



Alaska Department of Environmental Conservation

Waterbody Determination Paper

Rotary Park and Mountain Point Surprise Beach, Ketchikan, Alaska

Pathogens Determination

Category Placement

Waterbody Name: Rotary Park Beach and Mountain Point Surprise Beach

Category Change: 3 to 5

Water Quality Standard Affected: Pathogens

Designated Uses Affected: see waterbody specific appendices A and B

Pollutant: Pathogens in marine coastal waters

Executive Summary

This document describes the data collection, data analysis, and conclusions reached in evaluating two Ketchikan beaches, Rotary Park Beach and Mountain Point Surprise Beach, for the 2022 Integrated Water Quality Monitoring and Assessment Report (Integrated Report). Based on recent data collection and analysis, these beaches are found to be impaired for the marine bacteria standard for several designated uses and are recommended for inclusion in Category 5 of the 2022 Integrated Report. In the 2020 Integrated Report, eleven other beaches (Table 1) were found to be impaired for the marine bacteria standard and were placed in Category 5, Rotary Park and Mountain Point Surprise beaches were placed in Category 3.

Table 1. Ketchikan beaches proposed for impairment in the 2022 Integrated Report, and previously listed as impaired

2022 Integrated Report Ketchikan Area Beaches Proposed for Listing as Impaired		
Rotary Park Beach	Mountain Point Surprise Beach	
Ketchikan Area Beaches Previously Listed as Impaired		
Knudson Cove	Beach off Sunset Cove	Rotary Park Pool
Beacon Hill	Refuge Cove	Mountain Point Cultural Food
South Point Higgins Beach	Thomas Basin	Herring Cove
Beach at Shull Road	Seaport Beach	

