

**Alaska Department of Environmental Conservation  
Impairment Demonstration**



**Popof Strait, near Sand Point, AK  
Residues Impairment**

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## Category 4b Demonstration for Residues Popof Strait, Alaska

### 1. Identification of segment and statement of problem causing the impairment

#### A. Segment description

Popof Strait is located 560 miles southwest of Anchorage, Alaska between Unga and Popof Islands in Southwest Alaska (Figure 1). The nearest town is Sand Point, Alaska. Popof Strait is approximately 1,500 meters wide and is oriented north to south. There is one on-shore seafood processing facility in Sand Point that discharges into this waterbody segment operated year-round by Trident Seafoods Corporation (Trident).

The Alaska identifier number for Popof Strait is 30101-502 as transmitted to the Environmental Protection Agency's (EPA) Assessment Database. Table 1 shows Global Positioning System (GPS) identifiers for the three primary outfalls that Trident used(s) for seafood waste discharge.

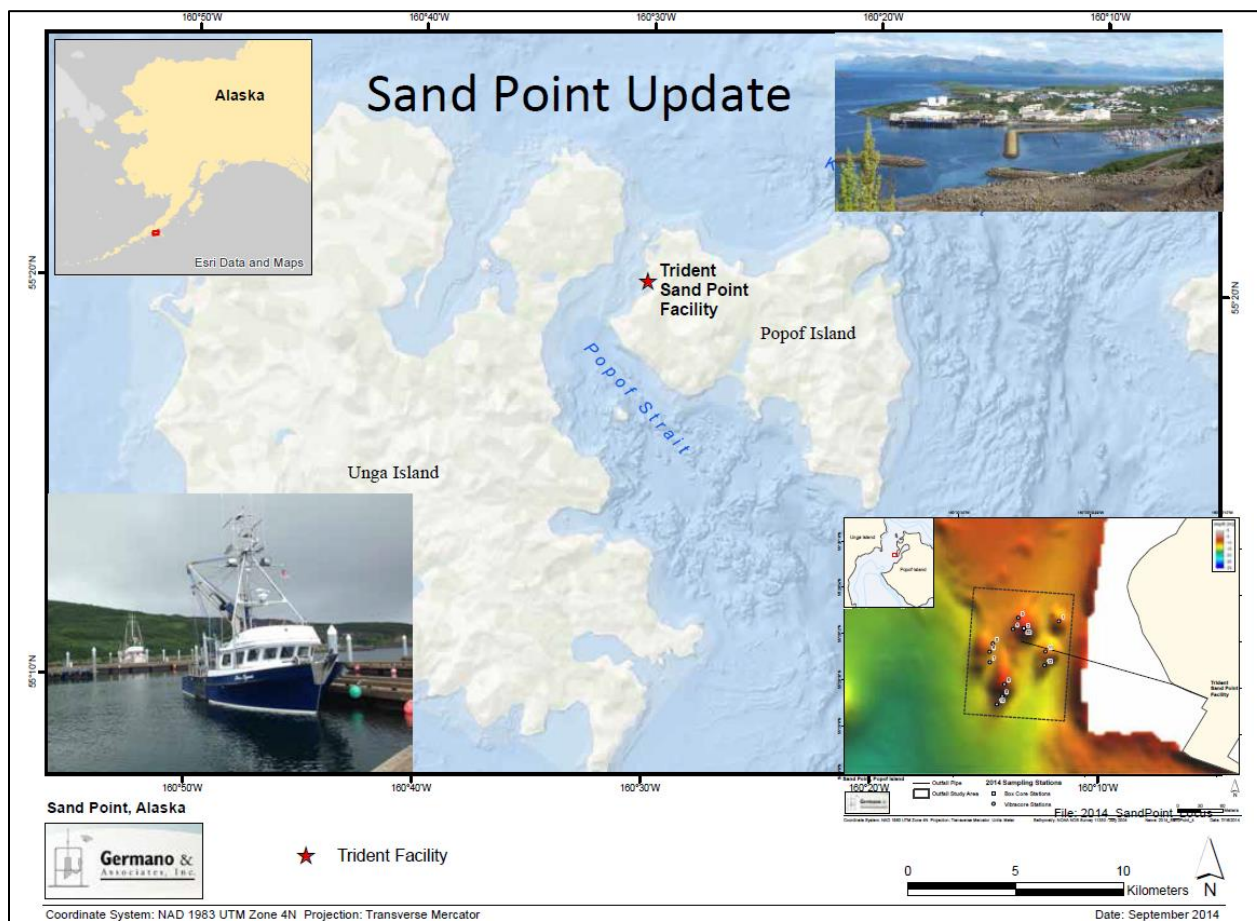


Figure 1. Popof Strait near Sand Point, AK with the Trident Seafoods facility indicated.

