

**FEDERAL FISHERIES CLOSURE REVIEW**  
**FCR21-07**

**Closure Location:** Yukon River Drainage, Nome Creek—Grayling

**Current Federal Regulation**

**Yukon-Northern Area**

§\_\_\_\_.27(e)(3)

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*(v) Except as provided in this section, and except as may be provided by the terms of a subsistence fishing permit, you may take fish other than salmon at any time.*

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*(xi) In Beaver Creek downstream from the confluence of Moose Creek, a gillnet with mesh size not to exceed 3-inches stretch-measure may be used from June 15 through September 15. You may subsistence fish for all non-salmon species but may not target salmon during this time period (retention of salmon taken incidentally to non-salmon directed fisheries is allowed). From the mouth of Nome Creek downstream to the confluence of Moose Creek, only rod and reel may be used. From the mouth of Nome Creek downstream to the confluence of O'Brien Creek, the daily harvest and possession limit is 5 grayling; from the mouth of O'Brien Creek downstream to the confluence of Moose Creek, the daily harvest and possession limit is 10 grayling. The Nome Creek drainage of Beaver Creek is closed to subsistence fishing for grayling.*

**Closure Dates:** Year-round

**Current State Regulation**

**Yukon Area**

*5 AAC 99.015 Joint Board nonsubsistence area*

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*(4) The Fairbanks Nonsubsistence Area is comprised of the following: within Unit 20(A), as defined by 5 AAC 92.450(20) (A), east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek; within Unit 20(B), as defined by 5 AAC 92.450(20)(B), the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway; within Unit 20(D) as defined by 5 AAC 92.450(20)(D), west of the Tanana River between its confluence with the Johnson and Delta Rivers, west of the east bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpaster River drainage; and within Unit 25(C), as defined by 5 AAC 92.450(25)(C), the Preacher and Beaver Creek drainages.*

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*5 AAC 99.016. Activities permitted in a nonsubsistence area. (a) A nonsubsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area of community. In a nonsubsistence area, the following activities will be permitted if so provided by the appropriate board by regulation:*

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*(2) personal use, sport, guided sport, commercial fishing, and other fishing authorized by permit.*

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*(b) Subsistence hunting and subsistence fishing regulations will not be adopted by a board for a nonsubsistence area and the subsistence priority does not apply in a nonsubsistence area.*

