

SPAR Annual Report

FISCAL YEAR 2017



DEC | SPILL PREVENTION AND RESPONSE



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPILL PREVENTION AND RESPONSE DIVISION
INTEGRATED ANNUAL REPORT
FISCAL YEAR 2017 (FY17)

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1.0 A NOTE FROM THE DIRECTOR

The Division Spill Prevention and Response (SPAR) has accomplished much in the past fiscal year (FY17). As we review the body of work each of our programs have performed, we see a collective effort to pursue many of the same projects we began in 2016, in addition to new initiatives.

Past work:

Our division continues to benefit from decisions made in 2015. During that year, SPAR merged two programs into one unified program in order to achieve efficiencies. The reorganization resulted in a \$620 thousand reduction to the FY16 oil and hazardous budget. This savings provided much needed relief as oil prices plummeted and the division's prevention and response funds also declined.

After the reorganization, our programs began to operate with fewer staff and less resources, while maintaining the same protection to the environment and the public. The FY16 Department-wide unallocated general fund budget reduction further limited resources. SPAR felt the impact of this reduction by absorbing \$208 thousand of the unallocated reduction.

We continue our work today thanks in part to a refined fuel surcharge, the result of 2016 legislation (House Bill 158). The surcharge provides additional funding to SPAR and enables our continued protection of the environment.

Our recent work:

Committed to the process of continual improvement, SPAR is in a perpetual state of reviewing our work and results. We seek ways to accomplish necessary tasks with fewer employees, less travel, and better use of technology to help complete our projects. We use Skype, SharePoint, webinars, and other tools to conduct outreach with the public and stakeholders; and to plan and manage our work.

The Prevention Preparedness and Response (PPR) Program is now in its second year of operation, combining the work of responders and contingency planners to efficiently deliver greater consistency in plans, exercises, and response. This was a huge undertaking and a worthwhile effort, resulting in cost savings via unfilled vacancies and attrition.

Our Response Fund Administration (RFA) Program achieved improved cost recovery as a result of the implementation of Cost Recovery (CR) Regulations, as well as absorbing all informal cost recovery work from the Department of Law (LAW) saving SPAR substantial money.

As part of the continual improvement, the Contaminated Sites (CS) Program and PPR have been actively updating regulations. We have found more frequent, smaller regulatory packages are easier for the impacted public to review and provide meaningful input. It means more packages which may seem like more work, but we have found the opposite to be true.

Prospective work:

Employee training and preventing spills continue to be important areas of emphasis, along with continued efforts to update regulations and guidance documents. Database enhancements will help us provide information to and improve interaction with the public.

One of our biggest initiatives to prevent spills is our effort to work with medium sized fuel storage facility owners and operators. We call these Class 2 fuel storage facilities and have invested significant resources toward helping these facilities prevent spills. We are in the process of transitioning from an extensive outreach program and registration effort to identifying the common and unique challenges these facilities face.

We will also continue efforts to restructure government plans and improve drills in coordination with our federal partners.

The State of Alaska has never had a solid approach to addressing contamination on State lands. Over the next year, CS will be working closely with agencies that own contaminated properties to develop a unified approach that addresses this State liability. In the end, appropriations will ultimately be needed to clean up the contamination, however the State lacks a comprehensive plan for ranking the sites and prioritizing the limited assets. The Division will be taking on this effort over the next year.

SPAR will continue to demonstrate fiscal responsibility, utilizing resources and staff to efficiently perform duties associated with environmental protection. We prevent and respond to oil spills and other hazardous substance releases. If you have recommendations to improve our services and provide better protection to Alaskans and the environment, we welcome your ideas.



Kristin Ryan, Director

2.0 REPORT OVERVIEW

Our mission and how it relates to this report:

The mission of the Division of SPAR is to prevent spills of oil and other hazardous substances, prepare for when a spill occurs, and respond rapidly to protect human health and the environment, while managing the long term cleanup of contaminated soil and groundwater in Alaska. This report explains how our mission is carried out.

Each program within our Division also has a mission:

CS protects human health and the environment by overseeing the cleanup of contaminated soil and groundwater in Alaska. The PPR Program promotes safety and protects public health and the environment by preventing and mitigating the effects of oil and hazardous substance releases and ensuring their cleanup. The mission of the RFA Program is to manage the Response Fund as a viable, long-term source for the state's core spill prevention and response initiatives, while maintaining contracts with private firms engaged in cleanup and remediation work for the Department.

Organizational information:

SPAR is one of five divisions within the Alaska Department of Environmental Conservation (DEC). Together with the Divisions of Administrative Services, Environmental Health, Air Quality, and Water we comprise one department dedicated to conserving the environment. SPAR and each of the divisions in DEC play important roles.

In SPAR, our focus is on oil spills and spills involving hazardous substances, both inland and on water. The report separates information by each of our three programs: the CS, PPR, and RFA Program.

About the report:

The report covers the 2017 fiscal year (July 1, 2016 through June 30, 2017). Our goal is to place important information about SPAR at your fingertips.

As you turn the pages of the SPAR Annual Report, we hope you gain knowledge about the work we perform daily, and we hope the general public and legislators learn more about how we prevent spills, reduce the number of spills, and mitigate the effects of spills. Some spills involve small quantities and/or are relatively easy to clean up, while other spills require more complex response efforts and/or long term remediation.

Each program provides details regarding regional efforts and program highlights (data analysis, accomplishments, and priorities). Our Annual Report goals are:

- To describe the complex and important work we perform
- To provide information in a clear and transparent way

- To report current trends
- To state program goals and performance measurements that gauge our progress

About our audience and nature of the report:

The SPAR Annual Report is a public document. It is not a privileged document intended for governmental employees only. We want to share this report with industry experts, state and federal government workers, and our public. The SPAR Annual Report is written with all readers in mind and is intended to be a straight forward introduction to our Division. We hope it provides a basic understanding of the work we do. A great deal of our work is complex, scientific in nature, and highly technical. However, we want to share information in a user-friendly way, explaining in layman terms when possible. Our mission statement is a great start for most. As you read about the work we have accomplished throughout the state, we hope you find value in this summary.

The report allows us to take stock of our accomplishments, projects, and activities, while considering future work plans. As SPAR works smarter, more efficiently, and more cost-effectively, we celebrate our progress. We enjoy telling others about work projects and our goals for the future.

In addition to providing informative news to the public regarding our work, and measuring our goals, the SPAR Annual Report serves to assist our employees in the analysis of work priorities. As we measure what we have accomplished, and the steps that remain, we also evaluate and refine our priorities. The Annual Report provides a condensed record of our work and progress. It provides a reference for the significant and important work ahead.

Dedication:

The Annual Report gives us a chance to pause, and recognize the division staff who have worked diligently. Each member of our Division contributes to the overall success of SPAR and many staff have contributed to this report. Division employees are proud of the work we accomplish together.

While acknowledging the collective efforts of the Division, we would like to thank one person in particular this year for her leadership and guidance. The FY17 Integrated SPAR Annual Report is dedicated to Jennifer Roberts. Jennifer has served as Program Manager for the CS Program since 2014. This year Jennifer retired from state service and we want to recognize her for almost 30 years of state service. Her efforts to clean our environment and protect the health of Alaskans is appreciated. As a small token of appreciation, we dedicate this year's report to Jennifer. Jennifer leaves behind capable and well trained staff.

Other resources:

You may want to visit our website at <http://dec.alaska.gov/spar> for additional information. If you have questions while browsing the website or reading the Annual Report, please feel free to contact us.

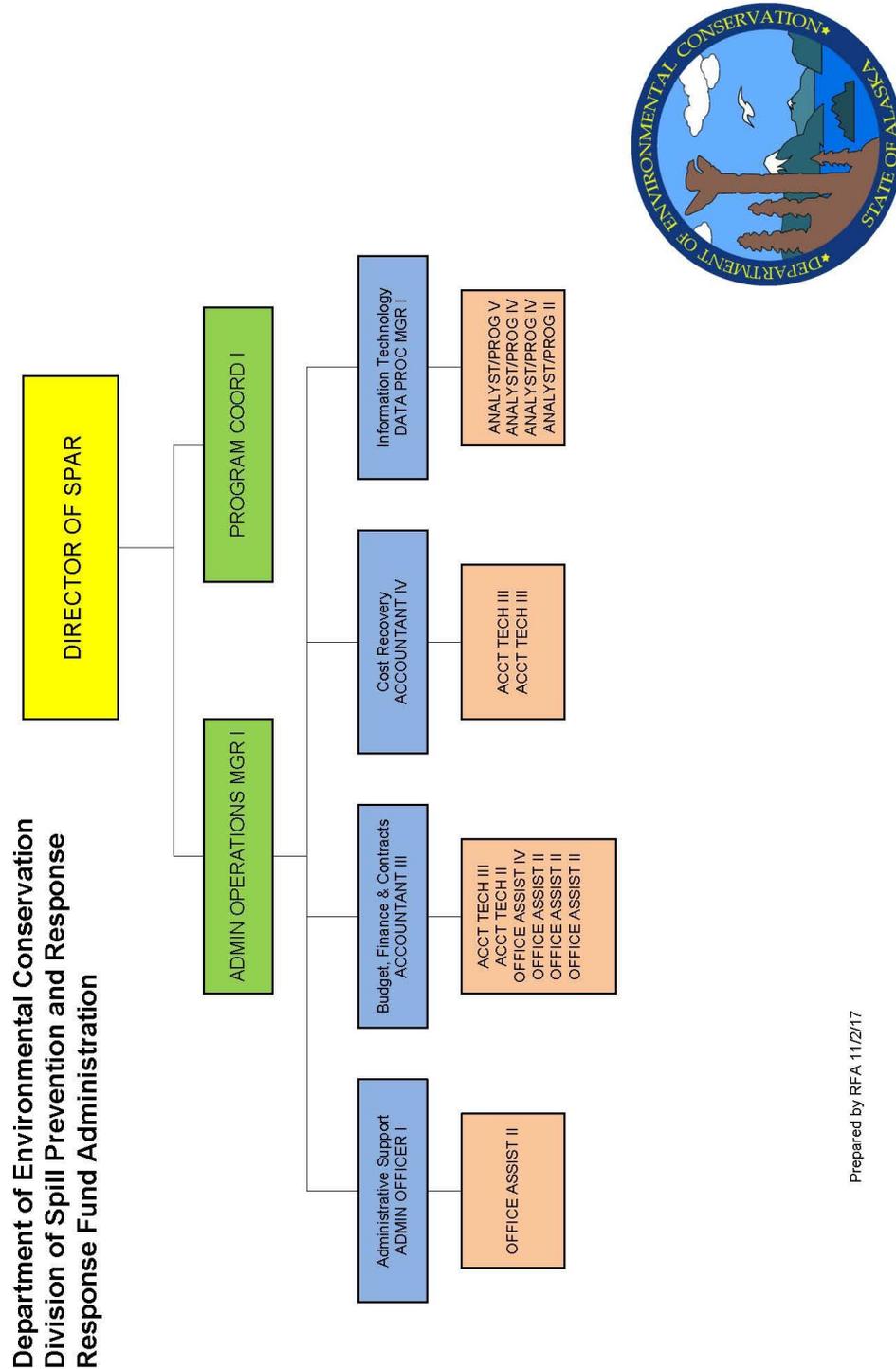
You may notice electronic hyperlinks within the report or appendices, guiding you to additional information. The links will provide more detail on subjects of interest (i.e. performance measures, the budget, various charts or graphs). We prefer a manageable number of pages, with valuable but succinct content, and to avoid replicating material from other reports. Some of the appendices have been changed this year; some tables have been renamed or reorganized for clarity and relativity. Otherwise, you will find our format very similar to previous annual reports.

Notes:

The Acronyms and Abbreviations section of this report is quite large. Not all terms contained in the acronym section are referenced in the body of the report. This section is intended as a guide to describe abbreviated terms we use frequently.

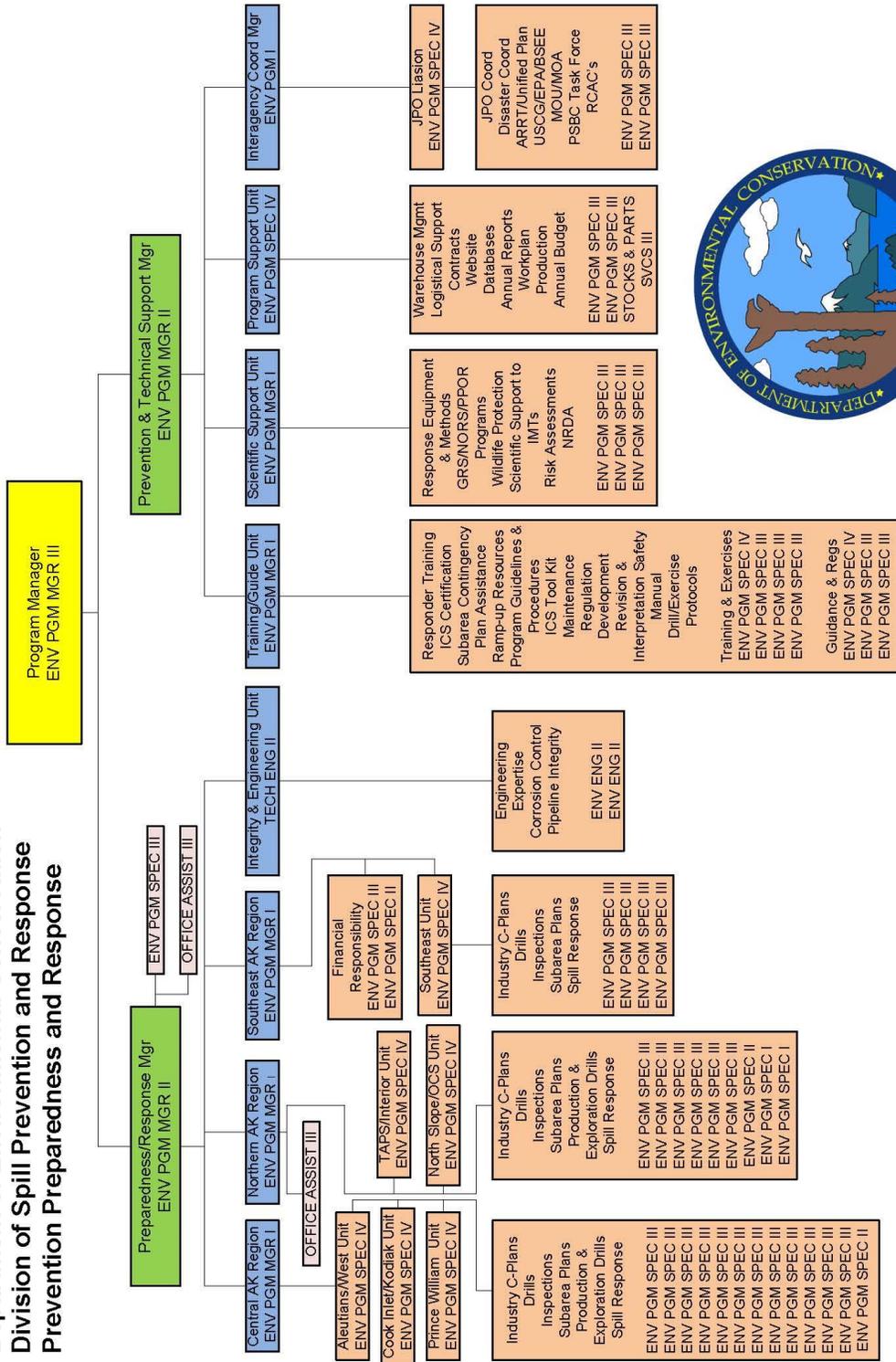
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3.0 DIVISION STRUCTURE (FUNCTIONAL ORG CHART)



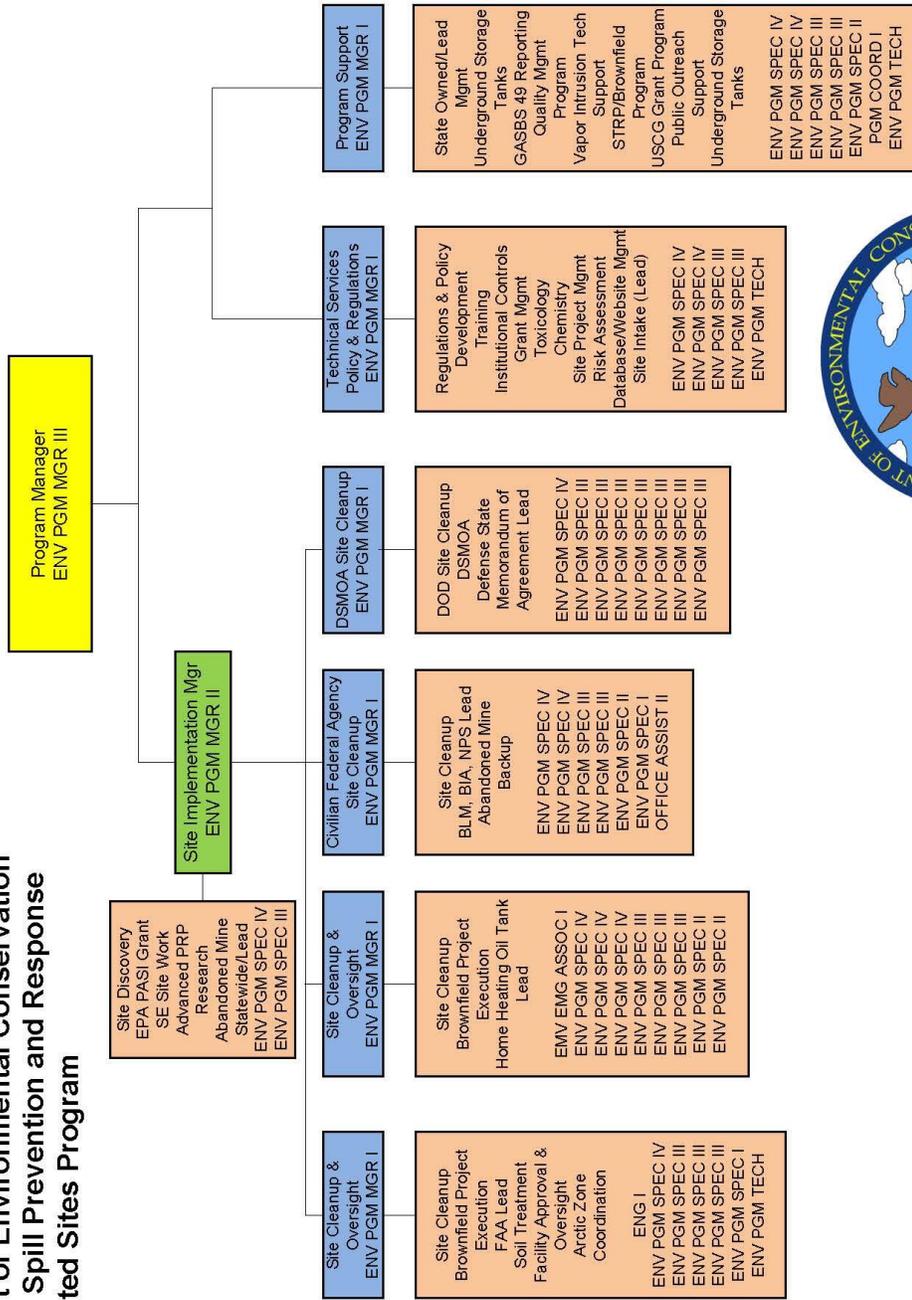
Prepared by RFA 11/2/17

**Department of Environmental Conservation
Division of Spill Prevention and Response
Prevention Preparedness and Response**



Prepared by RFA 11/2/17

**Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites Program**



Prepared by RFA 11/2/17

4.0 PPR STATEWIDE MAJOR MATTERS

GEOGRAPHIC RESPONSE STRATEGY (GRS) PROJECT

DEC continued a project to improve existing GRS, using Coastal Impact Assistance Program funds to conduct field visits and deploy, test, and evaluate proposed tactics. Concurrently, DEC conducted community engagement sessions to enhance oil spill awareness during these deployments. GRS testing ensured proper tactics have been selected to match hydrographic and environmental



DEC and USCG conducted outreach in Petersburg to demonstrate how to access and safely use government owned spill response equipment to deploy GRS, Oct 12, 2016 (Photo/DEC)

conditions at each site. Results were used to update existing strategies, and the subarea committees will be engaged to review and approve these revisions. In FY17, outreach and evaluation efforts were conducted in Dillingham, Saint Paul, and Petersburg. Outreach educates local residents about state-owned spill response equipment in their communities (see Local Response Equipment Cache section, below), how to access these supplies in an emergency, and how to safely utilize this equipment to deploy protective strategies. Outreach provides an opportunity for DEC personnel to inventory, organize, and evaluate the functionality of equipment within the caches, as well as to conduct GRS evaluations and community engagement.

LOCAL RESPONSE EQUIPMENT CACHES

DEC maintains response equipment caches in 56 locations across the state to support rapid response to oil spills. Due to the state's vast size and remoteness, local residents are frequently the first line of defense in responding to oil or hazardous substance releases. These caches provide trained local residents and partners with the equipment necessary for initial response. During GRS deployment and outreach efforts, response conexes in Dillingham, Saint Paul, and Petersburg were inspected and refurbished to support those communities. During this outreach, numerous conexes were found to be beyond their serviceable lifespan, therefore replacement units were purchased and deployed in Ketchikan, Sitka, and Skagway. Additional conexes were purchased and deployed in Deadhorse and Anchorage, which increased DEC's conex inventory from 54 to 56 units. During FY17, Coastal Impact Assistance Program funds were used to replace or add to conex supplies in the following communities: Anchorage, Auke Bay, Craig, Deadhorse, Dillingham, Dutch Harbor, Haines, Homer, Hoonah, Kenai, Ketchikan, Kotzebue, Nome, Saint Paul, Sitka, Skagway, Toksook Bay, Unalakleet, and Whittier. New containers were also positioned in Cantwell and Deadhorse. The

10-foot container in Delta was replaced with a 20-foot container to allow for more storage of response supplies and equipment.



While conducting GRS training with local responders in Dillingham, DEC inventoried and organized DEC's spill response container, August 2016 (Photo/DEC)

STATEWIDE HAZARDOUS MATERIALS (HAZMAT) RESPONSE WORKGROUP ACTIVITIES

The PPR Program provides coordination and facilitation for the Statewide Hazmat Response Team and Work Group. The Statewide Hazmat Response Work Group has continued to grow, and now has over 25 participating entities including local, state, federal, military, private, and industry hazmat response partners. The work group meets three times per year to discuss and/or update the following: statewide response capabilities, standardizing operating procedures, lessons learned from recent responses, training, exercises, funding, and other topics of interest. The Hazmat Work Group's goal is to develop a long term training plan that maintains a high level of instruction, while fostering training opportunities for new participants.

HAZMAT TEAM AGREEMENTS

During FY17, staff coordinated the distribution of First Responder Capital Improvement Project funds to five hazmat teams: Anchorage, Fairbanks Northstar Borough, Juneau, Ketchikan and Kodiak. The purpose of these funds is to help maintain and expand oil and hazardous substance spill response capabilities throughout Alaska. Funding is used by the hazmat teams for equipment purchases, maintenance, and training.

