

Alaska Department of Environmental Conservation
Waterbody Determination Paper
Silver Bay, Sitka, Alaska
Residues Determination



Category Placement

Waterbody Name: Silver Bay

Category: 4b

Water Quality Standard Affected: Residues for marine water uses

Designated Use(s) Affected: all

Pollutant: Residues

Executive Summary

The purpose of this document is to describe the data review and conclusions reached in evaluating Silver Bay for the 2020 Integrated Report (IR). Silver Bay is located southeast of Sitka, Alaska. This location in Silver Bay has not been included in previous IRs, two other locations in the bay (Sawmill and Herring Coves) are listed as Impaired in Category 4a. Dive surveys completed in 2017, 2018 and 2019 indicate that Silver Bay Seafoods has exceeded a 1.0 acre zone of deposit (ZOD)¹ for three consecutive dive surveys, and is placed in category 4b of the 2020 IR for residues impairment.

Table 1. Basic waterbody information

Assessment Unit ID	AK_M_1021211_020_001
Assessment Unit Name	Silver Bay
Location description	East of Sitka, Alaska; HUC10 1901021211
Water Type	Bay
Water Size	2,300 acres
Area of impairment	.56 acres
Time of impairment	Year round

¹ The DEC listing Methodology for Determining Water Quality Impairments from Residues (2003) applies a 1.5 acre ZOD, while Silver Bay Seafoods is authorized a 1.0 acre ZOD under APDES Permit AKG520547. A 1.0 acre ZOD was used in this impairment determination as required by the permit and by the EPA Compliance Order on Consent (2019)

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

A. Segment description

Silver Bay is located in Sitka, Alaska, and drains to Eastern Channel. There is one on-shore seafood processing facility in Sitka that discharges into this waterbody, operated by Silver Bay Seafoods. The Silver Bay Seafoods discharge (Alaska Pollution Discharge Elimination System Permit AKG520547) is located .45 miles offshore from the processing facility in Silver Bay at 57.04° north, 135.22° west (Figure 1). The discharge point is outside of the areas of previous nearby impairments (Herring Cove and Sawmill Cove).

B. Impairment and pollutant causing impairment

The Silver Bay discharge is proposed for placement in category 4b for impairment by residues as described in Title 18, Chapter 70 of the Alaska Administrative Code (AAC) Section 70.020(b)(17) (Table 2).



Figure 1 Silver Bay near Sitka, Alaska

Table 2. Alaska’s Water Quality Standards at 18 AAC 70 (20) residues, for marine water uses².

Designated Use	Water Quality Criteria	Status
(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.	Not Supporting

² Alaska Department of Environmental Conservation (ADEC). 2003. *18 AAC 70 Water Quality Standards*. As amended through June 26, 2003. DEC adopted revised criteria for residues in 2011. DEC is awaiting final action from EPA prior to application of the revised criteria per CFR 131.5

(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.	Not Supporting
(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.	Not Supporting
(B) Water Recreation (i) contact recreation	Same as (20)(A)(ii)	Not Supporting
(B) Water Recreation (ii) secondary recreation	Same as (20)(A)(ii)	Not Supporting
(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.	Not Supporting
(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.	Not Supporting

C. Sources of pollutant causing impairment

Seafood waste discharged from the Silver Bay Seafoods, Sawmill Cove facility has resulted in a seafood waste deposit on the adjacent seafloor. Silver Bay Seafoods has violated the conditions

and limitations of the General Permit for Seafood Processors in Alaska, APDES permit number AKG52057. Table 3 shows zone of deposit (ZOD) sizes recorded through seafloor surveys.

Table 3. ZOD size recorded through seafloor surveys at the Silver Bay Seafoods discharge

Year	Zone of Deposit Estimate (acres)	Zone of Deposit Exceedance (acres)
2017	2.76	1.76
2018	2.02	1.02
2019	1.56	0.56

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 Water Quality Standards

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

C. Description of controls to achieve Water Quality Standards

The proposed implementation strategy applies the Compliance Order on Consent between EPA and Silver Bay Seafoods (Docket Number CWA-10-2019-0128) signed on September 11, 2019.

