



FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
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Federal Subsistence Board

1011 East Tudor Road, MS121
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FOREST SERVICE

AUG 3 1 2015

FWS/OSM 15056.AM

Nulato Tribal Council
P.O. Box 65049
Nulato, Alaska 99765

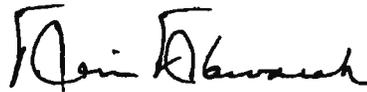
Nulato Tribal Council:

This letter responds to your Emergency Special Action Request, WSA15-11, to change the moose season in Unit 21D remainder from August 22-31 and September 5-25, to September 1 – September 30 for the 2015/2016 regulatory year.

The issues addressed in WSA15-11 would be better dealt with through proposals to the Federal Subsistence Board and the Alaska Board of Game, where there can be broader participation and input by Federally qualified subsistence users from the other affected communities that have not had an opportunity to provide input in this special action process. Approval of this special action would make the complex patchwork of State and Federal hunting seasons in the area even more complicated for users, as well as law enforcement. In addition, there are conservation concerns that additional harvest pressure could adversely impact the moose populations in Unit 21D remainder. The Federal Subsistence Board is therefore deferring this request based on these criteria.

The enclosed copies of the staff analysis and Interagency Staff Committee recommendation are provided for your reference. If you have any questions, please contact Chris McKee, Wildlife Division Supervisor, Office of Subsistence Management at (907) 786-3572.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Towarak". The signature is fluid and cursive, with the first name being more prominent.

Tim Towarak
Chair

Enclosures

cc: Federal Subsistence Board

Eugene R. Peltola, Jr., Assistant Regional Director, Office of Subsistence Management
Chuck Ardizzone, Deputy Assistant Regional Director, Office of Subsistence Management
Chris McKee, Wildlife Division Supervisor, Office of Subsistence Management
Carl Johnson, Council Coordination Supervisor, Office of Subsistence Management
Drew Crawford, Federal Subsistence Liaison, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

**STAFF ANALYSIS
EMERGENCY SPECIAL ACTION
WSA15-11**

ISSUE

Emergency Special Action, WSA15-11, submitted by the Nulato Tribal Council, requests that the moose hunting season dates in Unit 21D remainder be changed from the current split season of Aug. 22-Aug. 31 and Sept. 5-Sept. 25 to Sept. 1-Sept. 30.

DISCUSSION

The proponent states that as a result of changes in weather patterns, moose are moving later in the season, the risk of meat spoilage is increasing, and vegetation is staying greener later in the year, reducing visibility. Additionally, gas prices are high and it is not economical to hunt early in the season when bulls are not moving. The proponent also states that access can be a problem early in the season due to low water levels in the rivers and that water levels rise later in the season improving access to hunt areas, specifically the Kaiyuh Flats.

The proponent states that eliminating the early season (Aug. 22-Aug. 31) and extending the fall season to Sept. 1-Sept. 30 would alleviate their concerns, providing users with increased opportunity to harvest moose when conditions are more favorable. The requested changes do not add any additional days to the season, but shifts the hunting dates later in the season.

The applicable Federal regulations are found in 50 CFR 100.19(a) (Emergency Special Actions) and state that:

“...In an emergency situation, if necessary to ensure the continued viability of a fish or wildlife population, to continue subsistence uses of fish or wildlife, or for public safety reasons, the Board may immediately open or close public lands for the taking of fish and wildlife for subsistence uses, or modify the requirements for take for subsistence uses, or close public lands to take for nonsubsistence uses of fish and wildlife, or restrict the requirements for take for nonsubsistence uses.”

Existing Federal Regulation

Unit 21D remainder—Moose

<i>1 moose; however, antlerless moose may be taken only during Sept. 21-25 and the Mar. 1-5 season if authorized jointly by the Koyukuk/Nowitna National Wildlife Refuge Manager and the Central Yukon Field Office Manager, Bureau of Land Management. Harvest of cow moose accompanied by calves is prohibited. During the Aug. 22-31 and Sept. 5-25 seasons, a State registration permit is required.</i>	<i>Aug. 22- 31 Sept. 5-25 Mar. 1-5 season to be announced.</i>
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During the Mar. 1-5 season, a Federal registration permit is required. Announcement for the antlerless moose seasons and cow quotas will be made after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee.

