Alaska Clean Water Five-Year Strategic Plan

Fiscal Years 2016-2020

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Acronyms

ACH	Alaska Clean Harbors
ACWA	Alaska Clean Water Actions
AKMAP	Alaska Monitoring and Assessment Program
APDES	Alaska Pollutant Discharge Elimination System
AWQMS	Ambient Water Quality Monitoring System
BMP	Best Management Practice
CWA	Clean Water Act
DEC	Department of Environmental Conservation
DFG	Department of Fish and Game
DMR	Discharge Monitoring Report
DNR	Department of Natural Resources
FY	Fiscal Year
GIS	Geographic Information System
GRTS	Grant Reporting and Tracking System
EPA	U.S. Environmental Protection Agency
PPA	Performance Partnership Agreement
PPG	Performance Partnership Grant
NFHP	National Fish Habitat Partnerships
NHD	National Hydrography Dataset: U.S. Geological Survey
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
NWQI	National Water Quality Initiative
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
RCRA/CERCLA	Resource Conservation Recovery Act/Comprehensive Environmental Response, Compensation and Liability Act
STORET	STORage and RETreval Data Warehouse
TMDL	Total Maximum Daily Load
WEG	Water Experts Group
WQMA	Water Quality Monitoring and Assessment (Strategy)

1. Introduction

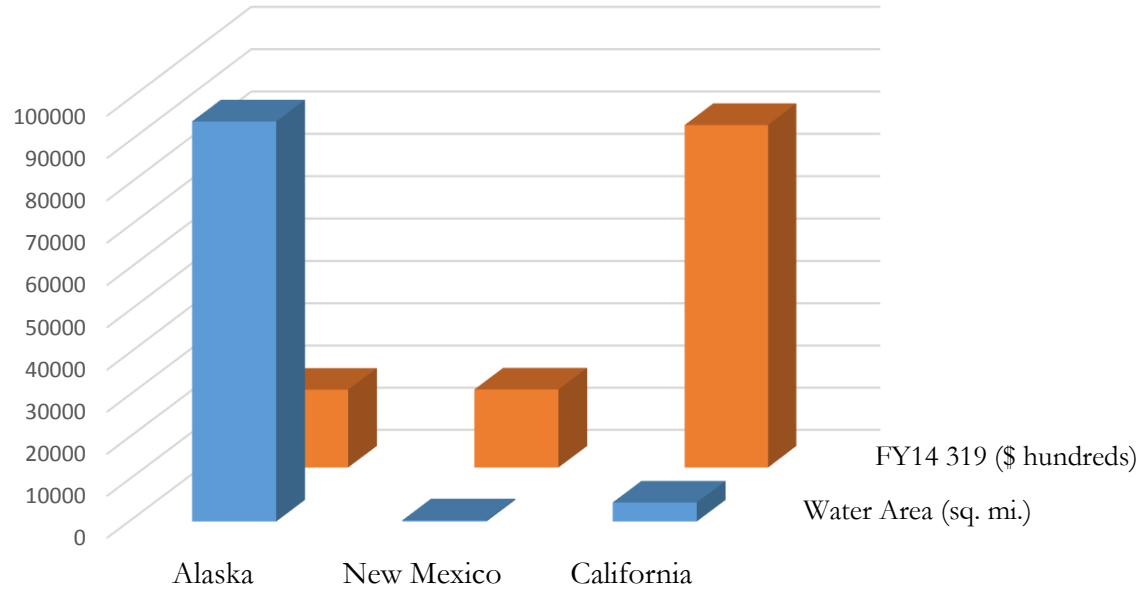
Alaska is unique. Among all states in the U.S., Alaska places highest in almost every category related to water. Alaska has more than 40% of the entire nation's surface water resources including over three million lakes, over 12,000 rivers, thousands of streams and more coastline than the rest of the U.S. put together. Nearly half of Alaska is considered wetlands.

The only area where Alaska does not lead the list is in the numbers or percentages of impaired waters. In fact, there is such a large number of pristine waters in Alaska that inclusion of them would bias the status of the nation's waters so much that Alaska is routinely left out of national reports. For example, although the Alaska Monitoring and Assessment Program (AKMAP) assessed 550 miles of the Yukon River (the third longest river in the U.S.) as part of the National Rivers and Streams Assessment 2008-2009, Alaska is only mentioned as having a pilot project in the draft report. Alaska's results are not included in any of the statistics or maps in the report despite several requests that an insert for Alaska be included.

Alaska, as one of the 50 states in the United States, is bound by the same national laws and policies as are other states. These include laws regulating nonpoint source pollution (regulated under Section 319 of the Clean Water Act (CWA)), impaired waters (regulated under CWA Section 303(d)), and monitoring and assessment of waters (regulated under CWA Section 305 and funded under Section 106). Like other states, Alaska is required under CWA Section 305(b) to assess and periodically report on the status of the state's waters. Unlike other states, statistical surveys cannot be done on a statewide basis (due to resource constraints and accessibility given the large size of Alaska). Further, less than 1% of Alaska's waterbodies are impaired, and AKMAP statistical surveys do not have sufficient resolution to be used to determine impairment status for CWA Section 303(d) lists or to develop Total Maximum Daily Loads (TMDLs). Historic or relevant data are rarely available from sources that are sufficient for the purpose of CWA Section 303(d) assessment or TMDL development and implementation. AKMAP statistical surveys can provide baseline information for protection and restoration actions, however.

Funding from U.S. Environmental Protection Agency (EPA) helps with these efforts but falls far short of what would be required to adequately address the entirety of Alaska's waters. CWA Section 319 grant funding is crucial for monitoring projects to assess waters for Section 303(d) impairment, as well as for TMDL development and implementation monitoring. Alaska is in a sense penalized by the funding formulas because of its vast numbers of waters. For example, federal funding formulas for state grants under both CWA Sections 106 and 319 are capped for Alaska, due to the number and size of waters in Alaska. In federal fiscal year (FY) 2014, Alaska's 319 funding allocation was $1.85 million, which places 39th of the 50 states. Alaska has 94,743 square miles of water compared to 4,509 square miles for California, which received $8.1 million and 292 square miles for New Mexico, which received $1.857 million (see Figure 1). Similarly, the FY13 state grant for CWA section 106 funds was $1.42 million, 46th largest amount of the 50 states.

Figure 1. Comparison of Water Area and 319 Funding



The funding formula caps mean that Alaska cannot achieve the same coverage as other states for monitoring, protecting, or restoring state waters. Operations and logistics are also more expensive in Alaska due to its size and remoteness, which further exacerbates funding issues. Given that Alaska has a wealth of clean waters, a small population with no tax base, and severely limited funding from EPA relative to the numbers of waters, how does Alaska meet federal funding guidelines or requirements? Or, is the more appropriate question given the factors described above, how does Alaska protect its waters from pollution (keeping its clean waters clean) and restore waters that have become polluted?

Alaska accomplishes this through a variety of "lenses" or mechanisms: Federal CWA programs; the Alaska Clean Water Actions (ACWA) process (see Appendix A); *Alaska's Nonpoint Source Water Pollution Control Strategy* (Nonpoint Source Strategy), May 2015; *Alaska's Water Quality Monitoring and Assessment Strategy* (WQMA Strategy), May 2015; and this plan, the *Alaska Clean Water Five-Year Plan for FY2016-2020* (Five-Year Plan).

2. An Integrated Approach

At the national level, EPA and states have recognized the need for integrating the disparate and often stove-piped CWA programs. All have the goal of clean water, but each program contains its own specific requirements and goals. During the 2011-2013 period, EPA worked with states to develop revised CWA Section 319 Nonpoint Source grant guidelines for state nonpoint source programs and a long-term vision for CWA Section 303(d) impaired waterbodies and TMDLs.

Appendix B shows how EPA envisions the integration of Section 303(d) vision goals and Section 319 key components of a state Nonpoint Source program.

Alaska recognizes the difficulty in achieving statewide coverage in monitoring, reporting, or restoration. Prioritization becomes critical as Alaska strives to keep its clean waters clean and restore waters that have become polluted. As a result of this recognition, the ACWA process was created in 2002 through Alaska Administrative Order No. 200. The Order directed Alaska resource agencies to work together to characterize Alaska's waters in a holistic manner by sharing data, expertise, and other information.

