Alaska Nonpoint Source Water Pollution Prevention and Restoration Strategy

State Fiscal Years 2021-2025

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Acronyms

ACOE	Army Corps of Engineers
ACMP	Alaska Coastal Management Program
ACWA	Alaska Clean Water Actions
ADFG	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation and Public Facilities
APDES	Alaska Pollutant Discharge Elimination System
BLM	Bureau of Land Management
BMP	Best Management Practice
CWA	Clean Water Act
CWSRF	Clean Water State Revolving Fund
DCCED	Alaska Department of Commerce, Community, and Economic Development
DEC	Alaska Department of Environmental Conservation
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GRTS	Grant Reporting and Tracking System (EPA)
MS4	Municpal Separate Storm Sewer System permit
MSGP	Multisector Stormwater General Permit
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
NRCS	Natural Resource Conservation Service, USDA
NWQI	National Water Quality Initiative
PPA	Performance Partnership Agreement
PPG	Performance Partnership Grant
SWCD	Soil and Water Conservation District
TCD	Tribal Conservation District
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
USNPS	United States National Park Service
WQS	Water Quality Standards
WQSAR	Water Quality Standards, Assessment, and Restoration Program

1 INTRODUCTION

Alaska's *Nonpoint Source Water Pollution Prevention and Restoration (NPS) Strategy* describes Alaska's statewide nonpoint source (NPS) program protecting Alaska's natural resources from polluted runoff. The NPS Strategy specifically addresses NPS pollution, as opposed to point source pollution which comes from point source (end of pipe) discharges and is regulated under a state or federal permit. This document describes Alaska's NPS Strategy, including how the programmatic elements required by the US Environmental Protection Agency (EPA) are met[1].

The purpose of Alaska's NPS Strategy is to develop dynamic programs and progressive adaptive management actions to prevent NPS pollutants from entering surface water. Alaska's NPS Strategy balances protecting existing unpolluted, pristine and at-risk waters while also addressing impacted areas. The Strategy seeks to improve the capacity of local governments, tribes, and other community partners to manage NPS pollution combined with state prevention, restoration, and stewardship efforts.

The EPA requires states to have an updated NPS Management Plan (i.e. Strategy) in place to qualify for federal Section (§) 319 grant awards under the Clean Water Act (CWA). Funding appropriated under §319 can be used to implement state NPS programs including, as appropriate, non-regulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects to achieve implementation of best management practices (BPMs) and to meet water quality goals. In 2013, EPA issued §319 program guidelines describing key components to be included in an effective state NPS management program. Appendix F summarizes how these key elements have been incorporated into Alaska's Plan.

This Strategy is reviewed annually and revised every five years. The revision is not necessarily a comprehensive update unless significant program changes warrant a complete revision; instead, the update targets the parts of the program that are out-of-date. At a minimum, this includes updating annual milestones and the schedule for program implementation, so that they remain current and oriented toward achieving water quality goals.

As Alaska's lead water quality agency, the Department of Environmental Conservation (DEC) Division of Water is responsible for developing and implementing water quality protection and improvement programs required under state and federal laws. The Alaska legislature transferred authority to DEC in State Statute Title 46 to "conserve, protect and improve its [Alaska's] natural resources and environment and control water, land and air pollution in order to enhance the health, safety and welfare of the people of the state and their overall economic health and social wellbeing." DEC manages both regulatory and non-regulatory programs and collaborates with local, state, and federal agencies to protect and improve Alaska's water quality. Within DEC, the Division of Water, Nonpoint Source Section oversees planning and implementation of the NPS Strategy.

1.1 What is Nonpoint Source Pollution?

The leading causes of pollution in Alaska, and in the United States overall, derive from nonpoint sources. Unlike pollution from point sources, such as industrial and sewage treatment plants, NPS

[1] Nonpoint Source Program and Grants Guidelines for States and Territories, U.S. EPA, 2013

pollution comes from many sources. It is caused by rainfall or snowmelt moving over and through the ground and picking up natural and human-made pollutants, such as fertilizer, road salt, sediment, oil and bacteria, along the way. Eventually these contaminants end up in waterbodies.

Alaska's primary and secondary nonpoint source pollution categories and sources as defined in EPA's Grants Reporting and Tracking System (GRTS) are listed in Table 1-1. DEC does not have the resources to focus on all of these categories every year but prioritizes based on water quality outcomes, project readiness, and partner engagement, among other things (see Appendix B). Alaska's most recent Integrated Monitoring and Assessment Report (Integrated Report) lists lakes, rivers, streams, and nearshore marine waters impaired by point and/or NPS pollution sources. The causes of impairment are variable and site specific.

Table 1-1 Alaska's Nonpoint Source Pollution Categories

Primary Nonpoint Source Category	Secondary Nonpoint Source Categories
Construction	Highways/Roads/Bridges; Land Development or Redevelopment
Historical Pollutants	Contaminated Sediments
Hydromodification	Removal of Riparian Vegetation; Streambank or Shoreline Modification/Destabilization; Other Habitat Modifications
Land Disposal/Storage/Treatment	On-site/Decentralized Wastewater Treatment; Wastewater
Marinas and Recreational Boating	Boat maintenance; Fueling; Other On-Vessel Discharges; Pumpouts; Sanitary On-Vessel Discharges; Shoreline Erosion
Resource Extraction	Dredge mining; Mill Tailings; Mine Tailings; Placer Mining; Sand/Gravel Mining; Surface Mining
Silviculture	Harvesting/Residue Management; Road Construction/Maintenance
Urban Runoff/Stormwater	Commercial; Highway/Road/Bridge Runoff; Post-Development Erosion & Sedimentation; Residential; Salt Storage Sites

In Alaska, NPS pollution is primarily addressed via application of voluntary best management practices. The approaches and resources described in this Strategy are the state's primary vehicle for engaging Alaska's citizens and fostering stewardship of our water resources. Although DEC is the lead agency for the state's NPS Program, many other agencies, entities, and individuals have a part in the implementation of this Strategy. Through communication, collaboration, and shared resources, Alaskans work together to effectively protect and restore water quality from the harmful effects of NPS pollution.

2 PROGRAM GOAL AND OBJECTIVES

2.1 Long-Term Goal

The overall long-term goal of Alaska's NPS Strategy is to:

Protect and restore Alaska's water quality from the harmful effects of nonpoint source pollution.

Alaska's generally pristine waters are a distinguishing characteristic that makes Alaska unique among the states. Clean water is critical to Alaskans' way of life and health, whether it is for subsistence, recreational, commercial, domestic, or industrial activities. Maintaining good water quality can only be achieved when all sources of pollution in a watershed are taken into consideration and resources are focused on the highest priorities so that people work together to prevent pollution and achieve clean water goals. Hence, maintaining healthy watersheds is a key element of Alaska's NPS Program.

Alaska's Water Quality Standards (WQS) are found in the Alaska Administrative Code, Title 18, Chapter 70 (18 AAC 70). The WQS define the water quality goals of a waterbody and include designated uses, criteria to protect those uses, and antidegradation requirements. Alaska's WQS serve as the basis for all NPS Program water quality decisions and implementation goals.

Results from the Alaska Monitoring and Assessment Program (AKMAP) confirm the pristine condition of most waterbodies surveyed in remote areas[2]. However, NPS pollution impacts from stormwater runoff are observed in the five major urban hubs (Anchorage, Fairbanks, Juneau, Kenai/Soldotna, and Palmer/Wasilla), and other areas where increasing resource extraction occurs. Alaska's most common pollutants are: sediment, pathogens, petroleum hydrocarbons, and toxic and other deleterious substances[3].

The five primary objectives of Alaska's NPS Strategy are:

1. Protect Healthy Waters and Restore Impaired Waters
2. Monitor Waters for Nonpoint Source Pollution and Effectiveness of Best Management Practices
3. Develop and Strengthen Partnerships
4. Improve Water Quality through Increased Stewardship and Public Involvement
5. Share Information (Reporting and Accountability)

Figure 2-2 shows the relationship between Alaska's Strategy's overarching goal and primary objectives. Each objective is described in detail below. Measurable outcomes (milestones and deliverables) for each objective are described in Appendix A. Objectives may be occurring simultaneously on the same waterbody.