Proposed Federal Regulation

Unit 21D remainder—Moose

<p><i>1 moose; however, antlerless moose may be taken only during Sept. 21-25 and the Mar. 1-5 season if authorized jointly by the Koyukuk/Nowitna National Wildlife Refuge Manager and the Central Yukon Field Office Manager, Bureau of Land Management. Harvest of cow moose accompanied by calves is prohibited. During the Aug. 22-31 and Sept. 5-25 seasons, a State registration permit is required. During the Mar. 1-5 season, a Federal registration permit is required. Announcement for the antlerless moose seasons and cow quotas will be made after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee.</i></p>	<p>Aug. 22-31 Sept. 1 5-25 30 Mar. 1-5 season to be announced.</p>
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Existing State Regulation

Unit 21D remainder—Moose

<p><i>Resident: 1 bull by permit available online at http://hunt.alaska.gov or in person at license vendors in Units 21B, 21D, 24, and ADF&G in Fairbanks beginning Aug. 13. Trophy value must be destroyed.</i></p>	<p>RM834</p>	<p>Aug. 22- 31 Sept. 5- 25</p>
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OR

<p><i>1 bull by permit</i></p>	<p>DM814/816- 818/820</p>	<p>Sept. 5- 25</p>
<p><i>Non-resident: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit.</i></p>	<p>DM815-820</p>	<p>Sept. 5- 25</p>

Extent of Federal Public Lands

Federal public lands comprise approximately 56% of Unit 21D and consist of 29% U.S. Fish and Wildlife Service (FWS) managed lands and 27% Bureau of Land Management (BLM) managed lands (see **Unit 21 Map**).

Customary and Traditional Use Determinations

Residents of Unit 21D, Huslia, and Ruby have a customary and traditional use determination for moose in Unit 21D.

Regulatory History

Federal regulations for moose in Unit 21D were adopted from State regulations in 1990. The season was Sept. 5-Sept. 25 and Feb. 1-Feb. 5 with a harvest limit of 1 moose, although antlerless moose could only be taken from Sept. 21-Sept. 25 and Feb. 1-Feb. 5. Moose within one-half mile of the Yukon River could not be taken during the February season.

In 1996, the Federal Subsistence Board (Board) adopted Proposal P96-44 with modification to extend the fall season from Sept. 5-Sept. 25 to Sept. 1-Sept. 25 and the winter season from Feb. 1-Feb. 5 to Feb. 1-Feb. 10. The Board also closed Federal public lands in portions of the Koyukuk Controlled Use Area (CUA) to everyone except Federally qualified subsistence users.

On August 29, 1996, the Board adopted Request for Reconsideration R96-02 to lift the Federal closure in the Koyukuk CUA, to remove the antlerless moose restriction, and to require a State registration permit during the September season

In 2000, the Board adopted Proposal P00-47 with modification, which specified that antlerless moose could be taken only from Sept. 21-Sept. 25 and during the February season in Unit 21D. The modification included establishing new hunt areas: the Koyukuk Controlled Use Area (CUA) and Unit 21D remainder. The modification also changed the opening date of the fall season in the new Unit 21D remainder from Sept. 1 to Sept. 5. This was done to reduce user confusion by aligning Federal and State regulations (FWS 2000).

In 2000, the Board adopted Proposal P00-46 with modification, which changed the winter season from Feb. 1-Feb. 10 to a to-be-announced season. This was done to benefit Federally qualified subsistence users adversely impacted by inclement weather in early February and to align Federal and State regulations (FWS 2000).

In 2001, the Board adopted Proposal WP01-26 with modification, which allowed possession of the head of a harvested moose to meet the proof of sex requirement for Units 19, 21, and 24. This action

accommodated customary and traditional practices that include removing external sex organs before transporting carcasses.

In 2003, the Board approved Special Action WSA03-11, which closed the antlerless moose season in all of Unit 21D and portions of Unit 24. This was done due to protect the continued viability of the moose population and to parallel an emergency order issued by the State.

In 2004, the Board adopted Proposal WP04-63, which removed the specification that moose could not be taken within one-half mile of the Yukon River during the February season in all of Unit 21D. This was done to provide hunters with additional opportunity, to reduce the burden of determining jurisdictional boundaries on hunters, and to align with State regulations (FWS 2004a).

