the water body 2006-2017

Determine the existing condition of the waterbody.

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Carlanna Creek - Fiscal Year 2016

Description Ketchikan, Alaska; Southeast Alaska

Lat/Long 55.3586490 -131.6950680

Concern: Urbanization 2014-2017

Carlanna Creek is in the Data Collection and Monitoring Track with water quality and habitat being primary concerns. The waterbody is currently in the draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained. The waterbody has numerous outfalls, surface runoff, and stream bank and flow modifications.

Goal: Determine the existing condition of the water body 2014-2017

The goal is to develop a water quality assessment to determine the impacts of urban development and the associated pollution sources in the Ketchikan watersheds.

Action a: Collect Data 2015-2017

THIS IS A HIGH PRIORITY ACTION. This action was on the FY16 grant solicitation and not funded. Conduct the second year of water quality monitoring and optional biotic community assessment in Carlanna, Hoadley and Ketchikan Creeks. The second year of monitoring must be design to collect sufficient data to determine the health of these waters based on Alaska's Water Quality Standards. The data could also be used to support restoration options, if needed. The baseline assessment (2014 Ketchikan Creeks: Stormwater Quality Assessment) concluded that ammonia and fecal coliform concentrations exist above WQS, suggesting a wastewater source. Metal concentrations (cadmium, copper, zinc, and lead) in water and sediment were above WQS, and the acute and chronic toxicity screening levels in the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Table (SQuiRT). Data show a decreasing trend in stream health. Juvenile Coho salmon were found with atypical parr markings (cause undetermined).

The applicant must use the first year baseline study results (2014 Ketchikan Creeks: Stormwater Quality Assessment) and DEC's "listing methodologies" found in the Integrated Report, as applicable, to revise the Quality Assurance Project Plan (QAPP) and develop an updated sampling plan. Applications should propose the following schedule:

- Fall 2016/winter 2017 – revise QAPP and development of the sampling plan
- Spring, Summer, Fall 2017 – sampling
- Fall 2017/winter 2018 – prepare draft and final reports.

At minimum, the second year of monitoring must capture all of the components included in the first year of the baseline study with the following changes: no polyaromatic hydrocarbon sediment analytical tests are required, E.coli water analytical tests must be conducted, and the sediment sample collection must be designed to evaluate sediment concentrations with and without storm drain sediment basins. Sample locations must mirror the locations from the baseline assessment (total of 7-10 creek samples, 3-5 outfall samples and 3 background references) and capture all flow

regimes (spring flow, summer base flow and fall storm event).

The applicant may propose to include biotic assessments to document stream health and determine if parr marks on Coho salmon fry are abnormal or a normal variation; the applicant should present this budget separately from the water quality monitoring project budget.

The applicant must review, compile and enter the sampling data using a DEC-supplied template. DEC will provide guidance on how to use the templates for this project. The applicant must evaluate results against state water quality standards and NOAA sediment screening levels and prepare a draft report for DEC review and comment. The applicant will incorporate DEC comments and develop a final project report of findings and conclusions.

Proposals must also include informing the community about the project (both initial sampling plans and results) at public forums. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Carlanna, Hoadley and Ketchikan Creeks). This action is eligible for two-year funding. Contact Gretchen Pikul (465-5023) for more information.

Concern: Instream flow 2006-2016

Carlanna Creek is in the Data Collection and Monitoring Track. The creek does not have current streamflow data or instream flow protection, and is a high priority for ADF&G.

Goal: Protect and maintain instream flow and aquatic habitat 2006-2016

File reservation of water for one or more reaches to protect fish and wildlife habitat and/or to protect water quality.

Action b: Collect Data 2006-2016

Following USGS protocols, collect streamflow data to meet the requirements for reservation of water application to protect fish and wildlife habitat, migration, and propagation or for sanitary and water quality purposes.

Action c: Other 2006-2016

In consultation with ADF&G and DNR and/or DEC, document, compile, and summarize seasonal fish use and other pertinent biological information throughout the portion of creek cataloged as anadromous by ADF&G. Compile and summarize existing streamflow data and identify geographic pertinence to establish a hydrologically similar study reach or reaches. Use biological and streamflow information to support an application(s) for a reservation of water for one or more of the allowable purposes.

