# FEDERAL WILDLIFE CLOSURE REVIEW
# WCR12-18

**Closure Location:** Unit 23 Baird Mountains

**Current Federal Regulations**

**Unit 23—Sheep**

| | |
|---|---|
| *Unit 23—south of Rabbit Creek, Kiyak Creek and the Noatak River, and west of the Cutler and Redstone Rivers (Baird Mountains)—1 sheep by Federal registration permit (FS2301). The total allowable harvest of sheep is 21, of which 15 may be rams and 6 may be ewes.* | *Aug. 10–April 30* |
| *Federal public lands are closed to the taking of sheep except by Federally qualified subsistence users hunting under these regulations.* | |
| *If the allowable harvest levels are reached before the regular season closing date, the Superintendent of the Western Arctic National Parklands will announce an early closure.* | |

**Closure Dates:** Aug. 10 – Apr. 30

**Current State Regulations**

| | |
|---|---|
| *Unit 23—south of Rabbit Creek, Kiyak Creek and Noatak River, and west of Cutler and Redstone Rivers ("Baird Mountains")* | *No open season* |

**Regulatory Year Initiated:** 1999

**Regulatory History**

Federal harvest regulations for sheep in Unit 23 were established in 1991 by adopting the existing State regulations, which consisted of one ram with 7/8 curl in the fall and one sheep with a harvest quota of 30 animals in the winter season. However, low sheep numbers in the Baird Mountains prompted closures by State emergency order in 1991, which continued by annual emergency orders through 1997. In 1991 and 1992, special actions adopted by the Federal Subsistence Board (Board) closed the sheep harvest south and east of the Noatak River (Baird Mountains), which was also repeated by annual emergency special actions through 1997/1998.

In 1997 the Alaska Board of Game revised the area description and assessed the amounts needed for subsistence. The Alaska Board of Game divided the sheep hunt area in a portion of Unit 23 into the Baird, DeLong, and Schwatka Mountain ranges. Subsistence needs were then assessed by the State for each mountain range and determined to be 1–9 sheep for the DeLong Mountains and 18–47 sheep for the Baird Mountains. Surveys in 1997 showed the first increase in sheep numbers in several years (**Figure 1**), so the Alaska Board of Game preliminarily decided not to close the 1998/1999 State season by emergency order. The Alaska Board of Game proceeded with a Tier I harvest of 20 sheep in the Baird Mountains and a combination hunt (9 Tier I and 11 drawing permits) in the DeLong Mountains, with the