Also in 2004, the Board adopted Proposal WP04-65 with modification, which established a Dec. 1-Dec. 10 season and modified the to-be-announced winter season to a Mar. 1-Mar. 5 to-be-announced season in all of Unit 21D. Authority to determine whether or not antlerless moose could be taken from Sept. 21-Sept. 25 and Mar. 1-Mar. 5 and to set cow harvest quotas was delegated jointly to the Koyukuk National Wildlife Refuge (NWR) manager and the BLM Central Yukon (formerly Northern) Field Office Manager. A Federal registration permit was required for the Mar. 1-Mar. 5 season and the take of cows with calves was prohibited. This was done based on biological concerns over a declining moose population and to align State and Federal regulations (FWS 2004b).

In 2006, the Board adopted Proposal WP06-34 with modification, establishing an Aug. 22-Aug. 31 moose season in Unit 21D remainder and eliminating the Dec. 1-Dec. 10 moose season. This was done to provide additional harvest opportunity to users early in the season and to align Federal and State regulations.

In 2013, the Board approved Emergency Special Action WSA13-06 with modification, changing the closing date of the fall moose season in Unit 21D from Sept. 25 to Oct. 1, extending the season by 6 days. The modification included requiring the use of a Federal registration permit and clarification that only bulls could be harvested during the extended season. This was done to provide communities impacted by the extensive flooding of the Yukon River additional harvest opportunity.

Current Events Involving the Species

Office of Subsistence Management (OSM) and Koyukuk NWR staff consulted with the Nulato Tribe in Nulato, AK on May 28, 2015. During the consultation, Nulato Tribe members expressed their concern over the current moose season dates, changing environmental conditions, and their intent to submit a special action request.

Office of Subsistence Management and Koyukuk NWR staff consulted with the Nulato Tribe via teleconference on August 17, 2015 to discuss the status of Special Action WSA15-11.

Biological Background

State management goals and objectives for moose in the Koyukuk River Drainage of Unit 21D are as follows (Stout 2012):

- Manage Koyukuk River drainage moose on a sustained yield basis to provide both hunting and other enjoyment of wildlife in a manner that complements the wild and remote character of the area and minimizes disruption of local residents' lifestyles.
- Maintain a moose population of 9,000-10,000.
- Provide for a harvest of moose not to exceed 700 moose or 7% of the annual moose population estimate each regulatory year.
- Provide for moose hunting opportunity not to exceed 950 hunters per regulatory year.
- Reduce meat spoilage by hunters.
- Maintain an overall Meat Assessment Score of less than "3" for $\leq 5\%$ of the hunters each regulatory year.

The FWS and the Alaska Department of Fish and Game (ADF&G) cooperatively conduct annual aerial moose surveys over Koyukuk and Innoko National Wildlife Refuges (NWRs) to assess population and composition trends. Survey data is collected in late fall (October–December) when at least 12" of snow are on the ground (Stout 2010, Bryant and Scotton 2015). However, in some years, this is not possible due to stochastic weather events (Bryant and Scotton 2015).

The survey areas are called trend count areas (TCAs). Two TCAs are located within Unit 21D remainder. The Kaiyuh Slough TCA (126 mi²) is located along the south side of the Yukon River between Nulato and Kaltag (**Map 1**). The Koyukuk River Mouth, Pilot Mountain, and Squirrel Creek combined TCAs (307 mi², hereafter referred to as the 3 combined TCAs) are located between the villages of Galena and Koyukuk on the south side of the Yukon River with a section on the north side of the Yukon at the mouth of Koyukuk River (**Map 2**). The portions north of the Yukon are located within the Koyukuk CUA, which is not part of Unit 21D remainder (Bryant and Scotton 2015).

In some years, the FWS and ADF&G conduct geospatial population estimator (GSPE) surveys to estimate the entire moose population in Unit 21D. The TCAs are contained within the larger GSPE survey areas, and TCA data is used for GSPE surveys (Stout 2015, pers. comm.). In regulatory years 2009/10 and 2011/12 (the most recent estimate available), the moose population estimates for all of Unit 21D were 8,103 moose and 8,611 moose, respectively. Both estimates are below management objectives. The moose population estimates for Unit 21D remainder in 2009/10 and 2011/12 were 4,608 moose and 5,055 moose, respectively (Stout 2010, 2012).

The moose densities in the two TCAs differ substantially. Between 2001 and 2014, the moose density in both survey areas increased slightly, but the density in the 3 combined TCAs has been consistently higher than in the Kaiyuh Slough TCA (**Figure 1**). The moose density in the Kaiyuh Slough TCA increased from an annual average of 1.4 moose/mi² between 2001/02-- 2009/10 to 2.0 moose/mi² in recent years

(2010/11-2014/15). For the same time period, the moose density in the 3 combined TCAs increased from an annual average of 3.5 moose/mi² to 3.9 moose/mi² (**Figure 1**, Bryant and Scotton 2015).