AREA PLANNING

The Department, in conjunction with the Environmental Protection Agency (EPA) and the United States Coast Guard (USCG), continues the process of adjusting from the existing Unified Plan for oil spill and hazardous material releases to a framework that is more consistent with the National

Contingency Plan and the National Response Framework. Changing the format from a Unified Plan/Subarea Contingency Plan to a Regional/Area Contingency Plan concept will bring Alaska into alignment with the rest of the nation's structure and management process for oil spill and hazardous material responses. Additional information on the Unified Plan, National Contingency Plan, and National Response Framework is located on the Regional/Area Contingency Planning Proposal website at http://dec.alaska.gov/spar/PPR/plans/regional_plan.htm.

DISASTER RESPONSE

The PPR Program continued to strengthen the Department's working relationship with the Department of Homeland Security and Emergency Management by participating in statewide all-hazard planning and interagency training opportunities. These include the Alaska Threat and Hazard Identification and Risk Assessment, Disaster Preparedness (Tsunami, Fire, Earthquake, and Flooding), and Continuity of Operations planning.

COMMUNITY ENGAGEMENT

The PPR Program reached out to community members across Alaska through numerous training events, presentations, community events, professional association meetings, hazmat and oil spill response exercises, and one-on-one communication with community and local government leaders.

Program staff facilitated DEC's participation in the Rural Alaska Community Environmental Job Training Program (RACEJT) by leading a two-day classroom segment followed by one day of hands-on training. The purpose of the RACEJT is to provide environmental training and employment for unemployed residents in rural communities that have been impacted by environmental health issues. Graduates of the program receive a program diploma, course certifications, ten university credits, and a new Occupational Endorsement as a Rural Waste Management and Spill Response Technician, qualifying them for many jobs.

In February, PPR Program staff participated in the Rural Resiliency and Outreach Workshop in Bethel. The Workshop brought more than 39 rural community governments together from the Yukon-Kuskokwim Delta to improve emergency preparedness, response, and recovery capabilities in the area. DEC worked with the Division of Homeland Security and Emergency Management to provide technical assistance for classes including oil and hazardous material response and mitigation, Incident Command System, disaster recovery, and preparedness planning. Staff also met with multiple local government agencies to discuss a variety of PPR initiatives.

Along with other DEC staff, PPR members participate on the planning committee for the Alaska Forum on the Environment Conference held in Anchorage each February. In FY17, numerous other DEC presentations were given. The PPR Program's Class 2 Facilities Coordinator spoke on the proposed Class 2 facilities registration program. The presentation was followed by an informative dialogue with agencies and individuals from a variety of communities in rural Alaska. The Class 2 facilities regulations have since been adopted and the program is discussed further in Section 6.1.2, below.

PPR staff coordinated with the USCG, the EPA, Institute of Tribal Environmental Professionals, and Bristol Bay Native Association (BBNA) to provide a three-day training for oil spill response in Dillingham for members of BBNA communities. There were over 20 attendees from Dillingham, Portage Creek, Clarks Point, Pilot Point, Port Heiden, Togiak, and Ugashik. Training provided 24-hour Hazardous Waste Operations and Emergency Response certification for attendees. PPR staff instructed students on notification procedures, oil spill waste management, above-ground storage tank maintenance and inspections, state response resources as well as suggestions for building community response resources, Small Community Emergency Response Plan awareness, and Class 2 facility regulations.

During FY17, PPR staff participated with both Regional Citizens' Advisory Councils (RCACs) in Alaska: Cook Inlet RCAC (CIRCAC) and Prince William Sound RCAC (PWSRCAC). PPR staff serve as the Liaison to the two RCACs and participate in their Board of Director meetings multiple times per year. Program staff were actively engaged with both RCACs on key projects important to them, including the on-going escort vessel transition for the PWS shippers and the Cook Inlet Task Force. PWSRCAC provided significant support and involvement in the program's effort to improve and revamp SPAR's spill response exercise program.

DEC staff coordinated with USCG and EPA partners in furthering spill prevention and response preparedness in the Northwest Arctic Region. During the fall of 2016, PPR staff participated in a subarea meeting, presenting SPAR's prevention, preparedness, and response capabilities; and also highlighting the importance of spill prevention and prompt spill reporting for heating oil tanks. A primary focus of this outreach was to build key partnerships and invite local participation in the pending subarea plan renewal. DEC, USCG, and EPA jointly revised and updated the Northwest Arctic Subarea Contingency Plan in the spring and summer of 2017, in preparation for public review in the fall of 2017.

PPR staff participated in the Interior Alaska Builders Association Home Show. Staff discussed recommended practices for inspection of home heating oil tanks (HHOTs). DEC personnel answered other questions and provided guidance for HHOT decommissioning and installation, as well as guidance for preparing HHOTs for floods and earthquakes.

The PPR Program participates regularly in the Haul Road Safety meetings. This gives DEC an opportunity to discuss spill trends and work that may be occurring along the Haul Road, and learn of any construction initiatives that may impact spill response equipment mobilization.

ABANDONED AND DERELICT VESSELS

PPR participated in the Abandoned and Derelict Vessel Task Force in conjunction with other state and federal agencies, municipalities, and interested stakeholders to address the increasing issue of derelict vessels around Alaska. The purpose of the Task Force is to discuss the environmental and financial impact derelict vessels have on Alaska communities, individuals, and state, federal, and local governments. It also identifies options for addressing these challenges. Participants in the nine-

day Task Force meetings included representatives from state agencies (Alaska Department of Natural Resources DEC, Alaska Department of Fish and Game and Alaska Department of Transportation and Public Facilities (federal agencies (USCG, EPA, and National Oceanic and Atmospheric Administration), legislative offices at the federal level (Senator Lisa Murkowski) and state level (Representative Paul Seaton, Representative Jonathan Kreiss-Tompkins), the Alaska Association of Harbormasters and Port Administrators, Orutsarmiut Native Council, and Alaska Marine Response. Through productive and lengthy discussions, the Task Force determined that effective mitigation of the risks and challenges associated with derelict vessels necessitate revision to current Alaska laws. Resulting from the efforts of the Task Force was the proposal of a bill to repeal and reenact Title 30.30 “Abandoned and Derelict Vessels.” On March 10, Senator Micciche introduced Senate Bill 92 Vessels: Registration/Titles; Derelicts. Although this bill did not pass, PPR is continuing to work on solutions to reduce the risk to the environment, commerce, and individuals.

INTEGRITY AND ENGINEERING UNIT

The Integrity and Engineering Unit (IEU) provided engineering support during assessments of regulated facilities for the State's oil spill prevention initiatives by applying knowledge of corrosion, metallurgical, hydraulic, structural, and arctic engineering. Many unique and state-of-the-art engineering practices are implemented to prevent spills to the State lands and waters. Facilities are often located in remote areas, which are subjected to harsh northern climatic conditions. IEU's engineers incorporated these practices and conditions to determine effective prevention methods and to assure informed and balanced decisions regarding the adequacy of structural integrity, inspection, maintenance, repair; the safety of high-volume, high-pressure pipelines, piping; and storage tanks that are used at regulated facilities throughout the State.

As an integral part of the Oil Discharge Prevention and Contingency Plan (ODPCP) reviewing team, IEU provided engineering support while reviewing oil spill prevention methodologies and best available technologies (BAT) for 11 ODPCPs during FY17. Within the framework of 18 AAC 75, Article 1 - Oil Pollution Prevention Requirements, IEU continued to provide engineering support to plan managers for facility inspections, follow-up requests for information, oil spill root cause investigations, and compliance actions. As requested, IEU also extended their service to the underground storage tanks (UST) program under 18 AAC 78. IEU coordinated oversight to prevent issues and ensure consistent application of State requirements.

There were planholders that had opted to switch their leak detection computational pipeline monitoring (CPM) method from the mass balance CPM, an established method in Alaska, to the statistical analysis CPM method. PPR carefully evaluated this shift in the industries' approach.

IEU continued to provide oversight of aboveground oil storage tanks (ASTs) and facility oil piping (FOP) by reviewing reports from inspections that were performed in accordance with industry standards – American Petroleum Institute (API) Standard (Std) 653 for ASTs, and API 570 for

FOP. For corrosion control, IEU also reviewed cathodic protection reports from surveys that were conducted by qualified corrosion professionals for both ASTs and FOP.

With technical assistance from IEU, PPR started to pro-actively screen new ASTs foundation designs to ensure that appropriate release prevention barriers (RPBs), consistent with a codified industry standard (Appendix I of API Std 650), were considered upfront during the design phase. With appropriately designed RPBs, a leak from a tank bottom would be prevented from escaping and would be contained or channeled to the tank perimeter for detection.

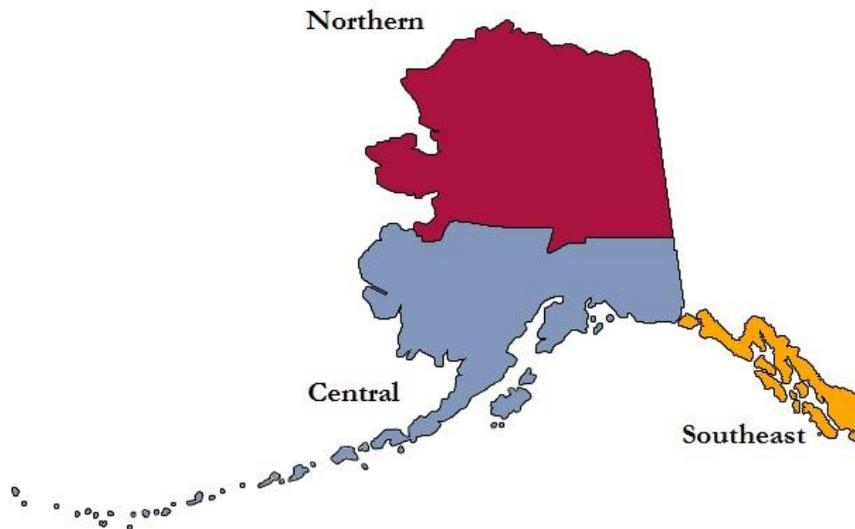
DEC/JPO LIAISON

The DEC Liaison to the Joint Pipeline Office (JPO) continued serving as the link between department staff and the JPO. The JPO is a conglomerate of state and federal agencies that have regulatory authority in monitoring and overseeing the Trans-Alaska Pipeline System (TAPS). The DNR's State Right-of-Way Lease and the Bureau of Land Management's Grant of Right-of-Way for TAPS both have multiple environmental and public health stipulations for which SPAR and the Department's Air Quality, Water, and Environmental Health Divisions have jurisdictional oversight. The DEC Liaison to the JPO serves as a conduit of information in order to minimize duplication of oversight and assist the JPO in determining Alyeska's compliance with Lease and Grant stipulations.

NEW PLANS, RENEWALS, AND MAJOR AMENDMENTS

PPR reviewed and approved the renewal of 40 oil spill prevention and contingency plans in FY17. In addition, one new plan was reviewed and approved. There were also six major amendments to existing plans and 19 owner name changes.

5.0 MAJOR MATTERS BY REGION



5.1 NORTHERN REGION

5.1.1 PPR NORTHERN REGION MAJOR MATTERS

POGO MINE, 7069 GALLONS PASTE BACKFILL, SPILL NO. 17309904901

On February 22, DEC received a report from the environmental staff at the Pogo Mine of a spill at its mine site near Delta Junction. A failed pipe coupling resulted in the release of approximately 7,069 gallons of paste backfill material to a mine building and gravel pad area. Paste backfill is a semi-liquid material consisting of mine tailings and cement and is pumped underground to fill voids and provide structural support for the mine. Due to the nature of the mining process, the paste contained cyanide. Pogo workers responded with heavy equipment and hand tools to recover the spilled material. The material was transported underground and recycled as backfill. The damaged section of piping was repaired and placed back into service. DEC response personnel traveled to the spill site to provide oversight and ensure that cleanup was complete.

BIG STATE BIRCH LAKE ROLLOVER DIESEL SPILL, SPILL NO. 16309924901

On September 5, 2016, a tractor trailer pulling double fuel tankers operated by Big State Logistics was traveling north bound on the Richardson Highway. At Mile Post 306, the hitch of the rear trailer experienced a mechanical failure causing it to separate from the truck and fall into a ditch on the west side of the road across from Birch Lake. The tanker rolled over in the ditch and suffered multiple punctures spilling 3,571 gallons of ultra-low sulfur diesel (ULSD). Big State Logistics and Salcha Fire and Rescue responded immediately establishing site and source control. DEC personnel

and the Fairbanks North Star Borough Hazmat team arrived on site to assist in initial response actions. Efforts to block and contain the spill were ultimately successful and prevented migration into Birch Lake. Standing fuel, contaminated water, and much of the contaminated soil were removed from the spill site. Remediation efforts were successful and current analytical data has demonstrated that the site has stabilized.

BRITISH PETROLEUM EXPLORATION ALASKA (BPXA) FLOW STATION 1 DRILL SITE 2 WELL 3 RELEASE, SPILL NO. 17399910401

On April 14, BPXA reported a well control incident at Drill Site (DS) 2, Well 3 resulting in an uncontrolled gas release; the gas also contained a small quantity of crude and produced fluids. The mist of gas and fluids were impacting the well pad and surrounding area. A Unified Incident Command was established on the North Slope. AOGCC engineers and BPXA’s Global Well Specialists joined the Incident Management Team for their specialized expertise. The well was killed, and the leak stopped on April 17 by pumping in potassium chloride (saltwater) to offset the upward pressure. This method of “dynamic kill” uses applied hydraulic pressure as a temporary fix until a mechanical plug can be installed. The well was secured on April 19, with a mechanical plug. BPXA chose to permanently plug and abandon DS 2, Well 3 instead of returning it to service. The spill was estimated at 210 gallons and the crude spray did not leave the pad. Impacted snow was removed and properly disposed. An incident investigation determined the cause to be frost-jacking.



LEFT - Forward looking infrared (FLIR) overflight shows crude spray plume. Crude misting is visible on snow within red line delineated at Well 3, April 14, 2017 (Photo/BPXA) RIGHT - Drill Site (DS) 2, Well 3, showing well house and tree after well was controlled, April 20, 2017 (Photo/DEC)

CAELUS ENERGY ALASKA, NUNA DRILL SITE WELL 2, FROST PROTECTION FLUIDS 7,200-GALLON DISCHARGE, SPILL NO. 17399916801

Nuna Drill Site Well 2 was drilled from an ice pad in 2013, as part of Caelus Energy Alaska’s exploration program. The well, in anticipation of it being turned into a production well, was

suspended with a permanent sump and a 16-acre gravel pad developed around the well. On June 18, a small discharge of hydrocarbon fluids was discovered. The sump was completely filled with ice, which exerted force on the outer annulus valve, causing a flange leak of frost protection fluids. The contaminated gravel was removed and the site was closed on June 28.



*Nuna Drill Site Well 2, August 7, 2017
(Photo/DEC)*

On July 6, however, oil was again observed at the bottom of the cellar. Oil was removed from the cellar and it was determined that since two inch plug ports on the sump had never been installed, oil had leaked back into the cellar from the surrounding gravel pad. Frost protection fluids escaped the outer annular space resulting in frost on the gravel pad, delaying discovery. Oil discharged from the outer annulus probably mobilized as the frost receded. It was calculated that 2,940 gallons of mineral oil (LVT 200) and 4,200 gallons diesel leaked through the open plug ports at the bottom of the cellar to the surrounding gravel pad. Cleanup actions included the removal of oil, water, and gravel and analytical confirmation sampling. The gravel pad has been restored and the spill site has a closed status.

KAKTOVIK TANK KAK-70 ULSD RELEASE, SPILL NO. 17399900901

On January 9, North Slope Borough discovered an ULSD discharge from a broken fuel line to an AST. The spill occurred during the first major winter storm of the season, with sustained winds over 60 mph and wind gusts exceeding that velocity. North Slope Borough reported the discharge occurred when wind force on an external pump house caused the supply line to shear from a 5,000-gallon AST, discharging an estimated 4,000 gallons of ULSD fuel.

Maintenance operators clearing snow did not realize the discharge occurred, and snow with diesel was pushed throughout the community near the Kaktovik Lagoon. Additionally, fuel flowed beneath the snow pack toward the school gymnasium, beneath parked and staged equipment, and over previously contaminated sites. The snow push piles with commingled fuel were delineated and ranked according to community and environmental risks. Push piles with fuel near the school were the first



*Contaminated snow push pile, January 2017
(Photo/USCG)*

contaminated media moved to a containment cell. Contaminated snow was melted, treated through an oil water scrubber and vessels of granular activated carbon, and discharged. As part of the cleanup, breakup mitigation tactics were deployed, preventing sheen from entering Kaktovik Lagoon.



Snow melting process, with “Snow Dragon” in foreground, March 23, 2017 (Photo/DEC)

RED DOG MINE ZINC CONCENTRATE, SPILL NO. 16389936601

On December 31, 2016, a southbound semi-tractor pulling double trailers of zinc concentrate during blowing snow conditions departed the Red Dog port road at MP 49. The transporter tipped, landed on its right side approximately 55 feet from the road shoulder, and discharged 145,200 pounds of zinc concentrate onto the snow covered plant community. Sub-zero temperatures and wind



Red Dog Mine Zinc Concentrate MP 49 spill, January 3, 2017 (Photo/NANA, Lynden)

impeded response actions. Mine operators developed a gravel ramp from the port road down the steep shoulder to recover the tractor and trailers. Tarps were placed and maintained over the zinc concentrate, keeping the product from spreading with the wind.

On January 21, responders attempted a winter cleanup using an excavator and haul truck. The cleanup was called off after loading one truck because the wind was blowing concentrate dust from the excavator bucket loading the truck.

Cleanup continued during spring conditions using similar tactics, controlling dust with snow. Response contractors used X-ray fluorescence (XRF) to analyze the concentration of zinc throughout the plant before obtaining analytical confirmation samples. NANA Subsistence Advisory Council was satisfied with the cleanup and site restoration, and recommended no further action.



*MP 49 cleanup actions, April 6, 2017
(Photo/ NANA, Lynden)*

NORTH SLOPE (NS) FLOW LINES

There were no NS field flow line spills reported in FY17. Spill data indicates a downward trend of the five-year moving average for flow line spills since 2006. This could be attributed to the increasing focus on pipeline integrity issues by plan holders since the 2006 major spill incidents, and Alaska flow line regulations. Please note the flow line integrity program for the Prudhoe Bay was under the purview of a United States Department of Justice consent decree between 2011 and 2015.

PPR continues to participate in the corrosion management meetings with the two major NS holders, BPXA and ConocoPhillips. In FY17, PPR also engaged a new NS plan holder, Hilcorp Alaska, regarding their corrosion management program. IEU completed the inspection process of 123 well lines at three pads in the Western Operating Area, and IEU also conducted site inspections of 99 well lines at three pads in the Eastern Operating Area. In addition to the well line program, IEU continued to review integrity data of 34 selected “high impact” flow lines.

CHARTER FOR DEVELOPMENT OF THE ALASKAN NORTH SLOPE

The Charter for Development of the Alaskan NS, signed December 2, 1999, is an agreement between the State of Alaska, BPXA, and ARCO (now ConocoPhillips), which led to State of Alaska support of a merger between BPXA and ARCO. The charter contains 11 different environmental commitments which the department oversees. The environmental commitments in the charter are ongoing for the life of the merger.

PPR organized and participated in the annual corrosion management review and asset integrity meetings with BPXA and ConocoPhillips in Anchorage. DEC staff typically meet in the fall, with BPXA and ConocoPhillips, in an open forum to view and discuss presentations about their respective corrosion monitoring programs for NS facilities. These meetings are attended by the PPR engineering team and staff who are responsible for reviewing and enforcing the companies’ Contingency Plans, and overseeing spill responses.

5.1.2 CS NORTHERN REGION MAJOR MATTERS

EIELSON AIR FORCE BASE

The CS Program continued its regulatory oversight and partnership with the United States Air Force (USAF) and EPA to ensure proper management of contaminated sites at Eielson Air Force Base. Extensive community and agency coordination continued throughout FY17, regarding a significant Perfluorinated compound (PFC) plume in groundwater discovered in 2015, which has migrated off-base and impacted drinking water wells throughout the community of Moose Creek. The DEC promulgated new clean up levels for PFCs in November 2016. In 2017, the Air Force continued to provide safe drinking water through bottled water, water delivery and granular activated carbon filtration systems. Public meetings in the community of Moose Creek have been ongoing to keep water-users informed. An Interim Feasibility Study (I-FS) was conducted by the Air Force to explore long-term solutions for supplying clean drinking water. The I-FS has been submitted to DEC and is currently under review. The preliminary results of the I-FS were presented at the June public meeting and included eight remedial alternatives for providing safe, clean drinking water. The Eielson Air Force Base Interim Proposed Plan for Long Term Water Supply and a public meeting to discuss the plan meeting is scheduled for early 2018. In 2017, the Air Force continued to build and prepare to receive the F35 Fighter Squadron and CS staff reviewed many work plans regarding managing contamination during construction.

BP RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) ADMINISTRATIVE ORDER ON CONSENT FOR NORTH SLOPE SITES

In 2007, BPXA entered into an Administrative Order by Consent (AOC) with the EPA under RCRA. The AOC outlines requirements that must be met by BPXA as operator of the Prudhoe Bay Unit facility, which is an on-shore oil and gas field on the NS utilized for development and production of oil and gas. In FY17, CS reviewed and commented on site-specific documents, as well as documents applicable to the entire AOC, including the Public Involvement Plan, the Quality Assurance Project Plan, and the Surface Water Background Report. Finalizing these documents requires a high level of CS expertise and extensive coordination with EPA, BPXA and its partners and consultants, DEC's Solid Waste Program, and the Department of Natural Resources). Staff worked closely with the parties to plan and oversee site work.



Surface water sampling on the North Slope, 2015 (Photo/BP and ERM)

NORTH POLE REFINERY

The sulfolane groundwater contamination originating from the North Pole Refinery continues to be one of the largest contaminated groundwater plumes in the State, impacting 500-600 homes in the greater North Pole area. To date, over \$6 million has been used from the emergency account of the Oil and Hazardous Substances Response Fund (OHSRF). The State filed suit against Flint Hills Resources and Williams Petroleum in 2014, over the presence of sulfolane in groundwater. The State settled with Flint Hills Resources in early 2017, to provide for the construction of a public water system that will serve neighborhoods already impacted by sulfolane contamination and also those that may be impacted in the future. The State did not settle with Williams, so that portion of the lawsuit is expected to go to trial in early 2018. A two-year study undertaken by the National Toxicology Program to evaluate the effects of chronic exposure to sulfolane ended in 2017, however conclusions from the study are not expected to be available for several more years.