The ACWA process prioritizes and identifies actions for Alaska's surface waters. The ACWA process is conducted in three phases: nomination, analysis, and action. The ACWA process and decision tree are described in Appendix A. The three state resource agencies, Alaska Department of Environmental Conservation (DEC), Department of Fish and Game (DFG) and Department of Natural Resources (DNR), form a Water Experts Group (WEG). The WEG conducts an annual joint solicitation for water quality projects using funds that are largely passed through from federal monies. Projects to restore, protect or conserve water quality, aquatic habitat, and water quantity on nominated waters are considered for ACWA grant funding or contracts. Local governments, citizen groups, tribes and educational organizations are often the recipients of these grant awards.

2.1 Five-Year Strategic Planning Process

In the FY15 Performance Partnership Agreement between DEC and EPA, DEC committed to developing a five-year strategic plan (Five-Year Plan) to identify goals and actions to address nonpoint source water pollution given Alaska's unique conditions and using the existing ACWA process. The Five-Year Plan incorporates:

- A process to assess waters given the very large number of waters in Alaska;
- A process to manage and prevent nonpoint source pollution in Alaska given the low population density and the small number of population centers;
- A plan to develop impairment listing methodologies, including a schedule;
- A recognition of the long-term vision for CWA Section 303(d) and a long-term strategy for developing and implementing TMDLs; and
- Mechanisms for including outcome-based measures to nonpoint commitments by adding specificity and accountability to those commitments.

DEC convened a workgroup to develop the Plan that included DEC Division of Water Director and Water Quality Program Managers, Alaska Nonpoint Source Program staff, and EPA Region 10 Watersheds Unit Manager and staff. The workgroup met four times from July to December 2014. During the first meeting the group conducted an analysis of the strengths, weaknesses, opportunities, and threats for the Alaska Nonpoint Source Program. The analysis was used to identify preliminary goals and actions for the Alaska Nonpoint Source Program during the fiscal year 2016-2020 five-year cycle. Discussion during the second meeting concluded that DEC should focus on the two most common types of pollutant and pollutant sources in order to focus program efforts and attain the greatest environmental benefit during the five-year period. The third workgroup meeting focused on refining the goals and identifying measurable objectives. During the fourth and final workgroup meeting, the goals and objectives identified in Alaska's Nonpoint Source Strategy

and draft WQMA Strategy were reviewed and revised to align with a five-year strategy and a pollutant focus approach.

2.2 Results of Strategic Planning

The result of the strategic planning process is this Clean Water Five-Year Strategic Plan. The Five-Year Plan complements elements of the Nonpoint Source Strategy and the draft WQMA Strategy, because the two Strategies contain many of the same measureable objectives. The Five-Year Plan focuses on controlling nonpoint source pollution in a multifaceted way related to the CWA Sections 303(d) and 319 nonpoint source programs, including:

- Monitoring and Assessment: ***Identify*** waters that are healthy, at-risk or impaired. (See Section 4.2, Goals 1 and 2)
- TMDLs and Watershed Recovery: ***Restore*** waters that have become polluted. (See Goals 3 and 4)
- Watershed Protection: ***Keep*** our clean waters clean through best management practices (BMPs), stewardship actions, education, and outreach. (See Goals 5, 6 and 7)

Rather than conduct a statewide assessment of all of Alaska's waterbodies and all pollutants, DEC will focus efforts to reduce the impacts from specific pollutants. A five-year pollutant focus will help DEC focus its message in order to gain public recognition of the impacts of pollution, gain public support for changing behaviors, and build more sustainable and environmentally protective infrastructure. A review of the pollutants in the ACWA database revealed that turbidity and toxics are the most frequently cited pollutants causing impairments. Pollutants or pollutant sources identified are:

- Urbanization (21 waters) – typically a mix of pollutants from runoff (i.e. turbidity, toxics) and habitat degradation
- Toxics (18) – mostly metals and petroleum
- Bacteria (17)
- Turbidity (12)
- Habitat degradation (8)
- Sediment (4)
- Temperature (2)
- Dissolved gases (1)

The pollutants turbidity and toxics were selected as the focus for the Five-Year Plan (FY 2016 – 2020) based on the need to address pollutant sources, the relationship to other pollutants, the potential for partnership in reducing these pollutants, and the need for implementation tools, which are discussed in Section 4.1. The pollutant bacteria was identified as a probable future focus for the water quality programs with some ongoing program development that is supported by additional non-319 grants and partnerships.

The goals that resulted from the strategic planning process are as follows:

GOAL 1 - Increase the amount known about Alaska's waters.

GOAL 2 - Standardize how DEC evaluates information for the purpose of listing and delisting a waerbody on the impaired waterbody list by developing listing methodologies and policy.

GOAL 3 - Increase or continue collaboration with other programs, agencies and community-based organizations.

GOAL 4 - Restore waters that are impaired and keep them healthy once restored.

GOAL 5 - Conduct outreach on BMPs so that urban and industrial development sustains water quality.

GOAL 6 - Keep Our Clean Waters Clean: Highlight and protect healthy waters that are at risk.

GOAL 7 - Keep Our Clean Waters Clean: Educate the public on water quality and smart practices to prevent pollution.

By narrowing the focus to turbidity and toxics, DEC will focus their resources on meeting these goals for those pollutants. For example, monitoring through ACWA grants or contracts will be focused on turbidity and toxics, although other parameters like bacteria are not ruled out. Listing methodologies will be focused on these pollutants. Outreach and collaboration – not just within the nonpoint source and ACWA program, but across other DEC Water programs such as permitting – will be focused on turbidity and toxics. For example, the Director already routinely presents at mining conventions or meetings, and routinely uses these opportunities to discuss turbidity and its effects. DEC will use creative mechanisms – like the Air Division's Burnwise Alaska program (see http://test.dec.alaska.gov/air/BurnWise/index.htm) to dispel the prevalent myth that turbidity is not a problem and does not cause harm.

The goals are linked: The listing methodologies will serve as guides in designing sampling plans, which will be used for assessment, in order to learn more about Alaska's waters. The listing methodologies will then be used for listing purposes, and to assess whether restored waters do indeed meet standards and can be delisted. The focus on BMPs will keep waters from becoming impaired, as well as helping impaired waters to recover. The education and outreach on the specific pollutants will in turn keep Alaska's clean water clean.

See Section 4.2 for more specifics about the plan to implement these Five-Year Nonpoint Source Program goals, and Section 4.3 that demonstrates the step-wise process and yearly numeric targets for implementing these goals relative to specific actions and waterbodies.

3. Overview of federal Clean Water Act programs

Two federal programs under the CWA direct the efforts of state nonpoint source programs. CWA Section 303(d) directs the identification of pollution (impairments) and its sources and the development of TMDLs. CWA Section 319 Nonpoint Source Pollution Program funds state and

local projects to implement TMDLs and other restoration and protection practices that control nonpoint source water pollution.

3.1 Clean Water Act Section 303(d) Program Goals

CWA Section 303(d) requires states, territories, and authorized tribes to develop lists of impaired waters. Impaired waters are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the list and develop TMDLs for these waters. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

On December 5, 2013, EPA released *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program*, which is a new collaborative framework for implementing the CWA Section 303(d) Program with States. The Vision was developed through collaboration among States and EPA that began in August 2011. While the Vision provides a new framework for implementing the requirements of the CWA Section 303(d) Program, it does not alter State and EPA responsibilities or authorities under the CWA Section 303(d) regulations.

The CWA Section 303(d) Program provides for effective integration of implementation efforts to restore and protect the nation's aquatic resources, where

- the nation's waters are assessed,
- restoration and protection objectives are systematically prioritized, and
- TMDLs and alternative approaches are adaptively implemented.

These efforts will help achieve water quality goals with the collaboration of states, Federal agencies, tribes, stakeholders, and the public.

3.2 CWA Section 319 Nonpoint Source Program Goals

The CWA Section 319 Nonpoint Source Program is an integral component and funding source for state nonpoint source management programs. The programs aim to control nonpoint source pollution to achieve and maintain beneficial uses of waters.

In 2013 after collaboration with states, EPA issued an updated *Nonpoint Source Program and Grant Guidelines for States and Territories*. The revised guidelines provide updated program direction, an increased emphasis on watershed project implementation in watersheds with impaired waters, and increased accountability measures. The guidelines also emphasize the importance of states' updating their nonpoint source management programs to ensure that Section 319 funds are targeted to the highest priority activities. Effective state nonpoint source programs supported by Section 319 maintain and improve water quality by:

- strategically focusing on water quality goals to achieve water quality standards in the state's priority waters/watersheds;
- clearly articulating program goals and developing annual work plans that reflect actions to advance those goals;
- reflecting a balance between planning, staffing, statewide action, and watershed project implementation that best uses resources to deliver measurable water quality results;

- leveraging and integrating other programs to align planning, priority-setting, and resources to make the best use of available resources to control nonpoint source pollution; and
- tracking and reporting results to demonstrate program progress and success.