The bull:cow ratios in the two TCAs also differ substantially. Over the past 14 years (2001/02-2014/15), the bull:cow ratios in the Kaiyuh Slough and 3 combined TCAs exhibited slightly decreasing trends, but have remained consistently high and low, respectively (**Figure 2**, Bryant and Scotton 2015). The bull:cow ratio in the Kaiyuh Slough TCA decreased from an annual average of 56 bulls:100 cows between 2001/02 and 2009/10 to 50 bulls:100 cows in recent years (2010/11-2014/15). For the same time period, the bull:cow ratio in the 3 combined TCAs decreased from an annual average of 27 bulls:100 cows to 23 bulls:100 cows (Bryant and Scotton 2015).

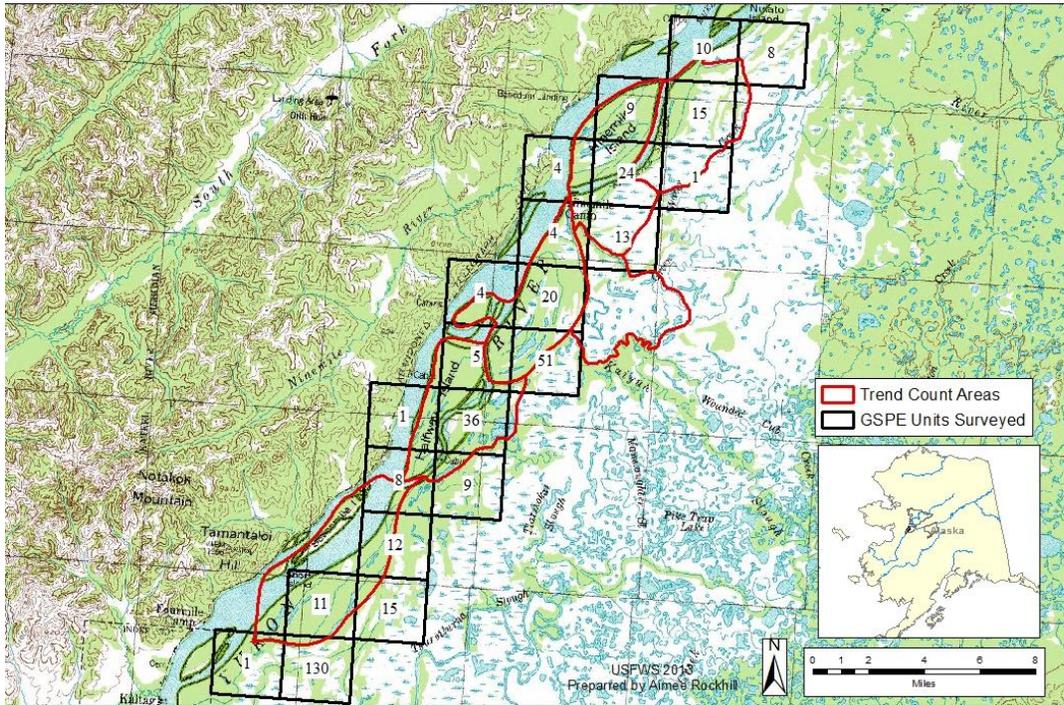
Stout (2010) cites bull:cow ratios of 15 bulls:100 cows as sufficient for breeding and ratios of 30-40 bulls:100 cows as sufficient for increased harvest opportunity and trophy hunting. However, Franzmann and Schwartz (2007) state that no data clearly indicates a “threshold bull:cow ratio” at which point pregnancy rates of females are significantly decreased. Franzmann and Schwartz (2007) additionally state that low density moose populations may require higher bull:cow ratios than high density populations to ensure adequate reproduction. The Koyukuk River Moose Management Plan suggests managing for ratios of 30 bulls:100 cows in high density populations and 30-40 bulls:100 cows in low density populations (ADF&G 2001).

From 2001/02-2014/15, the calf:cow ratios in the Kaiyuh Slough TCA exhibited an overall increasing trend while the calf:cow ratio in the 3 combined TCAs exhibited a stable trend (**Figure 3**). The calf:cow ratio in the Kaiyuh Slough TCA increased from an annual average of 29 calves:100 cows between 2001/02 and 2009/10 to an average of 53 calves:100 cows in recent years (2010/11-2014/15) (Bryant and Scotton 2015). Over the same time period, the average calf:cow ratios in the 3 combined TCAs has remained 34 calves:100 cows (Bryant and Scotton 2015). Calf:cow ratios can vary widely from year to year (**Figure 3**, Franzmann and Schwartz 2007). However, calf:cow ratios of < 20 calves:100 cows, 20-40 calves:100 cows, and > 40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010, ADF&G 2001).