**Table 1. GPS coordinates for Trident’s three permitted discharge outfalls with Popof Strait as the receiving water.**

Outfall Number	Type of Discharge	Latitude North	Longitude West
001	seafood processing waste	55.20205	-160.30415
002	non-contact cooling water	55.20132	-160.30137
003	meal plant scrubber water	55.20117	-160.30048

**B. Impairment and pollutant causing impairment**

**Table 2. Alaska’s Water Quality Standards for Residues for Marine Water Uses.**

Designated Use	Water Quality Criteria
(A) Water Supply (i) aquaculture	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use. May not cause detrimental effects on established water supply treatment levels.
(A) Water Supply (ii) seafood processing	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
(A) Water Supply (iii) industrial	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	Same as (20)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Same as (20)(A)(ii).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, or cause acute or chronic problem levels as determined by bioassay or other appropriate methods. May not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	May not make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

**Water Quality Standard not being met:** Title 18, Chapter 70 of the Alaska Administrative Code (AAC) Section 70.020(b)(20) Residues for Marine Water Uses: Floating solids, debris, sludge, deposits, foam, scum, or other residues (Table 2).

**Designated Use not being attained:** (A) Water Supply, (ii) seafood process; (B) Water Recreation, (i) contact recreation, (ii) secondary recreation; (C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife; (D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life

**Pollutant Parameter:** Seafood Waste Residue

The Alaska Department of Environmental Conservation (DEC) placed Popof Strait on the Section 303(d) list in 1996 for non-attainment of the residues criteria due to persistent exceedances of seafood residue from the seafood processor operating adjacent to the waterbody. Dive surveys from 2000 to 2016 document the permitted 1.0-acre zone of deposit (ZOD) has been exceeded for over 15 years. Table 3 shows the ZOD exceedance measured from 2011 through 2016 annual dive surveys. The seafood waste piles have uneven edges and the thickness is variable. Based on 2016 data, the seafood waste presence boundary is 3.47 acres and is approximately 21,000 cubic yards.

Discharges from the seafood processing facility are regulated under an Alaska Pollution Discharge Elimination System (APDES) permit (No. AK-005278-7).

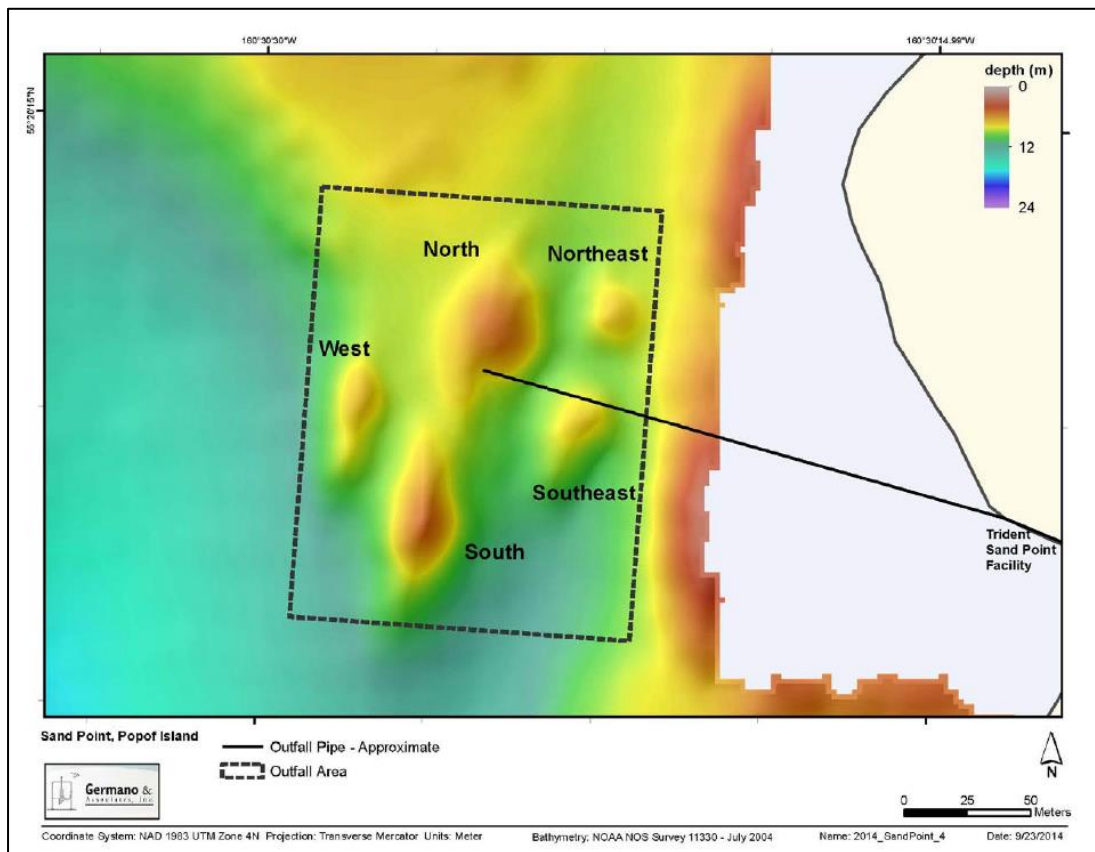
**Table 3. Zone of deposit (ZOD) size (acres) measured during dive surveys and the number of acres exceeding the permitted 1-acre limit.**