**Regulatory Year Initiated:** 1992

### **Customary and Traditional Use Determination**

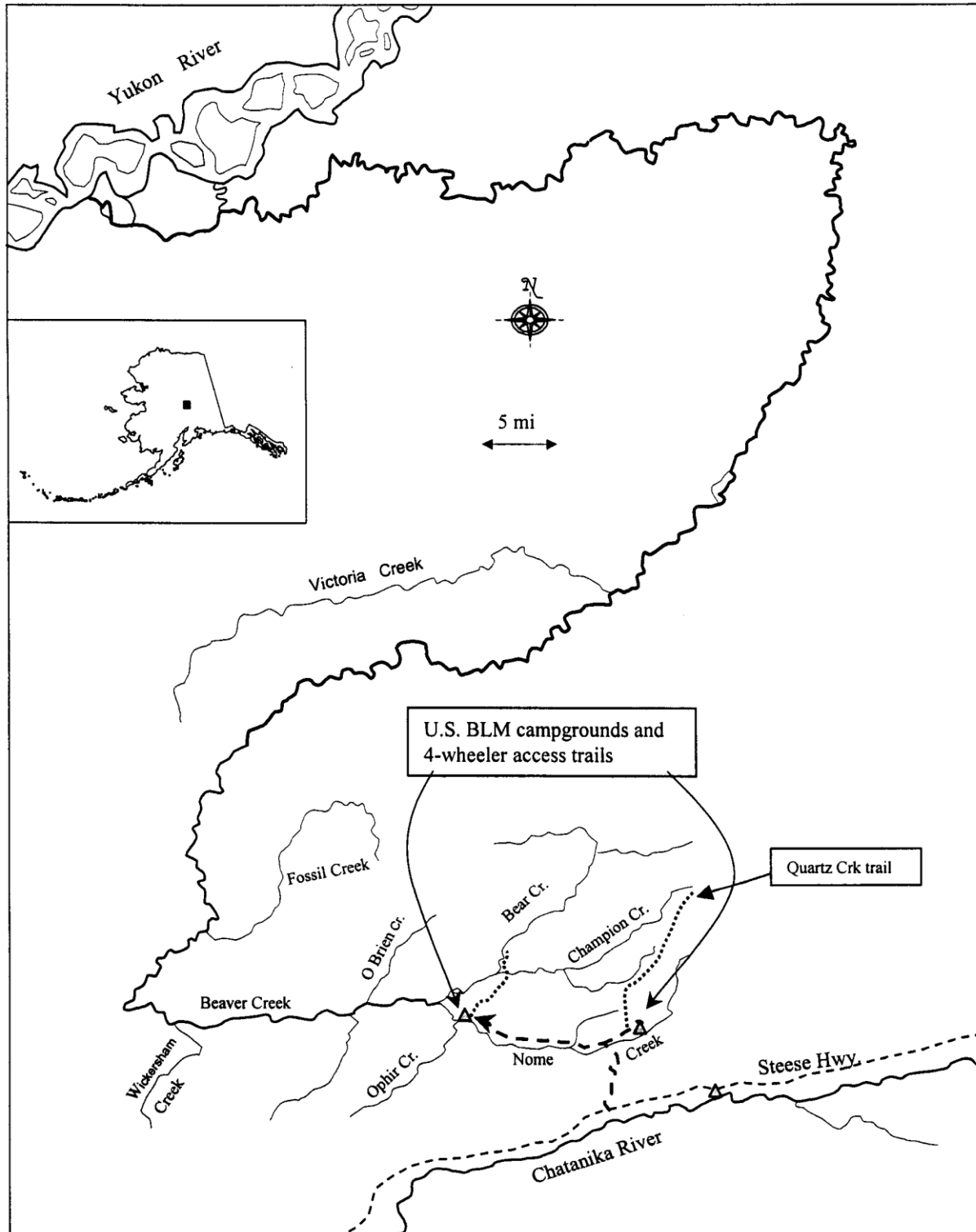
Residents of the Yukon-Northern Area have customary and traditions use determination for freshwater species other than salmon in the Yukon River drainage.

### **Regulatory History**

In 1992, the Federal Subsistence Management Program promulgated regulations governing the harvest of fish for subsistence uses in waters qualifying as "public lands" under ANILCA. (57 FR 22940). These regulations incorporated many provisions from State subsistence fishing regulations that previously applied to those waters. The closure under review in this analysis was incorporated into the Federal regulations in this manner, and has not been subsequently modified

### **Extent of Federal Public Lands/Waters**

For purposes of this analysis, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. Nome Creek is a tributary to Beaver Creek, which flows into the Yukon River (**Figure 1**). The entire length of Nome Creek is in the White Mountain Special Recreation Management Area administered by the Bureau of Land Management, about 50 air miles north of Fairbanks, Alaska.



**Figure 1.** Beaver Creek drainage, including the location of Nome Creek in the White Mountains Special Recreation Area. Map from Fleming and McSweeney 2001.

**Closure last reviewed**

There has been no previous closure review.

**Justification for Original Closure (ANILCA Section 815 (3) criteria)**

Section §815(3) of ANILCA states:

*Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law.*

There is no Federal Subsistence Board justification for the original closure as it was incorporated from the State subsistence fishing regulations.

**Council Recommendation for Original Closure**

N/A

**State Recommendation for Original Closure**

N/A

**Biological Background:**

Arctic Grayling are found throughout most of Alaska except for the Aleutian Islands, Kodiak Island, and Southeast Alaska. Arctic Grayling typically spawn for the first time between four and seven years of age (ADF&G 2020). Adult Arctic Grayling migrate upstream in the spring to spawning locations, which are generally in headwater streams. During spawning, the females will lay between 1,500 and 30,000 eggs, depending on the female's size. The eggs incubate in the gravel for about three weeks before hatching. Once they hatch, the fry move into calm water to feed and grow. Arctic Grayling can live up to 32 years and spawn multiple times. In the fall most Arctic Grayling will migrate downstream to deeper pools to overwinter (ADF&G 2020a). Grayling are voracious feeders and are easily over-exploited (Hubbs & Lagler, 1958; Carl et al. 1992).