Duck Creek - Fiscal Year 2016

Description Juneau, Alaska; Southeast Alaska

Lat/Long 58.3592000 -134.5978000

Concern: Urbanization 2013-2017

Duck Creek is in the Waterbody Recovery Track with water quality and aquatic habitat being primary concerns. Duck Creek was placed on the 1994 Clean Water Act Section 303(d) list for dissolved gas (low dissolved oxygen (DO)), residues (debris), metals (iron), fecal coliform (FC) bacteria, and turbidity. Total Maximum Daily Loads (TMDLs) were completed for all pollutants (turbidity in 1999, FC bacteria and residues in 2000, and DO and iron in 2001), and Duck Creek moved to Category 4a in the 2002/2003 Integrated Report

Priority actions identified for this waterbody include: implementing the Duck Creek Management Plan and actions to address loadings identified in TMDLs; conducting a monitoring program to determine whether recovery actions are improving water quality; maintaining stream flow to provide fish rearing habitat in the stream, dilute pollutants, and prevent salt water intrusion; and working with the City /Borough of Juneau and other stakeholders to ensure adequate stormwater permitting practices and controls are implemented to restore water quality. According to the 2006 final monitoring report (2006 Watershed Protection and Recovery for Duck Creek), Duck Creek continued to suffer from low in-stream flow, except for during large precipitation events; DO levels continued to regularly fall below state standards for aquatic life; pH values were centered near and at times below the state water quality standard of 6.5 for aquatic life (during morning sampling events); and large amounts of iron floc were noted at all sites.

Stream cleanup events are conducted annually to address ongoing residues (debris) issues in high-density corridors. The construction of wetland habitat and stream channelization above Nancy Street have produced some improvements to fish and wildlife habitat, reduced turbidity and iron levels, and raised pH and DO in the downstream reach. However, ongoing land use, ordinance enforcement, and snow disposal on private lands adjacent to Duck Creek continue to impair water quality.

Goal: Meet water quality standards and remove impairment status 2013-2017

The goal is to meet water quality standards and remove impairment status. The goal can be reached by implementing the actions outlined in the four TMDLs to address debris, fecal coliform bacteria, turbidity, and dissolved oxygen (DO).

Action a: Implement watershed restoration plan or TMDL 2013-2017

Implement 1999 Duck Creek Watershed Recovery and Management Plan and 1999-2001 TMDL recommendations for the four impairments of debris, fecal coliform bacteria, turbidity, and dissolved oxygen (DO) and iron. To address most of the impairments (fecal coliform bacteria, turbidity, and DO and iron) the following actions can be accomplished: construct wetland, streamflow and streamside restoration projects to reduce the stormwater and urban runoff into the creek, increase creek base flow, and develop riparian greenbelts to serve as streamside buffers; use best management practices (BMPs); and monitor/revise land development policy.

Specific achievements can also address: debris - continue community stream cleanup efforts; fecal coliform bacteria - support local efforts on pet waste bag receptacles; and DO and iron - install aeration piping in groundwater discharge areas. Detailed action objectives are outlined in the Duck Creek Watershed Management Plan and the Duck Creek TMDLs.

Granite Creek - Fiscal Year 2016

Description 3 miles NW Sitka, Alaska; Southeast Alaska

Lat/Long 57.1013370 -135.3998360

Concern: Instream flow 2016-2017

No instream flow protection exists, streamflow data needed.

Goal: Protect and maintain instream flow and aquatic habitat 2016-2017**Action a: Collect Data 2016-2017**

In consultation with ADF&G and/or DNR, follow USGS methods to collect streamflow data that will meet the requirements for reservation of water application to protect fish and wildlife habitat. Five years of data are needed. Establish appropriate site(s) and elevation reference marks relative to water surface, and use electronic sensors and data loggers to record continuous water stage. Measure discharge accurately at the range of flows during all seasons for developing a stage-discharge relationship (rating) and an annual record of mean daily flows.

Gunnuk Creek - Fiscal Year 2016

Description Kake, Alaska; Southeast Alaska

Lat/Long 56.9694444 -133.9319444

Concern: Sediment 2006-2017

Gunnuk Creek is in the Data Collection and Monitoring Track with water quality (siltation/sedimentation) being the primary concern. The water is currently listed in the Draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained.