By supporting the variety of state nonpoint source management programs with an integrated national framework, the Section 319 program helps address the national water quality challenges posed by nonpoint source pollution.

3.3 Clean Water Act Programs and Alaska

In Alaska, the ACWA process is the primary mechanism for meeting federal CWA program requirements for

- assessment and monitoring – CWA Sections 106 and 305(b),
- waterbody impairment and TMDLs – CWA Section 303(d), and
- nonpoint source pollution protection and restoration projects – CWA Section 319.

DEC uses the ACWA process to integrate both CWA Sections 303(d) and 319 program requirements. Figure 2 shows how the different elements of the ACWA process use federal and state guidance as inputs to develop and implement ACWA actions. Table B-1 in Appendix B lists the key elements of the CWA Section 303(d) vision and how the ACWA process implements the elements. Table B-2 lists the key elements of a state nonpoint source program and how the ACWA process addresses the CWA Section 319 program guidelines

Figure 2. Inputs to Alaska Clean Water Actions (ACWA)

National CWA 319 funding formula and grant guidelines
Alaska Nonpoint Source Water Pollution Control Strategy
Annual NPS Report
ACWA Projects

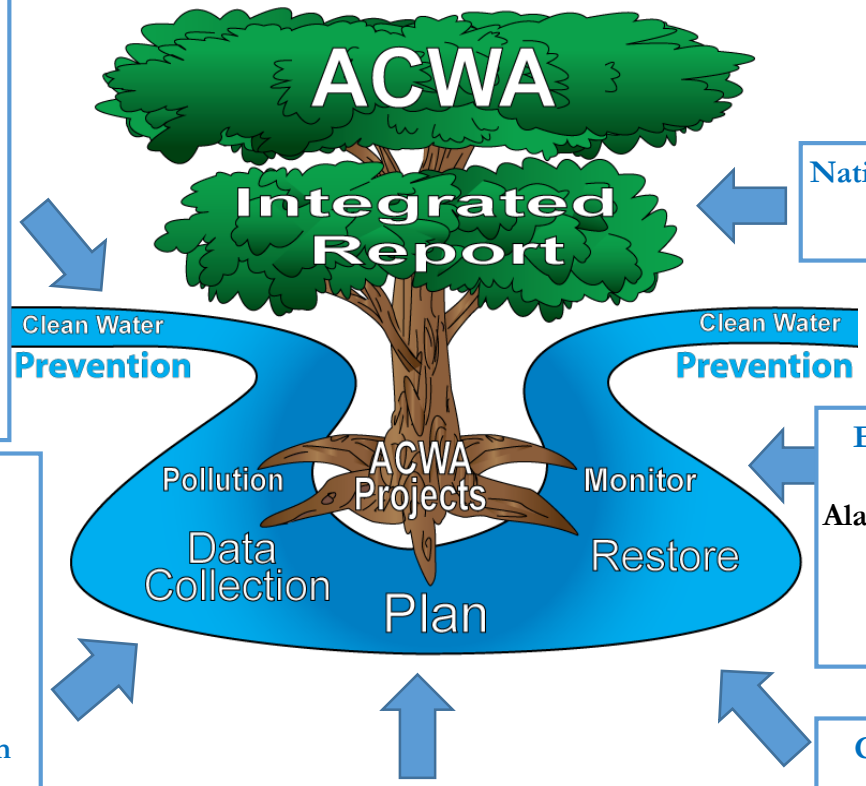
NPDES Priority Permits & Regulations
APDES Continuing Planning Process
APDES Permits and 401 Certifications (point source)

Consolidated Assessment and Listing Methodology
Alaska 303(d) listing methodologies
303(d) listing determinations
ACWA Projects

EPA's Elements of a State Water Monitoring and Assessment Program
Alaska Water Quality Monitoring and Assessment Strategy
Alaska Monitoring and Assessment Surveys

EPA Requirements for QA Project Plans
DEC Elements of Tier 2 Water Quality QAPPs
QAPPs

National Compliance Monitoring Strategy
Enforcement Response Guide
Compliance Inspections/DMRs



National Integrated Report Guidance
Alaska Integrated Report

EPA Assessment Database and ATTAINS
Alaska 303(d) listing methodologies
ACWA Projects
Water quality and BMP effectiveness monitoring

Grant Report Tracking System

Implementation of Existing TMDLs & Watershed Management Plans
Point source wasteload allocation
Nonpoint source BMPs
Other waterbody recovery plans
ACWA projects

APDES Permits
Compliance & Enforcement Actions

National 303(d) and TMDL Vision
Alaska TMDL Schedule and TMDL Inventory
ACWA Prioritization and Actions Process

EPA PPG Guidance
Alaska PPA / PPG and other grant applications
State Spending Plan

APDES Permit Issuance Plan
Compliance Inspection Schedule

Blue text indicates federal guidance or reporting requirements, state guidance are in bold text, and normal text indicates an implementing mechanism or deliverable.

4. Strategies to Improve Alaska's Nonpoint Source and CWA Section 303(d) Programs

4.1 Five-year pollutant focus for ACWA stewardship and high priority waters (2016-2020)

During the next five years, the ACWA nomination process will prioritize projects that focus on actions to address turbidity and toxic substance impacts and the sources of turbidity and toxics. Additionally, the ACWA process will prioritize projects that propose to gather information, develop program guidance, develop a listing methodology, and build partnerships for waters with bacteria contamination, which will become a future pollutant that the ACWA process will focus on for protection and restoration. These pollutants best represent related pollution concerns caused by both urban and natural resource development.

4.1.1 Turbidity and Sediment

Sources: The most prevalent anthropogenic sources of turbidity and sediment in Alaska include urban stormwater runoff, placer mining activities, boat wakes, forestry activities, construction, and roads.

Relationship to other pollutants: Turbidity and sediment are closely related pollutants, with sediment being the most common cause of turbidity in Alaska's waterbodies. Turbidity is often associated with erosion resulting from increased urbanization, both in terms of increased pavement and recreational vehicles use (boats, all-terrain vehicles). In addition, the likelihood of the concentration of other pollutants increasing as a result of increased turbidity and/or sediment runoff means that a focus on turbidity/sediment may also address other concerns (e.g., bacteria and habitat degradation).

Potential for partnerships: Turbidity issues are also addressed by other DEC water quality programs, particularly Water Quality Standards, Stormwater and Mining sections. Turbidity is also a concern to other DEC programs, such as Drinking Water, as well as to the other ACWA agencies (DFG and DNR).

Implementation issues: The ability to restore and protect Alaska's waters from turbidity pollution is in the medium to hard difficulty range. Some restoration actions (such as reducing stormwater runoff flow rate and settling out solids) will require design changes in urban development projects. For other sources (such as use of motor boats and other vehicles and runoff from historical placer mining sites), BMPs may be difficult to develop and implement, particularly when implementation relies on voluntary actions.

4.1.2 Toxic substances

Sources: The most prevalent anthropogenic sources of toxic contaminants (primarily metals and petroleum) include urban stormwater runoff, mining activities, historic contaminated sites, recreational boating, and transportation infrastructure (roads, harbors, marinas)

Relationship to other pollutants: Toxic contaminants include a large range of pollutants and, like turbidity, can be seen as an outgrowth of urbanization and resource development.

Potential for partnerships: The public and other resource agencies tend to be more concerned with toxics because of the possibility of contamination of fish/shellfish or drinking water sources. Hence, there may be a higher likelihood of public acceptance that toxics are an important water quality concern.

Implementation issues: Restoring a waterbody contaminated by a toxic pollution can be expensive and daunting when considering the numerous and diverse pollution sources. DEC may need to focus on particular types of toxins or particular sources (e.g., roads/vehicles, historic industrial contamination sites, boating activities). Depending on the sources and contamination media (e.g. water column, sediment), restoration actions may range from short projects to long and complex projects. Protection and prevention efforts may be far more effective, so outreach and BMP development will be important activities.

4.1.3 Bacteria

Sources: The most prevalent anthropogenic sources of bacterial contamination in Alaska's waters include domestic wastewater treatment systems, onsite septic systems, other sanitation systems (or lack thereof), stormwater runoff, domesticated animals (e.g. dog walking and dog kennels), and wildlife attracted to human activities (e.g. fishing).