*Flint Hills Refinery in North Pole
(Photo/ DEC)*

FORMER BENTLEY TAX LOTS, FAIRBANKS



*Bentley Tax Lots in Fairbanks, 2006
(Photo/DEC)*

CS staff provided oversight of contaminated sites associated with former Bentley Trust lands in Fairbanks. Some of these sites were reopened for further assessment due to the cleanup levels being lowered and new concern over potential vapor intrusion risk in residential neighborhoods. In FY17, DEC worked with responsible parties to continue long-term groundwater monitoring and to assess the risk of vapor intrusion at residential properties downgradient from the source area.

FAIRBANKS REGIONAL FIRE TRAINING CENTER (RFTC)

The use of aqueous film forming foam during fire training activities at the City of Fairbanks RFTC resulted in perfluoroalkyl substance (PFAS) contamination in groundwater extending off the site to the northwest and contaminating numerous drinking water wells in the area. The City, with CS oversight, has been actively monitoring the plume and providing alternative water to those affected. The City conducted contaminated soil source removal at the RFTC and began extending public water service to affected residences in FY17, which will continue into FY18.

PHYTOREMEDIATION OF PETROLEUM CONTAMINATED SOILS, KALTAG



LEFT - Section of the road by Kaltag School that was excavated and backfilled. RIGHT - Plot of contaminated soils from the Kaltag School being treated by phytoremediation, 2015 (Photo/DEC)

Phytoremediation and land farming continued in the Yukon River Community of Kaltag during FY17. DEC undertook a soil excavation cleanup in 2014, at the Kaltag School, and established a land farm and phytoremediation plot to treat the soils. With assistance from the University of Alaska Fairbanks (UAF) and community members, the land farm is being tilled during summer months, and UAF staff and students have planted

some of the contaminated soils with native willow trees and grasses. In FY17, some of the willows grew to eight feet tall, while others remained shorter but were more branched. Some of the grasses, including the Alyeska polargrass variety, were also very dense this year. (Alyeska polargrass is a wild polargrass cultivar developed in 1980, by the University of Alaska Agricultural Experiment Station in Palmer for revegetation in northern and western Alaska). Evaluation of plant, soil, and microbial data is underway to help identify most promising cleanup options. Phytoremediation is being conducted alongside of traditional land farming in hopes of promoting additional soil cleanup options for contaminated sites in rural communities impacted by petroleum releases.



Grasses and willows were planted on top of remediated soils at the Kaltag site, 2016 (Photo/ UAF- Mary Beth Leigh)

GALENA AIR FORCE STATION/AIRPORT



*Horizontal drilling and sparge well installation at Galena, 2017
(Photo/DEC)*

In FY17, CS staff provided oversight as the USAF installed horizontal sparge wells for two petroleum contaminated sites in Galena. Four horizontal wells were installed at each site to treat petroleum contamination in both the saturated and variably-saturated zones. Air will be injected into the unconsolidated soils of the aquifer and vented at the surface through a series of bioventing wells. The screen sections of the wells range in length from 460 to 850 feet and to a depth of 60 feet below ground surface. This innovative design allows for treatment of soil in areas that are difficult to reach.

NEW CONSTRUCTION AND EXPOSURE MITIGATION –
ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (DOT&PF)
PEGER ROAD FACILITY, FAIRBANKS

During FY17, CS staff assisted the ADOT&PF on identifying sources of soil and groundwater contamination, and potential risk to on-site receptors at maintenance and facility shops located at the Peger Road complex. Recent site assessments and evaluation of indoor air prompted facility managers to install air filters in a seasonal shop. CS staff also assisted ADOT&PF staff and contractors in handling potentially contaminated soils associated with the construction of the new Traffic Control Center, which was constructed in areas known to be contaminant release locations on the Peger Road facility. A sub-slab depressurization system was successfully incorporated into the building design to prevent subsurface contaminant vapors from migrating into the building.

LEGACY WELLS

CS and the Bureau of Land Management (BLM) continue to coordinate on the assessment and cleanup of 50 Legacy Wells in the National Petroleum Reserve – Alaska that were installed between 1944 and 1981. Of the total 136 Legacy Wells, 50 were identified by BLM in the 2013 Summary Report and response actions were summarized in the subsequent ‘Strategic Plan,’ as requiring further investigation and/or proper plugging and abandonment.



*LEFT - Field screening of bagged samples at Iko Bay #1 following sampling during fall 2016 field season work.
RIGHT - Removal of surface debris from Avak #1 to nearby road for disposal (Photos/Marsh Creek LLC)*

During the 2016-2017 winter work season, BLM contractors successfully completed the plugging and abandonment of three legacy wells at Cape Simpson, and surface clean-up at four well sites in the Barrow area at a total cost of \$19.4 million. Remaining funding will target the next five priority wells located in the Wolf Creek area, with preparatory work commencing fall 2017. CS staff reviewed and approved the work plans, providing input on the overall project planning.

5.2 CENTRAL REGION

5.2.1 PPR CENTRAL REGION MAJOR MATTERS

COOK INLET PIPELINE (CIPL) DRIFT RIVER TERMINAL (DRT) CRUDE OIL SPILL, SPILL NO. 16239918401

Several related crude oil spills were caused at the DRT in 2016, when a 20-inch fill line was over pressurized while emptying two tanks in preparation for internal inspection. When over pressurization was detected, the 20-inch fill line was isolated and shut down. The initial spill report was received on July 2, 2016, when a CIPL operator found 14 gallons of crude oil inside a valve box and an additional gallon of oil on the ground while conducting a facility inspection.

A triangular area of surface contamination 24 feet by 24 feet by 30 feet in size was reported on July 29, 2016, above a buried flange in the over pressurized 20-inch fill line. DEC required CIPL delineate the spill area with a particular focus on buried flange locations associated with the 20-inch fill line in case additional unidentified contamination occurred. The flanges represented locations along the pipeline that were most susceptible to over pressurization. To eliminate the possibility of

an ongoing release, crude oil in the 20-inch line was removed on August 16.



Excavation activity at dig site 1, September 23, 2016 (Photo/DEC)

A total of five unique areas of contamination were identified during delineation. Four of the sites were excavated to remove contaminated soil, which led to the discovery of free product collecting around another buried flange on August 10. Sample results from the four excavation sites were received by the Department and PPR is assessing the site for transfer to CS.

COOK INLET PIPELINE TASK FORCE

The Cook Inlet Unit, Central Region and Engineering Unit staff engaged in the Cook Inlet Pipeline Task Force; a joint effort of state and federal agencies, as well as the CIRCAC, formed to assess pipelines in the Cook Inlet area.

One of the objectives of the Task Force was to identify all subsea pipelines in the Cook Inlet. This task has been completed with extensive input from PPRP staff. The next progression is a review of loss of integrity/leaks, and, as importantly, “near misses” so root causes, and, ultimately, leading indicators can be identified. This information will serve as the basis for recommendations and risk mitigation measures for the Cook Inlet subsea pipelines.

SHORESIDE PETROLEUM TANK TRUCK ROLLOVER, SPILL NO. 16239935102

On December 16, 2016, a Shoreside Petroleum line-haul tank truck rolled over in the northbound lane of Seward Highway, just north of DeArmoun Road in Anchorage. The vehicle also included an attached trailer which remained upright and did not release any fuel. The line-haul truck was carrying 800 gallons of diesel fuel and 3,000 gallons of gasoline. Shoreside Petroleum estimated that approximately 300 gallons of fuel was spilled based on the volume of fuel remaining in the tank. Shoreside Petroleum pumped the remaining fuel from the damaged tank truck and removed contaminated snow from the accident location. An environmental contractor delineated the contaminated area, completed contaminated soil removal, and restored the road right-of-way in the spring of 2017.

HILCORP NATURAL GAS LEAK FROM 8-INCH PIPELINE, SPILL NO. 17239903801

On February 7, a Hilcorp Alaska, LLC (Hilcorp) helicopter flying between Nikiski and Platform A saw bubbles in Cook Inlet. The bubbles were later determined to be a release of processed natural gas (98.67 percent Methane) from a subsea line used as fuel gas on Hilcorp’s Platform A, Platform C, Dillon Platform and Bakers Platform. The eight-inch pipeline is approximately 80 feet below Cook Inlet waters, and because of ice conditions, line assessment and repair could not be initiated immediately. Hilcorp conducted overflights on daily basis, weather permitting, and reduced the line pressure to reduce the rate of natural gas release. On April 8, divers were able to safely access the line and place a temporary repair clamp. The divers were remobilized on May 13, to conduct permanent repairs, which were successfully completed on May 19. Divers returned to the site on May 20, and detected no bubbles or leaks from the pipeline.

HILCORP ANNA PLATFORM CRUDE OIL LINE LEAK, SPILL NO. 17239909101

On April 1, a sheen was discovered by Hilcorp Alaska, LLC (Hilcorp) Anna Platform personnel. Upon discovery, Hilcorp shut in the Anna Platform, closed the eight-inch crude oil pipeline connecting the Anna and Bruce platforms, and reduced the line pressure. On April 2, crude oil from the line was vacated using a polyurethane pig. The pigging operation displaced the crude oil with 490 barrels of filtered sea water. Overflights conducted during the pigging operation showed no sheen. Representatives from PPR and the USCG were present on the Anna Platform during the pigging

activity. Hilcorp hired a diving contractor to investigate the line. The investigation conducted by Hilcorp determined that the release was from an upset condition on the Anna Platform production facility flare system and not from the crude oil line. Hilcorp reported that the gas feed line can hold a maximum of eight gallons of liquid and five gallons of liquid were subsequently removed, leaving the maximum potential that was discharged at three gallons. As a result, the type and amount of product released to the environment was estimated at three gallons or less of natural gas condensate. On April 28, PPR issued an approval letter to restart the Anna Platform and the Anna Platform to Bruce Platform crude oil line. The platform and line restart was initiated on May 2, and the area was monitored for sheen until May 4. Overflights showed no visible sheen.

FISHING VESSEL PREDATOR NEAR AKUTAN HARBOR, SPILL NO. 17259904401

On February 13, the *F/V Predator* grounded near Akutan Harbor on state tidelands, cracking its hull and releasing bilge water. The vessel had a maximum capacity of 38,000 gallons and a cargo of 330,000 pounds of pacific cod on board when it grounded. Three uninjured crew members were rescued by the USCG. The responsible party was granted a land use permit from DNR, and salvage operations commenced. Approximately 8,000 gallons of fuel and mixed oils were removed from the vessel. By the time the lightering operations were completed, the fish cargo, all unholed, was spoiled and could not be sold. To refloat the vessel from its location aground in State tidelands, the 330,000 pounds of fish cargo had to be removed. PPR staff and USCG personnel facilitated in the responsible party's coordination with the EPA to dispose the spoiled fish at sea, under a waiver to the Ocean Dumping permit. The vessel successfully refloated and was returned to Unalaska for repairs.

BIG STATE 42 MILE RICHARDSON HIGHWAY ROLLOVER, SPILL NO. 16229929501

Approximately eight million gallons of ULSD fuel oil is transported over the Richardson Highway each year from the Valdez Petro Star Refinery. On October 21, 2016, a Big State Logistics truck secondary trailer "pup" left the highway and rolled down the embankment, releasing approximately 300 gallons of ULSD fuel oil. A Big State Logistics response crew was dispatched from Valdez to lighter the remaining 2,500 gallons of fuel from the trailer tank and cleanup the spilled fuel. PPR staff were on scene to ensure that cleanup was accomplished and that affected natural resources were protected. Big State Logistic crews were able to prevent spilled product from entering the nearby Tsania River and recovered more than 250 gallons of spilled product.

VALDEZ PROPERTIES MAN CAMP SPILL, SPILL NO. 17229902701

On January 27, the PPR received a report from the Valdez Properties facility manager that snow shedding from the roof of one of the Man Camp housing units had parted the heating fuel supply line to the three buildings in service releasing 3,500 gallons of heating fuel oil. Valdez Properties hired a response contractor and recovery was quickly initiated. However, the fuel leaked under one of the housing structures and recovery was limited to preserve the structural integrity of the unit. A large volume of contaminated snow was recovered from the site for processing. Several yards of

contaminated gravel was also recovered for remediation. The majority of the contamination remains confined under the building’s foundation, and a monitoring plan that includes a site assessment and the installation of monitoring wells has been reviewed and approved. Site emergency response is complete and the site is being processed for transfer to CS for long term monitoring and remediation.

CROWLEY/EDISON CHOUDEST TRANSITION

Alyeska and the Trans Alaska Pipeline System (TAPS) shippers submitted amendments to their plans (seven total amendments) to replace Crowley Marine with Edison Chouest Offshore as the Marine Services provider for their Valdez and Prince William Sound plans in FY17. These amendments are major changes to the currently approved plans for crude oil transportation in the Prince William Sound. The plans were provided the maximum comment period allowed by regulation. PWSU staff are currently reviewing the comments received and evaluating the completeness of the plan amendments. A decision of approval is expected in late FY18.

5.2.2 CS CENTRAL REGION MAJOR MATTERS

BUCKNER BUILDING- WHITTIER ALASKA

The City of Whittier and Prince William Sound Economic Development District were awarded DEC Brownfield Services again in FY17 to better define environmental contamination at the site. Potential source areas included an underground fuel storage tank, a former onsite drycleaner, lead paint and asbestos in the soil. Previous Brownfield services provided by DEC included an evaluation of hazardous building materials and a structural evaluation of the building that indicated it was not economically feasible to rehabilitate the building for occupancy. Previous reports also indicate that the hazardous building materials should be abated as soon as possible before the building deteriorates further due to the poor structural integrity, making abatement work too dangerous to conduct.



A study found it would be too costly to refurbish the Buckner Building, 2015 (Photo/DEC)

PANDA EXPRESS - REVITALIZATION AT THE FORMER SANDEN FUELS SITE

The location of two former businesses called Sanden Fuel and Sanden Tesoro located at 12512 Old Glenn Highway in Eagle River is soon to be the home of a new Panda Express Restaurant. The contaminated site records started in 1998 and these sites received a Corrective Action Complete with Institutional Controls Determination in 2009. This facility operated as a bulk

heating fuel distributor and as a vehicle filling station from the 1970s through 1990. During that time there were various UST leaks and surface spills which impacted soil and groundwater onsite, and also groundwater beneath the adjacent condominium complex. The property was purchased in 2017 by the Panda Express Restaurant Corporation with plans to establish a restaurant on the site. The construction of the parking lot included a thorough investigation of the current conditions of the soil and groundwater. A complete due diligence investigation was performed before Panda Express committed to the purchase. Even though the site's soil and groundwater conditions have been investigated and characterized, and the contamination sources were removed, there are still potential liability issues with the purchase of this property. The institutional controls remaining in place, in addition to the fact that the property is serviced by city water and is completely covered with concrete and asphalt, supported the sale and reuse of the property.

COOK INLET HOUSING AUTHORITY REDEVELOPMENT PROJECTS

SPAR continues to coordinate with Cook Inlet Housing Authority (CIHA) on development projects around Anchorage. In FY17, cleanup was completed at the former Olson's Tesoro Service Station #1 on Spenard road, where CIHA recently completed a mixed use retail/residential facility on a portion of the site. CIHA had received both DEC and EPA Brownfield funds to assist with investigation and cleanup at the site. CIHA was also awarded DEC Brownfield services at the Surf Laundry site in the Mountain View neighborhood of Anchorage allowing CIHA to better evaluate their potential liability in developing the property and investigate the extent of contamination from the former dry cleaning operation.

ANIAK WHITE ALICE SITE - PCB CLEANUP

CS provided oversight on the completion of polychlorinated biphenyl (PCB) contaminated soil cleanup at the Former Aniak White Alice Site/Middle School site. The cleanup was conducted under a consent decree that settled multiple responsible party negotiations which occurred over several years. The contamination resulted from activities during the Air Force operation of the site and subsequent renovations of the facility to convert it into a school. PCB contaminated soil was excavated and transported off-site for disposal at an approved permitted disposal facility.

HALES TESORO

In 2000, significant contamination was discovered during the removal of two leaking underground storage tanks (LUSTs) with capacities of 500 and 1,000 gallons at this site. The responsible party (RP) completed a partial cleanup effort, however was financially unable to continue. In 2012, DEC/LAW determined that the RP did not have the financial ability to complete the cleanup. LUST cost recovery funds have been used to continue the response efforts since 2012. To date, about 1,000 cubic yards of gasoline contaminated soil have been removed and treated in a land farm. The excavation is slated to be backfilled with the treated material in FY18. Groundwater contamination extends offsite, across the Talkeetna Spur Highway and is being monitored to ensure it is attenuating.

TRIDENT SEAFOODS-SOUTH NAKNEK

In 2012, Trident Seafood became aware of eight old unused ASTs that contained product. A preliminary site assessment was conducted during summer 2012, to evaluate the potential environmental impacts, stabilize the tanks and stop any releases. In 2014, the fuel was removed from the tanks, all the tanks were relocated to the Trident property, and the visually contaminated soil was excavated. A second characterization and cleanup effort was conducted in July 2016, to address all remaining data gaps. A total of 16,500 gallons of fuel was drummed and shipped off site for disposal along with 220 cubic yards of contaminated soil that were excavated. The site was closed on August 3, 2017.

CHEVRON USA REFINERY-NIKISKI

Petroleum pollution first came to DEC's attention in 1987, when a commercial fisherman dug down into the beach to secure one end of his fishing net and the hole filled with liquid fuel. Millions of dollars and 30 years later, active soil and groundwater remediation in the source area is tentatively completed. The impacts to the beach and waters of Cook Inlet have now been largely eliminated, and the site is now in a phase of groundwater and beach seep monitoring to determine if the cleanup effort has been sufficient to prevent violations of Alaska Water Quality standards. It's been estimated that 1.4 million cubic yards of soil were contaminated in excess of DEC's most stringent soil cleanup levels for "migration to groundwater".

SWANSON RIVER P&S YARD

DEC became informed of a large release of xylene in the Swanson River Oilfield in 1987, when product emerged as seepage and killed black spruce trees at the edge of a wetland in the Kenai National Wildlife Refuge. The xylene migrated approximately ¼ mile, and contaminated groundwater over an eight acre land area, before reaching and impacting the wetlands. Millions of dollars and 20 years later, active soil remediation in the source area is completed, and ground water monitoring and surface water monitoring will continue to determine if the source area has been sufficiently treated to prevent water quality violation in the wetland surface water.

COASTAL DRILLING - SOLDOTNA

Hazardous substance contamination in a buried waste disposal pit at a former oil field service company in Soldotna was brought to DEC's attention in 1988. Excavation of the pit contents would have been deemed hazardous waste, and disposal costs for removing the contents of the pit were estimated at five million dollars in the early 1990s. The responsible party and CS agreed on a plan to utilize an engineering control to prevent future exposure to human health, and to reduce the potential for contaminated leachate to impact the groundwater. Both State and RP funds have been expended. Design for an engineering control was reviewed and approved by CS in the fall of 2016. The engineering control was installed the summer of 2017. A cleanup complete decision with institutional controls is anticipated after the engineering control is capped with asphalt, to limit future inappropriate excavation and development above the disposal pit.

RED DEVIL MINE

This historic mercury mine operated from 1933-1971. The property management reverted to the BLM when the mining claims were abandoned in the 1980s. BLM has been conducting characterization and interim actions at the site since the 1990s. During FY17, CS staff and the EPA, Alaska Department of Health and Social Services (HSS), DNR, and Alaska Department of Fish and Game worked with BLM to evaluate the potential risk that the metals in the Kuskokwim River sediments pose to people, fish, and other aquatic receptors. In FY18, BLM plans to develop cleanup action alternatives for the river sediment and present its preferred cleanup alternatives for the entire site for public comment. CS staff will review the alternatives to ensure that they are protective of human health and the environment, comply with State regulations, and negotiate resolution of any concerns with BLM. CS staff will also participate in community meetings about the proposed cleanup.

BEATSON MINE

Kennecott Copper Company operated a historic copper mine on Latouche Island in the early 1900s. In the 1970s, the property was sold to a private developer and subdivided for residential/recreational lots. In FY17, Rio Tinto, the successor to the mining company, conducted site characterization field work including the collection of soil, sediment, plant, and water samples. In FY18, Rio Tinto will evaluate the risk that the contamination poses to human health and the environment. CS staff will work with Rio Tinto to determine appropriate cleanup levels and a cleanup strategy.

ATKA FORMERLY USED DEFENSE SITE (FUDS)

In FY17, CS staff continued oversight on cleanup efforts conducted by the U.S. Army Corps of Engineers (USACE) at the former Atka Air Force Auxiliary Field and Atka Cape Kadugnak FUDS. At the Atka Air Force Auxiliary Field, Phase I Remedial Investigation (RI) during 2015 identified 1,126 environmental features of interest. Of these, 346 sites warranted investigation during 2016 and 82 sites required further investigation in 2017. The 2017 investigations involved drilling 637 soil borings, installing 267 direct push probes, and installing 99 groundwater monitoring wells. Over 900 samples were collected for laboratory analysis. The Phase III report will be submitted to DEC in spring 2018, and a risk assessment is planned in summer 2018. Additionally, a site-wide Military Munitions Response Program Site Inspection was initiated in 2017.

At Cape Kadugnak in 2015, the USACE conducted site characterization and removed abandoned fuel tanks, drums, transformers, lead acid batteries, and much of the associated contaminated soil and sediment. During FY17, they removed and disposed of five downed radio towers, other support structures, associated debris, and the remaining 26 tons of petroleum impacted soil. Pending review of the final report, it is expected that cleanup will be determined complete.



*Atka field sampling crew and equipment, 2016
(Photo/ Abtna Environmental, Inc.)*

Also in 2016, the Aleutian Pribilof Islands Association secured funding through the Native American Lands Environmental Mitigation Program to conduct a petroleum contaminated soil and drum removal action in Atka adjacent to Puganax Creek. The work plan was approved by DEC. The cleanup was executed during 2017, and 101 tons of heavily petroleum impacted soil were removed from adjacent to Puganax Creek.

FORMER ADAK NAVAL COMPLEX, OPERABLE UNIT B-2 (OUB-2)

In FY17, CS staff provided oversight as the Navy and its contractors completed their fifth year Non-Time Critical Removal Action (NTCRA) at Operable Unit B-2 of the former Adak Naval Complex. The Navy, EPA, and CS staff have been working since 2000, to characterize and cleanup Munitions and Explosives of Concern (MEC) contamination remaining on the northern end of Adak Island from WWII Training Ranges and more recent Cold War use of the facility. In 2013, the Navy began implementing the NTCRA at five Remedial Action Areas) where Munitions and Explosives of Concern were determined to be present. By the end of 2014, three of the five Remedial Action Areas had been completed. During the 2015 field season, the contractor began clearance of the two most heavily contaminated historic MEC disposal areas (Open Burn/Open Detonation ranges) using armored heavy equipment. Once excavated, the spoils are manually processed to remove MEC and ensure spoils are safe for reuse as backfill at the site. Between 2013 and 2017, over 8,750 explosive items have been removed from the five Remedial Action Areas and disposed of by explosive detonation. Work in these areas is expected to



Navy Explosive Ordnance Disposal staff open the Andrew Lake Spillway each year with explosives as a means to control lake water levels and ensure the contractors have access to the Remedial Action Areas, 2014 (Photo/U.S. Navy)

continue through the 2019 field season, and possibly into 2020.