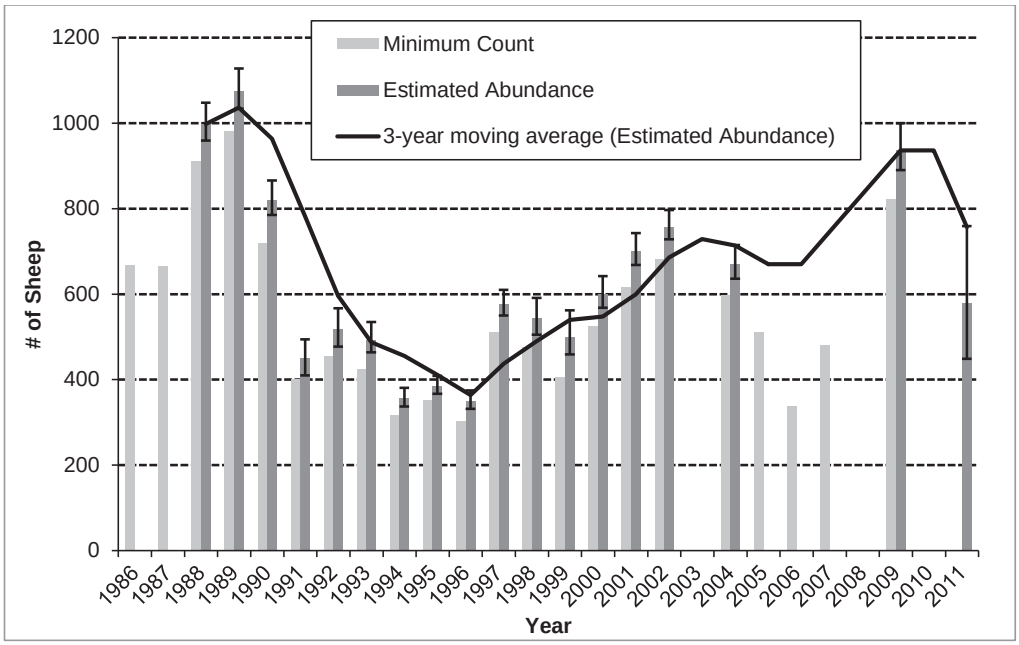


**Figure 1.** Aerial Dall's sheep survey results, western Baird Mountains (1,842 km$^2$), Noatak National Preserve, Alaska, 1986-2011. Sightability-adjusted abundance estimates (Udevitz et al. 2006) were calculated from the 1986-2009 minimum count data. Error bars are 95% confidence intervals. Partial surveys were conducted in 1986, 1987, 2005 (86% of survey area), 2006 (50% of survey area), 2004 (94% of survey area), and 2007 (51% of survey area); and sightability-adjusted estimates were not generated for those years. There were no surveys conducted in 2003, 2008, and 2010 (Rattenbury 2012, pers. comm.). There is no minimum estimate for 2011 as the estimate was generated from distance sampling survey and Bayesian analytical methods (Schmidt et al. 2012).

final decision based on the results of the 1998 sheep surveys. Both State seasons were scheduled to run from August 10 to April 30.

In July 1998, the Board approved Special Action 98-04 to temporarily adopt the State's sheep harvest zones in Unit 23 (Baird, DeLong, and Schwatka Mountains), close Federal lands to non-Federally qualified sheep hunters in the Baird and DeLong Mountains, and establish an August through April season for one full-curl ram for Federally qualified subsistence users (maximum of 20 sheep for each mountain range). Also in 1998, the Board approved Special Action 98-17 to authorize the use of designated hunters for the Unit 23 sheep hunt. In May 1999, the Board adopted Proposal P99-48, which made the temporary changes from Special Action 98-04 and Special Action 98-17 into regulation. In addition, the Superintendent of the Western Arctic National Parklands was given delegated authority to annually announce the harvest quota and to divide the harvest season into two seasons (fall and winter). While Federal public lands in the Baird Mountains remained closed to the harvest of sheep, except for Federally qualified subsistence users, the temporary closure of Federal public land in the DeLong Mountains of Unit 23 was not continued with the adoption of Proposal P99-48 and the harvest quota was divided among Federal and State hunts.

In May 2002, the Board adopted WP02-39 with modification to establish a trophy destruction requirement for harvested sheep horns in the Baird and DeLong Mountains and to extend the delegated authority of the Superintendent of the Western Arctic National Parklands to set season quotas and winter season dates (FWS 2002). Four proposals were subsequently submitted in 2004 to reevaluate the trophy destruction requirement and change the harvest season and limits. The Board adopted WP04-72 and WP04-73with modification to remove the trophy destruction requirement, change the harvest limit from full-curl rams

to one sheep, adjust the season dates, and limited designated hunter regulations to only harvest for one additional hunter in the Baird and DeLong Mountains. The Board rejected Proposals WP04-74 and WP04-75, which also requested the removal of the trophy destruction requirement, because of action on WP04-72 and WP04-73.

**Closure Last Reviewed:** 2008 — WCR08-18

**Justification for the Original Closure (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 the 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 816, to continue subsistence uses of such populations, or pursuant to other applicable law;*

The Board adopted the closure to allow for continued subsistence uses of a sheep population that was recovering from a severe decline associated with severe winters. The population was increasing, but was associated with a weak cohort of 4- to 8-year old sheep and a surplus of older rams (at least 9 years old and generally full-curl). It was determined that a small surplus of older rams was available in the Baird Mountains for a limited subsistence hunt (FSB 1999, FWS 1999).

**Council Recommendation for the Original Closure**

The Northwest Arctic Subsistence Regional Advisory Council supported the proposal with modification to include a designated hunter system, and to change the language from “up to 20 permits” to “up to 20 full-curl rams” as well as changing the phrase “Northwest Areas Parks Superintendent” to “Superintendent of Western Arctic National Parklands.”

The North Slope Subsistence Regional Advisory Council supported the proposal with modification to change the language to 20 “permits” to up to “20 full curl rams” and to change the phrase “Northwest Area Park Superintendent” to “Superintendent of Western Arctic National Parklands.”

**State Recommendation for the Original Closure**

The State did not support the portion of the proposal pertaining to the DeLong Mountains, stating it was premature to make the temporary regulations permanent. The Alaska Department of Fish and Game recommended the Board reevaluate the regulations after one or two years to determine if the subsistence harvest would justify the retention of the closure to Federal public land in the DeLong Mountains.