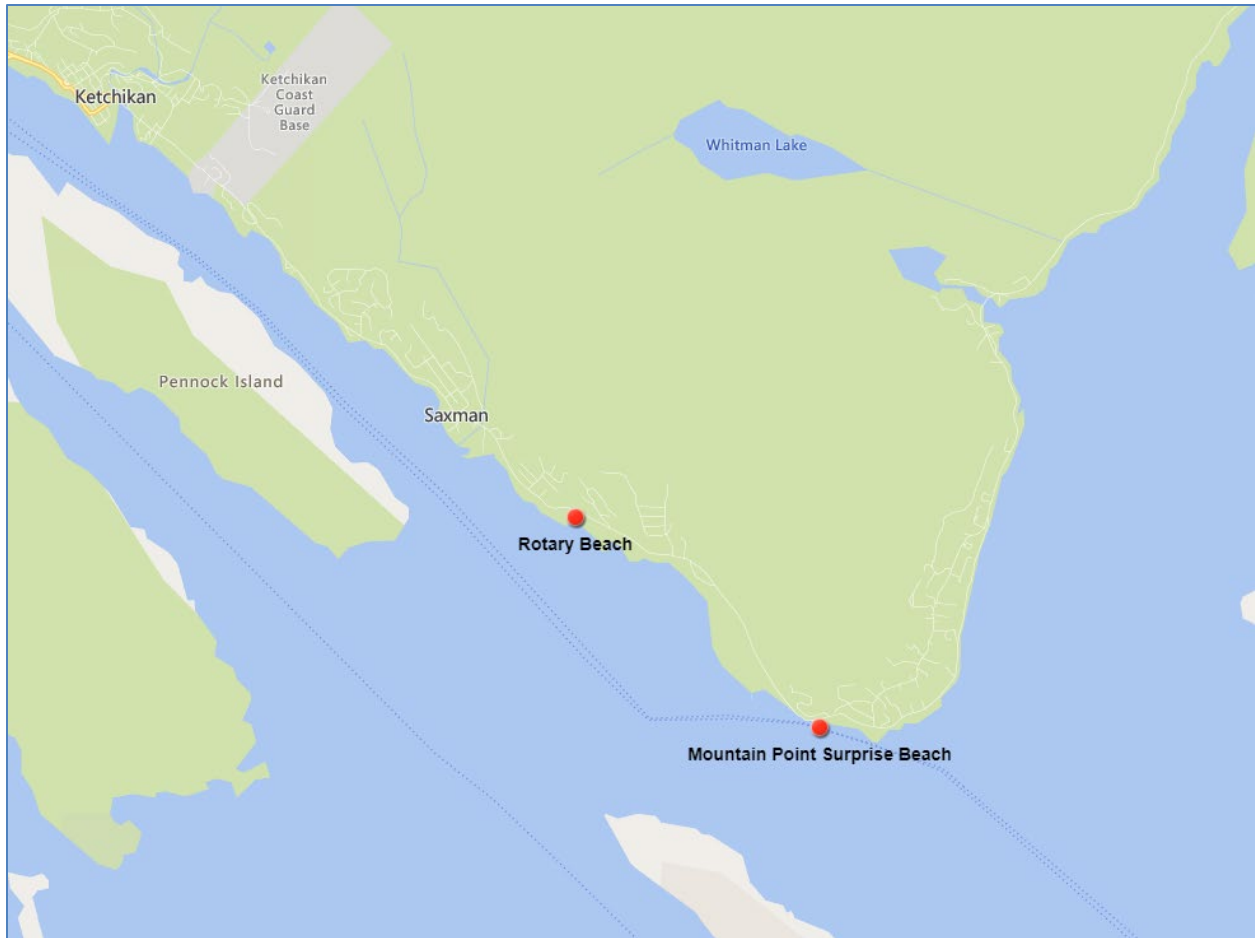


Figure 1. Mountain Point Surprise Beach and Rotary Park Beaches, which are recommended for inclusion in Category 5 of the 2022 Integrated Report, are shown with red dots

Impairment Evaluation

Data Sources

The Alaska Department of Environmental Conservation (DEC) Alaska Beach Monitoring program is part of a nationwide effort to decrease the incidence of water-borne illness at public beaches under the federal Beaches Environmental Assessment and Coastal Health (BEACH) Act. Marine water samples were collected weekly at recreational beaches to evaluate potential health risks indicated by fecal coliform and enterococci bacteria, and to notify the public when levels exceeded state standards. Data at multiple beach sites in Ketchikan, including Rotary Park Beach and Mountain Point Surprise Beach (Figure 1), were sampled during the recreational seasons from 2017-2020 (Table 2).

Table 2. Data sources

Date	Data Source
July – Sept 2017	DEC, Ketchikan Indian Community
May - Sept 2018	DEC, Ketchikan Indian Community
May - Sept 2019 & 2020	Southeast Watershed Coalition, Ketchikan Indian Community

Data used in bacteria impairment determination

The most recent two full recreation season datasets (2019 and 2020) were used to evaluate each beach for the 2022 Integrated Report. Fecal coliform and enterococci colony forming units (CFU) results were compared to applicable criteria in 18 AAC 70.020 (14)¹ shown in Table 3.

Table 3. Alaska's Water Quality Standards at 18 AAC 70 (14) fecal coliform and enterococci for marine water uses.

Designated Use Class	Use Subclass	Criteria
(A) Water Supply	(i) aquaculture	For products normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 mL, and not more than 10% of the samples may exceed 400 fecal coliform/100 mL. For products not normally cooked, the geometric mean of samples taken in a 30-day period may not exceed 20 fecal coliform/100 mL, and not more than 10% of the samples may exceed 40 fecal coliform/100 mL.
	(ii) seafood processing	In a 30-day period, the geometric mean of samples may not exceed 20 fecal coliform/100 mL, and not more than 10% of the samples may exceed 40 fecal coliform/100 mL.
	(iii) industrial	Where worker contact is present, the geometric mean of samples taken in a 30-day period may not exceed 200 fecal coliform/100 mL, and not more than 10% of the samples may exceed 400 fecal coliform/100 mL.
(B) Water Recreation	(i) contact recreation	In a 30-day period, the geometric mean of samples may not exceed 35 enterococci CFU/100 mL, and not more than 10% of the samples may exceed a statistical threshold value of 130 enterococci CFU/100 mL.
	(ii) secondary recreation	In a 30-day period, the geometric mean of samples may not exceed 200 fecal coliform/100 mL, and not more than 10% of the samples may exceed 400 fecal coliform/100 mL.
(D) Harvesting for consumption of raw mollusks or other raw aquatic life		The geometric mean of samples may not exceed 14 fecal coliform CFU/100 mL; and not more than 10% of the samples may exceed 31 fecal coliform CFU/100 mL ²

¹ Alaska Department of Environmental Conservation. 2020. 18 AAC 70.020(14) Water Quality Standards. Amended as of March 5, 2020.

² When fecal coliform is monitored in waters designated as state approved shellfish harvesting and growing waters, these waters are also subject to 18 AAC 34.010(19).

Data Evaluation

Methods

The DEC Pathogens Listing Methodology³ was applied to fecal and enterococci bacteria results to determine attainment or impairment on the two beaches. Bacteria testing included fecal coliform (EPA Standard Methods 9222D) and enterococci (Method ASTM D6503-99 by MPN).

Hypothesis Tests

Fecal coliform

- The individual sample result for fecal coliform
 - may not exceed 31 CFU/100mL
 - during more than 10% of the time
- The geometric mean of samples for fecal coliform
 - may not exceed 14 CFU/100 mL
 - more than once in a two-year period

Enterococci

- The individual sample result for enterococci
 - may not exceed statistical threshold value of 130 CFU/100 mL
 - during more than 10% of the time
- The 30-day geometric mean for enterococci
 - may not exceed 35 CFU/100 mL
 - more than once in a two-year period

A waterbody is considered impaired when at least one 30-day sampling period per water year demonstrates an exceedance of one or both parts of the criterion (i.e., 30-day geometric mean; or not more than 10% may exceed provision) during both years of sampling. Both years considered must be within a five-year period. The null and alternate hypothesis tests are shown in Table 5.