[2] http://dec.alaska.gov/water/water-quality/monitoring/surveys/

[3] http://dec.alaska.gov/water/water-quality/integrated-report/

Figure 2-1 Alaska's NPS program goal and primary objectives

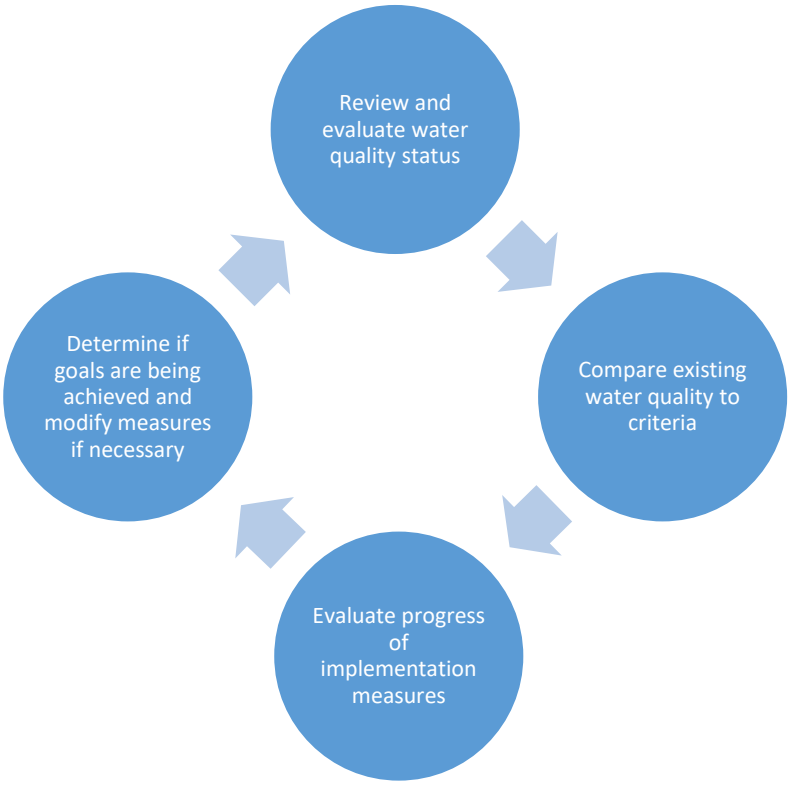

Figure 2-2 Alaska's adaptive management feedback loop

Alaska uses an adaptive management approach in implementing actions designed to improve water quality. Adaptive management is an approach where monitoring and source controls are used to provide more information for development or adjustment of milestones. This process recognizes that water quality monitoring data and knowledge of watershed dynamics change as more information or data become available. An adaptive management strategy seeks to collect additional monitoring or waterbody data to better understand how systems react to best management practices (BMPs) and reduced pollutant loading. Information from an adaptive management process can then be used to refine future actions (Figure 2-2).

2.2 Statewide Stewardship and Waterbody Specific Approaches

Nonpoint source pollution often is not adequately addressed by existing laws. As such, efforts to encourage more widespread voluntary use of best management practices (BMPs) are a vital component of Alaska's statewide NPS Strategy. Non-regulatory programs often involve providing technical assistance, BMP training, and outreach to municipalities, individuals, businesses, and non-governmental organizations. The NPS Strategy also utilizes demonstration and pilot projects to promote the use of practices to prevent or reduce NPS pollution through examples that could be used in other areas of the state as well.

In addition to statewide stewardship programs, Alaska also uses a targeted watershed approach to restore and protect waters. Through a priority-setting process, DEC identifies watersheds that are most in need of improved NPS control efforts and where there is considerable opportunity to make substantial progress restoring or protecting a waterbody (see Appendix B for more information). The Alaska Clean Water Actions (ACWA) program, a collaboration between DEC and the Alaska Departments of Fish and Game (ADFG) and Natural Resources (ADNR), works to set priorities for water quality, habitat, and quantity issues. The ACWA program also includes a biennial grant program which funds implementation of projects statewide to protect and improve water quality. Figure 2-3 illustrates Alaska's approaches for addressing NPS pollution.

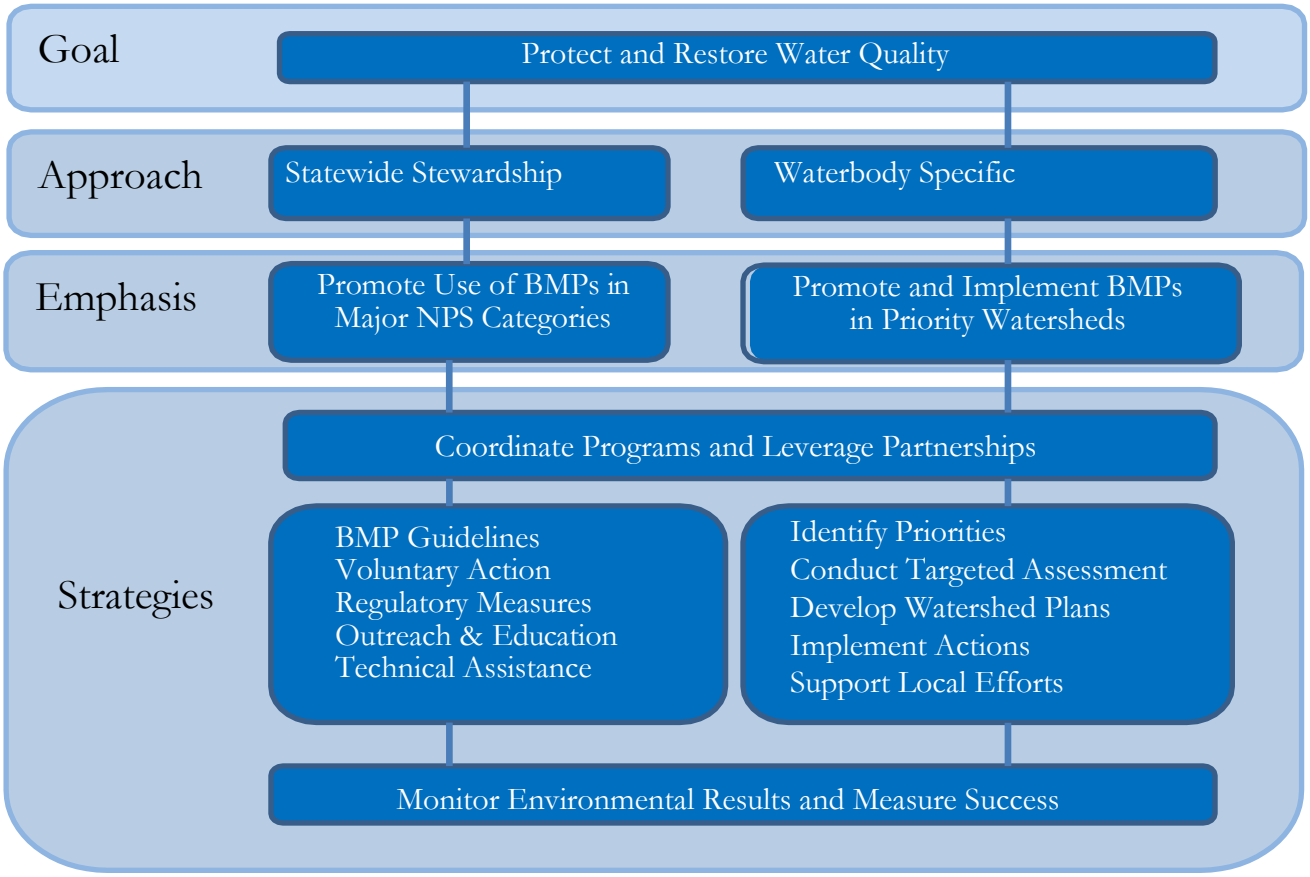

Figure 2-3 Statewide and waterbody specific approaches to address NPS pollution

2.3 Protect Healthy Waters and Restore Impaired Waters

This Strategy emphasizes watershed-based planning as a means of coordinating watershed protection and restoration efforts; fostering watershed associations; and encouraging partnership among agencies, nongovernmental organizations, and the public. DEC encourages watershed planning processes to be stakeholder driven. The outcomes of watershed planning efforts include on-the-ground actions for protection and restoration. Depending on watershed issues, planning efforts may produce different types of watershed plans including Restoration and/or Protection Plans, EPA 9-Element Watershed Plans, TMDLs or Alternatives as described in EPA's NPS Program Guidance[4]. (Partnerships are described more in Section 2.5 *Develop and Strengthen Partnerships*).

Protection of water quality is a critical component of the Strategy that, if effective, will prevent new water quality problems from developing in Alaska. DEC staff will assist other agencies and organizations, and the general public, with developing and implementing protection actions as part of planning efforts where protection of water quality is an important consideration. Examples of protection activities include: education and outreach activities focused on emerging water quality

[4] Nonpoint Source Program and Grants Guidelines for States and Territories, Appendices, U.S. EPA, 2013

issues; development of regulations (such as set-back ordinances), and participation in watershed planning efforts to address community water quality concerns such as stormwater runoff.

Given the relatively high proportion of unimpaired waters to impaired waters in Alaska, DEC prioritizes and balances the use of available NPS resources to protect and restore lakes, streams, and nearshore marine waters. Prevention of water pollution is a daunting challenge for watersheds facing increased development pressures. Since prevention is far more feasible and less expensive than restoration of an already impaired waterbody, DEC allocates significant program resources for projects that help communities protect waters considered threatened or most at risk.

DEC develops and implements actions in Total Maximum Daily Loads (TMDLs) as a means of restoring impaired waters. The fundamental goal of a TMDL assessment is to establish water pollution control targets and recommend actions needed for planning and implementation work that bring the water back into compliance with applicable water quality criteria. Communities, agencies, and individuals are invited to provide input during the development of TMDLs. DEC staff work with partners to eliminate or reduce NPS pollution sources as well as with permitting and compliance staff to ensure that point source discharges meet established loads. They also provide technical assistance to assist communities to further scope out and identify water quality concerns and find solutions to address these concerns.

DEC also applies combined protection and restoration plans that include actions for restoring degraded or at-risk waters as well as actions for protecting healthy waters. Actions identified in these non-TMDL planning efforts will be implemented using a variety of funding sources (see Appendix C), in high priority watersheds.

2.4 Monitor Waters for Nonpoint Source Pollution and BMP Effectiveness

Alaska has more than 40% of the nation's surface water resources, most of which are pristine. DEC is responsible for overall assessment of the State's waters. Although the cost of monitoring is expensive logistically due to Alaska's size and remoteness, DEC monitors the water quality conditions of a subset of priority waterbodies including rivers, lakes, and nearshore marine waters to determine if they meet designated uses for recreation, swimming, fishing, shellfish harvesting, and drinking water supply, and if the waters support healthy habitats for fish and wildlife. Appendix B describes Alaska's process for prioritizing waters for monitoring.