Relationship to other pollutants: Bacterial contamination is a common pollutant of concern in Alaska. However, at the national level, the water quality standards for bacteria are under review, which may affect ACWA protection and restoration actions for waters with bacterial contamination. Bacterial contamination is recommended for planning actions in preparation for an ACWA protection/restoration focus in 2021-2025.

Potential for partnerships: Bacterial contamination is not usually associated with turbidity or toxic contamination, so different approaches, partnerships, and outreach audiences may be necessary for this future focus. DEC will continue to work with current partners for this issue using alternative funding sources, such as EPA Beach Monitoring Grant program, Clean Vessels grant, and National Water Quality Initiative (NWQI).

Implementation issues: Restoration of waters with bacterial contamination can and should be a relatively rapid action. Outreach is also important as nonpoint source pollution may be difficult to control by direct regulatory action. During the 2016-2020 period, ACWA actions should focus on information gathering, BMP development and pilot testing, water quality standards review, and listing methodology revision. Additional actions may be taken where support from other agencies is available through funding or in-kind support.

4.2 Five-Year Nonpoint Source Program Goals

The Five-Year Program goals will be met by using both the ACWA process to identify and prioritize projects that will focus efforts to protect and restore polluted waterbodies impacted by nonpoint source pollution, as well as other DEC programs and outreach activities. The goals were established from the results of the strengths, weaknesses, opportunities, and threats analysis conducted during the first workgroup meeting. As stated in Section 2.2, these goals are:

GOAL 1 - Increase the amount known about Alaska's waters.

GOAL 2 - Standardize how DEC evaluates information for the purpose of listing and delisting a waerbody on the impaired waterbody list by developing listing methodologies and policy.

GOAL 3 - Increase or continue collaboration with other programs, agencies and community-based organizations.

GOAL 4 - Restore waters that are impaired and keep them healthy once restored.

GOAL 5 - Conduct outreach on BMPs so that urban and industrial development sustains water quality.

GOAL 6 - Keep Our Clean Waters Clean: Highlight and protect healthy waters that are at risk.

GOAL 7 - Keep Our Clean Waters Clean: Educate the public on water quality and smart practices to prevent pollution.

GOAL 1 - Increase the amount known about Alaska's waters

DEC is responsible for assuring that the quality of our waters is protective of health – our human health, and the health of fish and other organisms that use the water. First we determine how a water can be used (drinking water, swimming, fish and shellfish harvesting). Next we protect those uses by establishing water quality criteria for each type of use. How we measure water quality and implement the water quality criteria is critical for making decisions on which waters are the highest priority and what actions are appropriate for protection and restoration.

The vast majority of waters in Alaska are assumed to meet water quality standards, especially when there are no significant anthropogenic pollution sources. Sufficient monitoring data are rarely available due to the size and extent of surface waters in Alaska, limited resources for monitoring, and accessibility.

Five and 10-year water quality monitoring goals are described in Alaska's WQMA Strategy. The monitoring goals that relate to Alaska's CWA Sections 303(d) and 319 nonpoint source activities are found in Appendix B of the WQMA Strategy. The WQMA Strategy also sets goals for enhancing the Ambient Water Quality Monitoring System (AWQMS) data management system to improve the accessibility of data generated by ACWA monitoring projects and AKMAP regional statistical surveys.

The ACWA process is used to prioritize monitoring and assessment projects that:

- Assess waterbodies to determine potential impairment (identify at risk or polluted waters),
- Evaluate BMP effectiveness (recovery progress), and
- Assess attainment (recovery completed, monitor maintenance of healthy waters).

Measurable objectives

- Submit the biennial Integrated Monitoring and Assessment Report (Integrated Report) to EPA by April 1 of the reporting years (2016, 2018, and 2020) that will include identification of impaired waters not meeting water quality standards.

- Improve geographic information tools (GIS) tools and procedures to track changes to impaired and at-risk waters as a result of data collection and waterbody recovery projects.
- Compile index for historic (pre-2015) ambient water quality data storage locations in DEC programs and, where accessible, external agencies.
- Develop a long-term plan for assessing and reporting regional baselines and water quality trends.
- Select a five-year focus region for 2017-2021 AKMAP survey cycle.
- Conduct waterbody assessments on at least five at-risk waters identified through the ACWA process that have insufficient information to determine water impairment or attainment status.
- Collect monitoring data necessary to support development of at least two TMDLs or other watershed plans per year.
- Conduct one monitoring project per year to measure effectiveness of BMPs.
- Develop Quality Assurance Project Plans (QAPPs) for all ACWA data collection projects consistent with the Water Programs Quality Management Plan.
- Review QAPPs and field audits conducted in accordance with the annual Performance Partnership Grant work plan.
- Provide two training events for ambient water quality monitoring for turbidity, toxic substances and bacteria.
- Send three key staff to advanced monitoring training or conferences.
- Collaborate with other agencies, public organizations, and industry to provide training and sampling protocols for parameters of concern in joint monitoring projects.
- Improve data management through training and integration of AWQMS and ACWA databases for all Water Quality programs.
- Provide a public portal for AWQMS and ACWA databases.
- Issue ACWA grants or contracts for projects to monitor water quality for the following high priority waters impacted by nonpoint source pollution– Deshka River, Kenai River, Ketchikan Creeks, Little Susitna River, Willow Creek, Anchorage Bowl watershed, Cottonwood Creek, Crooked Creek watershed, Juneau watershed, and Lake Lucille.

GOAL 2 – Standardize how DEC evaluates information for the purpose of listing and delisting a waterbody on the impaired waterbody list by developing listing methodologies and policy

The CWA establishes a process for listing waters as impaired that don't meet water quality standards under CWA Section 303(d) and for delisting those waters. A "listing methodology" can be used to list a waterbody as impaired and to delist the waterbody once the impairment is removed. The listing methodology describes the quantity, quality, and nature of the data that must be collected in order to demonstrate that the waterbody is or is not attaining its designated use(s) and meeting water quality criteria. Each potential pollutant should have its own listing methodology. The listing methodology uses the water quality standards as the basis for comparison. The water quality of the waterbody is compared against the water quality standards, systematically and in a statistically significant manner. DEC has developed some listing methodologies – for example, turbidity and fecal coliforms – but

these methodologies may become outdated and need revision as technology and standards change. New and revised listing methodologies will be public noticed to allow the public the opportunity to provide DEC information that may be included in the final methodology.

A listing methodology serves as the essential reference document for entities collecting water quality data. Partners and interested parties who collect water quality data consistent with the applicable listing methodology can aid DEC in its process of determining if a waterbody should be listed as impaired or delisted.

Data collected before a listing methodology is finalized will be compared against the listing methodology once it is finalized. When data gaps exist so that an impaired water determination cannot accurately be made based on the listing methodology, additional data may need to be collected to augment the past data.

Measurable objectives

- Use listing methodologies and listing determination procedures to stream line CWA Section 303(d) listing and delisting decision process.
- Develop the following listing methodologies:
    - 2015 – Petroleum / Hydrocarbons
    - 2016 – Turbidity revisions
    - 2017 – Toxics in sediment
    - 2017 - Category 4c for invasive species
    - 2018 – Bacteria– dependent on adoption of recreational water quality criteria in water quality standards
- Develop guidelines for using biological assessment information to supplement water quality data in CWA Section 303(d) listing decisions.
- Develop guidelines for using remote sensing data to help identify at-risk waters and supplement water quality data.

GOAL 3 – Increase or continue collaboration with other programs, agencies and community-based organizations

Many agencies and community-based organizations have authority and/or interest in improving aquatic resources. The ACWA process was created on the principle that investing in partnerships to coordinate and enhance water-related activities will make all the partners more effective in achieving their missions. The ACWA process enhances interagency coordination by using information provided by resource agencies, education and research institutions, non-government organizations, and the public to set priorities that influence funding allocations.

Current collaborations include:

- ACWA WEG, which includes annual participation by agency representatives from DEC/Nonpoint Source Program, DEC/Drinking Water Protection, DNR Water Rights, DFG Sport Fish, and EPA Region 10 Watershed Unit
- ACWA grant funded partnerships – local governments, tribes, watershed councils and other community based organizations

- External collaborations not funded by ACWA grants –
  - National Resource Conservation Service for NWQI,
  - National Fish Habitat Partnerships for protection and restoration of anadromous waters,
  - US Fish and Wildlife Service for stewardship action on green infrastructure,
  - Alaska Clean Harbors for stewardship actions related to activities at harbors and marinas,
  - Exxon Valdez Oil Spill (EVOS) Trustees Council for stewardship action and restoration of EVOS beaches, and
  - Interagency Hydrology Committee – for protection of groundwater resources.

