

TRIP REPORT

**State of Alaska
Department of Fish and Game**

Field Date(s): July 9 - 16, 2018

Location(s): **Red Dog Mine**

Objective(s): Periphyton and aquatic invertebrate sampling

Participant(s): Chelsea Clawson and Maria Wessel

Weather: Mostly sunny, 50's and 60's, occasional rain

Access: Pick-up truck and R-66 helicopter

On July 9, 2018 we flew to Red Dog Mine to perform a portion of the annual biomonitoring projects in the area. Specific tasks we planned to perform were: 1) collect periphyton and aquatic invertebrate samples at 22 sites, and 2) collect 12 juvenile Arctic grayling from Bons Pond for whole body element analyses

Periphyton and Aquatic Invertebrates:

A total of 22 sites were visited and sampled for periphyton and aquatic invertebrates (Table 1, Figure 1). Water levels were low and weather conditions were good allowing for successful sampling at all sample sites.



Figure 1. Drift nets in East Fork Ikalukrok Creek on July 11, 2018 (left) and drift nets in Moil Creek on July 12, 2018 (right).

Table 1. List of the locations sampled for periphyton and aquatic invertebrates, July 2018.

Sample Site/Name		Station Number
Upper North Fork Red Dog Creek	Aqqaluk Pit	N/A
Bons Creek, upstream of Bons Pond	APDES	N/A
Buddy Creek, upstream of haul road	APDES	221
Bons Creek, upstream of Buddy Creek	APDES	220
Ikalukrok Creek, upstream of mouth of Mainstem Red Dog	APDES	9
Ikalukrok Creek, downstream of mouth of Dudd	APDES	160
Mainstem Red Dog Creek	APDES	10
Buddy Creek, below falls	APDES	N/A
Middle Fork Red Dog Creek	APDES	20
North Fork Red Dog Creek	APDES	12
Competition Creek, upstream of Sourdock	Anarraaq	203
Sourdock Creek	Anarraaq	204
Competition Creek, upstream of mouth	Anarraaq	202
Ikalukrok Creek (upstream of West Fork Ikalukrok Creek)	Anarraaq	206
West Fork Ikalukrok Creek	Anarraaq	205
Ikalukrok Creek (downstream of Cub Creek seep)	Anarraaq	207
East Fork Ikalukrok Creek	Anarraaq	208
Grayling Junior Creek	Anarraaq	209
Noa Creek	Anarraaq	210
Moil Creek	Anarraaq	211
Sled Creek	Anarraaq	212
Volcano Creek	Anarraaq	N/A

In Mainstem Red Dog Creek Station 10, we observed two Arctic grayling fry while we were cleaning out the drift nets (Figure 2), suggesting that Arctic grayling successfully spawned in the Mainstem Red Dog Creek this spring. We also found Arctic grayling fry in the drift nets set in Bons Creek upstream of Bons Pond, indicating that successful spawning occurred there as well.



Figure 2. Arctic grayling fry captured in the drift nets in Mainstem Red Dog Creek Station 10 (left photo) and Bons Creek upstream of Bons Pond (right photo) on July 13, 2018.

Bons Pond:

We initially set a fyke net on the southern side of Bons Pond on July 12 and checked it on July 13. Only five fish were captured, none in the target size range of 160-180 mm fork length (FL). The net was reset at the 2017 location near the pump house and checked daily after that. The check on July 14 yielded many small fish under 100 mm and a few larger ones, but none in the needed size range. The net check on July 15 yielded one fish in the target size range, as well as many fish that were too small. The final net check on July 16 yielded one more fish in the target size range, bringing the total to five fish between this event and the spring (June) sampling event. We still need 10 fish to meet our sampling goal.