Goal: Determine the existing condition of the water body 2006-2017

Determine the existing condition of the waterbody.

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Hatchery Creek - Fiscal Year 2016

Description Prince of Wales Island, Southeast Alaska

Lat/Long 55.9411111 -132.9708333

Concern: Residues 2006-2017

Hatchery Creek is in the Data Collection and Monitoring Track with water quality (residues: debris, foam and scum) being the primary concern. The water is currently listed in the Draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained.

Goal: Determine the existing condition of the water body 2006-2017

Determine the existing condition of the waterbody.

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Hoadley Creek - Fiscal Year 2016

Description Ketchikan, Alaska; Southeast Alaska

Lat/Long 55.3535740 -131.6880080

Concern: Urbanization 2014-2017

Hoadley Creek is in the Data Collection and Monitoring Track with water quality and habitat being primary concerns. The waterbody is currently in the draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained. The waterbody has numerous outfalls, surface runoff, and stream bank and flow modifications.

Goal: Determine the existing condition of the water body 2014-2017

The goal is to develop a water quality assessment to determine the impacts of urban development and the associated pollution sources in the Ketchikan watersheds.

Action a: Collect Data 2015-2017

THIS IS A HIGH PRIORITY ACTION. This action was on the FY16 grant solicitation and not funded. Conduct the second year of water quality monitoring and optional biotic community assessment in Carlanna, Hoadley and Ketchikan Creeks. The second year of monitoring must be design to collect sufficient data to determine the health of these waters based on Alaska's Water Quality Standards. The data could also be used to support restoration options, if needed. The baseline assessment (2014 Ketchikan Creeks: Stormwater Quality Assessment) concluded that ammonia and fecal coliform concentrations exist above WQS, suggesting a wastewater source. Metal concentrations (cadmium, copper, zinc, and lead) in water and sediment were above WQS, and the acute and chronic toxicity screening levels in the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Table (SQuiRT). Data show a decreasing trend in stream health. Juvenile Coho salmon were found with atypical parr markings (cause undetermined). The applicant must use the first year baseline study results (2014 Ketchikan Creeks: Stormwater Quality Assessment) and DEC's "listing methodologies" found in the Integrated Report, as applicable, to revise the Quality Assurance Project Plan (QAPP) and develop an updated sampling plan. Applications should propose the following schedule: • Fall 2016/winter 2017 – revise QAPP and development of the sampling plan • Spring, Summer, Fall 2017 – sampling • Fall 2017/winter 2018 – prepare draft and final reports. At minimum, the second year of monitoring must capture all of the components included in the first year of the baseline study with the following changes: no polyaromatic hydrocarbon sediment analytical tests are required, E.coli water analytical tests must be conducted, and the sediment sample collection must be designed to evaluate sediment concentrations with and without storm drain sediment basins. Sample locations must mirror the locations from the baseline assessment (total of 7-10 creek samples, 3-5 outfall samples and 3 background references) and capture all flow regimes (spring flow, summer base flow and fall storm event). The applicant may propose to include biotic assessments to document stream health and determine if parr marks on

Coho salmon fry are abnormal or a normal variation; the applicant should present this budget separately from the water quality monitoring project budget. The applicant must review, compile and enter the sampling data using a DEC-supplied template. DEC will provide guidance on how to use the templates for this project. The applicant must evaluate results against state water quality standards and NOAA sediment screening levels and prepare a draft report for DEC review and comment. The applicant will incorporate DEC comments and develop a final project report of findings and conclusions. Proposals must also include informing the community about the project (both initial sampling plans and results) at public forums. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Carlanna, Hoadley and Ketchikan Creeks). This action is eligible for two-year funding. Contact Gretchen Pikul (465-5023) for more information.