The Compliance Order states that Silver Bay Seafoods will:

- Seafloor monitoring workplan: draft submitted annual to EPA and DEC
- Visual surveys: will be conducted until 2 consecutive surveys show a ZOD less than 1.0 acre. If 2 consecutive surveys shows a ZOD less than 1.0 acre, Silver Bay Seafoods may submit a request to EPA to terminate the Compliance Order. This request must include information on anticipated disposal methods for seafood processing waste and source control efforts going forward to ensure the ZOD will be consistently maintained at or below 1.0 acre.
- Surveys, core sampling, and subsequent report will include stations containing continuous, discontinuous, and trace amounts of visible seafood waste, as defined in monitoring plan.

- Source reduction techniques and best management practices -Silver Bay Seafoods will continue to operate source reduction techniques and employ best management practices at the Sitka Facility to ensure that the ZOD will be reduced to 1.0 acre by December 31, 2022, and consistently maintained at less than 1.0 acre thereafter.
- Benthic Assessment – to be completed no later than December 31, 2022. Silver Bay Seafoods will submit a draft work plan to EPA for approval at least 90 days before conducting the assessment. If the ZOD measures less than 1.0 acres after the 2021 visual survey, Silver Bay Seafoods may submit a request to EPA to amend the Compliance Order to postpone or eliminate the requirement to conduct benthic assessment.
- Additional analysis or remediation as required by EPA if the ZOD has not been reduced to less than 1.0 acre by December 31, 2022. (section 3.14 Compliance Order)

D. Description of requirements for implementing controls

Failure to implement any element of the requirements of the Compliance Order will be deemed a violation of the Order and the Clean Water Act. If Silver Bay Seafoods is unable to comply, they must provide written notification to EPA that includes a summary of specific reasons for non-compliance, actions taken, and expected date of compliance.

Failure to comply with any of the provisions of this Order may subject Respondent to (1) civil penalties of up to \$53,484 per day of violation pursuant to Section 309(d) of the Clean Water Act, (2) administrative penalties of up to \$21,393 per day for each violation pursuant to Section 309(g) of the Clean Water Act, or (3) civil action in federal court for injunctive relief pursuant to Section 309(b) of the Clean Water Act.

3. Projection of the time when WQS will be met

Silver Bay Seafoods must reduce the ZOD to less than 1.0 acre by December 31, 2022. After two consecutive survey documenting the reduced ZOD, Silver Bay Seafoods may petition to terminate the Compliance Order. DEC anticipates the Residues WQS criteria will be met and maintained by December 31, 2024, with reasonable assurance of no backsliding.

4. Schedule for implementing pollution controls

Silver Bay Seafoods will implement source reduction, monitoring, visual surveys and reporting per the Compliance Order to reduce the seafood waste pile no later than December 31, 2022. If ZOD is not reduced to 1.0 acres or less by that date, Silver Bay Seafoods will conduct a benthic assessment per an EPA approved plan.

5. Monitoring plan to track effectiveness of pollution controls

No later than 90 days following close of the salmon processing season, Silver Bay Seafoods will conduct an annual visual survey (in accordance with approved work plan) of the seafood waste pile. Surveys will be accompanied by core samples. Visual Surveys will follow the below criteria:

- Conduct visual surveys in accordance with approved work plan. Each survey will have a scope that extends beyond the boundary of the ZOD and will include drop camera/video surveys at points located at and outside visible edges of the ZOD.
- Seafloor monitoring report will be submitted to EPA and ADEC within 90 days of completing each required survey
- Silver Bay Seafoods will continue to operate source reduction techniques and employ best management practices to ensure the ZOD will be reduced to 1.0 acre by December 31, 2022, and consistently maintained at less than 1.0 acre thereafter.

A benthic assessment of the seafood waste pile will be completed no later than December 31, 2022. Silver Bay Seafoods will submit a draft work plan to EPA for approval at least 90 days before conducting the benthic assessment. If the ZOD measures less than 1.0 acres after the 2021 visual survey, Silver Bay Seafoods may submit a request to EPA to amend the Compliance Order to postpone or eliminate the requirement to conduct benthic assessment.

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 Compliance Order remains in effect. DEC will continue to work with the EPA and the permittee to improve Silver Bay's water quality.