³ Alaska Department of Environmental Conservation. 2021. Pathogens Listing Methodology.

Table 5. Null and alternate hypothesis tests

Null Hypothesis	Waterbody is not impaired	≤ 10% exceedance of samples, 30-day period geometric mean does not exceed criterion
Alternative Hypothesis	Waterbody is impaired	> 10% exceedance of samples, 30-day period geometric mean exceeds criterion

Results

Rotary Park Beach and Mountain Point Surprise Beach have persistent bacteria exceedances in marine coastal waters that exceed the impairment threshold of one or both parts of the criteria in both years. See appendices A and B for waterbody specific results and evaluation.

Potential Pollutant Sources

Numerous potential bacteria sources are present along the Ketchikan coast, including private and/or public sewer treatment system outfalls, public sewer treatment system emergency bypass discharges, sewer collection system deficiencies, individual septic tanks, wildlife, pet feces, boats in harbor and launch areas, and private boats, ferries, and cruise ships.

Waterbody specific potential pollutant sources are listed by individual beach in the appendices. Data collected to date are not sufficient to determine which bacteria sources are negatively affecting marine water uses at specific beaches.

Microbial source tracking testing was conducted to identify potential sources of bacteria. Samples were collected during one sampling event per recreation season (August 2019 and September 2020). Human identifiers were quantifiable, while dog and gull identifiers were detected but not quantifiable.

Conclusion

Rotary Park Beach and Mountain Point Surprise Beach are recommended for placement as impaired in Category 5 for bacteria in marine coastal waters. See appendices A and B waterbody specific results and evaluation.

Appendices

Appendix A: Rotary Park Beach

Appendix B: Mountain Point Surprise Beach

Appendix A

Rotary Park Beach, Ketchikan, Alaska Pathogens Determination (for Bacteria)

Rotary Park Beach, located approximately 6 miles south of downtown Ketchikan (Table 1 and Figure 1), is recommended for placement in Category 5 of the 2022 Integrated Report for exceedance of the bacteria criteria for marine coastal waters. Rotary Park Beach was included in Category 3 in the 2020 Integrated Report. Based on data collected in 2019 and 2020, Rotary Park Beach exceeds the bacteria criteria for three of the six designated uses (Table 2). For clarification purposes, Rotary Park Pool is a shallow pool area which has a concrete enclosure at the outlet and the Rotary Park Beach is a location on the open coastal beach.

Basic Waterbody Information

Table 1. Basic waterbody information

Assessment Unit ID	AK_B_1010204_002 (21AKBCH - AK439531)
Assessment Unit Name	Rotary Park Beach
Location Description	South of Ketchikan, Hydrologic Unit Code 190101020403
Water Type	Open Coast
Area of Impairment	0.2 miles of coastline
Time of Impairment	Year round
Latitude/Longitude	55.3098, -131.5803



Figure 1. Rotary Park Beach monitoring site and impaired beach segment

Pollutant Status

Table 2. Alaska's Water Quality Standards at 18 AAC 70(14), bacteria for marine water uses

Designated Use Class	Use Subclass	Status
(A) Water Supply	(i) aquaculture	Supporting normally cooked; not supporting not normally cooked
	(ii) seafood processing	Not supporting
	(iii) industrial	Supporting
(B) Water Recreation	(i) contact recreation	Supporting
	(ii) secondary recreation	Supporting
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life		Not supporting

Results

Rotary Park Beach has persistent bacteria exceedances in marine coastal waters and meets criteria for impairment as outlined in the Pathogens Listing Methodology.³

Fecal coliform exceeded the impairment threshold criteria for three designated uses (Table 2). Tables 3-6 summarize the fecal coliform results for each year. The single sample results, rolling 30-day geometric means, and seasonal geometric means are applied to appropriate designated use criteria. The total exceedances, raw exceedance frequencies and impairment threshold exceedances are summarized for each designated use. Figure 3 shows the fecal coliform single sample results for each year plotted against the criteria.