Andrew Lake Spillway (landfill that contained munitions) removal area end of 2017 field season. Metal waste shipped to Washington for recycling. Munitions destroyed on site by detonation (Photo/CB&I Federal Services)

ATTU FUDS, ATTU ISLAND

DEC staff provided oversight as the USACE performed a removal action on Attu Island during FY17. Initial efforts on Attu focused on evaluating historical data, breaking the facility into discrete geographic areas of interest, and prioritizing them for response. The U.S. Fish and Wildlife Service, DEC, and USACE determined that a drum disposal area and burn pit were a priority for cleanup. During 2017, the USACE contractor excavated the burn pit and removed the drums along with over 5,000 tons of contaminated soil, including over 70 tons of lead contaminated soil associated with discarded batteries and lead-based paint, for off-island disposal. Site inspection and characterization were conducted at other areas of interest to facilitate future cleanup actions on Attu.



*Attu FUDS Cleanup, 2017
(Photo/Bristol Environmental Remediation Services, LLC)*

EARECKSON AIR STATION, SHEMA, ALASKA

DEC worked with the USAF to begin compiling decades of historical data for over 40 active contaminated sites and LUST sites at the Eareckson Air Station. A data gap analysis and remedial investigation work plan were prepared and implemented in FY17. A remedial investigation/remedial process optimization report will be prepared in FY18 to provide the results of the effort and a plan for moving the sites towards closure.

KING SALMON AIR STATION

DEC provided oversight on several contaminated site cleanup efforts conducted by the Air Force and their contractors. Annual base-wide long term monitoring was conducted to assess contaminant concentration trends and evaluate the effectiveness of remedies that have been implemented. The data indicates petroleum hydrocarbon plumes have stabilized or are decreasing. Institutional controls were evaluated to ensure effectiveness.

GOOSE BAY NIKE SITE

DEC staff provided regulatory oversight on remedial investigation work conducted by the USACE and its contractors at the former Goose Bay Nike Site - Launch Facility. Soil and groundwater sampling were conducted because trichloroethylene (TCE) and perchloroethylene (PCE) - the latter also known as tetrachloroethylene - contamination had previously been identified but not fully delineated. The purpose of this investigation was to determine the full vertical and horizontal extents of the chlorinated solvent contamination in soil and groundwater and build a solid foundation for the feasibility study on remedial alternatives in the future.

5.3 SOUTHEAST REGION

5.3.1 PPR SOUTHEAST REGION MAJOR MATTERS

TUG SAMSON MARINER GROUNDING KETCHIKAN, SPILL NO. 17119904601

On February 15, just before 7:00 p.m., the tug *Samson Mariner* grounded on Rosa Reef at the north end of the Tongass Narrows in Ketchikan. The tug had an estimated 30,000 gallons of diesel aboard and was towing the barge *Saint Elias* with an estimated 40,000 gallons of diesel aboard at the time of the grounding. During the grounding, the tug suffered a breach to one fuel tank and approximately 1,200 gallons was released before Alaska Commercial Divers (ACD) patched the tank later that evening. The tug was refloated on the next high tide. DEC, USCG and Samson Tug and Barge responded as a Unified Command. Southeast Alaska Petroleum Response Organization (SEAPRO)



Tug Samson Mariner and barge Saint Elias in Ward Cove after being refloated, February 16, 2017 (Photo/USCG)

responded as Samson's primary response action contractor and continued oil recovery operations for the next week. DEC and SEAPRO returned to the scene in March and made a shoreline assessment which found no residual oil to be present on the nearby shorelines.

TUG OCEAN EAGLE GROUNDING, SPILL NO. 17119906002

On March 1, at approximately 7:15 P.M., the tug *Ocean Eagle* and its barge grounded at Mariposa Reef in Sumner Strait. The captain and crew made a distress call and were airlifted off the tug by the USCG. The tug subsequently refloated itself on the next high tide and drifted, unmanned, to a small cove in the vicinity of Alvin Bay some seven nautical miles from Mariposa Reef. The captain of the tug *Ocean Eagle* reported 15 gallons of diesel released from the day tank vent during the grounding. He reported 58,000 gallons of diesel fuel onboard the tug. The tug was towing the freight barge ZB335 with a 100,000-gallon capacity tank onboard holding 52,000 gallons of fuel when it grounded. Alaska Commercial Divers (ACD) undertook salvage operations on scene. The dive survey of the barge indicated that the barge hull had sustained some dents but the barge could be safely towed to Sitka. The dive survey of the tug *Ocean Eagle* found several cracks in the hull and damaged rudders. The divers repaired the cracks and removed the damaged rudders. The dive survey report concluded that the tug *Ocean Eagle* was safe for tow to Ketchikan. On Friday March 3,

the transit plans for the barge ZB335 and the tug *Ocean Eagle* were approved by the Unified Command. The ZB335 was towed to Sitka for a USCG inspection on March 3-4. On the morning of March 4, the tug *Jennie B* began to tow the *Ocean Eagle* to Ketchikan. However, the *Ocean Eagle* was swinging from side to side while under tow and the master of the *Jennie B* decided it was prudent to cease the effort until the transit plan could be amended and a second tug could arrive to assist. The amended transit plan was approved by the Unified Command the same day. The tug *Anna T* arrived early March 5 to join the *Jennie B* in towing the *Ocean Eagle* to Ketchikan. Additionally, the *M/V Alaskan Salvor*, operated by ACD, served as the pollution response escort vessel. The tug *Ocean Eagle* arrived in Ketchikan early in the morning on Monday March 6, and was secured in the Ketchikan Shipyard for repairs.



The tug Ocean Eagle and barge ZB335 in Alvin Bay, March 2017 (Photo/USCG)

TUG POWHATAN SINKING, SPILL NO. 17119910901

On April 19, at approximately 10:15 P.M., the wood hulled tug *Powhatan* sunk at its mooring at the Samson Tug and Barge (Samson) dock in Starrigavan Bay, seven miles north of Sitka. The tug slid down the sloping bottom some 330 meters moving from a depth of 15 meters to approximately 60 meters. Initially, Samson estimated that their tug contained approximately 325 gallons of lube oil, 12 gallons of diesel, and possibly some sludge at the bottom if its main tanks. It quickly became apparent that there was a significant, though unknown, volume of diesel onboard the tug which was



The tug Powhatan is raised from the bottom of Starrigavan Bay. June 12, 2017 (Photo/Samson Tug & Barge)

released during its roll under the dock and slide to its resting area. DEC, USCG, and Samson formed a Unified Command to respond to the incident. ACD was hired to control the leaking diesel and to raise the tug. ACD capped the main tank vents by April 25. Subsequent dives identified and secured multiple oil escape locations. SEAPRO provided oil spill response which included booming the wreck to contain and recover surfacing oil and to deflect oil sheens away from sensitive shellfish beds at the Old Sitka State Historic Park and Starrigavan Recreation Area which were less than 0.4nm away from the wreck site. Samson contracted

with ACD and Pacific Pile & Marine to raise and dispose of the *Powhatan*. The wreck removal barge Salvation with a heavy lift crane, the KP-2 deck barge, and three assisting tugs arrived on scene on June 3. SEAPRO deployed the Oil Spill Response Vessel (OSRV) Neka Bay to the site on June 4 to provide backup during the wreck removal process. On June 12, Salvation lifted the *Powhatan* to the water surface where it was dewatered using pumps, then lifted onto the KP-2 barge and secured. DEC and Polaris Applied Sciences completed a shoreline assessment using the Shoreline Cleanup Assessment Technique on June 13, and no oil was observed in the study area with exception of unrecoverable weathered on-water sheening near the State Parks boat launch at Old Sitka. The *Powhatan* was transported to Washington for ultimate disposal. All wreck removal activities to raise the *Powhatan* occurred within the containment boom. DEC's State on Scene Coordinator and responders from Juneau were in Sitka throughout most of the response.

5.3.2 CS SOUTHEAST REGION MAJOR MATTERS

WRANGELL JUNKYARD, WRANGELL



Aerial view of cleanup completion at the former Junkyard site, July 2016 (Photo/NRC Alaska)

Cleanup of the site was formally completed on August 1, 2016. Throughout FY17, CS worked with the DNR, the City and Borough of Wrangell, and EPA to select and study a site for the future monofill to contain lead treated soil (from the former Wrangell Junkyard site FY16 clean up). DEC worked closely with EPA on the development of a monofill design plan for the chosen site. In spring of 2017, DEC received approval to spend an additional \$5.5 million out of the Emergency Response Account to complete construction of the monofill.

FORMER CAPITAL CITY CLEANERS AT NUGGET MALL

The Nugget Mall is located in Juneau and houses a variety of stores and restaurants. Capital City Cleaners operated in the mall annex building from 1985 until sometime before 2003. A Phase I Environmental Assessment conducted in 2015 documented dry cleaning solvent contamination of PCE, TCE, and cis-1,2-dichloroethylene in groundwater, soil, and soil gas. CS was notified of these findings and coordinated with the landowner and its consultants to delineate the extent of contamination. Additionally, the air inside the building was sampled on multiple occasions and no contaminants were found in indoor air. The responsible party had a soil vapor extraction unit installed and testing on the extraction unit’s performance, groundwater, and soil gas concentrations is on-going.

YAKUTAT FUDS

DEC oversaw USACE removal actions in Yakutat, at the former Air Corps Operations Reserve Tank Farm and Former Wood-Stave Tank sites. Over 5,000 tons of petroleum contaminated soil were excavated and barged offsite for disposal. Contamination was successfully removed from the Operations Reserve site, which is ready for closure. A subsequent removal action is planned in FY18 to address residual contamination at the Former Wood-Stave Tank site.



*Yakutat FUDS Contaminated Soil Staging Area, 2016
(Photo/ DEC)*

SITE DISCOVERY PROGRAM

Under an EPA funding agreement, CS staff coordinated with the DNR to investigate three potentially contaminated areas in Southeast Alaska: 1) CS evaluated the State-owned tidelands adjacent to a former abandoned mine near Ketchikan, 2) a former abandoned copper mine and



A large pile of copper slag at the former Hadley Smelter site has eroded into the marine water, 2017 (Photo/DEC)

smelter on Native Corporation-owned land on Prince of Wales Island, and 3) an unauthorized shooting range on State-owned land on Prince of Wales Island. CS staff conducted site visits, collected analytical samples, and drafted assessment reports. This program allows the use of limited EPA funding and CS expertise to investigate potential contaminated sites to determine whether contamination is present at no expense to the landowner.

FORT BABCOCK FUDS

A power plant was constructed at this site to support the Sitka Harbor defenses during WWII. The U.S. Forest Service now manages the land as part of the Tongass National Forest. During FY17, DEC provided oversight on USACE sampling to further delineate polychlorinated biphenyl (PCB) remaining in soil. Previous sampling in 2013 had indicated two locations where PCB in soil slightly exceeded the cleanup level (up to 1.8 mg/kg found as compared to the 1 mg/kg cleanup level). Sampling in 2017 detected PCB in 19 of 38 soil samples collected, with a maximum concentration of 9,300 mg/kg. The likely PBC source is a former transformer on a broken power pole located west of the power plant. USACE intends to remove and disposed of the contaminated soil.



Soil sampling at Fort Babcock, 2016 (Photo/USACE)

6.0 PROGRAM HIGHLIGHTS

6.1 PREVENTION, PREPAREDNESS AND RESPONSE (PPR)

6.1.1 PPR DATA REVIEW

PERFORMANCE MEASURES

To review the PPR performance measures please visit the Office of Management and Budget website at <https://www.omb.alaska.gov/html/performance/details.html?p=245>.

CHARTS, GRAPHS, STATISTICS

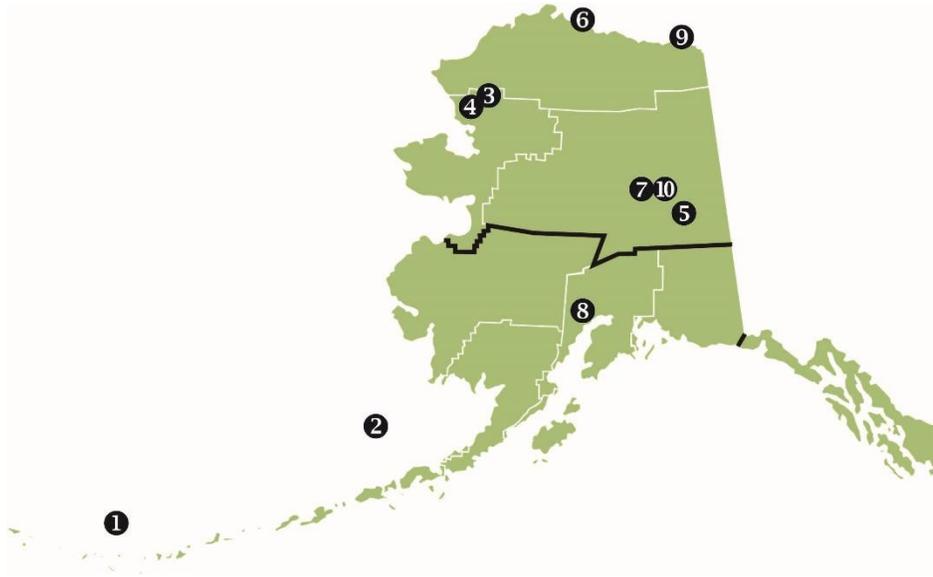
SPILL RESPONSE	SOUTHEAST REGION	CENTRAL REGION	NORTHERN REGION	TOTAL
Ledger Code Request	70	92	53	215
Response Fund Request	2	1	10	13
Settlements	0	3	1	4
Spills Reported	498	519	981	1,998
Spills with Sitreps Generated	4	8	7	19
Total Sitreps Generated	12	21	16	49
SPILL RESPONSE SUMMARY				
Field Visits	35	41	63	139
Phone Follow-up	215	234	141	590
Took Report	248	244	777	1,269
Total Number of Spills	498	519	981	1,998
SPILL CASELOAD SUMMARY				
Cases Carried Over from FY16	33	148	557	738
Spills in FY17	498	519	981	1,998
Total Caseload	531	667	1,538	2,736
Cases Closed ¹	462	409	1,178	2,049
INSPECTIONS AND EXERCISES				
Exercises	3	13	7	23
Inspections	3	19	12	34
PREVENTION AND RESPONSE ENFORCEMENT ACTIONS				
Formal Attorney General or Environmental Crimes Unit Referrals	3	3	4	10
Notice of Violation (NOV)	0	1	3	4

FINANCIAL RESPONSIBILITY (FR) ENFORCEMENT ACTIONS		TOTAL
Notice of Violation (NOV)		6
Referrals to LAW		1
UST FR Compliance Letters		59
UST FR Cease & Desist Referrals to UST Unit		7
FR AND PRIMARY RESPONSE ACTION CONTRACTOR (PRAC) APPLICATIONS		
Industry Contingency Plan Holder FR Certificates		358
UST FR Certificates		377
Non Tank Vessel (NTV) FR Certificates		458
PRAC Registrations (new & renewals)		2
NON TANK VESSEL (NTV) PLANS		
New plans approved		87
Plans renewed		8
Plan amendments approved		127
Plans reinstated		27
Plans suspended		70
Plans terminated		44
EXEMPTIONS		
Natural Gas Exemptions ²		1

¹ Includes pre-FY17 cases closed during FY17; does not include cases transferred to CS

² Furie Operating Alaska, LLC Kitchen Lights Unit No. A-1 and A-2 exemption issued July 28, 2016

10 LARGEST RELEASES

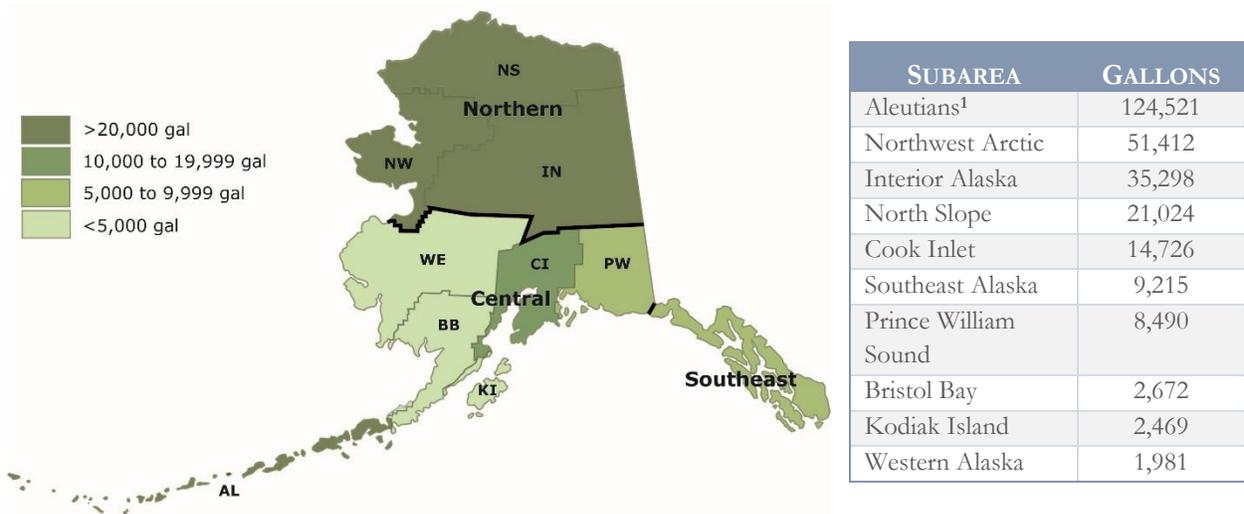


MAP KEY	SPILL DATE	SPILL NUMBER	SPILL NAME	PRODUCT	GALLONS
1	7/26/16	16259920801	F/V Alaska Juris Incident ¹	Diesel	87,000
2	2/11/17	17259904201	Sinking of F/V Destination near St. George	Diesel and Hydraulic Oil	36,000
3	2/9/17	17389904001	Teck Resources Red Dog Mine Kivalina Overburden Waste Water	Other	22,000
4	12/31/16	16389936601	Red Dog Mine MP 49 Zinc Con.	Zinc Concentrate and Diesel	18,151
5	2/18/17	17309904901	Pogo Mine, 7069gal Paste Backfill	Other	7,069
6	11/30/16	16399933501	ENI Petroleum, Oliktok Point, 6700gal Prod. Water	Produced Water and Crude	6,700
7	6/19/17	17309917002	Eielson AFB, 40,000lb JP-8 Jettison ²	Aviation Fuel	5,000
8	1/17/17	17239901701	Air Canada Jet Fuel Release at 15,000 ft ²	Aviation Fuel	4,500
9	1/9/17	17399900901	Kaktovik Tank KAK-70 ULSD Release	Diesel	4,000
10	6/20/17	17309917104	Eielson AFB, KC-135 Jettison 30,000lb JP-8 ²	Aviation Fuel	3,750

¹ Incident occurred outside of State waters. DEC was active in the Unified Command because the vessel posed a potential threat to State waters.

² Fuel had vaporized before impacting State lands and/or waters.

TOTAL SPILL VOLUME BY SUBAREA

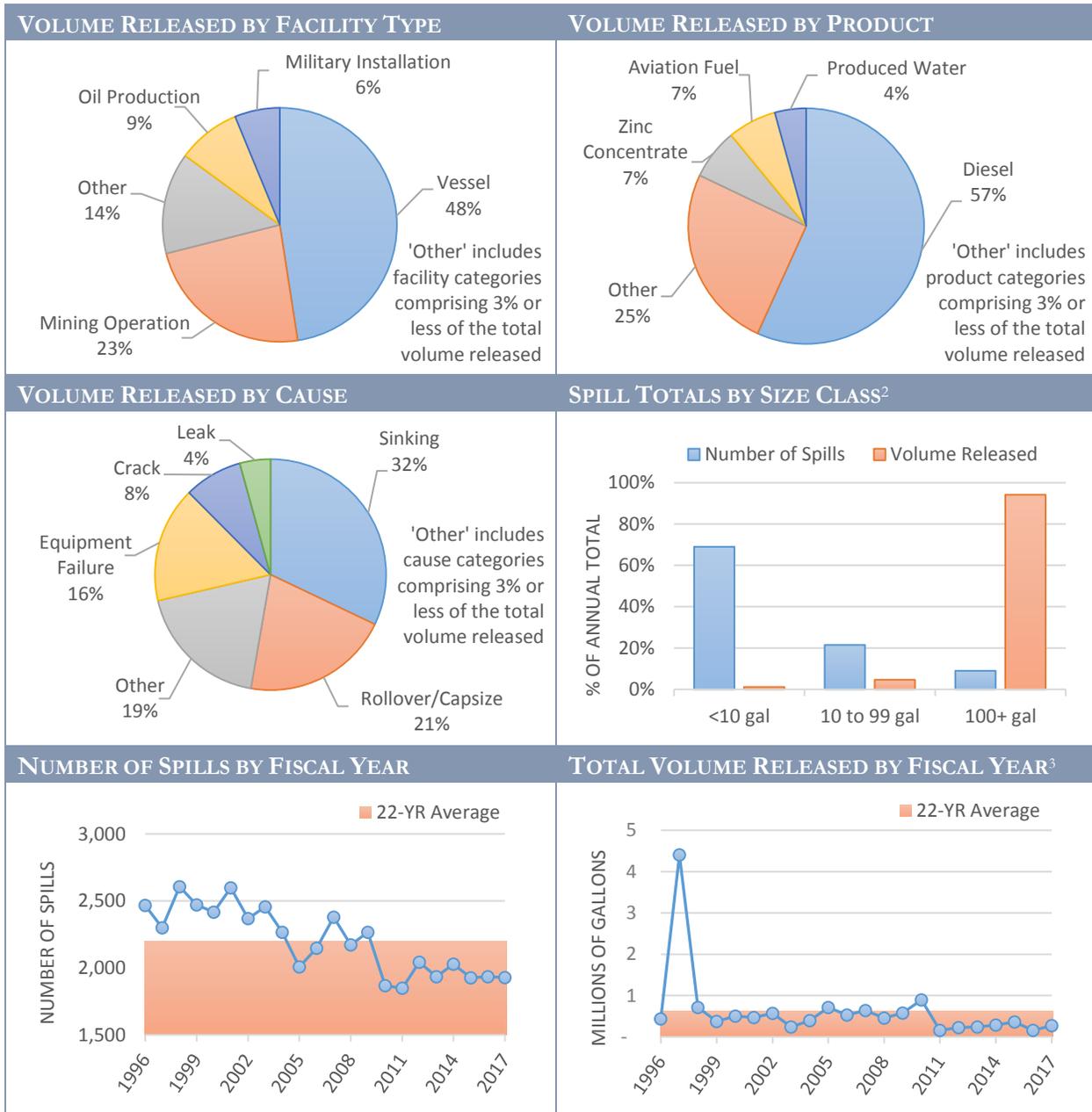


¹ The total volume spilled in the Aleutians Subarea includes the F/V Alaska Juris Incident, which resulted in a release of 87,000 gallons. This incident occurred outside of State waters, however DEC was active in the Unified Command because the vessel posed a potential threat to State waters.