Jordan Creek - Fiscal Year 2016

Description Juneau, Alaska; Southeast Alaska

Lat/Long 58.3569444 -134.5694444

Concern: Urbanization 2006-2017

Jordan Creek is in the Waterbody Recovery Track with water quality and aquatic habitat being primary concerns. Jordan Creek was placed on the 1998 Clean Water Act Section 303(d) list for debris, dissolved gas (low dissolved oxygen (DO)), and sediment. The creek had been one of the most productive small streams in Juneau for coho salmon, but has experienced a rapid decline in recent years. Excess sediment in the creek has led to poor survival of salmon eggs. The creek is largely spring fed and cannot transport large volumes of sediment like higher gradient systems. The headwaters of the stream are manipulated with ditches replacing more productive habitat and ponds that have been filled. Iron floc has become any issue. There is substantial development along the stream corridor, and the lower section of the creek regularly goes dry. Total Maximum Daily Loads (TMDLs) were complete for residues (2005) and for dissolved gas and sediment (2009) which resulted in Jordan Creek being removed from the Section 303(d) list and moved to Category 4a. Past efforts include water quality sampling (sediment, pH, DO, and turbidity) in 2007/2008, yearly community cleanup events, and construction of stormwater best management practices (BMPs) demonstration sites (2009 and 2015).

Goal: Implement actions specified in TMDL 2006-2017

The goal is to meet water quality standards and remove impairment status. The goal can be reached by implementing the actions outlined in the Watershed Recovery and Management Plans and the two TMDLs to address sediment and dissolved oxygen (DO). The DO is associated with low interstitial DO concentrations found in the streambed, not within the water column. Studies conclude that low interstitial DO concentrations are caused by an accumulation of fine sediment in stream gravels.

Action a: Implement watershed restoration plan or TMDL 2015-2017

Implement Watershed Recovery and Management Plans and TMDL recommendations for the impairments of sediment and DO. Three objectives were identified to address these impairments: prevent and reduce erosion; maintain and improve riparian areas; and improve snow removal and storage practices. Each objective has detailed actions and is outlined in the 2009 Jordan Creek TMDL and Watershed Recovery and Management Plans.

Action b: Implement BMPs or erosion control measures 2015-2017

THIS IS A HIGH PRIORITY ACTION, and is a funded action under the FY16 grant. This rain garden and snow barrier fence project addresses an ACWA Restoration priority. In collaboration with the Central Council of Tlingit and Haida, the project will design and build a rain-garden and bioswale to intercept run-off from the airport shopping center south of the Glacier Highway. The project will also construct a barrier fence along the banks of Jordan Creek to prevent contaminated snow from being pushed into the creek. Finally, the project will educate the local community including the adjacent landowners on the benefits of these types of projects.

Ketchikan Creek - Fiscal Year 2016

Description Southeast, Ketchikan

Lat/Long 55.3416666 -131.6388888

Concern: Urbanization 2014-2017

Ketchikan Creek is in the Data Collection and Monitoring Track with water quality and habitat being primary concerns. The waterbody is currently in the draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained. The waterbody has numerous outfalls, surface runoff, and stream bank and flow modifications.

Goal: Determine the existing condition of the water body 2014-2017

The goal is to develop a water quality assessment to determine the impacts of urban development and the associated pollution sources in the Ketchikan watersheds.

Action a: Collect Data 2015-2017

THIS IS A HIGH PRIORITY ACTION. This action was on the FY16 grant solicitation and not funded. Conduct the second year of water quality monitoring and optional biotic community assessment in Carlanna, Hoadley and Ketchikan Creeks. The second year of monitoring must be design to collect sufficient data to determine the health of these waters based on Alaska's Water Quality Standards. The data could also be used to support restoration options, if needed. The baseline assessment (2014 Ketchikan Creeks: Stormwater Quality Assessment) concluded that ammonia and fecal coliform concentrations exist above WQS, suggesting a wastewater source. Metal concentrations (cadmium, copper, zinc, and lead) in water and sediment were above WQS, and the acute and chronic toxicity screening levels in the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Table (SQuiRT). Data show a decreasing trend in stream health. Juvenile Coho salmon were found with atypical parr markings (cause undetermined). The applicant must use the first year baseline study results (2014 Ketchikan Creeks: Stormwater Quality Assessment) and DEC's "listing methodologies" found in the Integrated Report, as applicable, to revise the Quality Assurance Project Plan (QAPP) and develop an updated sampling plan. Applications should propose the following schedule: • Fall 2016/winter 2017 – revise QAPP and development of the sampling plan • Spring, Summer, Fall 2017 – sampling • Fall 2017/winter 2018 – prepare draft and final reports. At minimum, the second year of monitoring must capture all of the components included in the first year of the baseline study with the following changes: no polycyclic aromatic hydrocarbon sediment analytical tests are required, E.coli water analytical tests must be conducted, and the sediment sample collection must be designed to evaluate sediment concentrations with and without storm drain sediment basins. Sample locations must mirror the locations from the baseline assessment (total of 7-10 creek samples, 3-5 outfall samples and 3 background references) and capture all flow regimes (spring flow, summer base flow and fall storm event). The applicant may propose to include biotic assessments to document stream health and determine if parr marks on Coho salmon fry are abnormal or a normal variation; the applicant should