Table 3. Summary of evaluation of single sample fecal coliform results by year applied to the harvesting, seafood processing, secondary recreation, and aquaculture designated use criteria

Designated Use & Subclass	(A) (i) Aquaculture for products normally cooked; and (B) (ii) Secondary Recreation: not more than 10% of the samples may exceed 400 CFU/100 mL		(A) (i) Aquaculture for products not normally cooked; and (ii) Seafood Processing: not more than 10% of samples may exceed 40 fecal coliform/100mL		(D) Harvesting: not more than 10% of the samples may exceed 31 CFU/100 mL	
Year	2019	2020	2019	2020	2019	2020
Total Exceedances	0	0	6	3	7	3
Raw Exceedance Frequency	0	0	33	17	39	17
Impairment Threshold Exceeded?	No	No	Yes	Yes	Yes	Yes

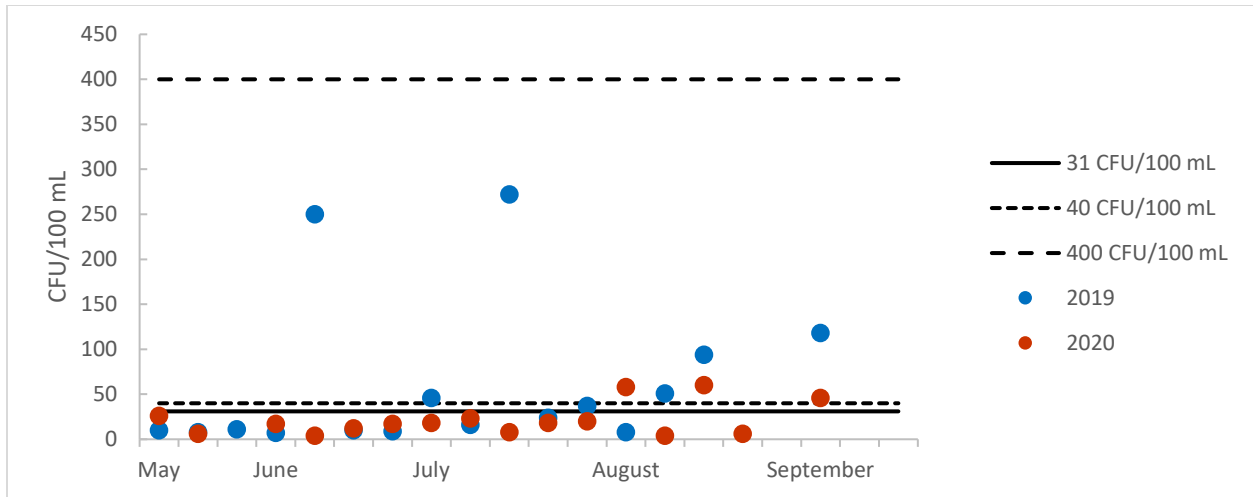


Figure 2. 2019-2020 Fecal coliform sample results and criteria

Table 4. Rolling 30-day geometric means for fecal coliform results by year, red font indicates exceedance of the harvesting designated use criteria of 14 CFU/100 mL, and the aquaculture and seafood processing designated uses criteria of 20 CFU/100 mL

2019		2020	
Date Range	Geomean CFU/100 mL	Date Range	Geomean CFU/100 mL
06-11-2019 to 05-12-2019	17	06-17-2020 to 05-18-2020	10
06-19-2019 to 05-20-2019	17	06-22-2020 to 05-23-2020	10
06-25-2019 to 05-26-2019	18	07-03-2020 to 06-03-2020	12
07-02-2019 to 06-02-2019	24	07-06-2020 to 06-06-2020	13
07-10-2019 to 06-10-2019	28	07-13-2020 to 06-13-2020	15
07-17-2019 to 06-17-2019	28	07-22-2020 to 06-22-2020	16
07-23-2019 to 06-23-2019	34	07-27-2020 to 06-27-2020	16
07-29-2019 to 06-29-2019	45	08-04-2020 to 07-05-2020	21
08-07-2019 to 07-08-2019	31	08-11-2020 to 07-12-2020	15
08-13-2019 to 07-14-2019	40	08-18-2020 to 07-19-2020	22
08-21-2019 to 07-22-2019	32	08-25-2020 to 07-26-2020	18
		09-01-2020 to 08-02-2020	15
		09-09-2020 to 08-10-2020	19
		09-17-2020 to 08-18-2020	10

Table 5. Summary of evaluation of rolling 30-day geometric mean fecal coliform results by year applied to the aquaculture, seafood processing, industrial, and secondary recreation designated use criteria

Designated Use & Subclass	(A) (i) Aquaculture for products not normally cooked; and (A) (ii) Seafood processing: in a 30-day period, the geometric mean of samples may not exceed 20 CFU/100 mL		(A) (i) Aquaculture for products normally cooked; (A) (iii) Industrial; and (B) (ii) Secondary Recreation: in a 30-day period, the geometric mean of samples may not exceed 200 CFU/100 mL	
Year	2019	2020	2019	2020
Total Exceedances	8	3	0	0
Raw Exceedance Frequency	73%	21%	0%	0%
Impairment Threshold Exceeded	yes	yes	no	no

Table 6. Summary of evaluation of seasonal geometric mean results for fecal coliform applied to the harvesting designated use criteria

Designated Use	(D) Harvesting: the geometric mean of samples may not exceed 14 CFU/100 mL	
Year	2019	2020
Seasonal Geometric Mean	25	15
Raw Exceedance Frequency	100%	100%
Impairment Threshold Exceeded	yes	yes

Enterococci exceeded the impairment threshold criteria in 2019 but not in 2020 (Table 7). Tables 7-9 summarize the enterococci results for each year. The single sample results and rolling 30-day geometric means are applied to appropriate designated use criteria. The total exceedances, raw exceedance frequencies and impairment threshold exceedances are summarized for each designated use. Figure 3 shows the enterococci single sample results for each year plotted against the criterion.