With support from partners, DEC biennially produces the Integrated Water Monitoring and Assessment Report[5] (Integrated Report) that fulfills Clean Water Act reporting requirements under Section 305(b), Section 303(d) (list of impaired waters) and Section 314 (Clean Lakes Report). All waters with data that meets minimum criteria will be assessed against the most recent version of Alaska's Consolidated Listing and Assessment Methodology (CALM). The Integrated Report provides a summary of the current status of the State's waters and identifies impaired waters that are not meeting one or more of their designated uses. The Integrated Report lists waters in one of five categories of attainment (Figure 2-4).

DEC places degraded waters (i.e. not attaining water quality standards needed to support designated uses) on the list of impaired waters, or the CWA § 303(d) list. A TMDL is required for nonattainment

[5] http://dec.alaska.gov/water/water-quality/integrated-report/

waters under federal water quality laws to determine the reductions needed from point and nonpoint pollution sources to meet water quality standards (see Section 2.3 *Protect Healthy Waters and Restore Impaired Waters*).

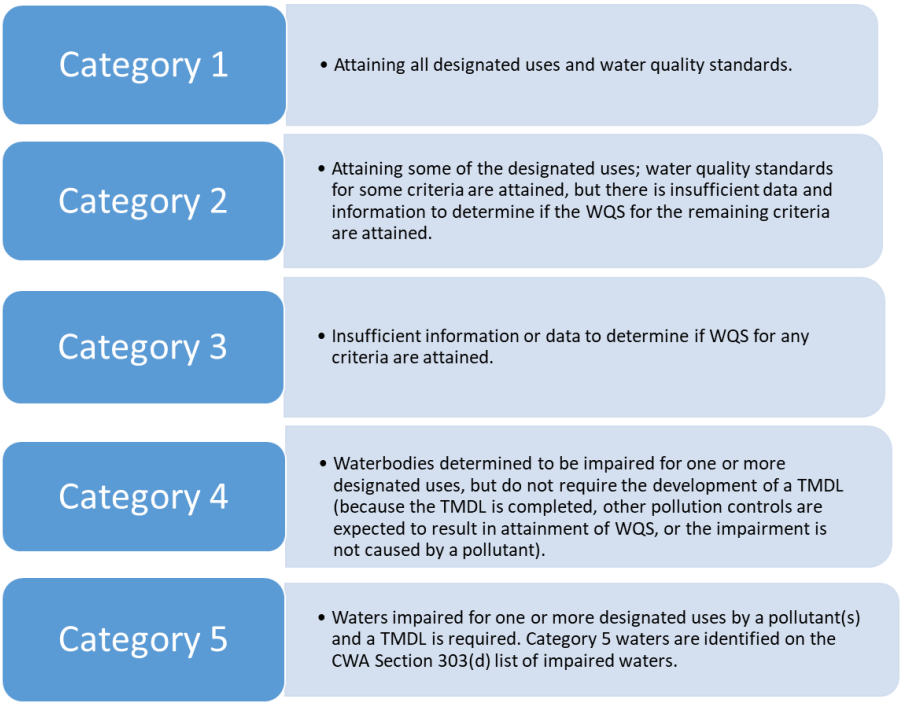

Figure 2-4 Integrated Report categories

In addition to evaluating waterbodies for meeting designated uses, DEC uses targeted watershed monitoring to evaluate nonpoint source pollution inputs and the effectiveness of the performance of installed BMPs (or past restoration activities) in improving water quality and making progress towards meeting WQS.

The intent of using BMPs is to protect or improve water quality from various sources of NPS pollution. Evaluations of BMPs helps DEC and partners determine if BMPs are working as intended or if there should be design or other modifications to improve efficiencies. Data on the effectiveness of BMPs provides quantitative data supporting (or not) their use in future applications. To the extent practicable, DEC collects standard information to compare and evaluate BMP installations. Basic BMP evaluation criteria is included in the ACWA grant solicitation information. DEC is planning on expanding and developing additional BMP effectiveness criteria and making it available on our webpage.

Targeted monitoring will be conducted in high priority watersheds and additional areas as resources allow. Monitoring will be conducted for a minimum of two years, to meet data evaluation minimums[6]. Water quality data on NPS pollution will also be solicited from other partner agencies and organizations.

[6] Alaska Department of Environmental Conservation. 2017. Alaska Consolidated Assessment and Listing Methodology (CALM) for 2018 Integrated Report on Water Quality.

2.5 Develop and Strengthen Partnerships

Success of the Strategy depends on maintaining existing and forging new partnerships with state, interstate, tribal, regional and local entities; private sector groups; citizens groups; and federal agencies. DEC leads coordination efforts to augment resources in meeting the goals and objectives identified in this Strategy. Partnerships strengthen the program by attracting new ideas and input, increasing understanding of NPS problems, and building commitment to implementing solutions. Partner organizations may be completing actions for different reasons but have the co-benefit of supporting the goal and objectives of this Strategy.

DEC's participation may be intensive and short-term, or spread out over many phases, whichever is more appropriate and supportive of local implementation addressing NPS pollution. See detailed description of partners including local governments, community organizations, state agencies, tribes and federal agencies that are important for partnerships to control NPS pollution in Table 2-1.

Table 2-1 Alaska's NPS Program partners

Program	Description
Primary DEC Programs	*Nonpoint Source* – Lead for planning and implementation of the NPS Strategy. Primary program protecting water quality from nonpoint source pollution, prioritizing restoration and protection, developing Total Maximum Daily Load recovery plans, watershed-based plans, and other protection and restoration plans. The NPS section manages the Alaska Clean Water Actions program including the ACWA grants. *Beaches Environmental Assessment and Coastal Health (BEACH)* - Part of a nationwide effort to decrease the incidence of water-borne illness at public beaches under the federal BEACH Act, funded by an EPA BEACH grant to DEC. The BEACH program is part of DEC's NPS section and provides grants to local communities, tribal governments, and watershed councils to sample beach water for organisms that indicate the presence of fecal contamination and notifies the public of sample exceedances to help prevent illnesses that could result from exposure to contaminated beach water. *Alaska Monitoring and Assessment* – Conducts water quality monitoring statewide in partnership with the NPS section through the Watershed Health Assessment and Data Analysis (WHADA) program and reports on the health of Alaska's waters in the Integrated Water Quality Monitoring and Assessment Report. *Onsite Wastewater Systems*– works with decentralized wastewater disposal, on-site disposal systems (OSDS), and a certified installer training program along with engineering plan reviews for larger or more complicated OSDS. Regulation of OSDS can protect surface waters from NPS sewage pollution. *Clean Water State Revolving Fund (CWSRF)* - Provides low-cost loans to public agencies for the planning, design, or construction of various

Program	Description
	projects that prevent or mitigate water pollution including nonpoint source pollution. *Drinking Water Source Protection (DWSP)* – The Drinking Water Program is tasked with delineating drinking water source protection areas for all public water system (PWS) sources and furthering awareness of these protection areas through outreach efforts. DWSP encourages active protection efforts by promoting the development and implementation of DWSP plans by PWS and communities, as well as by providing passive protection efforts through reviewing and commenting on proposed permitted activities near PWS sources and ensuring agency loans and grants prioritize water quality improvement projects near PWS sources. DWSP plans can be one component of a Watershed Management plan. *Mining* – ensures the technical accuracy of state wastewater permits for mining activities. Reducing NPS pollution from mining activities is important for protecting and restoring healthy aquatic habitats. *Stormwater* - works to reduce or eliminate pollutants in storm water. Storm water discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops, during rainfall and snowmelt events. In Alaska this is NPS pollution except for the few communities with a MS4 permit. *Contaminated Sites* - protects human health and the environment by managing the cleanup of contaminated soil and groundwater in Alaska. Coordination with the Contaminated Sites program occurs in water quality restoration projects and at sites with historic contamination impacting water quality. *Compliance and Enforcement* – enforces APDES permits through authority under the CWA. Coordination with the Compliance and Enforcement program occurs in situations where there is runoff pollution which is not addressed under a permit and seeks ways to work cooperatively to address the source.
Local Governments	Alaska has 6,487 communities, 40 borough or city governments, and 229 federally recognized tribes (source DCCED 2019). A large part of Alaska (over 50%) is neither part of a city nor an organized borough. DEC partners with village, city and borough governments all across Alaska to reduce impacts from NPS pollution. Currently, two areas (Anchorage and Fairbanks) are under Municipal Separate Storm Sewer System (MS4) APDES permits, which contain requirements to address NPS pollution. DEC expects additional communities to fall under MS4 requirements after the 2020 census. DEC staff partner with these areas on projects that go above and beyond permit requirements.