A mark-recapture study performed in 2000 on Nome Creek estimated abundance at 419 Grayling (SE=81) > 250 mm fork length. These estimates were from the upper 11 miles of Nome Creek, and estimated a density of 38 fish per mile (Fleming and McSweeney 2001). The sampling occurred during a time when a portion of the spawning population remained in this area, and prior to the time when juveniles had moved in to the summer feeding grounds. As such, the population was composed of mainly older fish; 74% were between age 6 and age 8. Estimates were made when spawning fish were in this section, prior to immature fish moving into the area. Abundance in the lower section was estimated to be between 878 and 4,522 Grayling  $\geq$ 180 mm fork length with a 95% CI (Fleming and McSweeney 2001). The wide range in estimates was due to a low recapture rate, likely due to fish migrating upstream between the mark and recapture events.

Sport fishing is allowed year around in Nome Creek, but is limited to unbaited artificial lures or flies with a single hook from April 1 through May 31. All Arctic Grayling must be immediately released (ADF&G 2020b). Mortality can occur during catch and release fishing. Estimated mortality related to catch and release fishing can vary by fishing gear used and by size of Arctic Grayling caught. McKinley (1993) reported a mortality rate of 1% from catch and release techniques on large Arctic Grayling (>305 mm or about 12 inches). Other reports on Arctic Grayling found less than 5% mortality on Grayling less than 305 mm (Clark 1991), to 10% overall mortality on Arctic Grayling (Falk and Gillman 1975).

### **Harvest History**

There is no subsistence harvest to report from Nome Creek as it has been closed to Federal and State subsistence fishing. Sport fishing is allowed, but limited to catch and release for Arctic Grayling. However, the regional Federal subsistence regulations for the Yukon Area would apply if the closure is removed. Therefore, subsistence users would be allowed to harvest Arctic Grayling at any time.

### **Other Alternatives Considered**

One alternative would be to modify the closure by closing the fishery to all users. This would fully protect the Grayling population in Nome Creek. Under this alternative, there would continue to be no Federal subsistence opportunity, and opportunities for sport fishing would also be removed. This alternative would eliminate the current situation, in which fishing is specifically closed to subsistence users on Federal public waters. This alternative was considered and rejected because it may cause an unnecessary closure beyond that which exists already.

A second alternative would be to eliminate the closure to allow the harvest of Grayling by Federally qualified subsistence users in Nome Creek. Considering the small population of fish in this part of the drainage, it would be advisable to modify this opening by matching the Federal regulations that occur directly below the confluence of Nome Creek and Champion Creek, which has a limit of 5 Arctic Grayling. In this alternative, Federally qualified subsistence users would have a subsistence priority over sportfishers in the area, who are limited to catch and release. This alternative was considered and rejected because allowing harvest in this area may lead to localized depletion or overharvest of fish.

Under a third alternative, the closure could be eliminated, but Federal subsistence fishing regulations in this area would mirror state sport fishing regulations. This alternative was considered and rejected because catch-and-release fishing provides no subsistence opportunity for Grayling.

### **OSM PRELIMINARY CONCLUSION**

- maintain status quo**
- modify or eliminate the closure**

## **Justification**

Grayling are a species that are very susceptible to over-exploitation. Nome Creek is road accessible, allowing for easy access and harvest of fish. Allowing a subsistence harvest on these stocks has the potential for local depletion or overharvest of stocks.

## **LITERATURE CITED**

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Carl, L.M., Walty, D. & Rimmer, D.M. 1992. Demography of spawning grayling (*Thymallus arcticus*) in the Beaverlodge River, Alberta. *Hydrobiologia* 243, 237–247 (1992). <https://doi.org/10.1007/BF00007039>

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