Table 7. Summary of evaluation of single sample enterococci results by year applied to the contact recreation designated use criterion

Designated Use & Subclass	(B) (i) Contact Recreation: not more than 10% of the samples may exceed a statistical threshold value of 130 CFU/100 mL	
Year	2019	2020
Total Exceedances	2	1
Raw Exceedance Frequency	11%	6%
Impairment Threshold Exceeded	yes	no

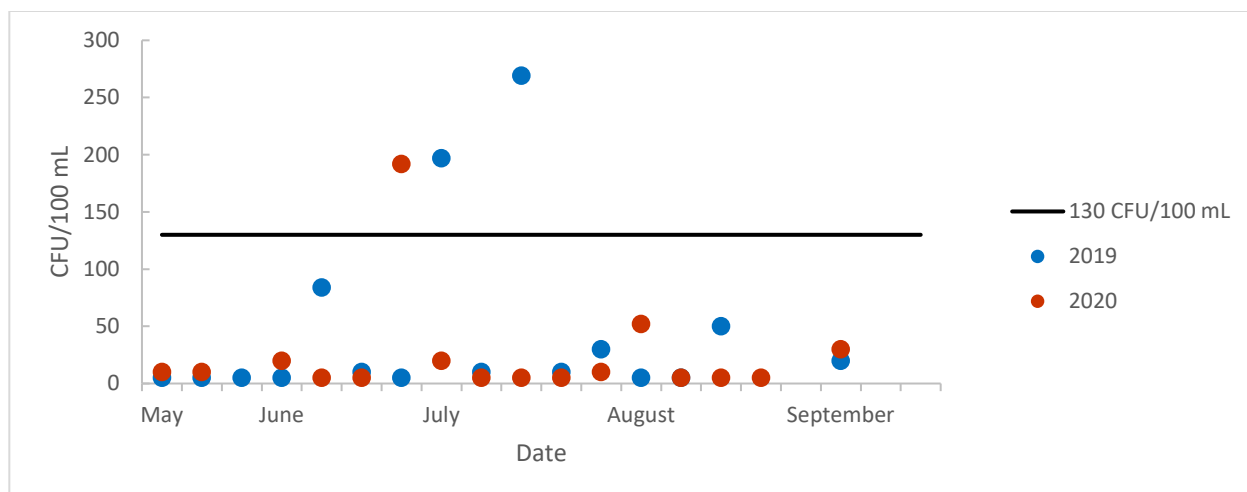


Figure 3. 2019-2020 enterococci single sample results and criterion

Table 8. Rolling 30-day geometric means for enterococci results by year, red font indicates exceedance of the contact recreation designated use criteria of 35 CFU/100 mL

2019		2020	
Date Range	Geomean CFU/100 mL	Date Range	Geomean CFU/100 mL
06-11-2019 to 05-12-2019	9	06-17-2020 to 05-18-2020	9
06-19-2019 to 05-20-2019	10	06-22-2020 to 05-23-2020	16
06-25-2019 to 05-26-2019	10	07-03-2020 to 06-03-2020	18
07-02-2019 to 06-02-2019	21	07-06-2020 to 06-06-2020	14
07-10-2019 to 06-10-2019	24	07-13-2020 to 06-13-2020	14
07-17-2019 to 06-17-2019	31	07-22-2020 to 06-22-2020	14
07-23-2019 to 06-23-2019	31	07-27-2020 to 06-27-2020	8
07-29-2019 to 06-29-2019	44	08-04-2020 to 07-05-2020	9
08-07-2019 to 07-08-2019	21	08-11-2020 to 07-12-2020	9
08-13-2019 to 07-14-2019	18	08-18-2020 to 07-19-2020	9
08-21-2019 to 07-22-2019	13	08-25-2020 to 07-26-2020	9
		09-01-2020 to 08-02-2020	11
		09-09-2020 to 08-10-2020	7
		09-17-2020 to 08-18-2020	8

Table 9. Summary of evaluation of rolling 30-day geometric mean enterococci results by year applied to the contact recreation designated use criterion

Designated Use & Subclass	(B) (i) Contact Recreation: in a 30-day period, the geometric mean of samples may not exceed 35 CFU/100 mL	
Year	2019	2020
Total Exceedances	1	0
Raw Exceedance Frequency	9%	0%
Impairment Threshold Exceeded	yes	no

Potential Pollutant Sources

Rotary Park Beach includes beach and residential areas. Potential bacteria sources along the marine coast consists of public sewer treatment system emergency bypass discharge, wildlife and pet feces, and private watercraft, cruise ships and ferries.