Measurable Objectives

- Attend Alaska Clean Harbor technical advisory committee meetings as scheduled, 2-3 times/year.
- Support the development of new regional fish habitat partnerships in Alaska.
- Collaborate with Natural Resources Conservation Service and provide outreach on water quality impairments in the focus areas (i.e. Cottonwood Creek and Anchorage Bowl watershed) for NWQI.
- Participate in and/or coordinate at least two meeting per year of the Fairbanks Green Infrastructure Group.
- Participate in at least one Board of Forestry meeting per year to report on forestry related water quality issues.
- Attend six meetings per year of the Kenai River Special Management Area Advisory Board.
- Participate in collaborations for the following high priority waters impacted by nonpoint source pollution: Kenai River, Anchorage Bowl watershed, Big Lake, Coffman Cove Creeks, Chena River watershed, Cottonwood Creek, Crooked Creek watershed, Goldstream Creek, Granite Creek, Dutch Harbor, Iliuliuk Harbor, Skagway Harbor, Juneau watershed, and Lake Lucille.

GOAL 4 - Restore waters that are impaired and keep them healthy once restored

Addressing the impairment of a listed waterbody is done by a variety of means: education; informal work by interested parties; or more formal processes, such as the development of a TMDL, municipal ordinances, state regulations or other enforceable restoration plans. Restoration activities are typically multi-year projects that go through public review at key steps (e.g. CWA Section 303(d) listing, TMDL development, and annual ACWA grant solicitation).

Alaska will continue to comply with the 1994 court order to EPA that requires the development of two TMDLs per year until all waters on Alaska's 1992 CWA Section 303(d) impaired waters list have been addressed. DEC anticipates fulfilling the requirements of the court order within the next five years when the remaining TMDLs will be completed.

Through the CWA Section 303(d) long-term vision, EPA recognizes the need to develop alternate performance measures rather than simply counting the number of TMDLs developed each year. EPA's vision includes measures that monitor progress in implementing TMDLs through identifying

water quality improvements of impaired watersheds at the catchment basin level as defined in the National Hydrography Dataset (NHD+). Unfortunately, catchment basin mapping is not available in Alaska, so an alternate strategy for monitoring restoration progress will be developed for Alaska.

Measurable Objectives

- Complete and submit for EPA approval at least two TMDLs each year including the remaining TMDLs listed in the 1994 court order.
    - 2015 - Cottonwood Creek (fecal coliform, urbanization) and Goldstream Creek (turbidity, placer mining)
    - 2016 - Hawk Inlet (metals, hard rock mining)
    - 2017 - Lake Lucille (metals, stormwater)
    - 2018 - Crooked Creek watershed creeks (segment watershed as multiple creeks, turbidity/metals from placer mining)
    - 2019 – Crooked Creek watershed creeks
    - 2020 – Popof Strait (residues) and Matanuska River (residues)
- Develop alternative TMDL/recovery plan performance measure(s) to replace the two TMDLs per year court ordered requirement.
- Develop a process for TMDL/ recovery plan progress monitoring for Alaska.
    - The national model requires a version of the NHD+ that is not available in Alaska.
- Issue ACWA grants for projects to restore impaired waters and protect restored areas for the following high priority waters impacted by nonpoint source pollution– Anchorage Bowl watershed, Big Lake, Coffman Cove Creeks, Chena River watershed, Cottonwood Creek, Crooked Creek watershed, Goldstream Creek, Granite Creek, Juneau watershed, and Lake Lucille.

GOAL 5 - Conduct outreach on BMPs so that urban and industrial development sustains water quality

ACWA projects can also fund more specialized BMP development, such as education, installation, and effectiveness monitoring for urban and industrial development activities. Activities may be partially regulated by stormwater permits, but ACWA projects could include implementing BMPs that are in addition to permit requirements or that are applied in areas or activities not covered by stormwater permits (e.g. where a municipal storm sewer system permit is not required).

Measurable Objectives

- Develop web-based Alaska BMP links/library for nonpoint source pollution
- Support Alaska Clean Harbors Program
    - Attend Alaska Clean Harbors technical advisory committee meetings as scheduled, 2-3 times/year
    - Assist two harbors in completing Alaska Clean Harbors certification
- Stormwater management
    - Include stormwater management stewardship actions in the annual ACWA grant solicitation
    - Assist one community in developing a stormwater management program

    - Post on website and distribute Alaska Storm Water Guide
- Alaska Forest Resource Practices Act Program
    - Conduct at least two joint DNR, DFG and DEC inspections of forestry activities
    - Participate in at least one Board of Forestry meeting per year to report on forestry related water quality issues
- Placer mining outreach
    - Provide technical assistance to miners and landowners in applying and complying with reclamation standards.
    - Conduct turbidity outreach and education, and
    - Monitor effectiveness of BMPs designed to reduce or control sedimentation from placer and gravel extraction activities.

GOAL 6 – Keep Our Clean Waters Clean: Highlight and protect healthy waters that are at risk

Some of the same techniques used for ACWA recovery projects also serve to protect other similar at risk waters (e.g., outreach campaigns for petroleum pollution prevention from small boat traffic, green infrastructure to control stormwater runoff and erosion).

The ACWA process documents concerns, goals, and actions for specific waterbodies. DEC posts high priority ACWA actions on the web, as well as waterbody reports and other products produced by ACWA watershed projects. ACWA watershed projects can be implemented by ACWA grants, contracts, or DEC staff projects.

Measurable Objectives

- Issue ACWA grants for protection projects for high priority at-risk waters impacted by nonpoint source pollution – Chiniak River, Deshka River, Kenai River, Ketchikan Creeks, Little Susitna River, and Willow Creek
- Develop procedures for using maps or remote sensing-based risk factors (e.g. impervious surfaces/roads, disturbed/cleared ground, water temperature) to conduct screening level watershed risk assessments

GOAL 7 – Keep Our Clean Waters Clean: Educate the public on water quality and smart practices to prevent pollution

ACWA stewardship actions to restore or protect waters are frequently good practices for the general public. There are many opportunities to interact with the public at popular community events or in schools preferably including hands on activities. Such outreach and education is particularly important for pollution caused by recreational or home-based activities where voluntary changes of behavior are the main mechanism to protect or improve water quality. Unlike direct regulatory actions, the public frequently welcomes local ACWA projects that offer practical suggestions on how individuals can act to protect Alaska's rich outdoor environment for current and future generations.

Sustainable environmental practices may also make economic sense by fuel savings, cooperative cost sharing, reuse, or other cost savings. Incentive programs can also significantly speed changes in public practices. Examples of outreach and educational activities include, staffing booths at

home/boat/sportsman shows, developing school lessons/activities, distributing pamphlets at boat registration and beach parking lots, broadcasting radio public service announcements, and posting signs.

Measurable Objectives

- Clean Boating education campaign
  - Conduct one outreach activity per year
  - Provide clean boating education materials to all registered boat owners on clean boating practices
- Green Infrastructure development grants and workgroup
  - Include this stewardship action in the annual ACWA grant solicitation
  - Complete two projects and one outreach activity
  - Post on web and distribute Green Infrastructure Resource Guide
- Turbidity outreach/education campaign
  - Develop a program to teach about the impacts of turbidity and to promote BMPs and individual choices that can reduce turbidity
  - Include this stewardship action in the annual ACWA grant solicitation
  - Collaborate with the permitting program to provide turbidity outreach associated with certain permitting activities; e.g., placer mining workshops and training

4.3 Five-Year Strategy Implementation Schedule

In order to demonstrate progress in meeting the goals and measurables in section 4.2, DEC has established numeric performance targets for each type of action in the ACWA process show in Figure 2. The actual number of projects in each category may vary from year to year, but the overall number of actions in each year should be maintained. The nonpoint source water project targets shown below are funded from all grant sources such as CWA 319, CWA 106, BEACH Act, and Clean Vessels Act.

Assumption in Implementation Table 1:

The number of waters or projects indicates active work during a given year, but not necessarily waters that have completed that step, since any given step may take two or more years or work to complete. For example, a water would need data collection for at least two years before an attainment or impairment decision can be made. The water would be counted for the data collection track for both of the data collection years.