present this budget separately from the water quality monitoring project budget. The applicant must review, compile and enter the sampling data using a DEC-supplied template. DEC will provide guidance on how to use the templates for this project. The applicant must evaluate results against state water quality standards and NOAA sediment screening levels and prepare a draft report for DEC review and comment. The applicant will incorporate DEC comments and develop a final project report of findings and conclusions. Proposals must also include informing the community about the project (both initial sampling plans and results) at public forums. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Carlanna, Hoadley and Ketchikan Creeks). This action is eligible for two-year funding. Contact Gretchen Pikul (465-5023) for more information.

Lake Creek - Fiscal Year 2016

Description Tributary to Auke Lake, Juneau

Lat/Long 58.3910970 -134.6335730

Concern: Habitat degradation 2006-2016

Lake Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality (nutrients, petroleum hydrocarbons, and other habitat alterations) being the primary concern and aquatic habitat as a secondary concern. Threats to the creek include petroleum hydrocarbons and other pollutants associated with road runoff, on-site septic systems, and aquatic habitat alteration.

Goal: Protect and maintain water quality 2006-2016

The goal is to maintain water quality and aquatic habitat through implementing stewardship and protection activities including education and outreach. The applicant will coordinate activities with other agencies and organizations working in the watershed to maintain state water quality standards for all uses focus on urban runoff, fecal coliform bacteria, temperature, and conductivity. The project will apply best management practices (BMPs) and existing regulatory means to reduce non-point source pollutants.

Action a: Conduct education and outreach 2006-2016

This action was on the FY16 grant solicitation and not funded. Develop and implement an education program in collaboration with local community members, local watershed environmental groups, tribal entities, resource agencies (e.g., Alaska Departments of Fish and Game, Natural Resources), and other stakeholders (e.g., City/Borough of Juneau, Auke Lake Homeowners Association). The program should encompass both clean boating practices (where applicable) and other best management practices. Clean boating activities suggested in the Clean Boating Stewardship Action should be augmented with information about actions landowners can take to protect and improve adjacent land uses and how adjacent land use activities effect water quality. Proposals should specify how and where information will be distributed. For example, proposals could suggest attending workshops, hosting tours, attending specific community meetings, and/or distributing information to property owners adjacent to the waterbody and riparian areas. The educational campaign must demonstrate measureable results such as the actual number of people reached and must include a final project report that describes the outreach activities, public response and an evaluation of success including the types of follow up activities with people reached. The report should also include recommendations for future effective outreach activities. Several waterbodies are included on this solicitation and the applicant should submit one proposal to address this action for all of the waterbodies (Auke Bay, Auke Lake, Auke Creek, and Lake Creek). Contact the Gretchen Pikul (465-5023) for recent and ongoing watershed studies.

Lemon Creek - Fiscal Year 2016**Description** Juneau**Lat/Long** 58.3511000 -134.5072000**Concern: Turbidity 2012-2017**

Lemon Creek is in the Waterbody Recovery Track, with water quality and aquatic habitat being primary concerns. Lemon Creek was placed on the 1990 Section 303(d) list for turbidity, sediment, and concerns about habitat modification. A waterbody recovery plan, that included a TMDL, was approved in 1995, and Lemon Creek moved to Category 4a in 1996. Waterbody recovery plan implementation began during fall 1995. The University of Alaska Southeast conducted a sediment assessment. This assessment defined concentrations of natural nonpoint source sediment within Lemon Creek, where active glacial processes contribute to sediment problems. A paired watershed study was conducted from May 2002 through June 2003 to determine the roles of glacier processes on watershed sediment discharge. This study concluded that in systems substantially influenced by glacier and mass wasting processes, the traditional TSS-Q (total suspended sediment-stream discharge) relationship is not particularly meaningful because some of the most pronounced sediment events are associated with processes that are not well correlated with stream discharge. Priority actions for this water include implementing control actions and monitoring as recommended in the TMDL document.