6.1.1 CHART SET 1: ALL PRODUCTS

Number of Spills Reported: 2,046¹

Total Gallons: 271,809



¹ Some spill incidents involve releases of multiple substances. In FY17, there were 1,998 spill incidents. These incidents resulted in 2,046 oil and hazardous substance releases.

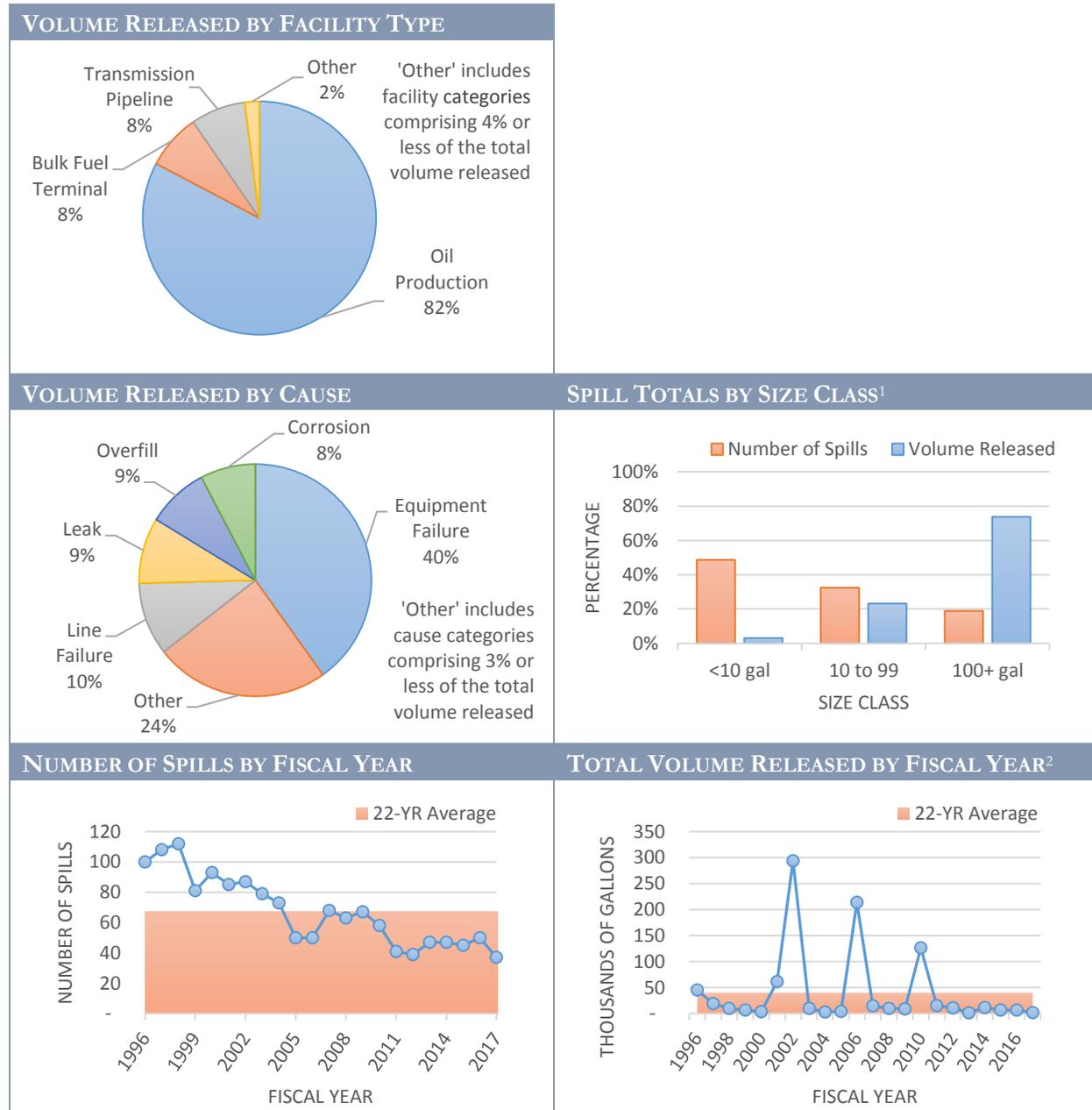
² In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

³ The large spike in spill volume for fiscal year 1997 is the result of two large spills, one on 1/25/1997 when a barge capsized and lost 25,000,000 pounds of Urea (Solid) and the other on 3/17/1997 when 995,400 gallons of seawater were released at ARCO DS-14 in Prudhoe Bay.

6.1.1 CHART SET 2: CRUDE OIL

Number of Spills Reported: 37

Total Gallons: 1,655



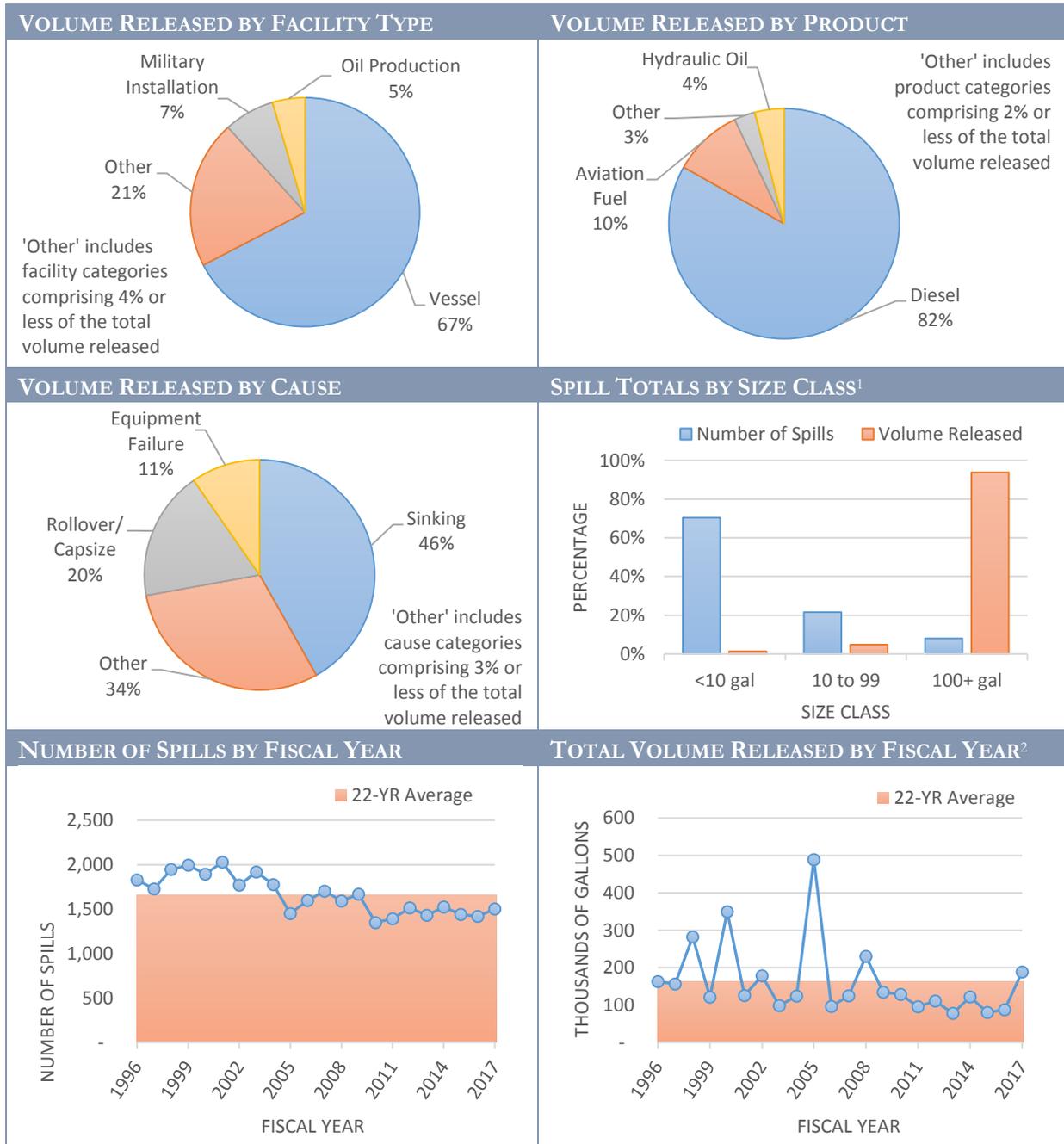
¹ In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

² The large spikes in spill volumes are the result of two large spills, the TAPS Bullet Hole Release on 10/4/2001 (FY02), which released 285,600 gallons crude oil, and the BP GC-2 Oil Transit Line Release on 3/2/2006 (FY06) which released 212,252 gallons crude oil.

6.1.1 CHART SET 3: NONCRUDE OIL

Number of Spills Reported: 1,503

Total Gallons: 188,379



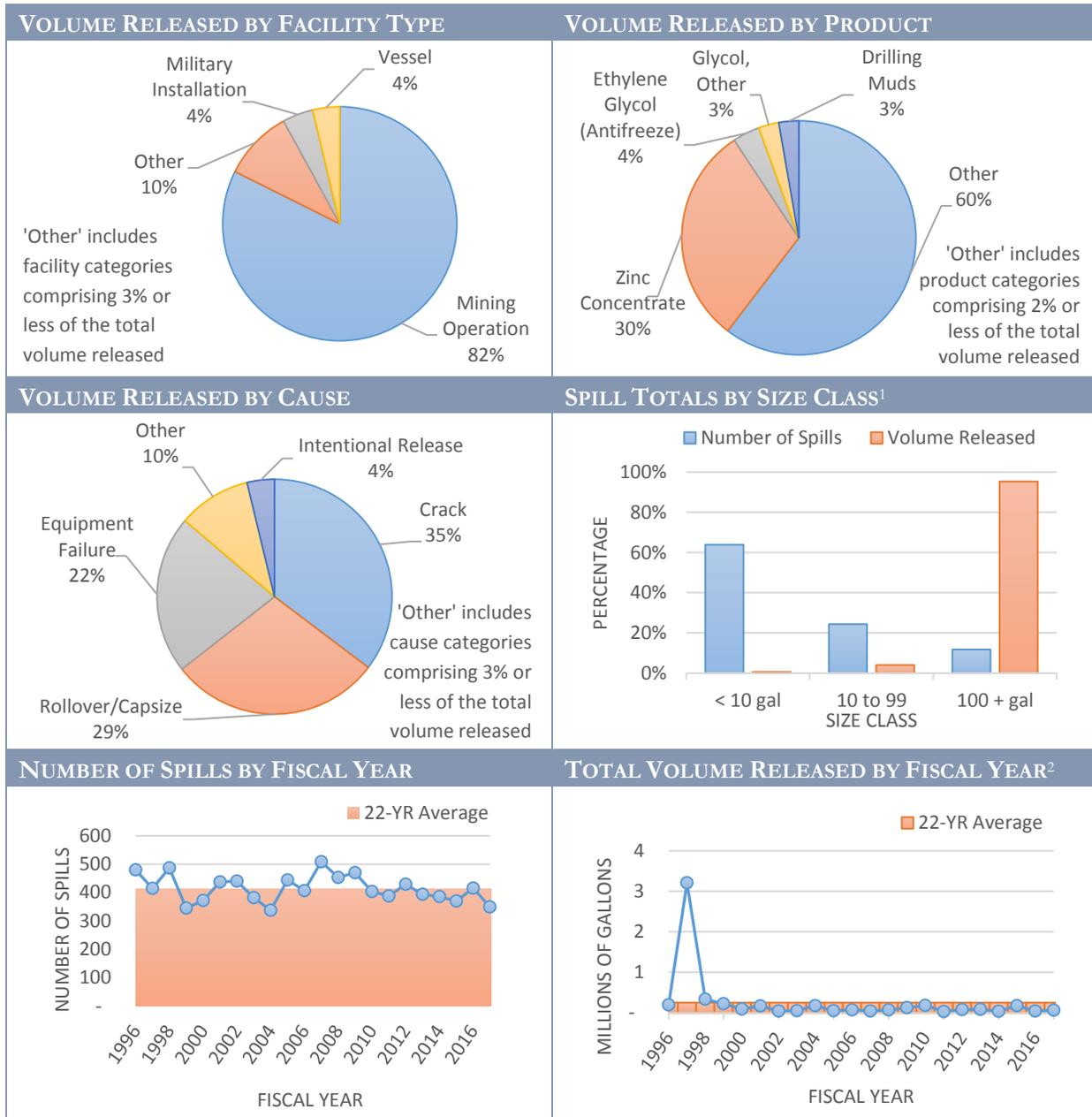
¹ In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

² The large spike in spill volume was the result of the breaking apart of the M/V Selendang Ayu on 12/8/2004 (FY05), which released 321,052 gallons of intermediate fuel oil 380 and 14,680 gallons of diesel.

6.1.1 CHART SET 4: HAZARDOUS SUBSTANCES

Number of Spills Reported: 349

Total Gallons: 62,527



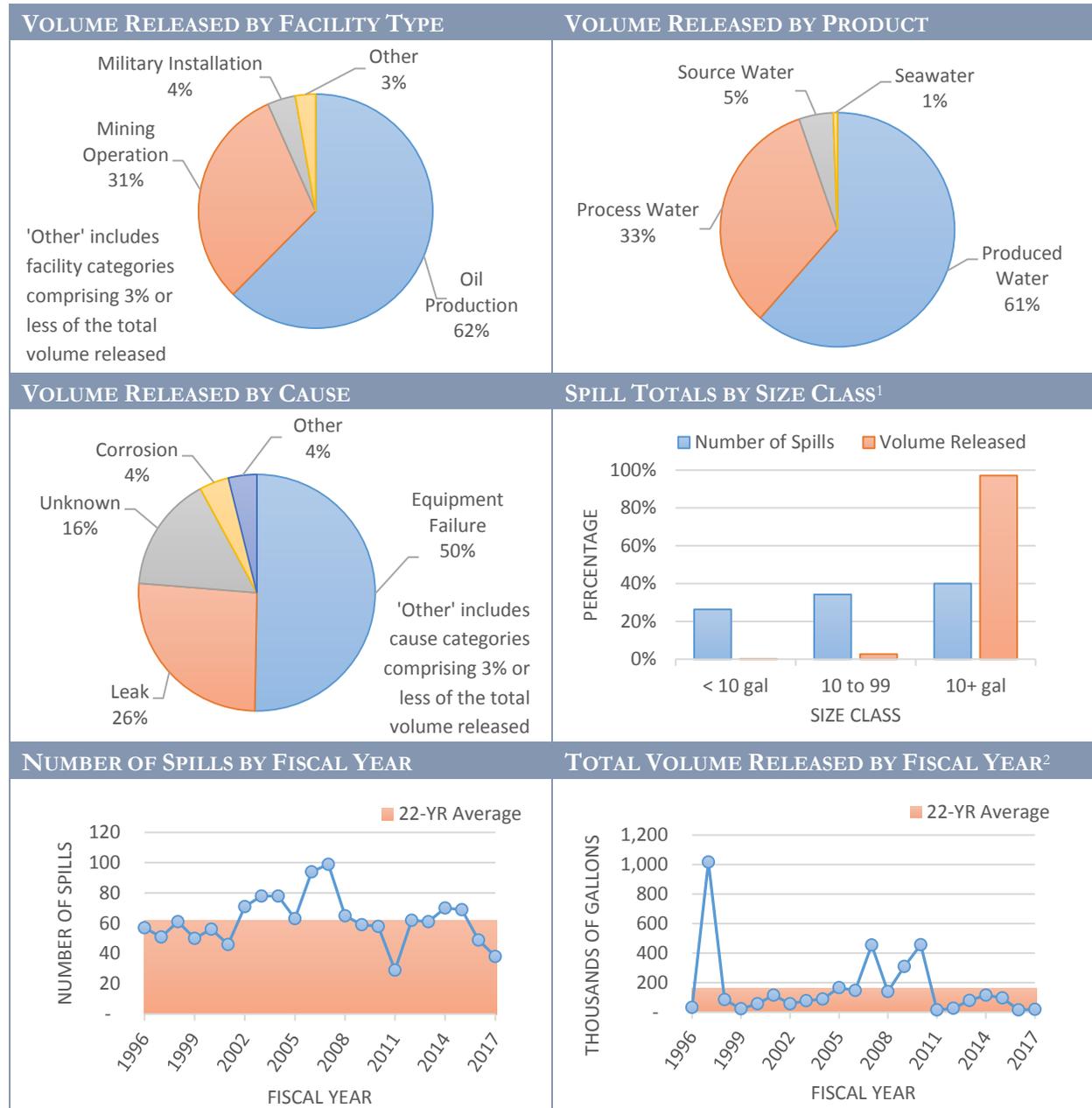
¹ In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

² The large spike in spill volume for fiscal year 1997 was the result of a spill on 1/25/1997 when a barge capsized and lost 25,000,000 pounds of Urea (Solid).

6.1.1 CHART SET 5: PROCESS WATER

Number of Spills Reported: 38

Total Gallons: 18,980



¹ In FY17, small spills (<10 gal) occurred more frequently than larger spills, however a small percentage of large spills (>100 gal) accounted for over 80% of the total volume released.

² The large spike in spill volume for fiscal year 1997 was the result of a spill on 3/17/1997, when 995,400 gallons of seawater were released at ARCO DS-14 in Prudhoe Bay.

Disclaimer: The data presented and summarized in these charts is provisional due to ongoing quality assurance/quality control by data entry staff and primary users. Ongoing reviews will further refine the accuracy of the data.

Notes: Some spill incidents involve releases of multiple substances. In FY17, there were 1,998 spill incidents. These incidents resulted in 2,046 oil and hazardous substance releases.

Some releases (such as gases and solids) are reported in pounds rather than gallons. For graphing purposes, spill quantities reported in pounds were converted to gallons using a conversion factor of eight pounds per gallon.

6.1.2 PPR ACCOMPLISHMENTS

GUIDANCE AND REGULATIONS

PPR staff worked on multiple guidance and regulations projects in FY17. The major guidance projects completed: Plan Application Package and Review, 18 AAC 75.066, and Temporary and Seasonal Class 2 facilities documents were drafted and made available on the Department's website. The 75.066 guidance provides clarification of the prevention measure requirements that apply to shop-fabricated aboveground oil storage tanks with a storage capacity greater than 50,000 gallons. The Class 2 guidance establishes the Department's position on the registration and notification requirements for temporary and seasonal Class 2 facilities. New and updated Job Aids and FAQs were drafted for PPR staff. These include the Article 1, and Plan and Certificating numbering Job Aids, which will be finalized in FY18. A Decanting Guidance, and an update to the Plan Review Guidance document were drafted in FY17 and will be finalized in FY18. Five new letter templates were drafted and finalized in FY17.

The Class 2 facilities regulations package was adopted and became effective during FY17. These are new regulations in 18 AAC 75 for the registration of Class 2 facilities – facilities that store noncrude oil in ASTs, have storage capacities of 1,000 gallons or greater, and are not subject to AS 46.04.030. Gathering registration information will allow the Department to provide technical assistance to registered facilities to help prevent spills thus reducing response and remediation costs for the State, communities, and facility owners and operators. The program is currently continuing outreach efforts to increase registration submissions and transitioning into the next phase: providing guidance and training to address the challenges identified during the registration process.

A regulations package for an increase to the dollar amount for FR went out for public comment and was adopted in FY17. They became effective on October 1. Statute requires that the dollar amounts be adjusted every three years using the Anchorage Consumer Price Index.

UST worker and inspector fee regulations were amended with the fees increasing \$25 per certification. A package to update selected sections of the regulations within Title 18 Chapters 75 and 78 eliminated nontank vessel equivalent plans; clarified or aligned language with related

regulations in 18 AAC 75; and added a new section for USTs to cross-reference the Cost Recovery (CR) regulations in 18 AAC 75.910; which already applied to these operators. These packages became effective in FY17.

VALDEZ MARINE TERMINAL (VMT) SECONDARY CONTAINMENT COBC

On August 28, 2014, DEC and Alyeska Pipeline Service Co. (APSC), Inc. entered into a Compliance Order by Consent (COBC) for a multi-year project to repair and replace crude oil secondary containment piping in the VMT East Tank Farm. APSC completed the final repairs to the containment cells during the summer of 2017 and are preparing a final project report. PPR staff will review the Alyeska report, and determine project completion and COBC closure with coordination from the Integrity and Engineering Unit and LAW.

NOTABLE SPILL RESPONSE EXERCISES

Industry-led exercises were conducted by the Alaska Railroad, Cook Inlet Energy, and BlueCrest. An unannounced drill was conducted with the Cook Inlet Pipeline Company to assess the initial response capability to a worst-case scenario at the Drift River Terminal facility.

PPR staff participated in the Anchorage Incident Management Team (IMT) and in the Caelus Mutual Aid Drill held on August 5, 2016 in the NS. PPR participated in the substantial Point Thomson Export Pipeline exercise and the Bureau of Safety and Environmental Enforcement’s deployment exercise at Eni’s NS facility, as well as other smaller-scale exercises. 13 inspections were

performed in the NS and Northwest Arctic.



Simulating transfer operations onto an oil storage barge during the Caelus Mutual Aid Drill, August 3, 2016 (Photo/DEC)

The TAPS/Interior Unit participated in multiple exercises in FY17, the largest exercise being the APSC Klutina Combined Resource Exercise. This exercise involved both the IMT and equipment deployment. DEC focused on working with representatives from the State Pipeline Coordinators Section to learn how to integrate their expertise in an actual release. PPR continues to work with unit plan holders to implement an

improved response exercise program to realize greater value and improve response readiness of operators, response agencies, and the greater response community. These efforts are designed to

improve response effectiveness by making the exercises as realistic as possible to afford learning and training opportunities for operators. The strategy was tested during the VMT spring response exercise with excellent results. Plan holders are encouraged to develop planning scenarios depicting a realistic situation that is relevant to their facility, to demonstrate their ability to achieve state planning standards. This interface with the facility and state shows great promise, allowing the operator to take a more active role in contingency plan development and implementation, and better protect the environment.

6.1.3 PPR FY18 PROGRAM PRIORITIES

PROGRAM TRANSITION

The PPR Program is now two years into the restructuring process. Significant progress has been made in terms of improving consistency statewide; with our goal of continuous improvement, staff continue to develop and refine prevention, planning, and response skills. Training was a large part of last years work with staff learning new duties, and continuing to take on greater workloads. The Program has experienced several vacancies and is continuously bringing new staff into the organization. In spite of this challenge, PPR has succeeded so far with no milestones missed in FY17. Below are the FY18 priorities for PPR. Continuous training will still be the Program's main emphasis to ensure that staff are making appropriate progress while learning new aspects of their jobs. Training ensures that new staff brought into the Program will maintain high quality and statewide consistency in PPR's work.

TRAINING

With the creation of the PPR Program, training was revitalized to support staff taking on new responsibilities and job tasks, and to expand the technical and professional competency of staff. An additional PPR training priority is to effect consistency within the program. During FY17, a number of training courses were created or updated and provided for spill response, facility inspection, and plan review. The creation and implementation of transition-related and standard trainings continued into FY17, with 16 internal trainings provided to PPR staff statewide.