Table 1. Five Year Strategy Implementation Schedule

Actions	FY2016	FY2017	FY2018	FY2019	FY2020
Program development and reporting	2016 Integrated Report		2018 Integrated Report		2020 Integrated Report
	Revised turbidity listing methodology	Toxics in sediment listing methodology	Revised bacteria listing methodology	Guidelines for biological assessment data	Guidelines for use of remote sensing data
		Invasive species Category 4c methodology			
AKMAP Statistical Monitoring	Estuaries and Streams Survey	Arctic Coastal Plain Cumulative Report	Lakes Survey	Rivers/ Streams Survey	Rivers/ Streams Survey
Protection/ Prevention Activity (outreach, planning, mapping)	3 projects	4 projects	3 projects	4 projects	3 projects
Data Collection	2 water	3 waters	3 waters	4 waters	4 waters
Assessment report/ listing determination	3 waters		3 waters		3 waters
TMDL/ Alternate Restoration Plan	2 waters	2 waters	2 waters	2 waters	2 waters
Restoration/BMP installation (including site evals, design, mapping, construction)	3 waters	4 waters	3 waters	5 waters	4 waters
BMP monitoring	0 water	2 water	2 water	3 water	3 waters
Restoration assessment report/ delisting	2 waters		2 waters		2 waters

Actions	FY2016	FY2017	FY2018	FY2019	FY2020
Total number of actions	15 waters	15 waters	18 waters	18 waters	21 waters

Implementation Examples (see Table 2)

FY2016 projects shown have been recommended but not yet approved for funding. Later years are purely speculative in order to show how high priority waters may move through the ACWA process for protection and restoration. Actual waters in each category may vary from year to year depending on

- the results of actions from prior years,
- grant applications received, and
- yearly prioritization decisions.

Orange indicates mining sources. Blue indicates recreational boating sources. Green indicates urban stormwater sources. Grey indicates other sources.

Table 2. Five Year Strategy Implementation Schedule with Examples of High Priority Waters

Actions	FY2016	FY2017	FY2018	FY2019	FY2020
Protection/ Prevention Activity (outreach, planning, mapping, ordinances, regulations)	Clean Boating – Kenai, Little Su, Deshka	Clean Boating – Kenai, Little Su, Deshka		Placer mining BMP review – Goldstream, Crooked Creek	
	Stormwater Mapping – Duck and Jordan Creeks	Turbidity Outreach – Kenai, Little Su	Turbidity Outreach – Kenai, Little Su		
	GI mapping – Chena River				
	Clean Harbor/ Boating - Skagway				

Actions	FY2016	FY2017	FY2018	FY2019	FY2020
Data Collection	Chatanika Creek - turbidity	Willow Creek – turbidity and metals	Deshka River - petroleum	Deshka River - petroleum	
		Crooked Creek watershed - turbidity	Ketchikan Creeks – turbidity/metals		
Assessment report/ listing determination	Kenai River - turbidity		Willow Creek – turbidity/metals		Deshka River - petroleum
	Kenai beaches - bacteria		Ketchikan Creeks – turbidity/metals		
	Little Su River - turbidity		Chena Slough invasive species		
	Exxon Valdez beaches – petroleum				
TMDL/ Alternate Restoration Plan	Hawk Inlet - metals TMDL	Lake Lucille – metals TMDL	Crooked Creek watershed – turbidity TMDL	Crooked Creek watershed – turbidity TMDL	Popof Strait - residues
	Revised Granite Creek TMDL - turbidity				Matanuska River - residues
		Kenai River - turbidity	Kenai River turbidity		
		Little Su River – turbidity	Little Su River - turbidity		

Actions	FY2016	FY2017	FY2018	FY2019	FY2020
Restoration/BMP installation (site evaluation, design, construction)	Chena Slough - sediment		Kenai – turbidity	Kenai – turbidity	
	Chena River - sediment	Chena River - sediment	Goldstream - Placer mining BMP demo	Little Su - turbidity	
	Jordan Creek - sediment	Duck Creek – turbidity, bacteria		Crooked Creek - turbidity	Crooked Creek - turbidity
	Anchorage Bowl - bacteria				
BMP monitoring	Odiak Pond watershed – sediment, petroleum, metals	Anchorage Bowl - bacteria	Anchorage Bowl - bacteria	Kenai River – turbidity	Little Su River - turbidity
Restoration assessment/ delisting	Exxon Valdez beaches – petroleum			Crooked Creek watershed – turbidity	Anchorage Bowl - bacteria
	Tongass Narrows – residues				Crooked Creek watershed – turbidity

Appendix A – Alaska's Clean Water Actions (ACWA) Process

The three state resource agencies, Alaska Department of Environmental Conservation (DEC), Department of Fish and Game (DFG) and Department of Natural Resources (DNR) convene a Water Experts Group (WEG) that focuses state and federal resources on addressing issues that impact water quality, aquatic habitat, and water quantity for the waters with the greatest need. The cooperating agencies developed a waterbody nomination and ranking process that relies on established criteria to prioritize waterbodies for assessment, stewardship, and corrective action. The process addresses waters affected by the presence or risk of pollution (water quality), aquatic habitat degradation, and/or water quantity and flow problems.

The ACWA process is conducted in three phases: nomination, analysis, and action. The phases may be interwoven, can occur concurrently, and may be revisited periodically. The ACWA decision tree is shown in Figure B-1.

A. ACWA Nominations and Tracks for Future Actions

1. Nominations

Given the size of Alaska and the number of waterbodies, identifying key waterbodies and prioritizing actions is especially important. The public, stakeholder groups, or government agencies may nominate a waterbody. Events that may trigger a nomination include a public complaint, a permit compliance action, a newspaper report, or conclusions from a water quality report or assessment. The nomination is reviewed by the ACWA WEG. Information identifying the waterbody is entered into the ACWA database. The nominator may be asked for additional information.

2. Track for Future Actions

The ACWA WEG evaluates each nominated ACWA waterbody and places it in one of four tracks for future actions:

- Data Collection and Monitoring
- Adequately Protected Waterbody
- Waterbody Recovery
- Protect and Maintain Waterbody at Risk

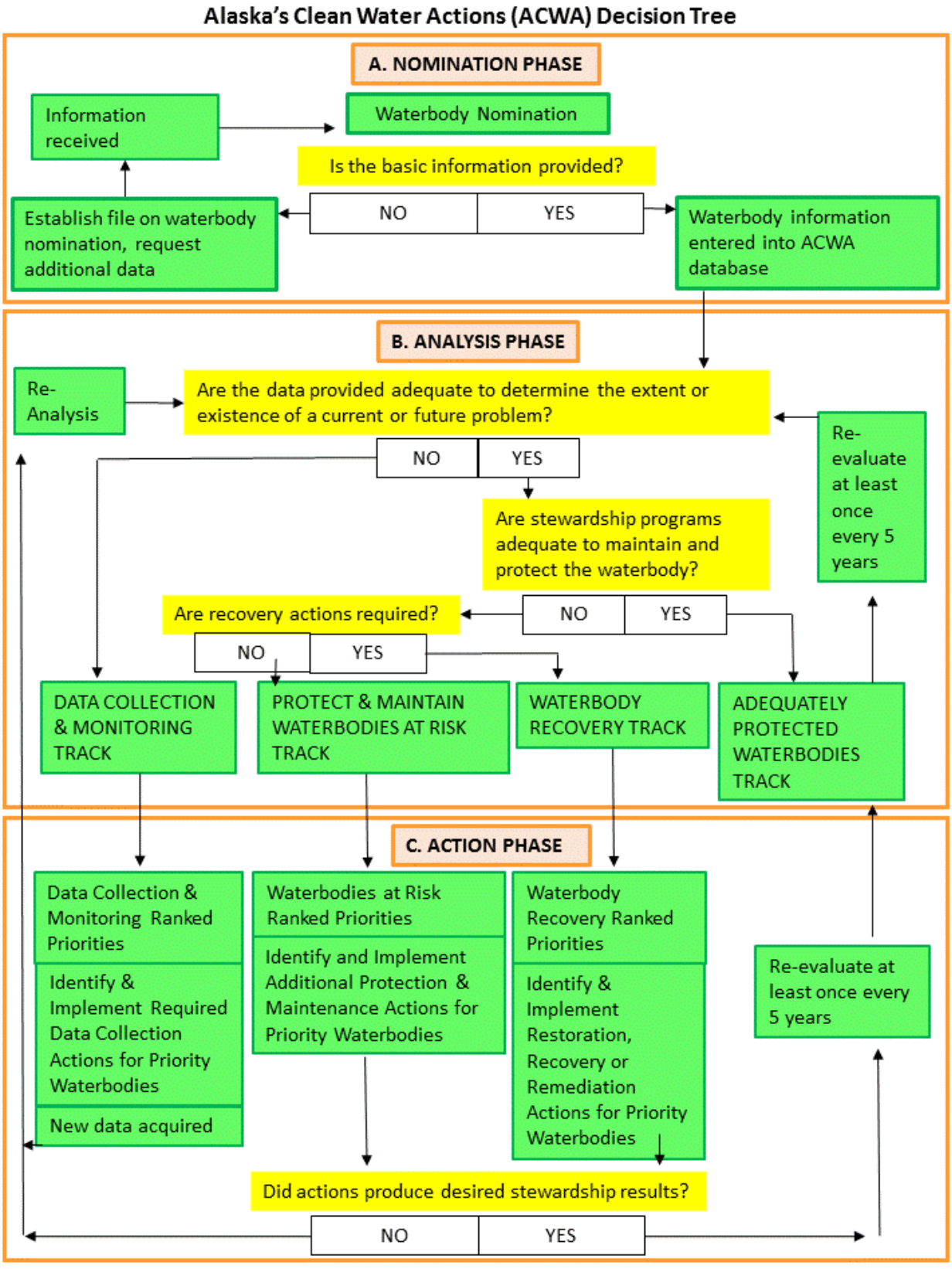
A waterbody is placed in the appropriate track based on available information and data. New information that becomes available may lead to placing the waterbody in a different track. State and federal Clean Water Act (CWA) guidance documents are used by DEC to determine ACWA priorities and waterbody actions (Figure 1).