Program	Description
Community Organizations, NGOs, multi-agency groups	DEC partners with a range of community and non-governmental organizations (NGOs) across the state. Often these local entities have a higher likelihood of implementing environmentally protective practices because of their on-the-ground knowledge. They also have the ability to obtain water quality information in a cost effective manner. Examples of partners include watershed associations, land trusts, Soil and Water Conservation Districts, and Tribal Conservation Districts. **Alaska Clean Water Actions (ACWA) Grant Recipients:** The NPS program administers the ACWA grant program. The ACWA grant recipients are partners with DEC to address NPS pollution in local communities. Grant recipients vary year by year but include NGOs, city and borough governments, the university, and others. **National Fish Habitat Partnerships**: DEC participates in several National Fish Habitat Partnership (NFHAP) programs. These groups work to: protect and maintain intact and healthy aquatic systems; prevent further degradation of fish habitat that have been adversely affected; reverse declines in the quality and quantity of aquatic habitats; and increase the quality and quantity of fish habitats. There are four recognized partnerships in Alaska: Southeast; Kenai, Matanuska-Susitna; and Southwest. DEC and the NFHAP programs have common goals of protecting and improving water quality, reducing NPS pollution, and educating local citizens and decision-makers on actions to take for the long-term health of Alaska's aquatic ecosystems. **Interagency Hydrology Committee for Alaska (IHCA):** DEC participates in this semi-formal committee made up of Alaska's state and federal resource agencies. IHCA meets at least twice per year and agencies update each other on projects and seek ways to develop project partnerships and synergy. IHCA meeting coordination rotates between agencies.
State Agencies	**Alaska Clean Water Actions (ACWA) Water Experts Group:** The ACWA Water Experts Group (WEG) is composed of members from the three state resource agencies (DEC, ADFG and DNR). The WEG is convened by DEC and meets quarterly or more each year. The agencies work together to characterize Alaska's waters in a holistic manner; sharing data, expertise and other information. ACWA's database of priority waters and identified stewardship actions is a product of this collaboration. The WEG also conducts an annual joint matched-solicitation for water quality projects using funds that are passed through from federal monies (see Appendix C. Funding). Projects to restore, protect or conserve water quality, quantity and aquatic habitat on identified waters are considered. Local governments, citizen groups, tribes and education facilities are often the recipients of these awards.

Program	Description
	Department of Fish and Game (ADFG): DEC partners with various divisions within ADFG. The Sport Fish division plays a major role in establishing in stream flow reservations to insure sufficient water exists for fish. They also play a major role in conjunction with the Board of Fisheries in regulating fishing activity. This includes fishing directly from boats, stream banks and dip-netting. ADFG also plays a major role in hydro modification which can have an impact on water quality. **Department of Natural Resources (ADNR)**: DEC partners with various divisions within ADNR. DEC routinely partners with the Community Forestry Division (urban forestry projects), Mining Program (addressing runoff from current and historic mine sites), and Parks Division (restoration projects impacting water quality). DEC also serves as a technical expert to the Board of Forestry, attending their triannual meetings. During the term of this Strategy, DEC will be reaching out to DNR's statewide Hazard Mitigation Coordinator for pre-disaster hazard mitigation planning opportunities. **Department of Transportation and Public Facilities (ADOT&PF)**: DEC partners with ADOT&PF on stormwater run-off issues related to road development and construction, airport construction/operations and state facility construction/operations. In two areas of Alaska, ADOT&PF's activities are regulated under a MS4 permit and other activities, such as airport operations, are regulated under industrial permit activities.
Federal Agencies	**Army Corps of Engineers (ACOE)**: In Alaska, the Clean Water Act 404 program is administered by the ACOE. DEC partners with ACOE staff both in the development of programs designed to mitigate impacts and selection of mitigation projects. In particular, DEC has worked with ACOE on projects involving placer mining and wetlands where there were NPS pollution issues. **Environmental Protection Agency (EPA)**: Key partner in addressing NPS pollution in Alaska. EPA provides most of the guidance and funding supporting prevention and restoration of Alaska's waters. They facilitate forums where state staff can interact with other state counterparts helping to develop solutions for complex challenges. DEC sends a staff person to the National NPS meeting every other year to network with NPS staff from other states and learn about challenges and share potential solutions to NPS pollution problems. DEC staff also participate and contribute to issues raised by the Association of Clean Water Administrators. DEC staff is part of the Watersheds Committee, the 319/Nonpoint Source Workgroup, and the TMDL Modeling Workgroup and participate in training webinars sponsored by these committees.

Program	Description
	Fish and Wildlife Service (USFWS): Maintains a number of programs with which DEC partners, including the NFHAPs (above). USFWS administers the Clean Vessels Act (CVA) to decrease water pollution by reducing the overboard discharge of vessel sewage. The Clean Vessels Act provides grant funds to states for the construction, renovation, operation, and maintenance of pump out stations and waste reception facilities for recreational boaters as well as educational programs. Although the funds from USFWS must be administered by ADFG, DEC has been partnering with ADFG to provide the education component of the CVA mandate. USFWS has conducted water quality monitoring at many wildlife refuges. This data helps to broaden Alaska's understanding of the health of our waters. Resulting data may be helpful as Alaska assesses temperature impacts from climate change. **U.S. Geological Survey (USGS)**: Provides critical data and tools for the NPS program. Stream gauge information is often used in the development of restoration plans. USGS maintains the National Hydrographic Dataset which has not yet been as developed for Alaska. Through the Alaska Hydrography Database DEC has been working to improve data quality in Alaska. **U.S. Forest Service (USFS)**: The NPS Program partners with USFS in two programs. The first is providing review of timber sale plans. USFS provides all timber sale planning and National Environmental Policy Act (NEPA) documents to the State and DEC comments on USFS timber sales for water quality protection activities such as stream buffer areas. Currently, almost all forestry operations on federal lands in Alaska occur within the Tongass National Forest located in southeast Alaska. Secondly, USFS funds a community forestry program at ADNR. DEC has worked with the community forestry program to design and construct infrastructure to manage stormwater in urban areas. **Bureau of Land Management (BLM)**: DEC partners with BLM on data collection, protection, and restoration projects. BLM manages approximately 72 million surface acres and 220 million subsurface acres (Federal mineral estate). BLM also manages nine National Conservation Land Units including six Wild and Scenic River systems. NPS also partners with BLM on the development and implementation of Alaska specific guidance and training programs designed to reduce NPS pollution. This partnership is particularly important for the mining industry where there are both on-going and historic water quality impacts. **National Park Service (USNPS)**: A handful of impaired waters exist within national park borders. DEC partners with USNPS to develop plans

Program	Description
	to restore these waters. USNPS also conducts water quality monitoring at many of their national parks. This data helps to broaden Alaska's understanding of the health of our waters. Their data may be helpful as Alaska assesses the temperature impacts from climate change. **National Oceanic and Atmospheric Administration (NOAA)**: NOAA partners with DEC and other federal agencies to improve coastal mapping. Like USGS they serve as a scientific resource in hydrology and climate. More recently they are instituting a marine debris program, helping to address NPS pollution in our oceans. **Natural Resource Conservation Service (NRCS)**: Farming is limited in Alaska with the 2012 Census of Agriculture recording only 833,861 acres and an average farm size of 1094 acres. DEC partners with NRCS when the NPS pollution source may be associated with livestock or agricultural practices. NRCS has several available cost-share programs to work with local producers including the National Water Quality Initiative (NWQI). DEC partners with NRCS in the NWQI for eligible watersheds where agriculture runoff pollution may be impacting surface waters. Currently there are no NWQI watersheds but if this changes in the future, DEC will partner with NRCS to meet NWQI program requirements. **Soil and Water Conservation Districts (SWCD)**: Alaska has 12 Soil and Water Conservation Districts that work with landowners, land managers, communities, villages, and others to facilitate soil, water, environment, agriculture and other natural resource efforts. The SWCD's work cooperatively with USDA NRCS to provide many programs. DEC partners with SWCDs to complete projects that address nonpoint source pollution.
Tribes	The State of Alaska has 229 federally-recognized tribes. DEC partners with tribes or tribal organizations on projects including water monitoring, protection activities for healthy or at-risk waters, and restoration of polluted waters. DEC recognizes the importance of working with tribes and employs a Tribal Liaison; however, standard contract language that all state agencies have been directed to use with regard to a waiver of sovereign immunity has been a barrier for some tribes in partnering with DEC, especially in the ACWA grants program. DEC has started reaching out to Alaska's 17 Tribal Conservation Districts (TCD) to address NPS pollution in their jurisdictions. One example is interest in green infrastructure projects to reduce runoff into streams. This is an emerging partnership and opportunity. EPA is responsible for formal tribal consultation and coordination. DEC may follow up with additional meetings/actions to address tribal concerns as requested.

2.6 Improve Water Quality Through Increased Stewardship and Public Involvement

Public education and outreach can assist governmental agencies, non-governmental organizations, and the public in understanding NPS pollution, ways NPS pollution can be prevented, and how to get involved in restoring watersheds and water quality.

NPS pollution is the result of a myriad of individual actions throughout a watershed. While many important polluted runoff sources can be controlled through administration of local ordinances or state regulations, outreach promoting voluntary use of BMPs can effectively prompt more widespread use. DEC carries out several programs that promote voluntary adoption and use of BMPs to address NPS pollution. One example is through the ACWA community grants program where a community may implement green infrastructure or other BMP installation(s) or conduct public education and outreach on water quality issues. Measurable increases in water quality have been documented using these types of techniques in several waters around the state. One prime example is Granite Creek in Sitka where voluntary BMP installations reduced sediment runoff in the watershed, improved the creek's water quality, and increased salmon populations.[7]

Some of the main outreach activities used by DEC and its partners are described below in

Table 2-2 and Table 2-3. Moving forward, DEC is planning to incorporate other means and methods of outreach including story boards, social media, and other tools to reach the audiences of interest.