**Biological Background**

The National Park Service identified three preliminary objectives in 2009 for sheep in the Arctic Ecological Inventory and Monitoring Network, which includes the western Baird Mountains, as: (1) follow long-term trends in sheep abundance and distribution, (2) collect data on sex and age composition in the Itkillik Preserve in Gates of the Arctic and the western Baird Mountains, and (3) determine the status and trends in sheep diet and forage quality in the Itkillik Preserve and western Baird Mountains (Rattenbury 2010).

**Table 1.** Population composition data for the sheep population in the western Baird Mountains of the Noatak National Preserve, Alaska, 1998-2011 (Rattenbury 2012, pers. comm.). Data were gathered during minimum count surveys, except for 2011 when a distance sampling survey (Schmidt et al. 2012) was implemented.

| | Observed Sheep | | | | Composition ratio (per 100 ewe-like) | |
|---|---|---|---|---|---|---|
| Year | Ewe-like[a] | Lambs | Rams (>1/2 curl) | Unknown | Lambs | Rams |
| 1989 | 574 | 170 | 162 | 75 | 30 | 28 |
| 1990 | 466 | 133 | 105 | 14 | 29 | 23 |
| 1991 | 239 | 17 | 108 | 36 | 7 | 45 |
| 1992 | 267 | 59 | 130 | 0 | 22 | 49 |
| 1993 | 256 | 47 | 123 | 0 | 18 | 48 |
| 1994 | 204 | 20 | 93 | 0 | 10 | 46 |
| 1995 | 166 | 95 | 90 | 0 | 57 | 54 |
| 1996 | 169 | 58 | 75 | 0 | 34 | 44 |
| 1997 | 314 | 83 | 114 | 0 | 26 | 36 |
| 1998 | 289 | 72 | 116 | 0 | 25 | 40 |
| 1999 | 243 | 77 | 86 | 0 | 32 | 35 |
| 2000 | 317 | 101 | 107 | 0 | 32 | 34 |
| 2001 | 389 | 73 | 145 | 9 | 19 | 37 |
| 2002 | 381 | 118 | 157 | 26 | 31 | 41 |
| 2003 | - | - | - | - | - | - |
| 2004[b] | 343 | 91 | 123 | 41 | 27 | 36 |
| 2005[b] | 307 | 55 | 149 | 0 | 18 | 49 |
| 2006[b] | 223 | 55 | 60 | 0 | 25 | 27 |
| 2007[b] | 306 | 110 | 64 | 0 | 36 | 21 |
| 2008 | - | - | - | - | - | - |
| 2009 | 481 | 157 | 171 | 10 | 33 | 36 |
| 2010 | - | - | - | - | - | - |
| 2011 (95% CI)[c] | 403 (310-531) | 90 ( 58-138) | 85 (46-147) | 0 | 22 (15-33) | 21 (13-34) |

[a] Ewe-like sheep include ewes, yearlings of both sexes, and rams with <1/2 curl.
[b] Surveys did not encompass the total survey area (51% to 94% coverage).
[c] Estimates (95% confidence intervals) were calculated from distance sampling surveys, which differ from previous minimum count surveys.

Aerial surveys for sheep in the western Baird Mountains have been conducted during July, following the formation of post-lambing aggregations, nearly every year since 1986, except between 2003 and 2008 when only a few incomplete surveys were conducted (**Table 1**) (Shults 2004; Rattenbury 2012, pers. comm.). The survey area encompasses habitat that has the highest density of sheep in the Baird Mountains. However, it should be noted that the population is not closed and sheep are distributed, albeit at lower densities, throughout the Baird and Schwatka Mountains to the east (FWS 2004). During surveys, sheep are counted and classified as ewes, lambs, and rams (by horn size). The "ewe" class includes small rams that are indistinguishable from ewes during aerial surveys. A new survey methodology, using distance sampling (Schmidt et al. 2012) to estimate total abundance and sex and age composition, was implemented in the Western Baird Mountains in 2011. Consequently, the estimate from 2011 is not directly comparable to earlier minimum population counts and herd composition data (Rattenbury 2012, pers. comm.).