Year	ZOD Size Estimate (acres)	ZOD Exceedance (acres)
2011	4.73	3.73
2012	5.29	4.29
2013	4.39	3.39
2014	4.90	3.90
2015	3.77	2.77
2016	2.79	1.79

### C. Sources of pollutant causing impairment

Seafood waste discharged from the Trident Sand Point facility has resulted in a seafood waste deposit on the adjacent seafloor. Trident has violated the conditions and limitations of their National Pollutant Discharge Elimination System permits (NPDES) issued by the EPA and their APDES permits issued by DEC. These discharge permits are issued pursuant to § 402 of the Clean Water Act, 33 U.S. Code § 1342. The Trident Sand Point facility has failed to comply with limits on the zones of deposit (seafood waste piles), annual and daily discharge volume limits, grind size requirements for seafood waste for proper handling and treating of seafood waste prior to discharge, and monitoring and reporting requirements.

At the time Trident acquired the facility in 1986, the seafood processing waste Outfall 001 discharged in the area of the northeast mound seen on Figure 2. This outfall pipe was increased in size and extended shortly after Trident took over ownership. The extended outfall terminated in the area of the west mound. In subsequent years, the outfall pipe was damaged and dragged multiple times. While there are no records of the exact times this occurred, the outfall pipe was damaged at least three times and was repaired. At some point, the outfall pipe was damaged enough that the length was reduced and placed in the area of the south mound. Subsequently, it was damaged again and placed in the area of the north mound, its current location. The outfall pipe has been damaged at least twice through the years since moving to the area of the north mound. The moving of the outfall pipe has contributed to the seafood waste pile exceedances.



**Figure 2. Outfall 001 pipe, discharge area, and seafood waste piles (five colored mounds within the outfall area) in Popof Strait, Sand Point, AK.**

Trident currently has three submarine outfall pipes that discharge into Popof Strait. The outfall area is 7 to 14 meters deep and is surrounded by a relatively shallow, sandy embayment with extensive submerged rock outcrops and sand ridges. Outfall 002 discharges non-contact cooling water and Outfall 003 discharges scrubber water from the meal plant. Outfall 001 discharges seafood processing wastes and this outfall terminus is near the seafloor at a depth of

approximately 9 meters (Figure 2). There are five mounds of seafood waste in the Outfall 001 area covered with seafood waste from the Trident facility.

Trident's Sand Point facility operates year-round and processes a variety of species including sockeye and pink salmon, Alaska pollock, Pacific cod, halibut and blackcod. Secondary products processed include surimi, pollock roe, fishmeal, cod heads and milt. From 2000 through 2014, annual raw production fluctuated from year to year, ranging from 34 to 84 million pounds per year.

## 2. Description of pollution controls and how they will achieve water quality standards

### A. Water quality target

The water quality target under the APDES permit is a 1.0-acre ZOD limit and no foam to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

### B. Point and nonpoint source loadings that when implemented will achieve WQS

Current seafood waste piles will be removed and seafood waste discharges will be reduced to meet the 1-acre ZOD limit required by the APDES permit. There are no other permitted facilities discharging seafood waste into Popof Strait.

### C. Description of controls to achieve WQS

The proposed implementation strategy applies the compliance orders issued by the U.S. Department of Justice, case number 90-5-1-1-11200, in the Civil Action No. 2:18-cv-00210 Consent Decree between the United States and Trident Seafoods Corporation filed on May 9, 2018. The Consent Decree states that Trident will:

#### **Pile Removal and Source Reduction:**

- Submit to EPA for approval a proposed Waste Remediation Work Plan, including monitoring components, for removing the seafood piles at least 90 days before commencing field work.
  - The proposed plan will include both a Field Sampling Plan and Quality Assurance Project Plan (QAPP).
  - These documents along with the goals, objectives, and a description of the planned field work will be included in Trident's Sand Point Facility's Best Management Practices Plan.
- Remove the seafood waste pile(s) based on 2016 data upon EPA's approval of the Waste Remediation Work Plan.
- Conduct bottom surveys (pre-removal, during removal, and post-removal) to record the degree of pile removal and the condition of the seabed in the removal areas and will follow

all dewatering, removal, monitoring, and at-sea disposal requirements set forth in the Consent Decree.