Goal: Meet water quality standards and remove impairment status 2012-2017

The goal is to meet water quality standards and remove impairment status. The goal can be reached by implementing the actions outlined in the 2007 Watershed Recovery and Management Plan and the 1995 TMDL to address sediment and turbidity with consideration of habitat modification.

Action a: Implement watershed restoration plan or TMDL 2015-2017

Implement Watershed Recovery and Management Plan and TMDL recommendations for the impairments of sediment and turbidity. Four objectives were identified to address these impairments. 1. Verify that upland best management practices (BMPs) specified in the TMDL are being implemented. 2. Provide sufficient data to monitor the effectiveness of management controls employed on the creek by measuring changes in the turbidity/total suspended solids (TSS) relationship, and determine if WQS are being met. 3. Provide sufficient data to more accurately calculate source load determinations for the creek with specific emphasis on flow and the relationship of turbidity and TSS to account for seasonal variations and event related extremes. 4. Provide sufficient data to more accurately calculate the loading capacity of the creek with specific emphasis on turbidity, TSS and flow. Each objective has detailed actions, and are outlined in the 2007 Lemon Creek Watershed Recovery and Management Plan and the 1995 Lemon Creek TMDL.

Montana Creek (Juneau) - Fiscal Year 2016**Description** Juneau**Lat/Long** 58.3808030 -134.5978300**Concern: Urbanization 2006-2016**

Montana Creek is in the Protect and Maintain Waterbodies at Risk Track with water quality being the primary concern. Main concerns include: access and trail maintenance, illegal trails, stream health, ATV usage, fishing and hiking activities, mining, degradation of state land, unmapped/undescribed fish habitat, flood management, illegal debris/refuse dumping, lack of enforcement for improper use of motorized vehicles, and invasive species. Activities in this area are currently being monitored via cameras by City and Borough of Juneau (CBJ). CBJ installed a gate near the rifle range during the summer of 2013; the gate is open the same hours that the rifle range. In a July 2014 Interagency Review Team (IRT) meeting, 128 acres of Montana Creek wetlands was purchased by SE Alaska Land Trust as a mitigation project, and donated to CBJ with a conservation easement.

Goal: Protect and maintain water quality 2006-2016

The goal is to develop a water quality assessment to determine the impacts of urban development. In an effort to maintain water quality and aquatic habitat, the agencies should continue to collaborate on implementing stewardship and protection activities including education and outreach.

Action a: Collect Data 2006-2016

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Pullen Creek - Fiscal Year 2016**Description** Skagway, Alaska**Lat/Long** 59.4511180 -135.3189470**Concern: Toxic and Other Deleterious Organic and Inorganic Substances
2012-2017**

Pullen Creek is in the Waterbody Recovery Track with water quality and aquatic habitat being primary concerns. Pullen Creek has been on the Section 303(d) list since 1990 for non-attainment of the toxic and other deleterious organic and inorganic substances standard for metals. The lower mile of Pullen Creek was previously listed with the Skagway Harbor Section 303(d) listing, but was segmented out into its own listing in the 2006 Integrated Report. Baseline water quality monitoring and a waterbody recovery plan for Pullen Creek was completed in 2006. Assessment results found no elevated levels of toxics in the water column. Elevated levels of lead, zinc, and barium were found in stream bottom sediments and adjoining banks. Elevated levels of metals were also found near railroad transport areas where ore was transported in the past. Several restoration projects which were completed in 2009. The TMDL was completed in 2010. In 2012, the Taiya Inlet Watershed Council completed the Stormwater Best Management Practices: Protecting Pullen Creek, an Urban Stream; several BMPs noted in this report were completed in 2013. A rain garden at 11th and Broadway was complete in 2015.