LONG-TERM MASTER TRAINING FRAMEWORK

A PPR priority is to develop and maintain an evergreen long-term master training framework for all PPR staff that addresses plan review, response, technical expertise, and specific readiness to support State roles in long-term IMT roles for significant spill response events. In FY16, a draft Master Training Table was developed to establish a list of core trainings and the priority for those trainings for use by PPR supervisors and their staff. The Master Training Table was finalized and implemented by PPR statewide in FY17. Additional core trainings were identified and updated in the Master Training Table in FY17, in-line with PPR's goal to maintain the table as a living document that is responsive to feedback and programmatic needs. The Master Training Table is an initial step in the development of a more in depth and all-encompassing long term master training framework

for PPR. Work on the long-term master training framework continued in FY17 and will be on-going in FY18.

EXERCISE LESSONS LEARNED

The Training and Exercise Group continued a program that began in FY16 to collect lessons learned data for exercises in which PPR staff participated. The intent of the program is to share knowledge to improve response readiness statewide. In FY17, 31 exercises were evaluated for lessons learned; an annual summary report was developed with top priority lessons learned which was posted on PPR's website for response community awareness; and a draft internal reference Job Aid was developed to assist PPR staff in future exercise planning, conduct, and evaluation. In FY18, the Training and Exercise Group will continue to collect exercise lessons learned, analyze them; and share the results with the response community and PPR staff. In FY18, the new lessons learned program will be evaluated and adjusted as needed, to ensure it is responsive to feedback and programmatic needs.

RESPONSE EXERCISE PROGRAM

In an effort to improve service, the response exercise program is being redesigned. Response exercises represent an important part of the regulatory program by allowing PPR to verify a company's ability to adequately respond to a spill. The Division has been tasked with considering improvements to this tool to maximize benefits from response exercises. In FY17, DEC initiated an outreach effort with stakeholders to collaborate on improvements. DEC conducted an online survey in November 2016 and two web based visioning sessions in December 2016. An all-day stakeholder's workshop was held in April 2017, presenting DEC's preliminary decisions on key topics. A summary of the survey and visioning session results was also provided. In FY18, DEC will use the input gained from these efforts to complete a Draft Oil Spill Exercise Design and Evaluation Guidance Manual that is underway. The draft guidance will be made available for stakeholder input. The guidance is intended to provide DEC staff, plan holders, response action contractors, partner agencies and other stakeholders with a common tool on how to design, develop, conduct, and evaluate oil spill exercises. It is also intended to help these entities better understand State of Alaska oil spill exercise requirements and DEC's role in exercises.

GUIDANCE AND REGULATIONS PROJECTS

A public scoping was held in FY17 for possible revisions to the contingency plan requirements for noncrude tank vessels. The public was asked for input regarding scaling the requirements for noncrude tank vessels based on the environmental risk associated with the storage capacity of and product carried by the vessel. Planning, researching, and drafting of the regulations will continue in FY18.

The Department is considering updating the Best Available Technology regulations to improve the review and evaluation process, so the requirements are more effective and easier for the public and Department to implement. Research and an internal survey were performed in FY17. In FY18, the

survey results will be summarized and planning, researching, and drafting of the regulations will continue.

A package of minor amendments to selected articles of Title 18 Chapter 75 will be drafted and is expected to go out for public comment in FY18. The package proposes to amend 18 AAC 75 to remove the implementation dates related to the 2016 Article 4 update and to clarify the oil and other hazardous substances pollution control regulations.

A regulation package to incorporate federal changes into UST regulations in Title 18 Chapter 78 was drafted and sent out for external review by EPA in FY17. The EPA's comments were received in the beginning of FY18. The external comments will be reviewed and based on the project's priority, the public comment package may be prepared in FY18.

Guidance documents, Job Aids, FAQs, and letter templates will be produced as needed to support PPR staff.

6.2 CONTAMINATED SITES (CS)

6.2.1 CS DATA REVIEW

More than 7,600 contaminated properties in Alaska have been documented since program inception. Of the total number of sites placed on the contaminated sites database over approximately 30 years, approximately 70% have been closed.

As of June 30, there were 2,290 active sites listed on the contaminated sites database. Even though 1,589 sites have been added to the contaminated sites database over the last ten years, the overall number of active sites in the inventory has decreased from 2,645 in 2007 to 2,290 in 2017, thanks to diligent efforts on site cleanup and closure.

6.2.1 CHART 1: CUMULATIVE ACTIVE AND CLOSED SITES

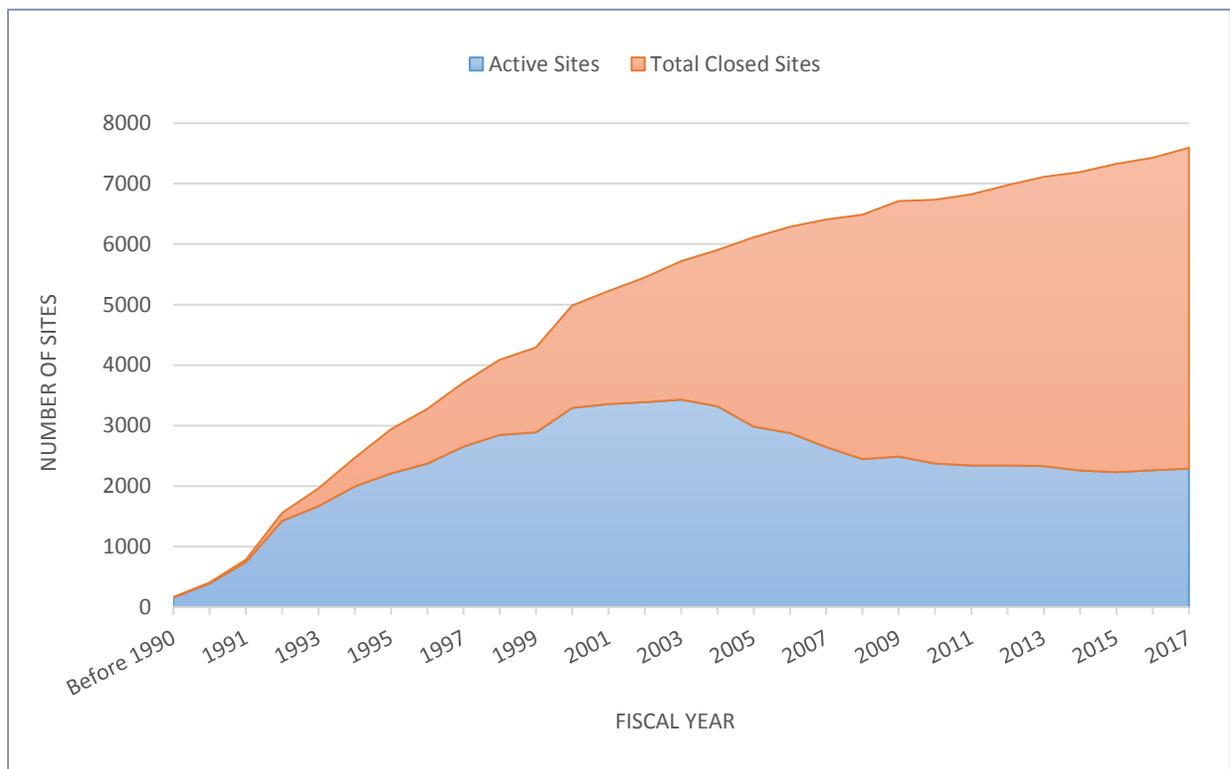


Chart one depicts the active and closed sites trend since 1990. The milestone year was 2005, when the number of closed sites initially exceeded the number of open sites. The gap has widened steadily since 2005, indicating measurable progress and improvement in methods for accomplishing risk reduction at the thousands of legacy contaminated properties in Alaska.

By the close of FY17, the program made progress toward, but did not meet its performance measure goals: 1) Demonstrated annual progress on 100% of high priority contaminated sites (posing the greatest risk to human health and the environment) and 2) completing 150 total site closures.

However, total closures for LUSTs (a federal performance measure set annually at 10% of the total inventory of open LUST sites at the beginning of the fiscal year) were achieved.

PERFORMANCE MEASURE	GOAL	NUMBER ACHIEVED IN FY17
Total Site Closures	150	118
Measureable progress on 100% High Priority Sites	534	406
LUST Closures	33	33

About 14% of the closures were issued with institutional controls in FY17, down from 31% in FY16 and 45% in FY15. About 77% of the 5,303 total closed sites (as of June 30, 2016) are without any land use restrictions (no institutional controls). Institutional controls (ICs) are used for risk-based cleanups that do not provide for unrestricted land use; they allow properties to return to safe and beneficial reuse, as well as to be sold and transferred, provided that property owners agree to ensure these controls are maintained over the long term. This approach is protective of human health and the environment and supports development goals and the economic health in Alaska’s communities.

PROGRESS ON MITIGATING RISKS AT HIGH PRIORITY SITES

The CS Program evaluates relative site risk by using a tool called the Exposure Tracking Model (ETM). The model summarizes the location of contamination, what environmental media (such as soil or groundwater) are impacted, and how the contamination may potentially reach humans or ecological receptors (exposure pathways). A site’s ETM ranking has direct bearing on the priority of the site. Sites with complete exposure pathways for human and ecological risk are elevated in priority. The CS Program’s mission is to focus its resources on the contaminated sites with the highest risks. By tracking annual progress on high priority sites, CS ensures these sites do not languish; the highest risks to human health and the environment are addressed and controlled; and responsible parties for these sites are held accountable.

6.2.1 CHART 2: PROGRESS ON HIGH PRIORITY SITES

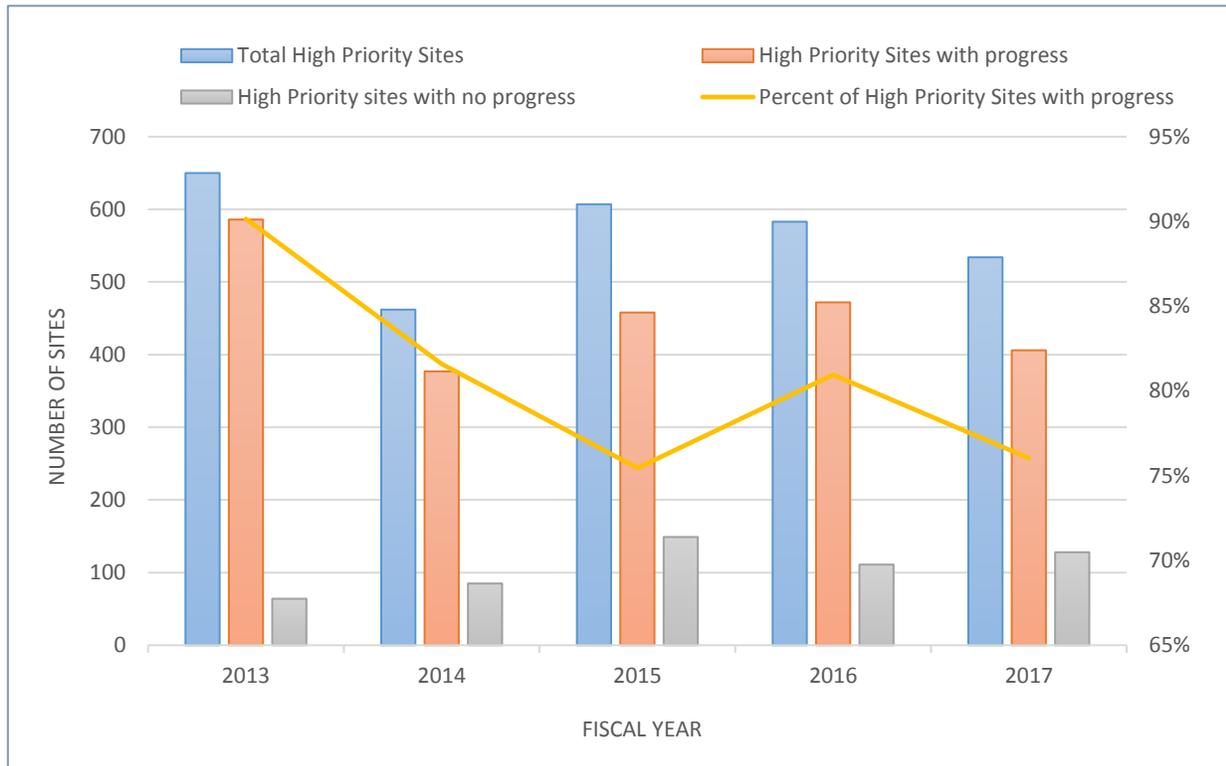
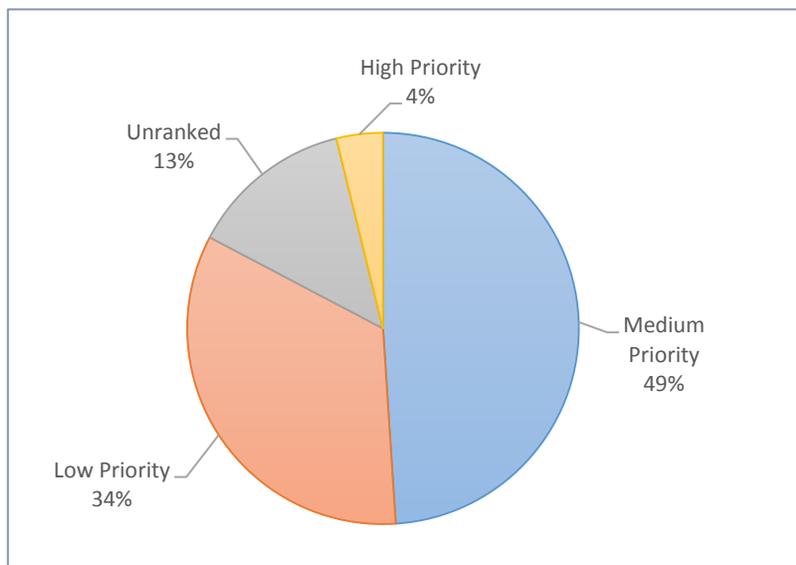


Chart two depicts the number of high priority sites over the past five years, and those which had measureable forward progress to address site risks.

6.2.1 CHART 3: ACTIVE SITES BY RISK PRIORITY



Unranked sites lack sufficient data to determine priority.

Chart three summarizes how active contaminated sites have been prioritized following the site’s assessment using the ETM. The result provides an evaluation of primary human health and/or ecological risks based on the potential for exposure to contaminants at each site.

6.2.1 CHART 4: NUMBER OF SITES CLOSED BY FISCAL YEAR



Chart four depicts the site closure trend over the past seven years. Shifting the focus away from addressing stalled medium and lower priority sites and towards high risk, high priority sites has resulted in a decline in the number of closures this past year. This reflects the greater complexity and other challenges

associated with mitigating risks at high priority sites, where closure is not easily achieved.

A total of 139 sites were added to the contaminated sites database in FY17, including 40 sites transferred from PPR. Of the added sites, 17 were closed during the fiscal year, and 16 were found to be either unconfirmed, non-qualifying (as defined by the contaminated sites database inclusion criteria), or informational. Of all new sites, 104 remained in active status as of June 30.

6.2.1 CHART 5: AGE DISTRIBUTION OF SITES CLOSED IN FY17

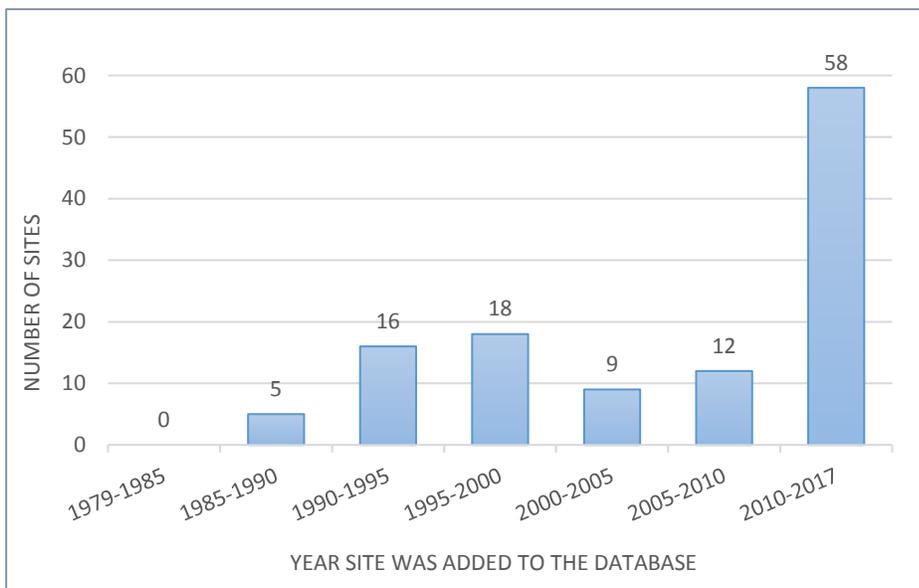
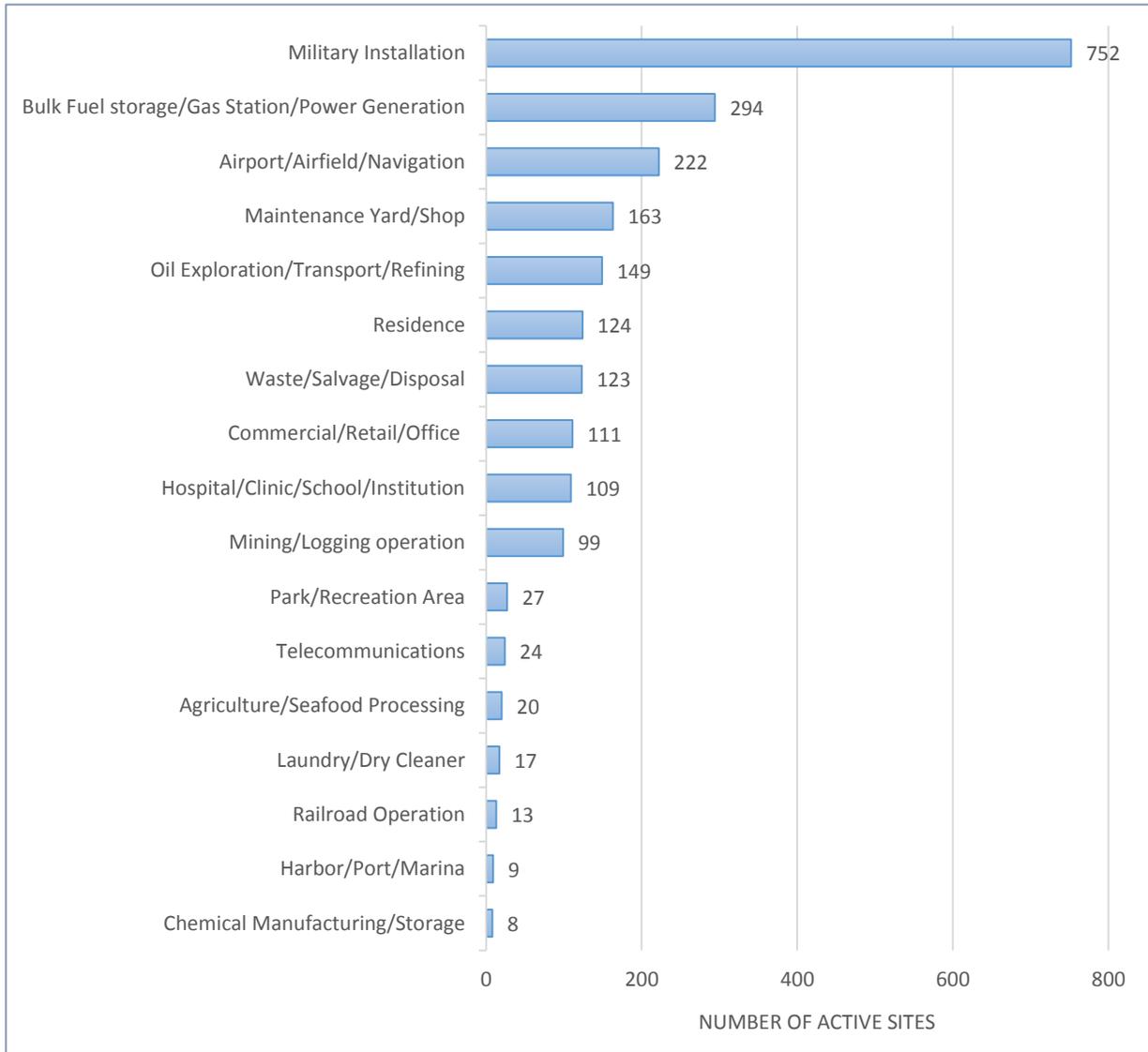


Chart five illustrates how long sites had been in our inventory that were closed during FY17. It is worth noting that nearly 50% of the sites closed during the fiscal year were added to the database in the past 16 years. This statistic is an indicator that some very old sites stay open due to lack of responsible party and adequate or

current environmental data, or long-term contamination issues persist that require decades of remediation. Sites closed in recent years may often benefit from simpler environmental problems, as

well as available resources or interest in resolving liability issues and facilitating property transfers. Nevertheless, much work remains. Of all the sites added to the inventory between January 1979 and December 2000, over 1,000 such sites remain in active status.

6.2.1 CHART 6: NUMBER OF ACTIVE SITES BY CATEGORY



Military installations, bulk fuel storage and gas stations, oil exploration and refining, aviation, and maintenance facilities, are the five most common types of open contaminated sites. Chart six shows active sites by type. Military installations are the largest category, comprising one-third of the 2,290 open sites at the end of FY17.

Federal military and federal civilian agencies are responsible for over half the remaining open sites as of the end of FY17. About one-third of open sites are in private ownership, while state and local government open sites combined are less than one-fifth.