Table 2-2 NPS Categories and Outreach Objectives

NPS Category	Target Audience	Outreach Key Objectives
Marinas and Recreational Boating	Recreational Boaters	**Clean Boating:** Protect fish and reduce pollution in Alaska's marine waters, rivers and lakes by using good boating practices.
	Harbormasters and harbor users	**Clean Harbors:** Reduce nonpoint source pollution from harbors and marine boating activities.
Resource Extraction	Miners	**Placer Strategy:** Reduce nonpoint source pollution from current and historic placer mining.
Urban Runoff/Stormwater; Construction; Land Disposal/Storage/Treatment; Hydromodification	Homeowners & Small Business Owners	**Salmon Smart:** Reduce nonpoint source pollution from homes and business properties for protection of water quality and fish habitat. **Septic Smart:** Reduce nonpoint source bacterial pollution from onsite septic systems.

[7] See EPA's Success Stories https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution

Land Disposal/Storage/Treatment	Recreational Beach Users	**BEACH:** Reduce nonpoint source hazardous bacterial pollution to beaches and notify community when levels exceed state standards.

Table 2-3 Examples of Recent Outreach Tools

Outreach Tools	Examples
Radio ads	Clean boating tips; Septic smart; Kenai fish disposal
Educational mail-outs	Clean boating postcards to registered boat owners
Surveys	Questionnaires for harbor users on barriers to using sewage pump-outs
Community Engagement	Green infrastructure training & installation; Turbidity monitoring training; Staffing booths at community events such as Fairbanks Earth Day
Technical Assistance	Stormwater planning; Salmon habitat partnerships
Social Media	BEACH notices; Septic smart
Promotional Items	Dog poo pick-up bags & dispensers; Oil sorbent pads
Brochures	Clean boating; Green infrastructure; Fish waste
Signage	Pick up dog poo at public parks/trails; don't feed the waterfowl; importance of riparian areas to protect water quality; Clean boating tips; rain garden (green infrastructure) benefits

Appendix A. Annual Milestones and Deliverables

The following table outlines the Goal, Objectives, and Measurable Milestones for Alaska's NPS program for state fiscal year 2021 – 2025. While many of the activities will be conducted by DEC, some are from outside entities that also address nonpoint source pollution. DEC will report annually on the accomplishment of the following activities. DEC will use an iterative approach to implementing the milestones and will work with EPA to adjust them as needed during the 5 year span of this Strategic Plan. Changes to the milestones will not require a new public process but will be handled between DEC and EPA.

For each of the fiscal year headings in the table, an "X" in the box in the same row as a particular measurable milestone indicates a year during which the milestone will be reported on. A high priority waterbody name in the box, indicates that is the waterbody that will be reported on for that state fiscal year (July – June).

Table A-1 Measurable Milestones

GOAL: Protect and restore Alaska's water quality from the harmful effects of nonpoint source pollution						
Objective 1) Protect healthy waters and restore impaired waters: **This Strategy emphasizes watershed-based planning as a means of coordinating watershed protection and restoration efforts. Planning efforts will focus on areas most likely to receive NPS pollution impacts - high priority watersheds in urban areas. For this Strategy, this will include watersheds in each of 5 urban areas (Interior, Mat-Su, Anchorage, Kenai and Southeast). Depending on the stage in the planning process in each area: either develop/update a watershed plan (or alternative plan) AND/OR implement actions from an existing plan.**						
Description of Strategy	**Measurable Milestones**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**
Protection and Restoration Planning: DEC will work with other agencies and partners to develop or update watershed plans (Restoration and/or Protection Plans, EPA 9-Element Watershed Plans, TMDLs or	**Under development** watershed plans	Salcha, Ketchikan	Salcha			
	Updated watershed plans	Kenai, Jordan Creek	Kenai, Mat-Su, Chena	Mat-Su, Chena		
	Completed watershed plans				Salcha, Mat-Su	Ketchikan

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Alternatives) for high priority watersheds.						
Protection and Restoration Implementation: DEC will work with other agencies, partners and/or grantees to implement or fund installation of best management practices and other actions from planning documents. Provide technical assistance to encourage implementation.	Complete at least one (1) BMP project per year in a high priority watershed. Provide location and description of installed BMPs for ACWA funded and internal or partner projects. This includes length and width of improved or protected shoreline or riparian areas.	X	X	X	X	X
	One city per year will work on developing or implementing stormwater management programs with strategies to prevent NPS pollution. This includes MS4 Workgroups with activities above and beyond permit requirements.	X	X	X	X	X
	DEC will provide technical assistance to one (1) municipality or local government to address NPS pollution per year.	X	X	X	X	X
	ADFG will hold three (3) regional (Kenai, Mat-Su, and Fairbanks) streambank restoration workshops per year.	X	X	X	X	X
	ADFG and USFWS will work with landowners to establish healthy riparian buffers on private land through their Cost Share program. At least one project per year	X	X	X	X	X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
	(report on length and width of improved or protected shoreline or riparian areas).					
Every other year, the WEG will use the ACWA process to identify and document the State's highest priority water quality, water quantity, and aquatic habitat needs. Post waterbody specific and stewardship Actions for the ACWA grant solicitation, review applications and award projects.	Quarterly meetings (four per year) to work on waterbody prioritization and partnership opportunities.	X	X	X	X	X
	Actions posted biennially to DEC website during ACWA grant solicitation years.	X		X		X
	ACWA applications reviewed and scored biennially during ACWA grant solicitation years.	X		X		X
	ACWA awards to highest scoring applicants biennially during ACWA grant solicitation years.	X		X		X
	Summary of awarded projects posted to DEC website biennially during ACWA grant solicitation years.	X		X		X
DEC will review proposals to the CWSRF Program with respect to NPS pollution and alignment with the NPS Strategy. Applicants will be encouraged to include NPS protection components as part of their applications.	Develop a regional list of NPS projects that would be available for CWSRF applicants to include in their loan application.	X				
	One (1) CWSRF loan projects awarded with a NPS component per year beginning in FY22.		X	X	X	X
	Update regional list of NPS projects annually.		X	X	X	X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
DEC will work with the University of Alaska and the WEG to complete and implement a revised ACWA watershed prioritization model.	Finalize ACWA prioritization model and DEC web map in FY21.	X				
	ACWA prioritization model outcomes posted to DEC webpage(s) as web map in FY21.	X				
	Develop priority categories for high priority waters (drinking water protection, riparian restoration, green infrastructure, etc.) and post to DEC webpage in FY21.	X				
	Annual review of ACWA prioritization model data inputs and update to webpage and web map (as needed).		X	X	X	X
	Annual review of ACWA prioritization model output map of priority waterbodies. Update webpage and map annually.		X	X	X	X
DEC will map onsite wastewater systems in high priority watersheds to determine high risk areas.	Maps of onsite systems in at least two (2) high priority watersheds posted to DEC's website by FY23.			X		
Ensure all onsite wastewater systems meet state requirements in 18 AAC 72 as described in *Onsite Wastewater System Installation Manual* and website to prevent nonpoint source pollution for small	Ongoing. Maintain webpage and distribute copies of Manual at DEC offices.	X	X	X	X	X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
systems (<2500 gallons) that are not required to have a permit.						
Ensure onsite septic systems are constructed by qualified installers. Training includes maintenance and repair to prevent nonpoint source pollution. Only state training and oversight is available for installers statewide with the exception of the Municipality of Anchorage.	Conduct onsite wastewater system installer training classes and certify installers annually.	X	X	X	X	X
Verify that onsite septic system are installed consistent with the installation manual as demonstrated by documents of construction. Proper installation prevents nonpoint source pollution.	Ongoing. Review onsite system plan reviews and documentations of construction.	X	X	X	X	X
Adequately train DEC staff on assessment of impaired waterbodies, TMDL and restoration plan development, and implementation through technical training.	Report on number or percent of NPS staff who receive technical training annually. One (1) staff person receives technical training per year.					

Objective 2) Monitor waters for nonpoint source pollution, BMP effectiveness, and Water Quality progress:

Alaska has more than 40% of the nation's surface water resources, most of which are pristine. In addition, cost of monitoring is expensive logistically due to Alaska's size and remoteness. In this Strategy, DEC's Watershed Health Assessment & Data Analysis (WHADA) program will focus targeted monitoring in areas most likely to receive NPS pollution impacts or have BMP implementation - high priority watersheds in urban and suburban areas. Monitoring will occur in each of 5 regions (Interior, Mat-Su, Anchorage, Kenai, and Southeast) for basic indicator parameters. Additional data on NPS pollution will be solicited from partners.