**Goal: Meet water quality standards and remove impairment status
2012-2017**

Protect and maintain water quality to meet all designated uses and remove impairment status. All new and existing development in the watershed should be managed according to the TMDL, waterbody assessment, the best management practices.

Action a: Implement BMPs or erosion control measures 2014-2017

Continue to manage and implement the TMDL, waterbody assessment, and best management practices along Pullen Creek to meet all designated uses and remove the impairment status.

Sawmill Creek (Sitka) - Fiscal Year 2016**Description** SE of Sitka, flows into Sawmill Cove**Lat/Long** 57.0482940 -135.2285240**Concern: Sediment 2006-2017**

Sawmill Creek (Sitka) is in the Data Collection and Monitoring Track with water quality (flow alterations, siltation/sedimentation, and temperature) being the primary concern. The water is currently listed in the Draft 2012 Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained. This 2008 nomination was based on the City and Borough of Sitka Blue Lake hydroelectric project, located approximately 5 miles southeast of Sitka and impounds the waters of Sawmill Creek, formerly the Medvetche River.

Goal: Determine the existing condition of the water body 2006-2017

The goal is to determine the existing condition of the waterbody.

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Situk River - Fiscal Year 2016

Description Yakutat, Alaska; Southeast Alaska

Lat/Long 59.4416666 -139.5665790

Concern: Toxic and Other Deleterious Organic and Inorganic Substances 2006-2017

Situk River is in the Data Collection and Monitoring Track with water quality (metals, low dissolved oxygen, and temperature) being the primary concern. The water is currently listed in the 2012 Draft Integrated Report in Category 3 - data or information is insufficient to determine whether the Water Quality Standards (WQS) for any designated uses are attained.

Goal: Determine the existing condition of the water body 2006-2017

The goal is to determine the existing condition of the waterbody.

Action a: Collect Data 2006-2017

Prepare and implement a sampling plan to evaluate the current condition of the waterbody with respect to Alaska Water Quality Standards.

Vanderbilt Creek - Fiscal Year 2016

Description Juneau, Alaska; Southeast Alaska

Lat/Long 58.3501000 -134.4914000

Concern: Urbanization 2013-2017

Vanderbilt Creek is in the Waterbody Recovery Track with water quality and aquatic habitat being primary concerns. Threats to the stream include sedimentation and turbidity, low dissolved oxygen, and nutrients associated with land use. The water was placed on the 303(d) list of impaired waterbodies in 1990 and a Total Maximum Daily Load (TMDL) for Sediment and Turbidity with consideration of Debris and Habitat Modification was completed in 1996. A thorough survey and routine periodic updates with monitoring is needed. Other concerns include barriers to fish passage, bank erosion and riparian damage. In a July 2014 Interagency Review Team (IRT) meeting, SE Alaska Land Trust proposed pursuing a 37-acre parcel mitigation project purchase in Vanderbilt Creek headwaters. If accomplished, this parcel would be donated to City/Borough of Juneau (CBJ) in exchange for a conservation easement on the parcel and on an abutting CBJ parcel of 21 acres.

Goal: Implement actions specified in TMDL 2013-2017

The goal is to meet water quality standards and remove impairment status. The goal can be reached by implementing the actions outlined in the Watershed Recovery and Management Plans and the 1995 TMDL to address sediment and turbidity with consideration of debris and habitat modification.

Action a: Implement BMPs or erosion control measures 2013-2017

Implement Watershed Recovery and Management Plans and TMDL recommendations for the impairments of sediment and turbidity. Four objectives were identified to address these impairments. 1. Verify that upland best management practices (BMPs) specified in the TMDL are being implemented. 2. Provide sufficient data to monitor the effectiveness of management controls employed on the creek by measuring changes in the turbidity/total suspended solids (TSS) relationship, and percent fines in spawning gravel, and determine if WQS are being met. 3. Provide sufficient data to more accurately calculate source load determinations for the creek with specific emphasis on flow and the relationship of turbidity, TSS and percent fines to account for seasonal variations and event related extremes. 4. Provide sufficient data to more accurately calculate the loading capacity of the creek with specific emphasis on turbidity, TSS, percent fines in spawning gravel, and flow. Detailed action objectives are outlined in the 1995 Vanderbilt Creek TMDL and the Watershed Management Plans.