- Submit a draft Removal Report to EPA for review within 120 days of completing field work.
- Install and operate additional source reduction techniques and/or implement other measures to reduce the amount of seafood processing waste residues discharged into Popof Strait to the extent necessary to ensure consistent compliance with the 1.0-acre ZOD limit contained in the APDES permit.

#### **Visual Surveys:**

- Conduct annual visual surveys (e.g., dive survey, drop camera/video survey) to monitor compliance with the 1.0-acre ZOD limit starting the first calendar year following completion of the seafood waste pile removal and continuing for as long as the Consent Decree remains in effect. The visual survey will follow an EPA approved Visual Survey Plan.
- Conduct within 120 days of EPA written request additional visual surveys if the 1.0-acre ZOD limit is exceeded.
- Include every second year with the visual survey, core samples at survey points approved by EPA in the Visual Survey Plan.
- Notify DEC and EPA of any proposed outfall relocation and include visual surveys and compliance calculations at both historic and new outfall locations.

#### **Additional Compliance Measures and Planning:**

- Submit a draft compliance plan identifying additional measures and/or operational changes to achieve compliance with the 1.0-acre ZOD limit within 120 days of written EPA request if the facility is not in compliance after completing the seafood waste pile removal activities.
  - Include proposed time frame for implementing additional measures and/or operational changes and the basis for relying on such measures to achieve compliance.
  - Implement the required additional measures after receiving EPA approval.

#### **Transfer Water Filtering Project:**

- Install and operate a transfer water filtering system to reduce and potentially eliminate foam production from transfer water used in the fish offloading process and the use of chemical defoamers as a foam control measure no later than December 31, 2019.
  - Submit a report to EPA evaluating the effectiveness after 6 months of operation.

#### **D. Description of requirements for implementing controls**

Trident will be liable for stipulated penalties to the United States for violations of the Consent Decree. A violation includes failing to perform any obligation required by the terms of the Consent Decree, including any work plan under the Decree, according to all applicable

requirements of the Decree, and within the specified time schedules established or approved under the Decree.

### **3. Projection of the time when WQS will be met**

Trident must maintain continual Consent Decree and permit compliance for a period of three years after conducting the seafood waste pile removal, visual surveys, and source reduction before petitioning the United States to terminate the Consent Decree. DEC anticipates the Residues WQS criteria will be met and maintained within four years of the Consent Decree effective date with reasonable assurance of no backsliding.

### **4. Schedule for implementing pollution controls**

Trident will remove the seafood waste pile no later than December 31, 2019 and implement source reduction, monitoring, visual surveys, and environmental auditing per the Consent Decree. Additionally, no later than December 31, 2019, Trident will install and operate a transfer water filtering system to reduce and potentially eliminate foam production from transfer water used in the fish offloading process.

### **5. Monitoring plan to track effectiveness of pollution controls**

During removal of the seafood waste piles, Trident will conduct bottom surveys (pre-removal, during removal, and post-removal) to record the degree of pile removal and the condition of the seabed in the removal areas. Within 120 days of completing the seafood waste pile removal, Trident will submit a Removal Report to EPA that includes the results of the visual surveys, monitoring and degree of pile removal.

Starting the first calendar year following completion of the seafood waste pile removal and continuing for as long as the Consent Decree remains in effect, Trident will conduct annual visual surveys (e.g., dive survey, drop camera/video survey) to monitor compliance with the 1.0-acre ZOD limit. Each annual survey will extend beyond the ZOD boundary and include diver observations or drop camera/video survey at survey points outside the visible ZOD edge. Every second year, the visual survey will also include core samples at the same survey points. The visual survey report will include data on continuous, discontinuous, and trace amounts of visible seafood waste.

If after completing the seafood waste pile removal the 1-acre ZOD limit is still not in compliance, Trident will develop a compliance plan for EPA approval. The compliance plan will include a time frame for implementing additional measures and/or operational changes and the basis for relying on such measures to achieve compliance.

In addition to the controls above, the Sand Point Trident Seafoods facility will conduct a third-party audit of existing environmental management systems for monitoring and ensuring Clean Water Act compliance.



## 6. Commitment to revise pollution controls, as necessary

EPA will determine whether the remediation activities are effective in achieving water quality standards. If visual surveys and reporting show the pollution controls taken to-date are insufficient to attain and maintain WQS, EPA will consider requiring additional measures to reduce the seafood waste pile size to meet the permit 1-acre ZOD limit for as long as the Consent Decree remains in effect.

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