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
DEC will develop a generic quality assurance project plan for targeted NPS monitoring projects. One monitoring project will occur in each of the regional high priority watersheds.	Generic QAPP completed by end of FY21.	X				
DEC WHADA program will collect water quality data for core indicator parameters on NPS pollution in 5 high priority watersheds. In each watershed collect data for at least 2 years.	Waterbody data collection in high priority watersheds.	Chena River, Jordan Creek, Little Susitna River, Little Campbell Creek, Kasilof River	Chena River, Jordan Creek, Little Susitna River, Kasilof River, Little Campbell Creek	TBD	Salcha River, Anchor River, Wasilla Creek	Salcha River, Anchor River, Wasilla Creek
	Evaluate water quality results biennially and include in Integrated Report.	X		X		X

DEC will solicit water quality data on NPS pollution in waterbodies statewide. Solicitation for data will occur every other year.	Solicit data from outside organizations biennially for the Integrated report. At least 3 agencies and organizations provide water quality data.	x		x		x
DEC will analyze water quality data with respect to Alaska's water quality standards and NPS pollution.	Move most water quality data that DEC acquires into EPA's Water Quality Portal, as applicable. At least three (3) datasets added to National Water Quality Portal per year.	x	x	x	x	X
	Five (5) waterbodies analyzed with respect to water quality standards and NPS pollution biennially for each IR cycle.	x		x		x
	Calculate number (or percentage) of river/stream miles, lake acres, wetlands, and estuarine and coastal square miles that fully meet all water quality standards biennially for each IR cycle.	x		x		x
	Report on the number of waterbodies assessed and % impaired from nonpoint source pollution biennially for each IR cycle.	x		x		x
DEC will implement the BEACH program on priority beaches and assist communities with public notifications.	Implement and test the Virtual Beach Model concurrent with water monitoring at Kenai and Ketchikan beaches.	x				
	Re-calibrate the model as needed based on FY21 outcomes and implement the model at Kenai and Ketchikan beaches.		x	x	x	x

	Support public notifications for beach health annually during the recreation season as needed based on water quality data and the Virtual Beach Model.	X	X	X	X	X
DEC will work with EPA to develop standardized metrics and guidance for measuring the effectiveness of BMPs	Develop easy guidance document with metrics for measuring the effectiveness of BMPs. Will complete 1 guidance per year on most common NPS BMPs being implemented.	X	X	X	X	X
	Guidance(s) posted to DEC webpage annually.	X	X	X	X	X
DEC, grantees, and agency partners will collect water quality data on the effectiveness of best management practices (using standard metrics) for projects.	Conduct BMP Effectiveness monitoring.	Jordan Creek, Anch Streams	Jordan Creek, Cottonwood Creek, Anch Streams	Cottonwood Creek, TBD	TBD	TBD

Objective 3) Develop and strengthen partnerships:

Much of the NPS work in Alaska depends on creative and proactive partnerships among agencies, governments, and community groups. Continue active participation in existing partnership activities, develop additional partnerships as opportunities arise.

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
DEC will continue participation in the following partnerships						

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Fish Habitat Partnerships (FHP) (multiple state, federal and community partners). Continue participation in Mat-Su FHP, Kenai FHP, and Southeast FHP.	Participate in one (1) FHP technical advisory/strategic planning meeting per region annually.	X	X	X	X	X
	Participate (and/or present) in one (1) FHP partnership symposium.	X	X	X	X	X
	Participate in one (1) FHP partnership committee annually.	X	X	X	X	X
Fairbanks Green Infrastructure Group	Convene one (1) meeting, presentation and/or other technical contributions annually.	X	X	X	X	X
Board of Forestry	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Board of Forestry Effectiveness Monitoring Group	Participate in one (1) meeting (or present or provide technical contributions) per year.					
Kenai River Special Management Area	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Interagency Hydrology Committee for Alaska	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Alaska Clean Harbors Program	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
	Attend and/or present to the annual Alaska Association of Harbormasters and Port Administrators conference annually.	X	X	X	X	X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Chena Watershed Resource Action Planning group	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Alaska Clean Water Actions Water Experts Group (State resource agency partners)	See Objective 1 for milestones.					
Kachemak Bay National Estuarine Research Reserve (KBNERR)	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Kachemak Bay Fox River Flats	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Mountains to Sea	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Fairbanks small mine owner/operators' group	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
Other workgroups that come up	Participate in one (1) meeting (or present or provide technical contributions) per year.	X	X	X	X	X
ADOT&PF	Provide technical contributions to stormwater issues annually as requested.	X	X	X	X	X
	One (1) staff attending CESCL training or refresher course annually.	X	X	X	X	X
Learn and share from other states' NPS programs	Send at least one (1) staff person to the National NPS Workshop every other year.	X		X		X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Region 10 source water protection western states meeting - partnerships	Participate in one (1) meeting (or present or provide technical contributions) per year.	x	x	x	x	x
Association of Clean Water Administrators	ACWA workgroups - Staff participation in webinars and training as appropriate, and at least one (1) in-person workshop per year.	x	x	x	x	x
DEC will develop new partnerships						
Develop a relationship with at least one tribe or tribal conservation district	Participate in (or convene) one (1) meeting every other year.	x		x		x
Develop a relationship with at least one local business or industry	Participate in (or convene) one (1) meeting every other year.	x		x		x
Develop a relationship with Alaska Invasive Species Partnership	Participate in one (1) meeting (or present or provide technical contributions) per year.	x	x	x	x	x
Develop other new partnerships as opportunities arise	Participate in one (1) meeting (or present or provide technical contributions) per year (as opportunities arise).	x	x	x	x	x
Develop relationship with DNR State Hazard Mitigation Coordinator	Determine statewide schedule for communities developing or updating their Hazard Mitigation Plans. Report on progress in FYs 20-21.	x	x			

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
	Develop NPS language to include in the plans for co-benefits. Report on progress in FYs 23-25.			x	x	x

4) Improve water quality through increased stewardship and public involvement:

Public education and outreach can result in the public and stakeholders learning about NPS pollution, ways it can be prevented, and finding activities to get involved in watershed protection and restoration. For this Strategy, efforts will focus on development and implementation of actions from 6 outreach topics that focus on the main sources of NPS pollution in Alaska. In addition, for at least one topic, DEC will focus efforts and include pre and post surveys to evaluate the success of the outreach.

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Outreach Campaigns:						
Clean Boating	One (1) action every other year, such as outreach events or stakeholders contacted; track number of attendees at events.		x		x	
Clean Harbors	One (1) action per year, such as outreach events or stakeholders contacted; track number of attendees at events.	x	x	x	x	x
Placer Strategy	One (1) action per year, such as outreach events or stakeholders contacted; track number of attendees at events.	x	x	x	x	x
Salmon Smart	One (1) action per year, such as outreach events or stakeholders contacted; track number of attendees at events.	x	x	x	x	x

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
	Focus outreach. Design and conduct pre and post surveys. Depending on success of survey, adapt actions as appropriate.	x	x	x	x	x
Septic Smart	Update website to include BMP education for multiple audiences (e.g. homeowners, realtors). Distribute information on septic system maintenance and repair. One (1) action per year, such as outreach events or stakeholders contacted; track number of attendees at events.	x	x	x	x	x
	Focus outreach. Design and conduct pre and post surveys. Depending on success of survey, adapt actions as appropriate.	x	x	x	x	x
BEACH	Number of press releases and public notifications completed in a timely manner. Report on progress annually.	x	x	x	x	x
Other Outreach:						
EPA Success Stories	DEC will work with EPA to develop one (1) environmental "success story" per year to document interim progress toward water quality restoration, which can be submitted to EPA as type 2 NPS success stories (see www.epa.gov/nps/success).	x	x	x	x	x

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
Transboundary Workgroup	DEC will work with State agencies and British Columbia ministries to develop a final program report with recommendations on future monitoring efforts.	X	X			
Conferences or Symposiums	One (1) conference or symposium presentation per year.	X	X	X	X	X
Social Media Posts	One (1) NPS related social media posts for each outreach strategy per year.	X	X	X	X	X

Objective 5) Reporting and Accountability

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
GRTS Data Entry	For projects funded using §319 funds, DEC will enter mandatory data elements into EPA's Grants Reporting and Tracking System (GRTS) per 319 guidance, with the exception of elements that rely on geolocations requiring the National Hydrology Database and WebRit tool for reach indexing (using 8-digit Hydrological Unit Code (HUC), as available). Include FTE and contract information (including work plans and deliverables for both contracts and grants).	X	X	X	X	X

Description of Strategy	Measurable Milestones	FY21	FY22	FY23	FY24	FY25
	Enter project information into GRTS annually.					
DEC Website	WQSAR annual newsletter with environmental success stories and information about projects posted to the DEC website and listserv annually.	X	X	X	X	X
	ACWA prioritization model and web map – See Objective 1.					
	Water Quality reports posted to the DEC website as received.	X	X	X	X	X
NPS Program Reporting	DEC will submit annual report to EPA.	X	X	X	X	X

Appendix B. Waterbody Prioritization

Given Alaska's extensive water resources, watershed prioritization is an important part of Alaska's NPS Strategy. Since 2001, the Alaska Clean Water Actions (ACWA) program has been the tool used to prioritize watersheds statewide for water quality, water quantity, and aquatic habitat concerns. Through an interagency forum this process identifies Alaskan waters that are polluted or vulnerable to pollution; identifies, prioritizes and schedules restoration or protection actions; manages and shares information on water quality, water quantity and aquatic habitat; and describes how Alaska will implement best available technology and management practices to prevent pollution. The partners in this process are the DEC, the Alaska Department of Fish and Game (ADFG), and the Alaska Department of Natural Resources (ADNR).

The three ACWA partner agencies have a technical advisory group called the Water Experts Group (WEG). The WEG reviews waterbody prioritizations, ACWA processes, and provides technical reviews on submitted ACWA grant proposals. The WEG meets approximately quarterly or more often if needed. The WEG serves as a coordinated effort of various programs to implement highest priority NPS pollution controls in a timely manner.

For the time period of this NPS Strategy (SFY 2021-2025), each regional DEC office will focus efforts on one high priority watershed for targeted NPS pollution water quality monitoring and one watershed or area for the development of, and/or implementation of actions from, watershed based plans (see Tables B-1 and B-2). For BMP actions that are implemented, data will be collected to quantify their effectiveness at improving water quality and make recommendations for future actions. The focus watersheds were selected from the larger list of ACWA high priority watersheds (Table B-3) which were nominated and ranked using the ACWA water quality criteria.[8] This subset of high priority watersheds were selected based on the existence (or development of) watershed based plans, established threats or existing impairments from NPS pollution, and accessible location for staff to conduct targeted monitoring with limited travel costs.