Waterbody Specific Conclusion

Rotary Park Beach is recommended for placement in Category 5 in the 2022 Integrated Report for exceedance of the bacteria criteria for marine coastal waters. Data from two recreation seasons of bacteria monitoring within Rotary Park Beach marine waters indicate that the waterbody is not meeting criteria for three designated use subclasses:

- (A) Water Supply
 - (i) aquaculture for products not normally cooked
 - (ii) seafood processing
- (D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life

Rotary Park Beach marine waters do meet criteria for three designated use subclasses:

- (A) Water Supply (iii) industrial
- (B) Water Recreation
 - (i) contact recreation
 - (ii) secondary recreation

Appendix B

Mountain Point Surprise Beach, Ketchikan, Alaska

Pathogens Determination (for Bacteria)

Mountain Point Surprise Beach, located south of Ketchikan on Mountain Point near Mountain Point boat launch (Table 1 and Figure 1), is recommended for inclusion as impaired in Category 5 in the 2022 Integrated Report for exceedance of the bacteria criteria for marine coastal waters. Mountain Point Surprise Beach was included in Category 3 of the 2020 Integrated Report. Based on data collected in 2019 and 2020, Mountain Point Surprise Beach does not meet the bacteria criteria for three of the six designated uses (Table 2).

Basic waterbody information

Table 1. Basic waterbody information

Assessment Unit ID	AK_B_1010208_002 (21AKBCH - AK168123)
Assessment Unit Name	Mountain Point Surprise Beach
Location Description	South of Ketchikan, Hydrologic Unit Code 190105001000
Water Type	Open coast
Area of Impairment	0.11 miles of coastline
Time of Impairment	Year round
Latitude/Longitude	55.2935, -131.5475



Figure 1. Mountain Point Surprise Beach monitoring site and impaired beach segment

Pollutant status

Table 2. Alaska's Water Quality Standards at 18 AAC 70(14), bacteria for marine water uses²

Designated Use Class	Use Subclass	Status
(A) Water Supply	(i) aquaculture	Supporting normally cooked; not supporting not normally cooked
	(ii) seafood processing	Not supporting
	(iii) industrial	Supporting
(B) Water Recreation	(i) contact recreation	Supporting
	(ii) secondary recreation	Supporting
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life		Not supporting

Results

Mountain Point Surprise Beach has persistent bacteria exceedances in marine coastal waters and meets criteria for impairment as outlined in the Pathogens Listing Methodology³. The following tables and figures present the 2019-2020 results.

Fecal coliform exceeded the impairment threshold criteria for three designated uses (Table 2). Tables 3-6 summarize the fecal coliform results for each year. The single sample results, rolling 30-day geometric means, and seasonal geometric means are applied to appropriate designated use criteria. The total exceedances, raw exceedance frequencies and impairment threshold exceedances are summarized for each designated use. Figure 2 shows the fecal coliform single sample results for each year plotted against the criteria.

Table 3. Summary of evaluation of single sample fecal coliform results by year applied to the harvesting, seafood processing, secondary recreation, and aquaculture designated use criteria

Designated Use & Subclass	(A) (i) Aquaculture for products normally cooked; and (B) (ii) Secondary Recreation: not more than 10% of the samples may exceed 400 CFU/100 mL		(A) (i) Aquaculture for products not normally cooked; and (ii) Seafood Processing: not more than 10% of samples may exceed 40 fecal coliform/100mL		(D) Harvesting: not more than 10% of the samples may exceed 31 CFU/100 mL	
Year	2019	2020	2019	2020	2019	2020
Total Exceedances	0	0	4	3	6	4
Raw Exceedance Frequency	0	0	22	17	33	22
Impairment Threshold Exceeded?	No	No	Yes	Yes	Yes	Yes