B. ACWA Analysis and Prioritization

1. Sufficient and Credible Data Review

Each nominated waterbody is analyzed using established criteria to assess the adequacy and credibility of the associated data available for the waterbody. This step is called a "sufficient and credible data review." If information and data are insufficient or not credible, the nominated waterbody is moved to the Data Collection track.

Figure A-1


Alaska's Clean Water Actions (ACWA) Decision Tree
A. NOMINATION PHASE
Information received
Waterbody Nomination
Is the basic information provided?
NO
YES
Establish file on waterbody nomination, request additional data
Waterbody information entered into ACWA database
B. ANALYSIS PHASE
Re-Analysis
Are the data provided adequate to determine the extent or existence of a current or future problem?
Re-evaluate at least once every 5 years
NO
YES
Are stewardship programs adequate to maintain and protect the waterbody?
Are recovery actions required?
NO
YES
NO
YES
DATA COLLECTION & MONITORING TRACK
PROTECT & MAINTAIN WATERBODIES AT RISK TRACK
WATERBODY RECOVERY TRACK
ADEQUATELY PROTECTED WATERBODIES TRACK
C. ACTION PHASE
Data Collection & Monitoring Ranked Priorities
Identify & Implement Required Data Collection Actions for Priority Waterbodies
New data acquired
Waterbodies at Risk Ranked Priorities
Identify and Implement Additional Protection & Maintenance Actions for Priority Waterbodies
Waterbody Recovery Ranked Priorities
Identify & Implement Restoration, Recovery or Remediation Actions for Priority Waterbodies
Re-evaluate at least once every 5 years
Did actions produce desired stewardship results?
NO
YES

2. Creation of the ACWA Priority Ranking

Following the data review, an ACWA nominated waterbody is ranked for taking action. Each WEG representative evaluates the priority for their area of statutory authority and expertise. DNR hydrologists provide water quantity ranking, DFG biologists provide aquatic habitat ranking, and DEC provides water quality rankings.

The priority ranking is related to the requirements of the CWA, such as an exceedance of water quality standards, a compliance action associated with wastewater discharge permit, or impairment status under CWA Section 303(d) through a total maximum daily load (TMDL) or other waterbody recovery plan.

Each ACWA nominated waterbody is ranked as high, medium, or low priority for each type of evaluation – water quantity, aquatic habitat, and water quality– using standardized scoring of key factors for each type of evaluation. If an ACWA nominated waterbody is ranked as high priority for any of the three evaluation areas, then it is considered a high priority ACWA waterbody. Medium and high priority ACWA waterbodies are re-evaluated every 3-5 years or whenever new information becomes available. Re-evaluation may result in changes to either waterbody track or priority level.

C. ACWA Actions

1. High Priority Waterbody Actions

On an annual basis, the ACWA WEG reviews and identifies actions for high priority ACWA waterbodies. Waterbodies that are at risk and waterbodies needing recovery are addressed during the action phase. Actions include recovery, protection and/or data collection needs for each high priority waterbody. The annual review allows for reassessment of needed actions based on new information, including the results of previous ACWA projects.

2. Stewardship Actions

DEC also identifies stewardship actions to address particular types of pollution sources or activities that may put waters at risk of pollution. Similarly, the other ACWA agencies may propose stewardship actions for aquatic habitat or water quantity problems. A stewardship project may relate to a specific waterbody (even if it is not identified as an ACWA water), a watershed, or a broader regional or even statewide area. For example, a stewardship project can assist a local government in developing and adopting land use ordinances to prevent nonpoint source pollution, particularly storm water runoff.

3. ACWA Project Selection and Funding Mechanisms

DEC has identified water quality stewardship actions and high priority waters for CWA Section 319 funding in the *Alaska's Nonpoint Source Water Pollution Control Strategy* (Nonpoint Source Strategy), dated May 2015, Appendices A and B. The water quality priorities and stewardship activities will apply during the 2016-2020 period. The nonpoint source priorities will be incorporated into the ACWA actions and project selection process.

ACWA actions may be implemented through several mechanisms:

ACWA grant solicitation - DEC issues an annual solicitation for ACWA grant proposals for certain high priority waters and statewide stewardship (protection) actions. The grant review scoring gives a bonus to high priority waters and stewardship actions that are identified in Appendices A and B in Alaska's Nonpoint Source Strategy.

ACWA Contracts – Contractors may be hired by either DEC or the U.S Environmental Protection Agency (EPA) to complete ACWA actions where grantees are unavailable or lack technical capability. TMDL development is primarily done through contractors due to the technical nature of EPA procedures and the modeling required.

ACWA Staff Projects – Where cost effective, DEC and other state agency staff may initiate water quality projects to implement ACWA actions. This approach is sometimes used for water quality monitoring and assessment projects where state staff have the best access, equipment, and technical expertise.

Partnerships – DEC has formed partnerships with other state and federal agencies. Partnerships have included National Water Quality Initiative (NWQI), National Fish Habitat Partnership (NFHP), Alaska Clean Harbors, and Fairbanks Green Infrastructure Group.

Independent projects – ACWA actions and water information can be used by other agencies and interest groups to apply for alternative funding sources to complete water quality projects. DEC is not always involved in these projects, but the projects can be an important part of addressing nonpoint source water pollution and for protecting water resources in Alaska.

D. ACWA Outputs

ACWA project deliverables - Project documents and other deliverables are entered in the ACWA database and posted on the DEC website. CWA Section 319 grant funded projects are also entered in EPA's Grant Reporting and Tracking System (GRTS). Deliverables may include targeted waterbody assessments and reports; best management practices (BMP) development, implementation, and effectiveness monitoring; and outreach materials.

Water Quality Data - Data collected for water quality monitoring and assessment projects entered in DEC's Ambient Water Quality Monitoring System (AWQMS) for long-term storage are used by other projects and programs to aid in water quality management and decision making. Data are then uploaded to EPA Storage and Retrieval (STORET) system.

Integrated Report - The ACWA process is also used to develop and update Alaska's biennial Integrated Monitoring and Assessment Report (Integrated Report) as required under CWA Sections 303(d) and 305(b). The ACWA database is the primary mechanism to track and update information that is used to categorize and report the status of waters in the Integrated Report.

Public Education and Participation - The engagement of the affected public is critical to the success of the effort to reduce pollution and ultimately return the waterbody back to meeting water quality criteria and thus protecting those who use the water. The ACWA process provides transparency on how the State identifies and prioritizes water quality assessment, protection, and restoration activities. DEC announces the ACWA project awards through an annual press release. The ACWA process reports progress to the public via the Integrated Report, through ACWA projects posted in GRTS and on DEC websites, and by data available from AWQMS and STORET. ACWA outreach and education projects also include public participation and opportunities for dialogue.