Sheep in Units 23 and 26A are at the northwestern margin of their range in Alaska, and may be more prone to fluctuations in population size because of adverse weather than populations that inhabit areas with better and more stable range conditions (Westing 2008). The population peaked in 1989 at an estimated 1,074 sheep, but declined after severe winters in 1988-89 and 1990-91, and reached a low of 350 sheep in 1996 (Shults 2004) (**Figure 1**). Following the severe winters, counts of ewe-like sheep declined and survival and recruitment of lambs was low from 1991 to 1994 (**Table 1**). The years with low lamb production and recruitment resulted in a weak cohort that skewed the population composition toward a higher proportion of older animals. Between 1998 and 1999, large rams (>7/8 curl) decreased 54%, which resulted in a closure to Federal harvest in 1999/2000 (FWS 2004). The decline in large rams was potentially due to high over-winter mortality of older age classes that had survived the earlier harsh winters and the limited subsistence harvest (Shults 2003, pers. comm.).

Since the declines of the 1990s, the sheep population in the western Baird Mountains rebounded. The most recent estimate of 578 sheep in 2011 was lower than the 2009 minimum count (**Figure 1**), but was similar to the long-term (1988-2009) average population estimate of 631 sheep. The population composition has also improved and is less skewed toward the older age classes, which was the case in the years subsequent to the decline (FWS 2004). However, the full-curl component of rams has declined in recent years, with an estimated 7%-15% of all rams being full-curl in 2011. Between 2002 and 2009, the percentage of rams in the full-curl category ranged from 19% to 32%, although minimum-count surveys conducted from 2004 to 2007 only covered a portion (51% to 94%) of the survey area (Rattenbury 2012, pers. comm.).

**Harvest History**

Low sheep abundance resulted in closures for both the State and Federal hunting seasons in the Baird Mountains from 1991–1994. The Federal subsistence hunt was opened in the 1998/1999 regulatory year and harvest has occurred each year except 1999/2000 and 2000/2001, when low numbers of full-curl rams were observed during surveys and the hunt was closed. In the Baird Mountains, only Federally qualified subsistence users have been able to harvest sheep since the hunt reopened in 1998; whereas, harvest quotas in the DeLong Mountains are divided between State and Federal permits. Only full-curl rams were allowed to be harvested until 2004/05, when harvest was open to any sheep and quotas were set at 15 rams and 6 ewes. Harvest reports show that the sheep harvest in the Baird Mountains portion of Unit has remained under the quota each year that a hunt occurred since 1998, except for 2005/2006 when the harvest went over quota by one ram (**Table 2**).

**Table 2.** Federal sheep harvest quotas and reported harvest for the Baird Mountains (Federal registration permit FS2301) of Unit 23, 1998-2012. Harvest data was retrieved from the Federal Subsistence Permit System, accessed on September 26, 2012, and Shults (2012, pers. comm.).

| | Federal harvest quota | | Reported harvest | |
|---|---|---|---|---|
| Regulatory year | Rams | Ewes | Rams | Ewes |
| 1998/1999[a] | 20 | 0 | 16 | 0 |
| 1999/2000 | - | - | - | - |
| 2000/2001 | - | - | - | - |
| 2001/2002 | 20 | 0 | 8 | 0 |
| 2002/2003 | 16 | 0 | 5 | 0 |
| 2003/2004 | 15 | 0 | 9 | 0 |
| 2004/2005[b] | 15 | 6 | 14 | 3 |
| 2005/2006 | 15 | 6 | 16 | 4 |
| 2006/2007 | 15 | 6 | 9 | 0 |
| 2007/2008 | 15 | 6 | 10 | 0 |
| 2008/2009 | 15 | 6 | 5 | 2 |
| 2009/2010 | 15 | 6 | 11 | 4 |
| 2010/2011 | 15 | 6 | 15 | 2 |
| 2011/2012 | 15 | 6 | 13 | 3 |

[a] Harvest limited to full-curl or larger rams from 1998 to 2003
[b] Harvest limit changed to any sheep with quotas set for rams and ewes from 2004/2005 to present.

**OSM Preliminary Recommendation**

**_X maintain status quo**

**__ initiate proposal to modify or eliminate the closure**

**__ other recommendation**

**Justification**

The number of sheep counted in the Baird Mountains has rebounded from the population decline that occurred during the 1990s. However, the harvestable surplus remains low. As the total allowable harvest is limited by a quota, lifting the closure would decrease opportunity for Federally qualified subsistence

users because the harvest quota would be shared between Federal and non-Federal hunters. Maintaining the closure is consistent with sound management principles to conserve a healthy sheep population. The status quo is also necessary to continue subsistence uses under Section 804 of ANILCA and does not violate the prohibition of ANILCA Section 815(3).

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