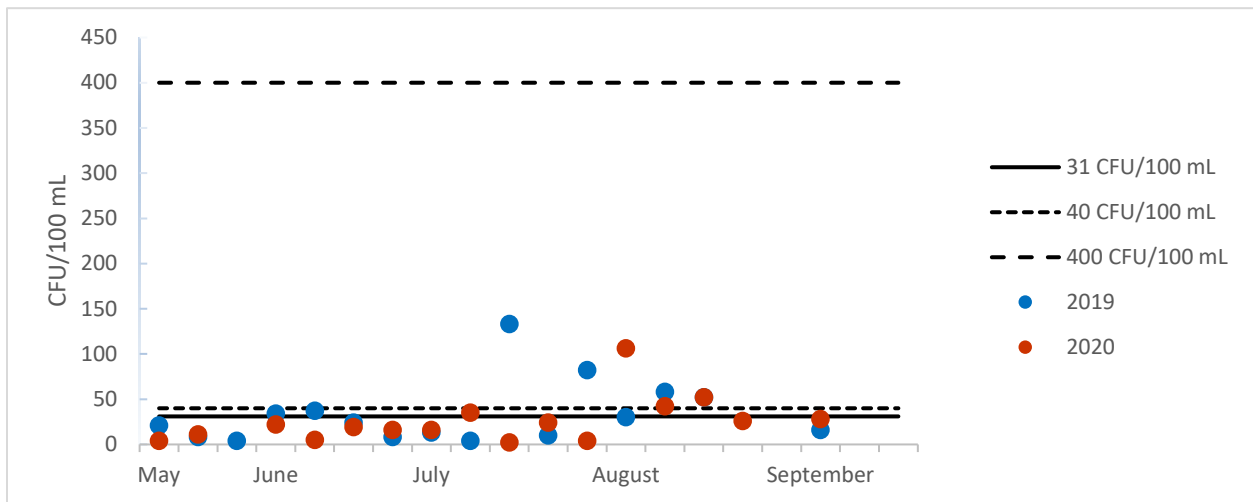


Figure 2. 2019-2020 fecal coliform sample results and criteria

Table 4. Rolling 30-day geometric means for fecal coliform results by year, red font indicates exceedance of the harvesting designated use criteria of 14 CFU/100mL, and the aquaculture and seafood processing designated uses criteria of 20 CFU/100 mL

2019		2020	
Date Range	Geomean CFU/100 mL	Date Range	Geomean CFU/100 mL
06-11-2019 to 05-12-2019	15	06-17-2020 to 05-18-2020	10
06-19-2019 to 05-20-2019	16	06-22-2020 to 05-23-2020	13
06-25-2019 to 05-26-2019	16	07-03-2020 to 06-03-2020	14
07-02-2019 to 06-02-2019	20	07-06-2020 to 06-06-2020	15
07-10-2019 to 06-10-2019	13	07-13-2020 to 06-13-2020	13
07-17-2019 to 06-17-2019	19	07-22-2020 to 06-22-2020	13
07-23-2019 to 06-23-2019	14	07-27-2020 to 06-27-2020	10
07-29-2019 to 06-29-2019	22	08-04-2020 to 07-05-2020	15
08-07-2019 to 07-08-2019	27	08-11-2020 to 07-12-2020	15
08-13-2019 to 07-14-2019	45	08-18-2020 to 07-19-2020	29
08-21-2019 to 07-22-2019	38	08-25-2020 to 07-26-2020	30
		09-01-2020 to 08-02-2020	44
		09-09-2020 to 08-10-2020	31
		09-17-2020 to 08-18-2020	29

Table 5. Summary of evaluation of rolling 30-day geometric mean fecal coliform results by year applied to the aquaculture, seafood processing, industrial, and secondary recreation designated use criteria

Designated Use & Subclass	(A) (i) Aquaculture for products not normally cooked; and (A) (ii) Seafood processing: in a 30-day period, the geometric mean of samples may not exceed 20 CFU/100 mL		(A) (i) Aquaculture for products normally cooked; (A) (iii) Industrial; and (B) (ii) Secondary Recreation: in a 30-day period, the geometric mean of samples may not exceed 200 CFU/100 mL	
Year	2019	2020	2019	2020
Total Exceedances	4	5	0	0
Raw Exceedance Frequency	36%	36%	0%	0%
Impairment Threshold Exceeded	yes	yes	no	no

Table 6. Summary of evaluation of seasonal geometric mean results for fecal coliform applied to the harvesting designated use criteria

Designated Use & Subclass	(D) Harvesting: the geometric mean of samples may not exceed 14 CFU/100 mL	
Year	2019	2020
Seasonal Geometric Mean	20	17
Raw Exceedance Frequency	100%	100%
Impairment Threshold Exceeded	yes	yes

Enterococci did not exceed any of the impairment threshold criteria. Tables 7-9 summarize the enterococci results for each year. The single sample results and rolling 30-day geometric means are applied to appropriate designated use criteria. The total exceedances, raw exceedance frequencies and impairment threshold exceedances are summarized for each designated use. Figure 3 shows the enterococci single sample results for each year plotted against the criterion.