6.2.1 CHART 7: ACTIVE SITES BY CONTAMINANT CLASS

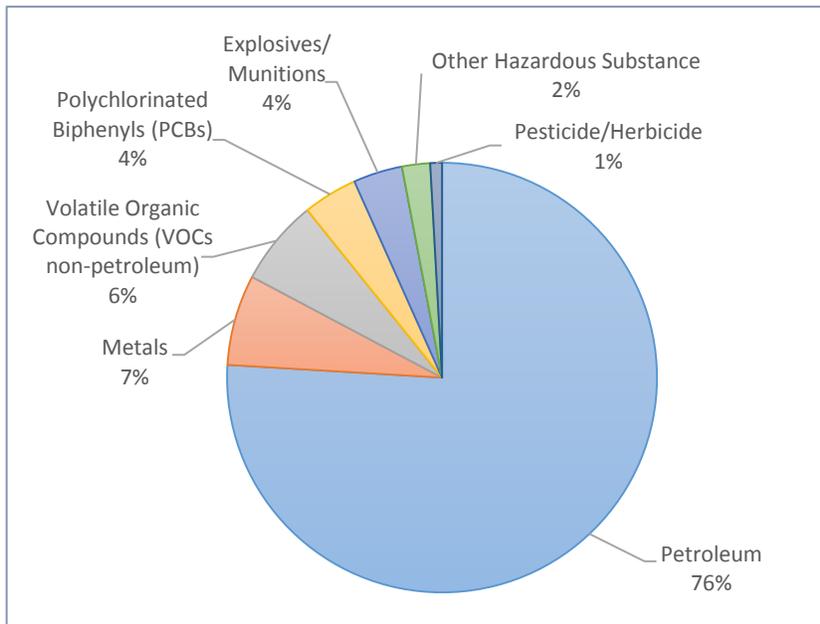
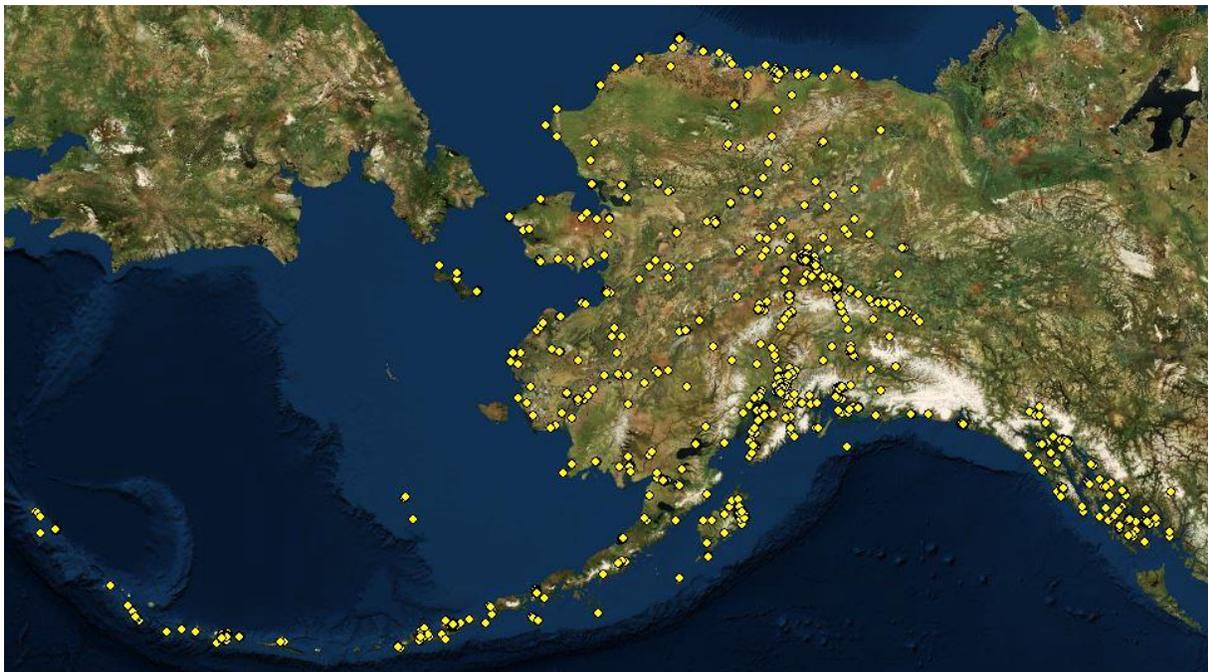


Chart seven displays the breakdown of active sites by the class of contaminant. The majority of active sites are from releases of petroleum products. Some of these sites have additional contaminants, including volatile and semi-volatile compounds and other contaminants.

MAP OF ALL ACTIVE CONTAMINATED SITES IN THE STATE OF ALASKA



By area, slightly more than half of the open sites are located in South Central Alaska; 40% in the Interior and NS; and less than 10% in Southeast.

6.2.2 CS ACCOMPLISHMENTS

SITE MANAGEMENT STATISTICS

- Project work plans/reports approved: 1,173
- Onsite inspections: 193
- Long-term monitoring complete: 4 sites
- IC compliance reviews conducted: 272 sites
- IC follow-up tasks conducted: 96 sites
- ICs removed: 17 sites
- Active sites with ICs established: 3 sites
- IC sites that had periodic reporting by the RP/landowner/consultant: 34 sites
- IC record established: 22 sites

APPROVED FY17 DEC BROWNFIELDS ASSESSMENTS AND CLEANUPS (DBAC):

- Talkeetna – Old Talkeetna Library
- Tanana – Tanana Community Hall
- Anchorage – Brewsters/Surf Laundry
- Ruby – Ruby Former Head Start Building
- Whittier – Buckner Building
- Chevak – Alaska Village Electric Cooperative Power Plant

TARGETED BROWNFIELDS ASSESSMENT:

- Quinhagak – Old school Storage Building
- Fairbanks – Polaris Building
- Golovin – Former Golovin Seafood Processing Plant

EPA COMPETITIVE ASSESSMENT AND CLEANUP GRANTS:

- Matanuska Susitna Borough – coalition community wide
- Cook Inlet Housing Authority

EMERGING CONTAMINANTS

CS responded to several perfluoroalkyl substance (PFAS) contaminant releases to groundwater causing impacts to drinking water wells at private residences above DEC cleanup standards and/or EPA health advisory levels. Releases occurred from activities at Eielson Air Force Base and the Fairbanks Regional Fire Training Center resulting in groundwater contaminant plumes impacting the communities of Moose Creek and Fairbanks. CS required the responsible parties to provide residences with clean alternative drinking water while ongoing site investigation work occurs, plume boundaries are defined, and permanent remedies are developed. CS staff continued working closely with the Department of Defense (DOD), which is assessing potential PFAS contamination at all installations nationally, including sampling drinking water supplies and researching and sampling areas where Aqueous Film Forming Foams (AFFF) containing PFAS were used, spilled or discharged during training or responding to fires. Staff is also investigating non-DoD areas where AFFF was known or suspected to have been used.

BROWNFIELDS

CS continues to coordinate with EPA, local governments, tribes, developers and others on Brownfields initiatives. Staff continued working with Cook Inlet Housing Authority (CIHA) on development projects in Anchorage. In FY17, cleanup was completed at the former Olson's Tesoro Service Station #1 on Spenard road, where CIHA recently completed a mixed use retail/residential development project on a portion of the site. CIHA was awarded DEC Brownfield services at the Surf Laundry site in the Mountain View neighborhood of Anchorage allowing CIHA to better evaluate their potential liability in developing the property and investigate extent of contamination from the former dry cleaning operation.

HOME HEATING OIL TANKS

CS began development of a Home Heating Oil Tank (HHOT) Pilot Project funded under an FY17 CIP appropriation. The initial effort included reaching out to homeowners who have experienced a HHOT release, providing technical assistance to evaluate immediate risks, and evaluating the RP's ability-to-pay for necessary response actions. At two sites where the RP was found unable to pay, DEC is working with contractors to conduct sampling to evaluate the nature and extent of contamination, and to address potential risks. CS plans to continue and expand the HHOT Pilot Project during FY18.

WRANGELL JUNKYARD- EMERGENCY RESPONSE CLEANUP

Throughout FY17, CS worked with the DNR, the City and Borough of Wrangell and EPA to select and study a site for the future monofill (to contain lead treated soil from the former Wrangell Junkyard site that was cleaned up in FY16). DEC worked closely with EPA on the development of a monofill design plan for the chosen site. In spring of 2017, DEC received approval to spend an additional \$5.5 million out of the Emergency Response Account to complete construction of the monofill and disposal of the treated soil that is temporarily stockpiled on the former Junkyard site.

ILLEGAL DRUG MANUFACTURING SITES PROGRAM

In FY17, CS assumed management of the illegal drug manufacturing sites program, due to the nature of the work involving review of data from building materials sampling and to make improvements and updates to guidance documents and regulations concerning safe standards and other protocols.

LABORATORY APPROVAL PROGRAM

In the spring of 2017, CS undertook numerous regulatory and administrative changes to the laboratory approval program. The laboratory approval program, previously managed by the Division of Health is now being managed by the CS Program. The new laboratory approval program should improve the quality of the laboratory data submitted to the program and reduce the costs associated with administering the program.

UST ENFORCEMENT

Two UST facilities comprising seven individual USTs were placed on delivery prohibition for various lengths of time and reasons. Four tanks at one facility were placed on delivery prohibition for 116 days due to a suspected release. Tank repairs were made, tightness test and internal inspections completed and tanks returned to service. Ongoing site work is being done to determine if there is any ground water or soil contamination and necessary remedial action. Three tanks at a second facility were twice placed on delivery prohibition. The first occasion was due to failure to maintain financial responsibility and lasted two days. The second occasion was due to spill bucket and line leak detection testing required as a result of customer reports of bad gas confirmed by vehicle repair shops. The second stretch of delivery prohibition lasted 29 days before the facility returned to service.

A total of 94 Notices of Non-Compliance (NNC) and ten Compliance Letters were issued to a total of 97 facilities for a variety of routine operational compliance issues. All have been corrected and returned to full operational compliance.

One NOV was issued to a facility for failure to pay the annual UST invoice for calendar year 2017. The owner of the facility is in the process of evicting the tenant operator and reclaiming full responsibility for the facility in question. Ongoing efforts continue to be made by the UST unit to bring this issue to closure

REGULATIONS

Regulations governing the approval of laboratories that perform analyses on soil, air and water samples from contaminated sites and leaking underground storage tanks were substantially changed to lessen the burden and cost on laboratories, by adopting approvals through two nationally recognized programs and eliminating approval fees. These regulations were made effective July 1.

A scoping notice was issued in August 2016 through January 2017, to explore potential changes to petroleum cleanup levels and how cleanups are carried out at petroleum contaminated sites. The scoping effort included three public workshops in Juneau, Anchorage and Fairbanks, and received statewide attention from the news media. Comments were received from a broad set of stakeholders including environmental firms, state agencies, federal entities and industry.

TRAINING

Program-wide training on the Site Cleanup Rules was provided to all staff that work with the cleanup regulations.

COMPUTER APPLICATIONS AND PROGRAM WEBSITE

CS accomplishments include the rollout of two online calculators used for determining cleanup levels and cumulative risk. These tools were developed by the University of Tennessee through a Memorandum of Understanding with DEC.

Development of a third tool for generating 3 and 4-phase partitioning calculations of risk from contaminants at sites for future use by the public commenced in FY17, and was ready for beta testing at the close of the fiscal year. This project is also being carried out in collaboration with the University of Tennessee.

PROJECT MANAGER TOOLS/GUIDANCE

Issued revised guidance on developing conceptual site models. The conceptual site model guidance was revised to be in conformance with other DEC guidance.

Released a technical memorandum that provides guidance on whether a sampling course or training program meets the criteria to be recognized as a qualified sampler training program.

Revised the vapor intrusion target level tables for assessing vapor intrusion risk. The tables were updated to reflect new toxicity information that was available and to update the program's internal exposure tracking model.

Released a technical memorandum on treatment of laboratory data including non-detect values, data reduction for multiple detections, and comparison of quantitation limits to clean up values. This technical document provided much needed guidance on how to evaluate non-detect results for evaluating risk and performing statistics on analytical data.

Released a technical memo that provides guidance on data quality objectives, checklists, quality assurance requirements for laboratory data, and sample handling. This technical memo provides a good overview of the minimum quality assurance guidelines for work plan or report construction.

CS released draft guidance on establishing cleanup levels under methods two and three of the Site Cleanup Rules (18 AAC 75.325-390). This guidance is designed to assist responsible parties in

understanding how to select a cleanup level under Method two, and how to propose a cleanup level under Method three, using an array of options.

6.2.3 CS FY18 PROGRAM PRIORITIES

ALASKA ENVIRONMENTAL COVENANT ACT

The CS Program is seeking adoption of an environmental covenant act that would establish a legal framework for utilizing environmental covenants as ICs to manage land use at contaminated sites where unrestricted future land use is not appropriate due to contaminants that remain on-site. Cleaning sites to levels suitable for unrestricted land use is not always feasible or necessary. In cases where DEC approves a cleanup as being complete and protective based on current land use and the landowner(s) agreeing to limit future activities that could cause people to be exposed or contaminants to be spread (i.e., no drinking water wells will be installed on-site, or the property will not be used for residential purposes, or no excavation without prior approval), effective institutional controls are necessary. Alaska is one of seven states nationally that does not have an environmental covenant law. An effective environmental covenant law helps to manage residual contamination and risk, manage current and future landowner's liabilities, and promote property transfers and reuse of contaminated sites. Senate Bill 64, which would establish an environmental covenants act, was introduced and passed by the Senate in 2017, but held in the House; it will carry over into 2018.

WORKLOAD BALANCING

CS will provide adequate oversight at high priority sites to ensure that the public and the environment are protected. To assist in achieving this, low priority sites may be moved into a "holding" status until staffing resources are available to address them.

HOME HEATING OIL TANKS

CS will refine and expand the Home Heating Oil Tank (HHOT) pilot project, including a specific project for community outreach as Fairbanks home owners begin switching over from oil to natural gas for heat.

SITE DISCOVERY

CS will develop a site discovery process to conduct state-lead site characterization, where necessary, to determine if contaminated sites currently pose an unacceptable risk and the priority for response. Many sites are currently ranked as a high priority due to a lack of site characterization data and lack of a responsible party that is willing or able to conduct the work.

EMERGING CONTAMINANTS

CS will continue work and response to emerging contaminants such PFAS. This includes extensive outreach to fire-fighting entities, municipalities, state agencies, and industries across the state on the

risks of certain compounds in AFFF and recommendations to review and replace these products, as well as investigating areas where AFFF was used, discharged, or disposed of historically.

REGULATION PACKAGES

Four regulation projects are in the works or proposed for FY18. These include:

- A regulations package will be issued in late 2017, or early 2018 to update cleanup levels only in Tables B1 and C of 18 AAC 75. The changes will address recent updates to toxicity information and chemical specific parameters. Some of the cleanup levels will become less stringent as a result of the changes.
- Changes to the UST regulations (18 AAC 78) will be proposed to incorporate EPA updates to 40 CFR 280 from July 2015. The changes include federal updates addressing emergency power generators, airport hydrant fuel distribution systems, secondary containment and interstitial monitoring, testing of spill prevention equipment and overflow prevention equipment inspections, and operation and maintenance walk-through inspections. There are also structural changes to streamline and improve the usability of the regulations.
- A second scoping notice will be issued for potential changes to petroleum cleanup levels and how they are calculated for spills, contaminated sites and USTs. This scoping effort will follow on the feedback received from the FY17 scoping on this topic, which helped the department refine concepts for proposed changes in the regulations.
- Pending passage in the Alaska Legislature of a bill to adopt the Uniform Environmental Covenants Act (UECA), craft implementing regulations for the statute and issue for public comment, and begin implementation of UECA at sites that qualify for closure with institutional controls.

STATE OWNED SITE COORDINATION

Continue coordinating with individual state agencies on contaminated site cleanup needs, priorities and budget strategies for state-owned sites following on the results of facilitated meetings with the agencies in FY17. Follow up meetings will be scheduled with each department to begin working on draft “agency plans” to help each department better manage its contaminated sites and the associated liabilities. Use the resulting tailored plans or agreements to replace the outdated 1997 Memorandum of Agreement between DEC and the state agencies.

6.3 RESPONSE FUND ADMINISTRATION (RFA)

The primary purpose of the RFA Program is to manage the Oil and Hazardous Substance Release Prevention and Response Fund (OHSRPRF), also known as the "Oil/Haz Fund" or "Response Fund", as a viable, long-term funding source for the state's core spill prevention and response programs. The RFA Program is the administrative and financial arm of SPAR. The program manages the expenses and revenues in the Prevention and Response Accounts of the Response Fund by recovering state costs for responding to spills from responsible parties.

OTHER SERVICES PROVIDED BY THE RFA PROGRAM:

- Develop budget requests and spending plans to limit annual funding requests to revenue available from the Prevention Account revenues
- Manage federal grants and Reimbursable Service Agreements (RSAs) for SPAR
- Provide administrative support to the entire SPAR division
- Manage capital improvement program expenditures for cleanup at state owned and state lead facilities
- Track all state spill response expenditures and revenues, and initiate timely billings to responsible parties to ensure maximum recovery of state costs
- Identify and pursue other cost recovery sources, such as the Federal Oil Spill Liability Trust Fund, and participate in the settlement of cost recovery claims with LAW
- Manage and maintain contracts with private firms engaged in cleanup and remediation work for the SPAR
- Maintain all the SPAR program databases for the division and develop any improvements to those databases
- Prepare an annual report on the Response Fund and RFA accomplishments
- In the case of a major spill response, support the Finance Section within the Incident Command System

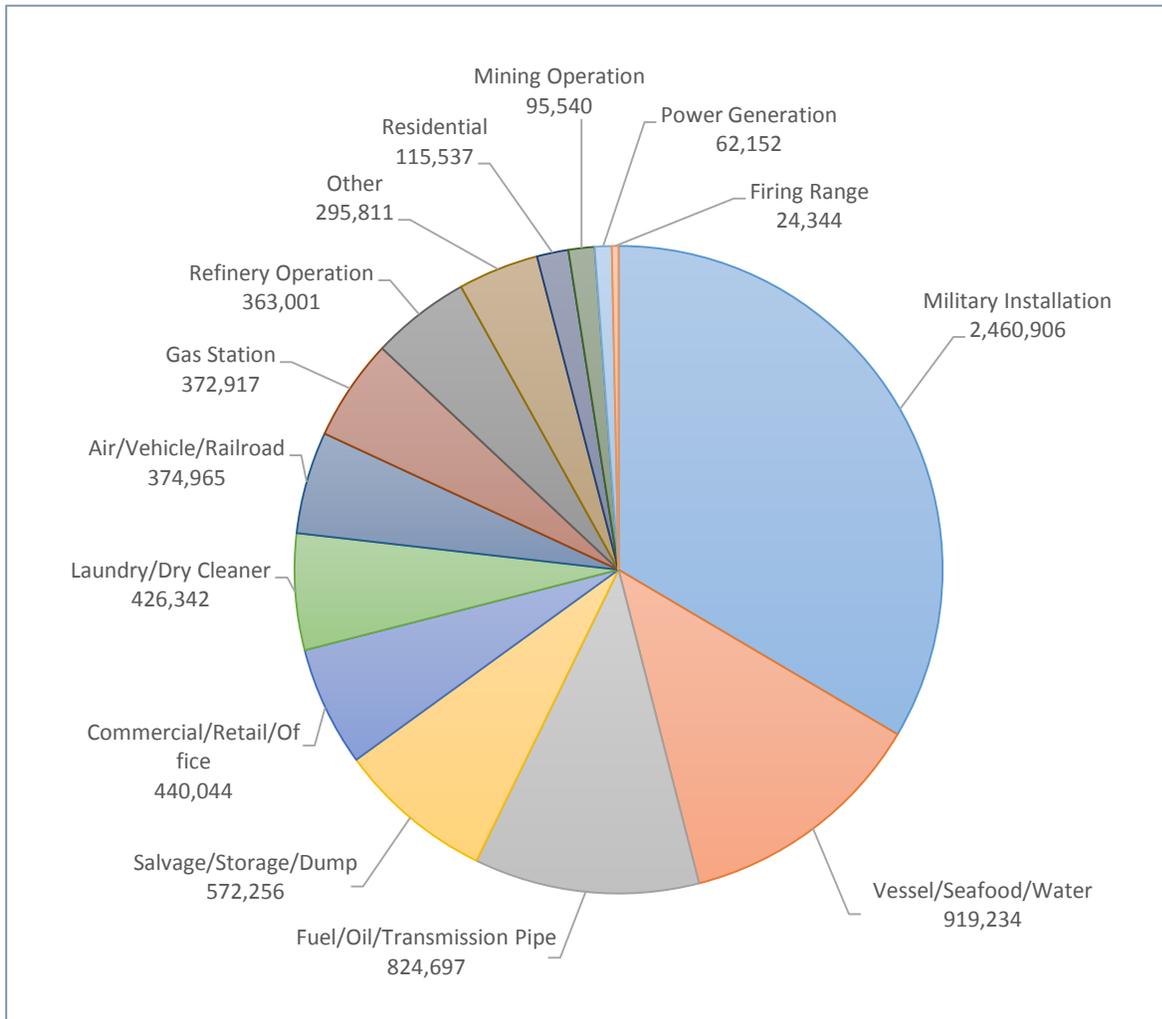
6.3.1 RFA DATA REVIEW

The financial data compiled by the RFA Program is FY17 data. There are two different sets of financial data. One set of financial data includes all CR data, federal grants and RSA's where SPAR work is done at a particular site. The other includes only the CR data where responsible parties have been billed for SPAR services at a particular site.

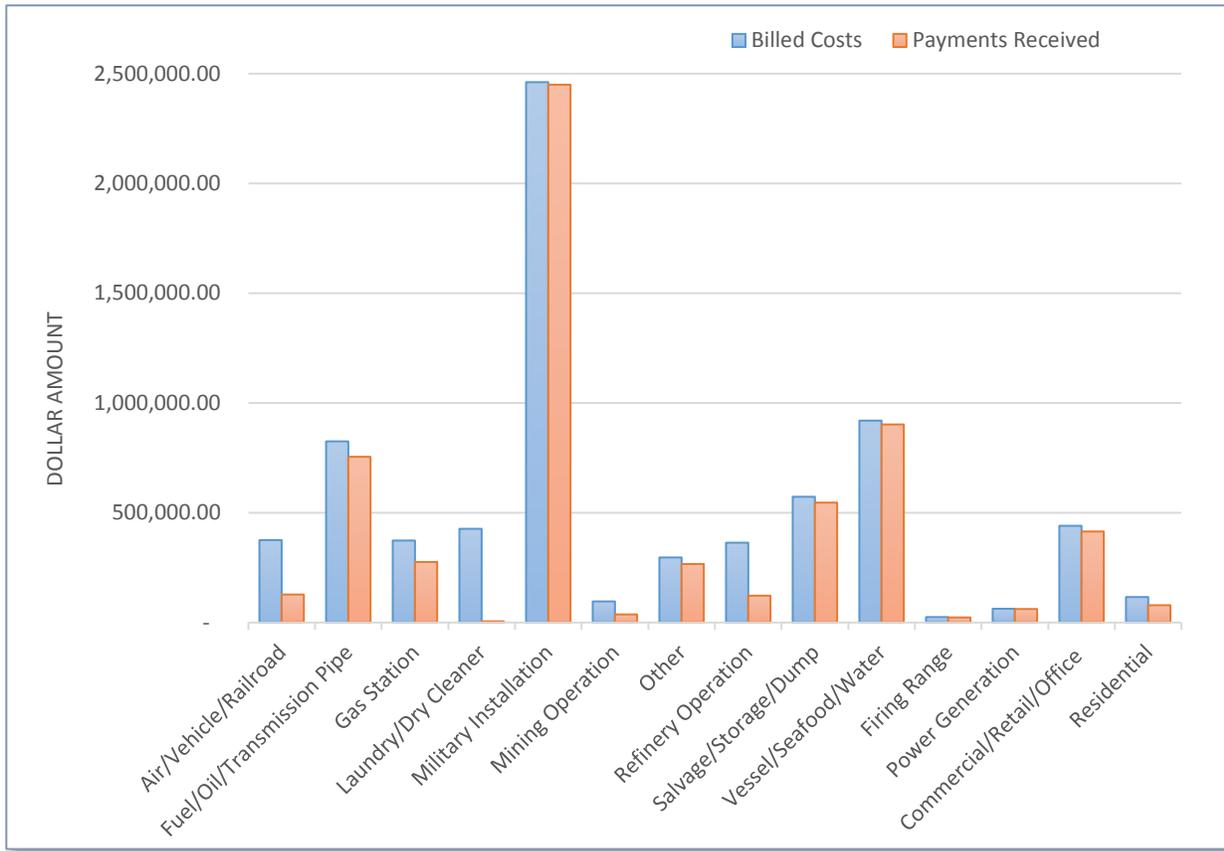
The industry types shown below reflect how SPAR programs categorize their work. The other industry category shown below includes lighthouses, telecommunications, parks and recreation,

logging, state oversight of projects, and other small industry categories. The residential category includes HHOTs and other types of residential spills.