DEC is in the process of updating the ACWA prioritization process to apply a Geographic Information System (GIS) based model statewide. Completing, testing, and applying this model will occur during this Strategy's time period. Prioritization criteria will be developed to make selections as objective as possible. Based on model output, DEC staff will further refine waterbody rankings with local data and information. This annual review and ranking of waterbodies will help DEC staff direct NPS program funds and services to address compelling needs and opportunities statewide.

As funding is available, DEC will use finalized waterbody rankings from the model to fund additional projects in other high priority watersheds. DEC considers and selects appropriate tools, such as ACWA grants or internal staff support, to complete additional protection, restoration or monitoring work. ACWA grant solicitations will occur every two years (2020, 2022 and 2024 during this Strategy) and provide an opportunity to direct funds to communities and organizations to jump start new watershed efforts, prompt continued momentum on established projects, and/or protect against an imminent NPS pollution threat.

[8] http://dec.alaska.gov/water/water-actions/ranking/#nogo

Table B-1 Subset of ACWA High Priority Watersheds for Watershed Planning, Protection, and Restoration Activities

Region	Watershed
Interior/Northern	Chena River Watershed
Southcentral - Mat-Su	Matanuska-Susitna Watershed; Cottonwood Creek
Southcentral – Anchorage	Anchorage area waterbodies
Southcentral – Kenai	Kenai River Watershed
Southeast	Ketchikan area waterbodies

Table B-2 Subset of ACWA High Priority Watersheds for Targeted Monitoring

Region	Watershed
Interior/Northern	Chena River Watershed
Southcentral - Mat-Su	Little Susitna River
Southcentral – Anchorage	Little Campbell Creek
Southcentral – Kenai	Kasilof River
Southeast	Jordan Creek Watershed

Table B-3 All High Priority Watersheds by Region and ACWA Track[9]

Region	Track	Waterbody
Interior/Northern	Data Collection & Monitoring	Crooked Creek Watershed: Crooked Creek
		Dry Creek (Nome)
		Kotzebue Lagoon
		Salcha River
		Wulik River
	Protect & Maintain Waterbodies at Risk	Anvil Creek (Nome)
		Bear Creek (Hogatza)
		Clearwater Creek

[9] When new ACWA GIS prioritization model is completed and applied this list may change to include additional watersheds

Region	Track	Waterbody
	Waterbody Recovery	Birch Creek, Upper Drainage
		Chena River
		Chena Slough
		Goldstream Creek
		Noyes Slough
Southcentral - Anchorage	Protect & Maintain Waterbodies at Risk	Glacier Creek (Girdwood)
		Rabbit Creek
	Waterbody Recovery	Campbell Creek
		Campbell Lake
		Chester Creek
		Eagle River
		Fish Creek (Anchorage)
		Furrow Creek
		Hood/Spenard Lake
		Little Campbell Creek
		Little Rabbit Creek
		Little Survival Creek
		Red Lake-Anton Road Pond
		Ship Creek-Glenn Hy. Bridge Down to Mouth
		University Lake
		Westchester Lagoon
Southcentral - Kenai	Data Collection & Monitoring	Kasilof River
		Lake Clark
		Peterson Bay
		Quartz Creek
		Wood River
		Halibut Cove
		Homer Harbor

Region	Track	Waterbody
		Iliamna Lake
		Nushagak River
	Protect & Maintain Waterbodies at Risk	Anchor River
		Deep Creek
		Kenai River
		Ninilchik River
		Resurrection Creek (Hope)
		Seldovia Bay
		Stariski Creek
		Upper Talarik Creek
	Waterbody Recovery	Cold Bay
		Egegik River
		King Cove
Southcentral – Matanuska-Susitna and the Aleutian Islands	Data Collection & Monitoring	
		Copper River
		Gulkana River
		Willow Creek
	Protect & Maintain Waterbodies at Risk	Cache Creek
		Captains Bay
		Chuitna River
		Deshka River (Kroto Creek)
		Little Susitna River
		Susitna River
		Talkeetna River
		Wasilla Creek
	Waterbody Recovery	Big Lake
		Cottonwood Creek
		Dutch Harbor
		Eyak Lake

Region	Track	Waterbody
		Iliuliuk Harbor
		Lake Lucille (also spelled Lucile)
		Matanuska River
		Popof Strait
		South Unalaska Bay
Southeast	Data Collection & Monitoring	Salmon Creek
		Taku River
		Carlanna Creek
		Gunnuk Creek
		Hoadley Creek
		Ketchikan Creek
		North Twin Lakes
		Sarah Creek
		Sawmill Creek (Sitka)
		Situk River
	Protect & Maintain Waterbodies at Risk	Auke Bay
		Auke Creek
		Auke Lake
		Auke Nu Cove
		Gastineau Channel
		Mendenhall River
		Montana Creek (Juneau)
		One Mile Creek
		Peterson Creek
		Sawmill Creek (Haines)
		Sitka Harbor
		South Twin Lakes
		Wrangell Narrows
	Waterbody Recovery	Duck Creek

Region	Track	Waterbody
		Granite Creek
		Hawk Inlet
		Jordan Creek
		Katlian River
		Klag Bay
		Lemon Creek
		Pederson Hill Creek
		Pullen Creek
		Salt Chuck Bay
		Skagway Harbor
		Tongass Narrows 1
		Vanderbilt Creek
		Ward Cove

Appendix C. Funding Sources

DEC is typically the lead in working with communities to find solutions to NPS pollution including providing technical expertise and funding options. Funding to address NPS pollution can come from a variety of sources. Although communities and local organizations often know the problems in their area, they may be unable to fix problems because of a lack of resources. Described below are funding sources which are often used to address NPS pollution. With limited funds available and limited discretionary spending, federal, state, and local government programs are rarely able to provide a single primary source of funding. Combined together, these funding sources can result in environmental progress.

Table C-1 Description of Funding Sources

Funding Source	Description
Federal Funding Sources	EPA's Office of Water has developed the Catalog of Federal Funding Sources for Watershed Protection to inform watershed partners of federal monies that might be available to fund a variety of watershed protection projects. This searchable web site is a useful tool when looking for potential project funding and is available to all communities. Other specific federal funding sources that have been used by DEC (and partners): • USFS – Community Forestry • USFWS – Clean Vessel Act • EPA – Urban Waters DEC is continually on the lookout for grant and other federal funding opportunities as they become available.
Performance Partnership Grant	The primary source of state funding for DEC NPS activities and projects is an annual *Performance Partnership Grant* (PPG) administered by EPA that combines funding from a variety of sources authorized in the Clean Water Act (CWA). These include funding from § 319 Nonpoint Source Control, CWA § 106 Water Pollution Control, CWA § 106 Groundwater Protection, and § 104(b)(3) grants. The PPG funds require approximately 40% match from non-federal sources, which comes from both state funding and from local sources. The scope of work in the PPG is negotiated annually with EPA and documented in a work plan that describes tasks to be accomplished. Overall goals and high priority actions are documented in the annual *Performance Partnership Agreement (PPA)*.
State Revolving Fund (Loan) Programs	The Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) are federal-state partnerships that provide communities an independent source of low-cost financing for wastewater and drinking water projects. Established by Congress under Title VI of the Clean Water Act (CWA) Amendments of 1987, the CWSRF provides low-interest loans for wastewater infrastructure projects and a wide range of NPS projects. The DWSRF, established by the 1996

	Amendments to the Safe Drinking Water Act, provides funds for drinking water infrastructure projects and source water protection activities. In Alaska, the CWSRF and DWSRF programs are administered through the State Revolving Fund (SRF) Program within the DEC Division of Water. DEC receives annual capitalization grants from the U.S. Environmental Protection Agency (EPA), based on Congressional appropriation, to help fund the Alaska Clean Water and Drinking Water Funds with a 20 percent match provided by the state. The SRF Program provides loans to eligible borrowers, and the loan repayments are recycled back into the program to fund additional infrastructure and water quality improvement projects. The revolving nature of the program provides for an ongoing funding source intended to be available in perpetuity. The CWSRF provides low-cost loans to public agencies for the planning, design, or construction of various projects that prevent or mitigate water pollution. Examples of projects that may be eligible to receive financing through the CWSRF include: Publicly owned projects defined in § 212 of the CWA including wastewater collection and treatment, regulated stormwater, and the water quality portion of municipal landfill projects; • NPS pollution management programs established under CWA § 319; • National estuary program projects meeting the criteria of CWA § 320; • Decentralized wastewater treatment systems; • Stormwater projects to manage, reduce or treat stormwater; • Water conservation, efficiency and reuse projects; and • Watershed pilot projects meeting the criteria of CWA § 122. Through the DWSRF program, the DEC Drinking Water Program also provides technical assistance in regard to source water protection needs. The SRF Program accepts questionnaires for new projects year-round. In addition to describing the project scope, applicants must provide information on water quality benefits and estimated costs. DEC reviews and scores all applications with regard to specific criteria and lists projects for possible funding in rank order in the SRF Program Project Priority List. Applicants whose projects are placed on the Project Priority List must still complete all program requirements including a financial capacity assessment and an environmental review. All proposed NPS projects are

