



Water Quality Program Category 2 Summary

Draft 2024 Integrated Report

Birch Creek Summary

Abstract

The analysis of turbidity measurements recorded in 2020-2022 at Birch Creek indicate attainment of Alaska Water Quality Standards for Turbidity, for freshwater uses. The Alaska Department of Environmental Conservation recommends moving Birch Creek to Category 2 for turbidity in the 2024 Integrated Report.



Table 1. Current waterbody status and applicable water quality standard¹

Assessment Unit Name	Birch Creek (Ikhèenjìk River)
Assessment Unit ID	AK_R_8040102_012_002
2024 Parameter	Turbidity
Category Change	4a to 2
Water Quality Standard	Turbidity, for freshwater uses
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.

¹ See 18 AAC 70 Water Quality Standards, most sensitive water quality standard shown, see page 25 for complete list of designated uses for turbidity

Results

Birch Creek (Ikhèenjìk River)

Continuous data was collected through summer months of 2020-2022. Due to lack of a reference turbidity site, data was analyzed with the most conservative reference site condition of 0 NTU. A binomial test was conducted to determine the frequency of exceedances needed to impair. For all three monitoring years, the exceedance frequency calculated was below the impairment threshold.

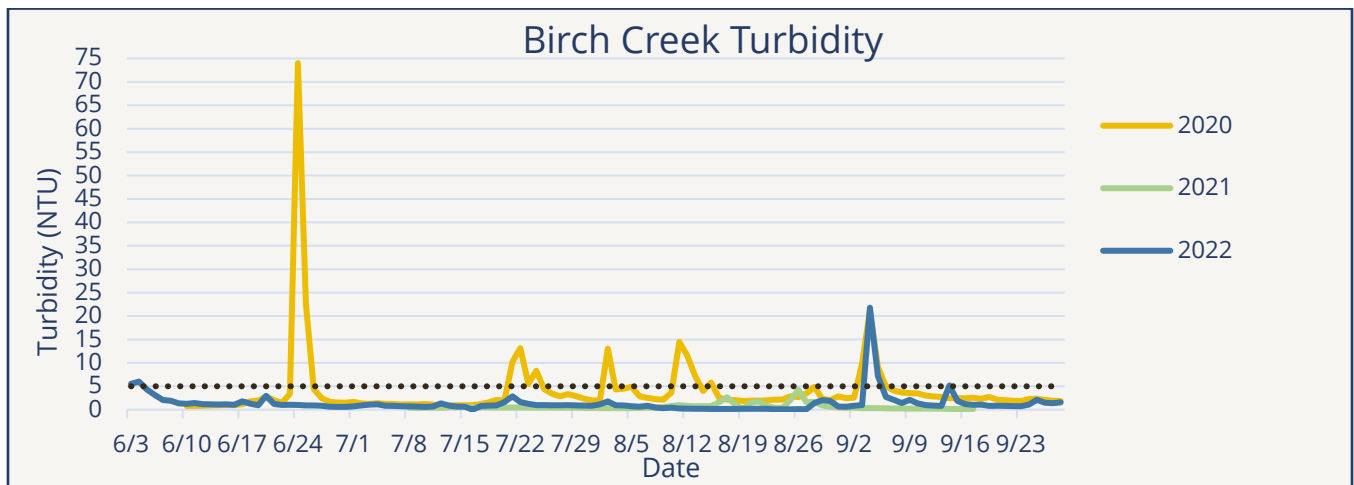


Figure 1. Birch Creek Turbidity continuous data results and criteria applied (5NTU)

Table 2. Water Quality Standard exceedances in Birch Creek from 2020 to 2022.

Year	Monitoring dates	Total Trials	Minimum frequency to exceed Water Quality Standards	Number of exceedances
2020	6/10/2020 – 9/30/2020	113	16	15
2021	7/8/2021 – 9/17/2021	72	12	0
2022	6/2/2022 – 9/28/2022	118	17	5