6.3.1 CHART 1: TOTAL AMOUNT BILLED CATEGORIZED BY INDUSTRY TYPE



6.3.1 CHART 2: FY17 TOTAL AMOUNT BILLED VS. AMOUNT RECOVERED BY INDUSTRY (FY17 BILLED INVOICES ONLY)



SPAR RECOVERED COSTS BY INDUSTRY TYPE (RECOVERED THROUGH COST RECOVERY, GRANTS, AND RSA'S)

Revenue collected during the fiscal year for FY17 invoices

INDUSTRY TYPE	BILLED COSTS		PAYMENT RECEIVED		SUM OF PENDING BALANCE	
	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total
Air/ Vehicle/ Railroad	\$329,527.23	4.48%	\$82,880.02	1.37%	\$246,647.21	19.13%
Commercial/ Retail/ Office	\$439,595.88	5.98%	\$413,705.74	6.83%	\$25,890.14	2.01%
Fuel/Oil/ Transmission Pipe	\$751,501.15	10.23%	\$708,541.59	11.70%	\$42,959.56	3.33%
Gas Station	\$372,917.01	5.08%	\$275,055.45	4.54%	\$97,861.56	7.59%
Highway Maintenance Station	\$36,100.00	0.49%	\$36,100.00	0.60%	\$-	0.00%
Laundry/ Dry Cleaner	\$426,341.85	5.80%	\$5,022.14	0.08%	\$421,319.71	32.67%
Logging	\$448.29	0.01%	\$448.29	0.01%	\$-	0.00%
Maintenance Yard/ Shop	\$63,956.50	0.87%	\$45,470.29	0.75%	\$18,486.21	1.43%
Military Installation	\$2,460,906.44	33.49%	\$2,449,332.23	40.43%	\$11,574.21	0.90%
Mining Operation	\$95,539.56	1.30%	\$36,353.81	0.60%	\$59,185.75	4.59%
Oil production/ Exploration	\$73,195.90	1.00%	\$45,813.87	0.76%	\$27,382.03	2.12%
Other	\$295,810.53	4.03%	\$266,050.94	4.39%	\$29,759.59	2.31%
Park/ Recreation Area	\$24,343.71	0.33%	\$22,626.08	0.37%	\$1,717.63	0.13%
Power Generation	\$62,152.15	0.85%	\$60,897.24	1.01%	\$1,254.91	0.10%
Railroad Operation	\$9,338.03	0.13%	\$8,028.65	0.13%	\$1,309.38	0.10%
Refinery Operation	\$363,001.11	4.94%	\$121,860.48	2.01%	\$241,140.63	18.70%
Residential	\$115,537.43	1.57%	\$78,258.78	1.29%	\$37,278.65	2.89%
Salvage/ Storage/ Dump	\$508,299.35	6.92%	\$500,098.46	8.25%	\$8,200.89	0.64%
Vessel/Seafood/Water	\$919,234.31	12.51%	\$901,694.47	14.88%	\$17,539.84	1.36%
Grand Total	\$7,347,746.43	100.00%	\$6,058,238.53	100.00%	\$1,289,507.90	100.00%

SPAR RECOVERED COSTS BY INDUSTRY TYPE (RECOVERED THROUGH COST RECOVERY ONLY)

Revenue collected during the fiscal year for FY17 invoices

INDUSTRY TYPE	BILLED COSTS		PAYMENT RECEIVED		SUM OF PENDING BALANCE	
	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total	Dollar Amount	Percentage of Total
Air/ Vehicle/ Railroad	\$295,181.39	13.69%	\$51,376.18	4.38%	\$243,805.21	24.84%
Commercial/ Retail/ Office	\$349,553.47	16.22%	\$323,663.33	27.57%	\$25,890.14	2.64%
Fuel/ Oil/ Transmission Pipe	\$263,096.71	12.21%	\$228,114.31	19.43%	\$34,982.40	3.56%
Gas Station	\$247,917.01	11.50%	\$150,055.45	12.78%	\$97,861.56	9.97%
Laundry/ Dry Cleaner	\$426,341.85	19.78%	\$5,022.14	0.43%	\$421,319.71	42.92%
Logging	\$448.29	0.02%	\$448.29	0.04%	\$-	0.00%
Maintenance Yard/ Shop	\$63,956.50	2.97%	\$45,470.29	3.87%	\$18,486.21	1.88%
Military Installation	\$28,291.16	1.31%	\$23,055.20	1.96%	\$5,235.96	0.53%
Mining Operation	\$89,483.57	4.15%	\$30,297.82	2.58%	\$59,185.75	6.03%
Other	\$44,793.67	2.08%	\$36,866.03	3.14%	\$7,927.64	0.81%
Park/Recreation Area	\$24,343.71	1.13%	\$22,626.08	1.93%	\$1,717.63	0.17%
Power Generation	\$24,555.27	1.14%	\$23,300.36	1.98%	\$1,254.91	0.13%
Railroad Operation	\$9,338.03	0.43%	\$8,028.65	0.68%	\$1,309.38	0.13%
Refinery Operation	\$147,958.78	6.86%	\$121,860.48	10.38%	\$26,098.30	2.66%
Residential	\$99,216.71	4.60%	\$70,869.35	6.04%	\$28,347.36	2.89%
Salvage/ Storage/ Dump	\$41,022.66	1.90%	\$32,827.08	2.80%	\$8,195.58	0.83%
Residential	\$147,276.86	6.83%	\$132,288.25	11.27%	\$14,988.61	1.53%
Grand Total	\$2,155,498.78	100.00%	\$1,173,881.04	100.00%	\$981,617.74	100.00%

Significant action has been occurring in SPAR to increase CR. The Division will never recover all of our costs because much of the work we do is not a billable activity. For example, we cannot bill for prevention work (contingency plans, technical assistance, and inspections) or spill drills which are a substantial portion of our work. However, we have taken dramatic steps to increase cost recovery when it is plausible.

SPAR, with the assistance of LAW, adopted new CR regulations describing how cost recovery will occur. Statutory language requesting these regulations has existed for ten years but never been implemented until now.

SPAR has successfully taken over the informal CR billing process from LAW, and the Division is staying within our budget of \$450 thousand for LAW services for the last two years.

SPAR has made several changes to billing in FY16 in order to make collections easier. Improvements include: implementing a standard interest rate on invoices 60 days past due or longer; developing procedures to determine a responsible party's inability to pay; establishing rules within our Bill Quick system to automate billing and remove non-billable time entries.

We also requested payment for the first time for nearly 350 sites that had not been previously billed. Only 3% of the sites that had never been billed remain to be evaluated. We do not bill sites where we cannot find a responsible party, LUST grant recipients, and some federal sites that are under another payment agreement.

Overall, we have reduced errors, increased billing frequency, and provided better customer service. These changes have improved CR efforts and annual CR revenue fluctuates between \$1 million and \$1.5 million.

6.3.2 RFA ACCOMPLISHMENTS

- Staff from the Director's Office (DO) coordinated a division-wide effort to update the SPAR Records Retention and Disposition Schedule. This was a multi-year project which culminated in final approvals in April 2017.
- PPR staff and the SPAR Director met with USCG and the EPA to consider restructure of Unified Plan and the ten existing subarea contingency plans per a national directive from USCG.
 - DO staff planned and convened a meeting of federal partners and On Scene Coordinators from PPR to develop a proposed government plan reorganization to comply with the federal directive and align structure with that of other states.
 - This meeting resulted in the Statewide Planning Committee, a work group of state and federal partners who will be developing the new plans.
 - The workgroup, which includes PPR and DO staff working with federal partners, is designed to create new Area Contingency Plans, reducing ten subarea contingency plans to four area contingency plans, and incorporating information from the

existing Unified Plan. This will be a long term project and is currently in the scoping phase as work groups determine the amount of time and resources needed to accomplish the task.

- During the 2017 legislative session, the DO conducted significant outreach along with CS staff re: proposed legislation for the UECA. The bill did not pass but is still active and will continue from where it left off in 2017. The proposed UECA bill is an important piece of uniform legislation, adopted by many other states to assist current owners and prospective buyers by providing transparent information concerning property use and restrictions.

6.3.3 RFA FY18 PROGRAM PRIORITIES

RFA/DO along with CS will continue to promote UECA bill in Alaska to protect prospective landowners, while legislative focus remains on the state budget.

RFA is looking at options to reduce the burden of DEC oversight costs to certain homeowners. Since SPAR is required by statute to recover all costs, reducing the burden may require statutory revision.

RFA/DO staff along with PPR will participate in collaborative workgroups with federal partners to ensure development of new government plans (Regional and Area Contingency Plans).

The division continues to monitor fiscal resources while remaining good stewards of the environment.. SPAR is challenged with maintaining a high level of protection to the public and environment with uncertain federal funding and fewer state resources.

The following program efforts will impact RFA and are clear Director Priorities:

- SPAR hopes to reduce the number of spills at Class 2 fuel storage facilities, thanks to the new regulatory spills prevention initiative, saving funds to be used for cleanup elsewhere.
- Drills and exercises are costly. The exercise improvement guidance (due FY18 from PPR) should reduce costs and close gaps between industry and government exercises. Our anticipated result is improved preparedness.

SPAR will continue with its efforts on site discovery, assessment, and cleanup of state and federally-owned contaminated sites, reducing the number of languishing contaminated sites. As these older sites are cleaned up, and costs incurred for oversight, the RFA program will increase cost recovery efforts accordingly.

6.3.4 RFA PROGRAM BIENNIAL REPORT ELEMENTS

Alaska Statute AS 46.08.060 requires DEC/SPAR to report on certain aspects of the Response Fund. This report is due no later than the tenth day following the convening of each first regular session of the legislature. The report can be very large. In the interest of reducing paper, the report

tables are described in the appendices section of this report, and are provided separately on our website at <http://dec.alaska.gov/spar/reports>.

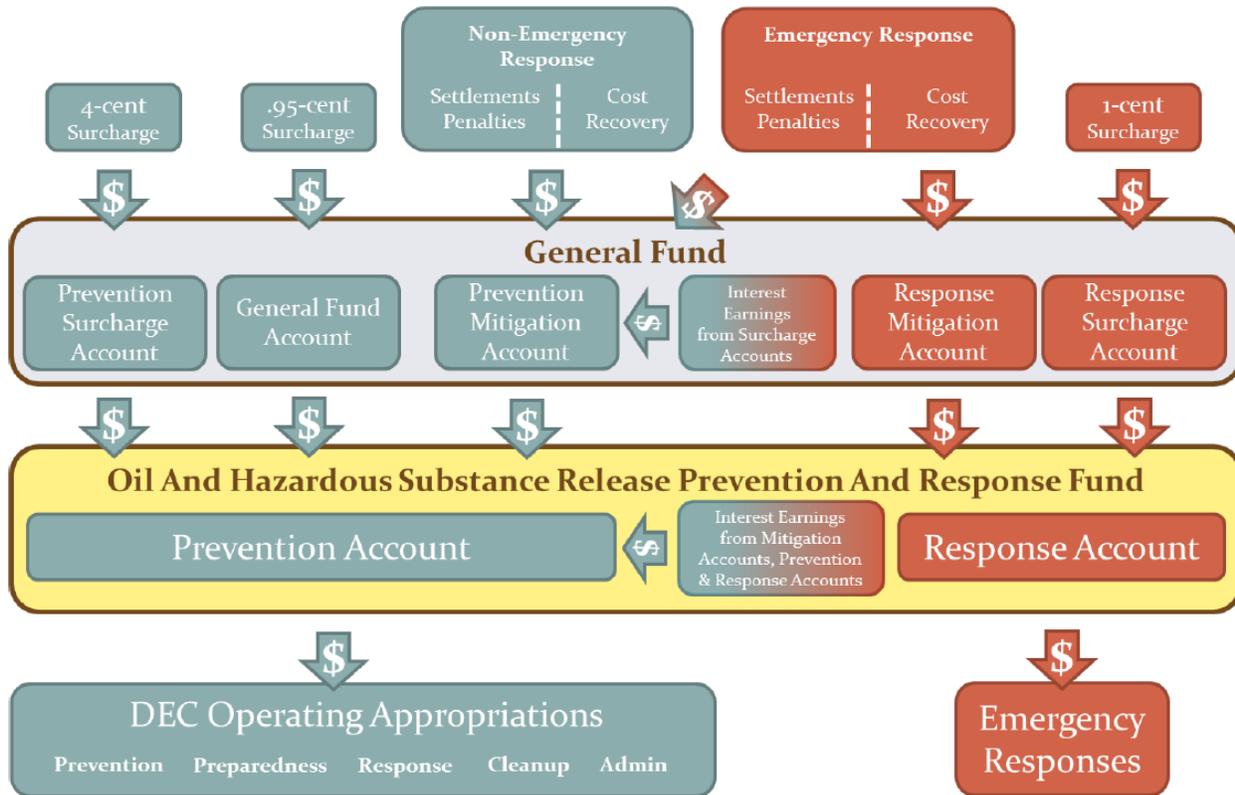
HISTORY OF THE RESPONSE FUND

The Response Fund was created by the Legislature in 1986, to provide a readily available funding source to investigate, contain, clean up and take other necessary action to protect public health, welfare and the environment from the release or threatened release of oil or a hazardous substance. Alaska Statute 46.080.030 states: “It is the intent of the legislature and declared to be the public policy of the state that funds for the abatement of a release of oil or a hazardous substance will always be available.” (SLA 1986 Sec.1 Ch. 59).

The statutes governing the Response Fund were amended in 1989, 1990, 1991, 1994, 1999, 2006, and 2015. These amendments increased the scope that defines how the Response Fund can be used and it also increased the DEC’s reporting requirements. In addition, the 1994 amendment made major changes to the Response Fund structure by dividing the Response Fund into two separate accounts. The first account is the Response Account and the second account is the Prevention Account. The changes became effective on July 1, 1994.

The 1999 amendment changed the requirement for an annual fund status report to the legislature to a biennial status report. The 2006 amendment changed the surcharge levied on crude oil produced in the state. HB3001C amended Sec. 28 of AS 43.55.300 and imposed a Prevention Account surcharge of \$.04 (formerly \$.03) per barrel of oil produced from each lease or property in the state, less any oil the ownership or right to which is exempt from taxation. Sec. 26 of AS 43.55.201 was also amended to change the Response Account surcharge of \$.02 to a \$.01 per barrel of oil produced from each lease or property in the state.

Due to declining oil production and related revenues, 2015 legislation (HB 158) amended AS 43.40 to add a new \$.0095 per gallon environmental surcharge on refined fuel sold, transferred or used at the wholesale level. The tax includes gasoline and heating oil but not aviation fuel or fuel used on the Alaska Marine Highway system. Other exemptions include fuel sold to a federal or state government agency for official use; fuel refined and used outside the United States; liquefied petroleum gas; and fuel sold or transferred between qualified dealers. The surcharge was effective July 1, 2015, and the revenue generated by the new surcharge is appropriated annually to the Prevention Account. Electric Cooperatives and municipalities were exempted from the refined fuel surcharge per AS 29.71.030 and AS 10.25.540 (b)(2) respectively; These exemptions were unforeseen when the surcharge bill HB158 was drafted and this resulted in less refined fuel surcharge revenue than originally anticipated.



RESPONSE ACCOUNT

The Response Account may be used to finance the state’s response to an oil or hazardous substance release disaster declared by the governor, or to address a release or threatened release that poses an imminent and substantial threat to the public health or welfare, or to the environment. If the Response Account is accessed for any incident other than a declared disaster, within 120 hours the Commissioner of DEC must provide the Governor and the Legislative Budget and Audit Committee with a written report summarizing the release, the State's actions and associated costs, both taken and anticipated, and any other information deemed appropriate.

The Response Account receives funding from two different sources:

1. A surcharge of \$.02 (two cents) per barrel that is levied on each taxable barrel of oil produced in the state, which is deposited to the response surcharge account until March 31, 2006. Effective April 1, 2006, House Bill 3001C changed the surcharge tax of \$.02 to \$.01 per barrel.
2. Money that is recovered from parties financially responsible for the release of oil or hazardous substance which is deposited in the response mitigation account.

The \$.01 (one cent) per barrel surcharge is suspended when the combined balances of the surcharge account, the response mitigation account and the unreserved and unobligated balance in the Response Account itself reaches or exceeds \$50 million.

The Response Account balance reached \$50 million for the first time during the quarter ending December 31, 1994. Therefore, beginning April 1, 1995, the surcharge collection was suspended.

Access to the fund for the response to the North Slope Pipeline spills occurred on November 20, 2006. This action lowered the balance of the account below \$50 million. On April 1, 2007, the Department of Administration imposed the \$.01 (one cent) surcharge to restore the balance to \$50 million. Spill responses reduced the balance again over the years and on July 1, 2013, the \$.01 surcharge was re-imposed to restore the balance to \$50 million. The combined balance of the Response Account as of June 30, 2017, was \$42.9 million. As a result, the \$.01 cent surcharge will remain active through FY18.

PREVENTION ACCOUNT

The Prevention Account may be used to investigate, evaluate, clean up, and take other necessary action to address oil and hazardous substance releases that have not been declared a disaster by the governor, or do not pose an imminent and substantial threat to the public health or welfare of the environment. The Prevention Account may also be used to fund Alaska's oil and hazardous substance release prevention programs and to fund activities related to cost recovery.

The Prevention Account is financed with a \$.04 (four cents) per barrel surcharge and fines, settlements, penalties and interest. The Prevention Account receives funding from four sources:

1. a surcharge of \$.04 per barrel that is levied on each taxable barrel of oil produced in the state which is deposited in the prevention surcharge account;
2. fines, settlements, penalties, and costs recovered from parties financially responsible for the release of oil or a hazardous substance deposited into the prevention mitigation account;
3. interest earned on the balance of each of the following accounts deposited into the general fund and credited to the Prevention Account: (a) the prevention account; (b) the prevention mitigation account; (c) the response account; and (d) the response mitigation account; and
4. a surcharge of \$.0095 (less than one cent) per-gallon on refined fuel sold, transferred or used at the wholesale level in Alaska.

The legislature annually appropriates money from the prevention surcharge and prevention mitigation accounts into the Prevention Account to support the State's oil and hazardous substance spill clean-up efforts and spill prevention and preparedness planning activities (AS 46.08.040(a)(2)) which is part of the SPAR annual budget).

The Prevention Account balance based on the Department of Administration's quarterly report on the Oil Surcharge account showed an unobligated balance of \$8.9 million at the end of FY17. The

sharp increase over the past year is due to a legal settlement of over \$5.0 million relating to Aniak White Alice Communication System PCBs. HB158 passed the legislature in the Spring of 2015 in response to the fact that the Prevention Account balance has trended towards decline in recent years. The majority of SPAR spills and resulting contaminated sites are associated with refined fuel so HB158 assessed a \$.0095 per gallon (less than a penny) surcharge on most refined fuel. This legislation was anticipated to bring in approximately \$7.5 million annually to fund SPAR's important prevention and response activities. Due to unforeseen exemptions previously mentioned, the Refined Fuel Tax is bringing in significantly less (See Table D; 2017 receipts of \$6.6 million for Refined Fuel Tax). Meanwhile, SPAR continues to focus on increasing collections from CR which are deposited in the Prevention Account.

ALASKA STATUTES

The Alaska statute pertaining to the issuance of this report AS 46.08.060 is available at <http://www.legis.state.ak.us/basis/statutes.asp#46.08.060>

Tables Related to Alaska Statute 46.08.060

- AS 46.08.060(a)(1):
Table A: Expenditures and Obligations
- AS 46.08.060(a)(2) A & B:
Table B: Prevention Mitigation & Response Mitigation Revenues
Table C: Prevention Mitigation & Response Mitigation Revenues by Project
Table D: Revenue Source History
- AS 46.08.060(a)(4):
Table E: Contracts in Excess of \$10,000.00
Table G: Project Expenditures
- AS 46.08.060(a)(5):
Table F: Prevention Account Summary

7.0 APPENDICES

SPAR has a number of databases to track various oil and hazardous substance projects. SPAR also tracks the financial expenditures, obligations and revenues for each project. A number of financial and program tables are produced annually by SPAR and are formally transmitted to the Alaska State Legislature every other year in the Biennial report, which is required by AS 46.08.060.

The financial and program tables are listed below with a brief description and statutory reference, links to these tables can be found on our website at <http://dec.alaska.gov/spar/reports>.

Table A: Expenditures and Obligations

This table summarizes the expenditures and year-end obligations for appropriations funded by the OHSRPRF in Fiscal Year 2017.

Table B: Prevention Mitigation & Response Mitigation Revenues

This table summarizes by project, deposits made in FY17 to the Prevention and Response mitigation accounts, and includes all monies collected by the department as cost recovery, fines, penalties or settlement payments related to activity funded by the OHSRPRF.

Table C: Prevention Mitigation & Response Mitigation Revenues by Project

This table summarizes by project, deposits in excess of \$1 thousand made in Fiscal Year 2017 to the prevention and response mitigation accounts. All monies collected by the department as cost recovery, fines, penalties or settlement payments related to activity funded by the OHSRPRF.

Table D: Revenue Source History

This table summarizes the various funding sources appropriated to the OHSRPRF from FY02 through FY17. The table includes program receipts or revenues from outside parties for specific program expenditures; mitigation revenue which includes interest earned on surcharge deposits, cost reimbursements, fines penalties or settlement payments from parties financially responsible for incidents or sites for which the state expended monies; and oil surcharge revenue which includes collections in the prior year of the conservation surcharge imposed on oil produced in the State.

Table E: Contracts in Excess of \$10,000.00

This table lists all contracts in excess of \$10 thousand funded by OHSRPRF in FY17. The list provides the contract obligations and related expenditures.

Table F: Prevention Account Summary

This table summarizes the operating, capital and other allocations made from and to the OHSRPRF in FY17.

Table G: Project Expenditures

This table lists all projects for which expenditures occurred in the OHSRPRF in FY17.

8.0 ACRONYMS AND ABBREVIATIONS

A list of acronyms and abbreviations used frequently throughout this report can be found on our website at <http://dec.alaska.gov/spar/reports>.