	also reviewed for their alignment and support of the goals established in Alaska's Nonpoint Source Water Pollution Control Program.
Alaska Clean Water Actions Grant Funds	DEC conducts focused work on NPS issues through the ACWA Grants Program. DEC administers a pass-through grants program that awards and monitors sub-grants of EPA's CWA § 319 to help communities identify NPS pollution sources, prepare watershed based management plans, and take action to reduce or prevent NPS pollution. DEC grant managers are assigned to each NPS project to monitor grantee progress in implementing the project, to oversee the expenditure of grant funds according to grant requirements, and to provide technical support to help grantees successfully carry out projects. In Alaska, multiple federal grant funds are administered through the ACWA initiative including the § 319 grant, BEACH grant funds and funding from the Clean Vessels Act. DEC administers the § 319 grant award received from EPA in accordance with the national EPA guidance for state NPS management programs and the EPA-DEC PPA. DEC enters all § 319 pass-through grant funds into EPA's GRTS data system for funding tracking and project deliverables.
Other Private Funding Sources	Funds are often available to non-governmental entities who frequently pool money from different sources to address NPS pollution. For example, the National Geographic Society provides grants to reduce marine plastic pollution. The NPS Program may be a project partner or provide technical support to these types of funded NPS projects.
Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program	Hazard Mitigation Grant Program funding can be used for mitigation planning activities and provides incentives for "green" approaches (green infrastructure, riparian restoration, etc.) to reduce hazards. FEMA requires that state, tribal and local governments develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, such as the Pre-Disaster Mitigation Grant Program. Hazard mitigation funding can have the co-benefit of also addressing NPS pollution. This is an emerging funding source and opportunity that DEC will be investigating further as a milestone in the 2021-2025 NPS Strategy.
National Fish Habitat Partnership (NFHAP)	Under NFHAP, federal, state, tribal and privately raised funds are leveraged through regional partnerships to address fish habitat challenges. Much of the partnership funding comes from USFWS. Projects to address fish habitat frequently also address water quality and NPS pollution. In Alaska, there are four recognized partnerships (Mat-Su, Kenai, Southeast and Southwest). DEC currently partners with the Mat-Su, Kenai and Southeast partnerships to encourage funding of actions to address NPS pollution.

Alaska Sustainable Salmon Fund (AKSSF)	AKSSF is administered by AADFG and manages Alaska's allocations from the federal Pacific Coast Salmon Recovery Fund (PCSRF). PCSRF was established by Congress in 2000 to protect, restore, and conserve Pacific salmon and steelhead populations and their habitats. Some AKSSF priorities also identify or address NPS pollution.

Appendix D. Reporting and Accountability

Accomplishments of the NPS program are reported throughout the year in a variety of ways both to the public and to EPA.

Table D-1 Reporting and Accountability

	Description
Grant Reporting and Tracking System (GRTS)	EPA database for tracking CWA §319 grant fund expenditures, projects, programmatic work, deliverables and success stories. DEC enters information into GRTS throughout the grant period and uploads final deliverables within 30 days of sub-grants (ACWA grants) closing.
Performance Partnership Grant (PPG)	The annual PPG work plan outlines activities and deliverables DEC (nonpoint source section) will accomplish along with other DEC Division of Water programs (see Appendix C). Semi-annual reporting to EPA.
Annual WQSAR Newsletter	DEC publishes an annual newsletter that highlights projects of interest by DEC staff, partners and ACWA grantees. This newsletter is distributed to a list serve and posted to the DEC website.
ATTAINS (Integrated Report)	The Assessment, TMDL Tracking and Implementation System (ATTAINS) is how DEC tracks waterbody progress through the Integrated Report Categories and documentation. ATTAINS also tracks TMDLs, pollution prevention plans, and TMDL alternatives. While EPA works on a public interface for ATTAINS, DEC posts integrated report information to our web site.
319 Satisfactory Progress Evaluation	DEC works closely with the EPA Region 10 Coordinator throughout the year as well as submitting regular reports and deliverables. EPA reviews and evaluates Alaska's NPS Program for meeting program requirements for satisfactory progress on at least an annual basis.
Public Outreach and Technical Assistance	NPS Strategy action are a public face of DEC and partner agencies who participate in community outreach events, trade shows and other venues, and social media. DEC staff also provide technical assistance to a variety of technical advisory committees statewide such as stormwater, green infrastructure, aquatic invasive species, and watershed planning. This type of community visibility adds accountability to efforts to reduce nonpoint source pollution under the NPS Strategy by working for the citizens of Alaska.
NPS Program Reporting	DEC reports annually to EPA for progress made on milestones in this Strategy (Appendix A). The annual NPS report also includes a narrative overview of highlights and challenges.

Appendix E. Public and Partner Participation

Although DEC is the lead agency for the state's NPS Program, many other agencies, entities, and individuals have a part in the implementation of this Strategy. During the development of this Nonpoint Source Strategy, DEC reached out to its internal DEC partner programs, other state resource agencies through the ACWA WEG, and other partner organizations and contacts around the state. In addition, the DEC Nonpoint Source program developed a short survey on NPS pollution to seek input from the public-at-large. Because Alaska is so big and population so dispersed, having a survey available via internet seemed a more likely means to receive public input.

The survey consisted of six questions and was available for 25 days during the month of November using SurveyMonkey© as the platform. Its availability was advertised on DEC's website, sent via different state and regional listservs, social media postings, shared with regional contacts, and the statewide 'What's Up' mailing list. We received 239 responses from all regions of Alaska. Feedback from the survey will be used to help guide our outreach focus over the span of this Strategic Plan (Figure E-1).

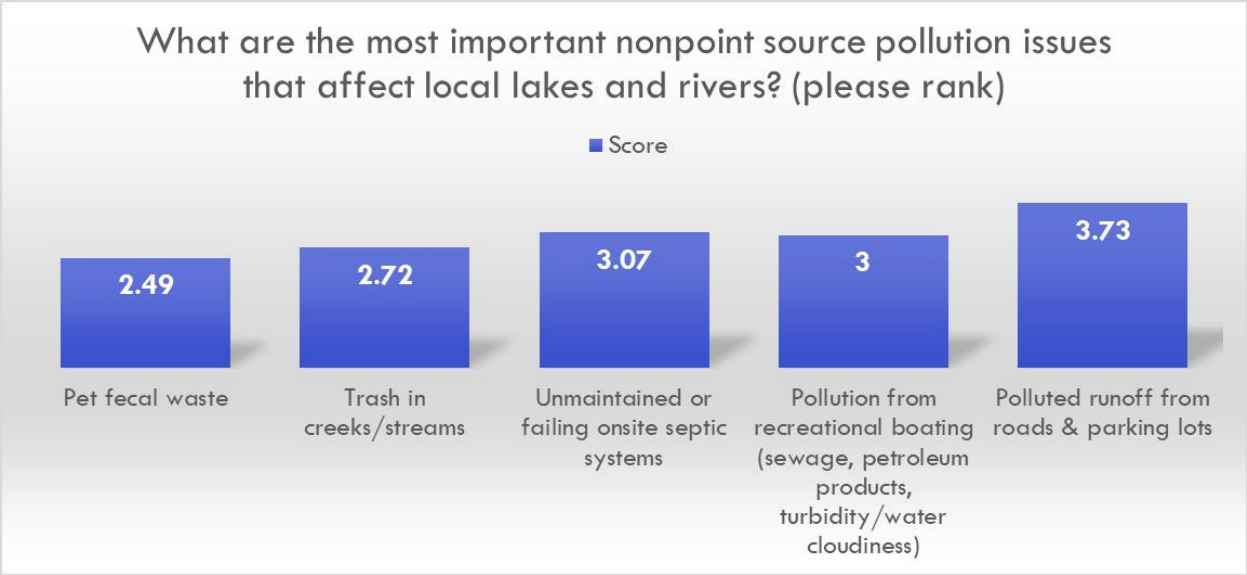

Figure E-1 Public survey question responses that ranked the importance of different nonpoint source water pollution issues

Appendix F. Key Components of an Effective State NPS Management Program

Table F-1 Location of EPA's Key Program Components in this Strategy

EPA's Key Program Components	Alaska NPS Strategy Location
1. The state program contains explicit short- and long-term goals, objectives and strategies to restore and protect surface water and ground water, as appropriate.	**Sections 1 and 2; Appendix A**
2. The state strengthens its working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.	**Sections 2.5 and 2.6**
3. The state uses a combination of statewide programs and on-the-ground projects to achieve water quality benefits; efforts are well-integrated with other relevant state and federal programs.	**Sections 1 and 2; Appendix B; Appendix C**
4. The state program describes how resources will be allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened and high quality waters from significant threats caused by present and future NPS impacts.	**Section 2.3; Appendix B**
5. The state program identifies waters and watersheds impaired by NPS pollution as well as priority unimpaired waters for protection. The state establishes a process to assign priority and to progressively address identified watersheds by conducting more detailed watershed assessments, developing watershed-based plans and implementing the plans.	**Sections 2.1; 2.2; 2.3; 2.4; Appendix A; Appendix B**
6. The state implements all program components required by § 319(b) of the Clean Water Act and establishes strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable. The state reviews and upgrades program components as appropriate. The state program includes a mix of regulatory, nonregulatory, financial and technical assistance, as needed.	**Sections 1 and 2; Appendix A**
7. The state manages and implements its NPS management program efficiently and effectively, including necessary financial management.	**Section 1; Appendix A; Appendix D**
8. The state reviews and evaluates its NPS management program using environmental and functional measures of success, and revises its NPS Management program at least every five years.	**Section 2; Appendix B; Appendix C; Appendix D**