Table 7. Summary of evaluation of single sample enterococci results by year applied to the contact recreation designated use criterion

Designated Use & Subclass	(B) (i) Contact Recreation: not more than 10% of the samples may exceed a statistical threshold value of 130 CFU/100 mL	
Year	2019	2020
Total Exceedances	1	0
Raw Exceedance Frequency	6%	0%
Impairment Threshold Exceeded	no	no

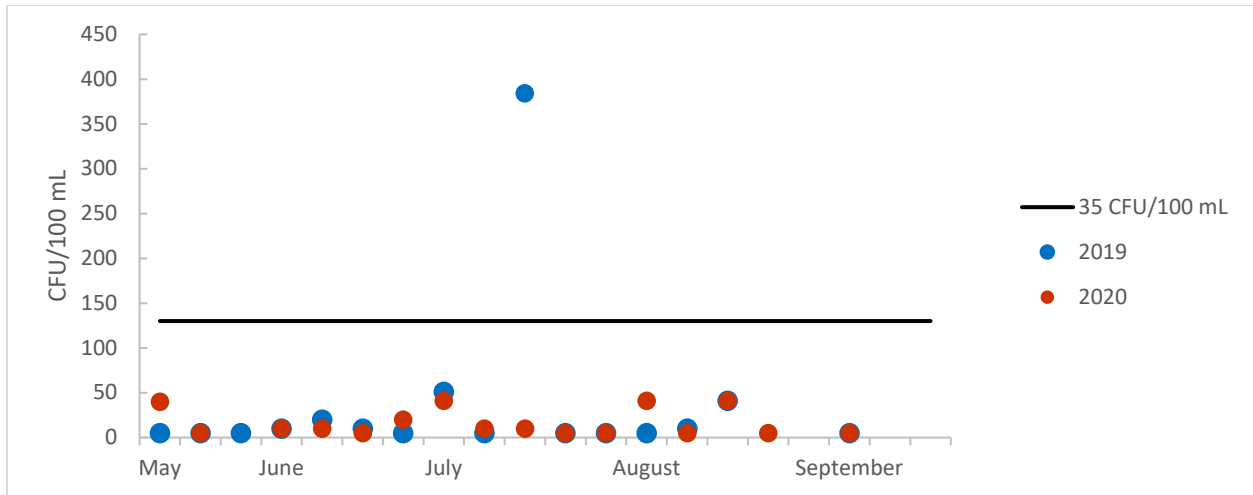


Figure 3. 2019-2020 enterococci single sample results and criterion

Table 8. Rolling 30-day geometric means for enterococci results by year, there were no exceedances of the contact recreation designated use criteria of 35 CFU/100 mL

2019		2020	
Date Range	Geomean CFU/100 mL	Date Range	Geomean CFU/100 mL
06-11-2019 to 05-12-2019	8	06-17-2020 to 05-18-2020	10
06-19-2019 to 05-20-2019	9	06-22-2020 to 05-23-2020	9
06-25-2019 to 05-26-2019	9	07-03-2020 to 06-03-2020	13
07-02-2019 to 06-02-2019	14	07-06-2020 to 06-06-2020	13
07-10-2019 to 06-10-2019	12	07-13-2020 to 06-13-2020	13
07-17-2019 to 06-17-2019	22	07-22-2020 to 06-22-2020	13
07-23-2019 to 06-23-2019	19	07-27-2020 to 06-27-2020	10
07-29-2019 to 06-29-2019	19	08-04-2020 to 07-05-2020	10
08-07-2019 to 07-08-2019	12	08-11-2020 to 07-12-2020	9
08-13-2019 to 07-14-2019	14	08-18-2020 to 07-19-2020	12
08-21-2019 to 07-22-2019	9	08-25-2020 to 07-26-2020	12
		09-01-2020 to 08-02-2020	12
		09-09-2020 to 08-10-2020	9
		09-17-2020 to 08-18-2020	10

Table 9. Summary of evaluation of rolling 30-day geometric mean enterococci results by year applied to the contact recreation designated use criterion

Designated Use & Subclass	(B) (i) Contact Recreation: not more than 10% of the samples may exceed 35 CFU/100 mL	
Year	2019	2020
Total Exceedances	0	0
Raw Exceedance Frequency	0%	0%
Impairment Threshold Exceeded	no	no

Potential Pollutant Sources

Mountain Point Surprise Beach includes beach and residential areas, and a small boat harbor. Potential bacteria sources along the marine coast consists of public sewer treatment system outfall, sewer collection system deficiencies, wildlife and pet feces, boats at boat launches and in harbors areas, and private watercraft, cruise ships and ferries.

Waterbody Specific Conclusion

Mountain Point Surprise Beach is recommended for inclusion as impaired in Category 5 in the 2022 Integrated Report for exceedance of the bacteria criteria for marine coastal waters. Data from two recreation seasons of bacteria monitoring within Mountain Point Surprise Beach marine waters indicate that the waterbody is not meeting criteria for three designated use subclasses:

- (A) Water Supply (i) aquaculture for products not normally cooked
- (A) Water Supply (ii) seafood processing
- (D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life

Mountain Point Surprise Beach marine waters do meet criteria for three designated use subclasses:

- (A) Water Supply (iii) industrial
- (B) Water Recreation (i) contact recreation
- (B) Water Recreation (ii) secondary recreation