Appendix B - Long-Term Vision and Guidelines for Clean Water Act Sections 303(d) and 319 Programs

Table B-1. Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program

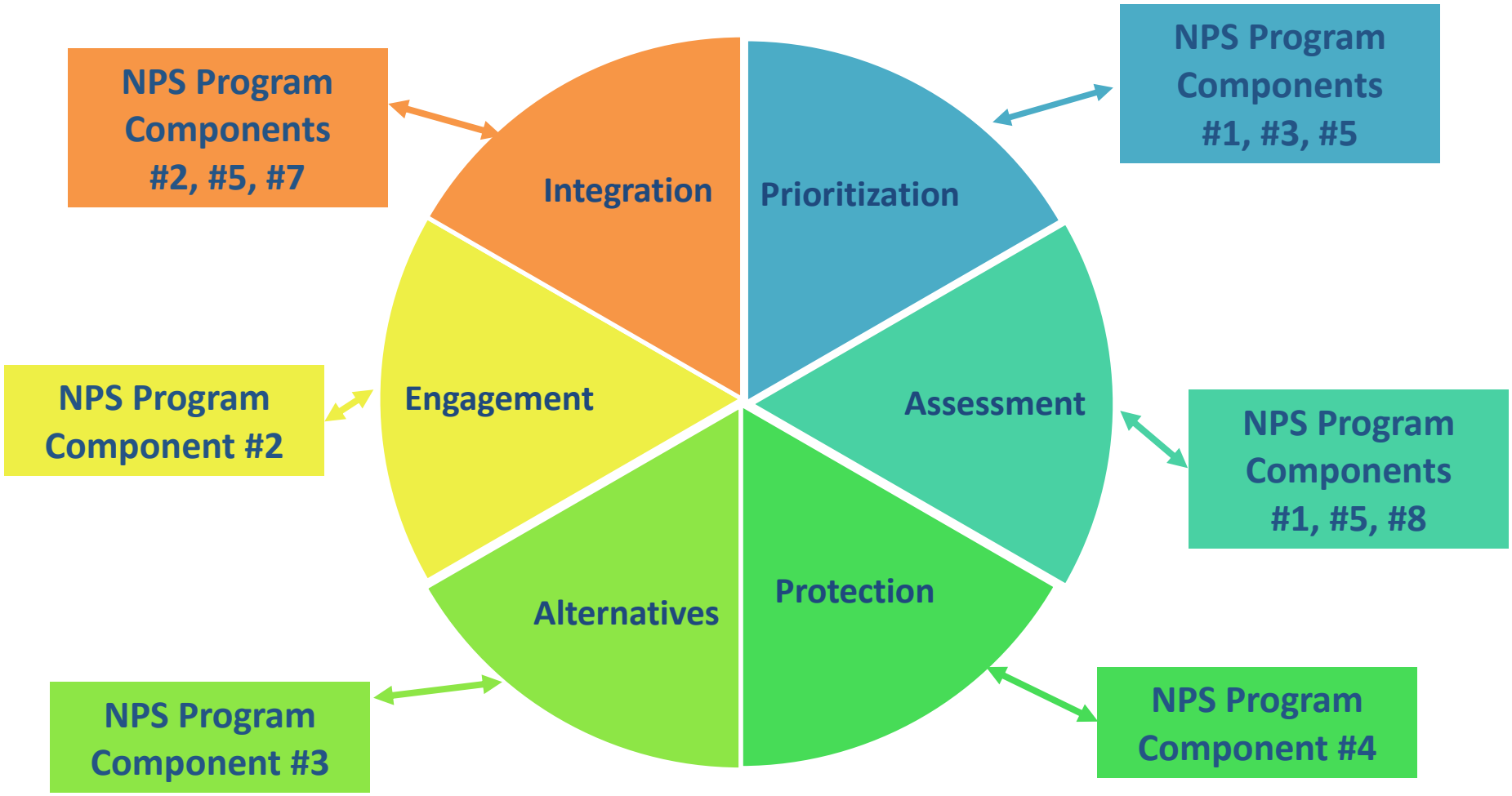
EPA Target Year	EPA Long-Term Vision for 303(d) program	How ACWA Addresses EPA Vision
2014	**Engagement** – inclusive, transparent, feedback loops	Public starts the process through the waterbody nomination process. Final ACWA/Nonpoint Source (NPS) priorities and actions posted are on website.
	Assessment – initiate ongoing statewide statistical surveys*	**Alternative approach:** ACWA process targets water quality assessments. Continued, ongoing regional statistical surveys by AKMAP. AKMAP Surveys are reported in Alaska's Integrated Report.
2016	**Integration** – coordinate actions with other CWA programs; other agencies	Three state resource agencies participate in the ACWA process. Increased internal CWA program integration among permitting, compliance, and water quality standards programs is a result of NPDES primacy.
	Prioritization – Priorities identified in the Integrated Report	ACWA process provides for an annual review of high priority waters and actions. The highest priority waters are listed in the NPS strategy and Integrated Report.
	Protection – Identify protection planning priorities and schedules for healthy waters consistent with the high priorities identified	ACWA process identifies At Risk and Protection Waters. Actions for high priority waterbodies are identified in the NPS Strategy and posted on the DEC web page.
2018	**Alternatives** – Incorporate adaptive management and use alternative approaches to develop and implement TMDLs	ACWA actions are annually reviewed and are water body specific; includes TMDL implementation.
2020	**Assessment** – Identify the extent of impaired and healthy waters in state priority areas *	ACWA process identifies high priority waterbodies, but only a subset of the waterbodies have active projects. High priority waterbodies with active assessment projects are described in the NPS Strategy, Appendix A.

* Alternative approach for assessment goals is necessary for Alaska.

Table B-2. CWA Section 319 Key Components of an Effective State Nonpoint Source Management Program

Key Components of Effective NPS Program	How ACWA Process Addresses NPS Components
1. Explicit short- and long-term goals, objectives, and strategies	a) Annual ACWA grant solicitation for actions on high priority waters and statewide stewardship goals. b) 5 year goals in NPS Strategy Appendices A & B.
2. Strengthened partnerships	a) ACWA process is a joint effort of multiple programs in three state resource agencies (DEC, DFG, DNR). b) Grants are provided to local governments, community groups and tribes. c) ACWA process is used to facilitate partnerships with federal agencies either through coordinating environmental projects for waters of common interest (e.g. NWQI, NFHP, or by use of pass through funding to other state agencies (e.g., Clean Vessels, Pacific Coastal Salmon Recovery Fund).
3. Integration of programs	ACWA process primary purpose is to integrate state resource programs in DEC, DNR and DFG including DEC programs under CWA, Safe Drinking Water Act and RCRA/CERCLA. Integration mechanisms include TMDL wasteload allocations, compliance orders by consent, CERCLA records of decision, drinking water protection priorities. Other ACWA partnerships include federal programs such as NWQI and NFHP.
4. Resource allocation for protection and restoration	a) Performance Partnership Agreement/ Performance Partnership Grant (PPA / PPG) annual commitments b) NPS Five-Year priority c) ACWA process annual implementation of resource allocation decisions within CWA Sections 303(d) and 319 programs
5. Identification and Prioritization of waters	a) NPS Strategy – Five-Year priority for waterbodies and actions b) ACWA annual process for prioritizing waterbodies and identifying actions
6. Adaptive management to achieve and maintain water quality standards	ACWA annual actions development considers previous activities and data collection and decides best next steps to address areas of concern.
7. Efficient and Effective Implementation	ACWA process is an established process that effectively identifies priority waterbodies needing actions. Implementation occurs through: a) PPA/PPG commitments b) EPA/DEC grant administration c) ACWA project funding mechanisms (see Section 2.3.3)
8. Review, Evaluation and Revision using measures of success	ACWA process includes a review and analysis step prior to annual grant solicitation. Projects are also subject to revision depending on ongoing communication and quarterly reporting.

Figure B-1. CWA 303d Vision & the NPS Management Program Components



Reporting and Accountability

Alaska's NPS Program is accountable for implementing the state requirements under CWA Sections 303(d) and 319. DEC demonstrates this accountability through numerous reports and obligations, including the following:

- GRTS reporting on ACWA grants, contracts and staff time
- PPA and PPG work plans and reports
- Annual NPS Report
- Integrated Report
- Web posting of TMDLs, BMPs, Project Reports, Annual ACWA priorities in grant solicitation, and other Nonpoint Source pages on DEC's website.
- Annual EPA 319 Satisfactory Progress Evaluation
- PPA and PPA work plan development and grant review process
- EPA participation in annual ACWA process
- EPA review and approval of Alaska's 303(d) impaired waters list
- Public participation
    - Outreach events – boat/home shows, fairs
    - Public notice of Integrated Report and TMDLs
    - ACWA waterbody nomination process
    - DEC presentations, Q&A at community meetings
    - Joint DEC-local development of local ordinances and land use plans