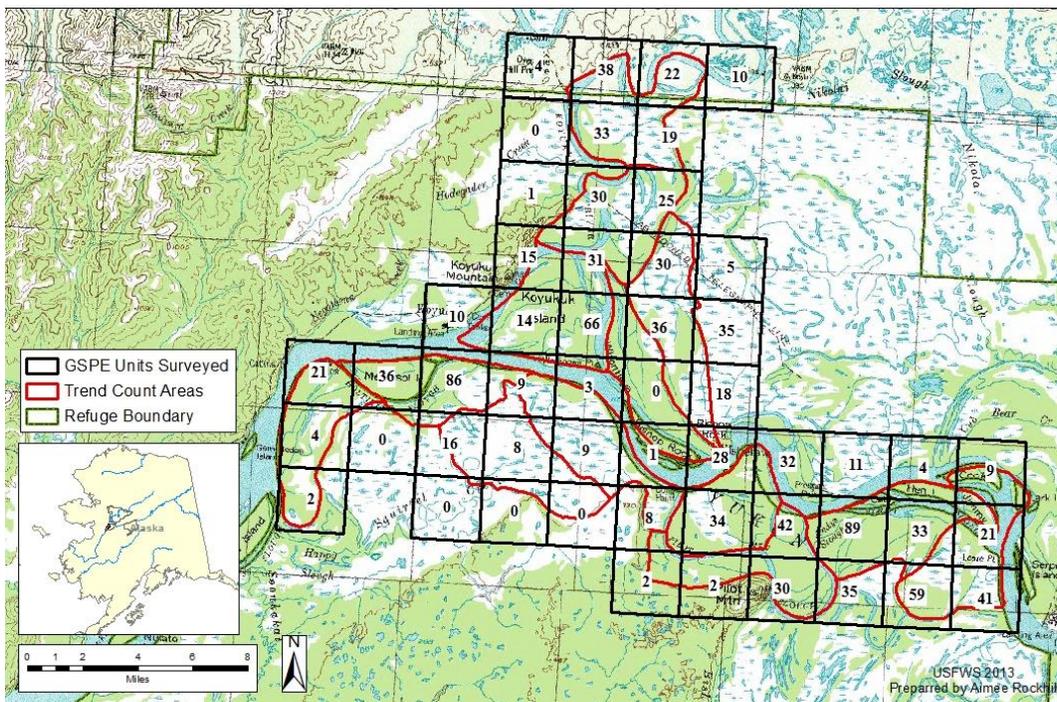
Moose twinning rates are an indicator of nutritional status (Stout 2012, Boertje et al. 2007). The twinning rates in both TCAs areas fluctuated widely, but displayed opposite trends over the past 14 years (2001/02 and 2014/15). The twinning rate in the Kaiyuh Slough TCA increased from an average of 9 twins:100 cows between 2001/02 and 2009/10 to an average of 16 twins:100 cows in recent years (2010/11-2014/15) (**Figure 4**, Bryant and Scotton 2015). Over the same time period, the twin:cow ratio in the 3 combined TCAs decreased from an average of 18 twins:100 cows to 8 twins:100 cows in recent years (**Figure 4**, Bryant and Scotton 2015).

In summary, the status of the moose population in Unit 21D remainder varies by location. The moose population in the Kaiyuh Slough TCA is low density with a high bull:cow ratio. The moose population in the 3 combined TCAs is high density with a low bull:cow ratio. The calf:cow ratio in both TCAs has fluctuated annually, although the moose population in the Kaiyuh Slough TCA may be increasing while the

population in the 3 combined TCAs appears stable. Based on twinning rates, the nutritional status of the moose population in the 3 combined TCAs appears to be lower than in the Kaiyuh Slough TCA, suggesting habitat may be limiting in the 3 combined TCAs.



Map 1. Kaiyuh Slough Trend Count Area (TCA, Bryant and Scotton 2015).



Map 2. Koyukuk Mouth, Pilot Mountain, and Squirrel Creek Trend Count Areas (TCAs) Combined. (Bryant and Scotton 2015).

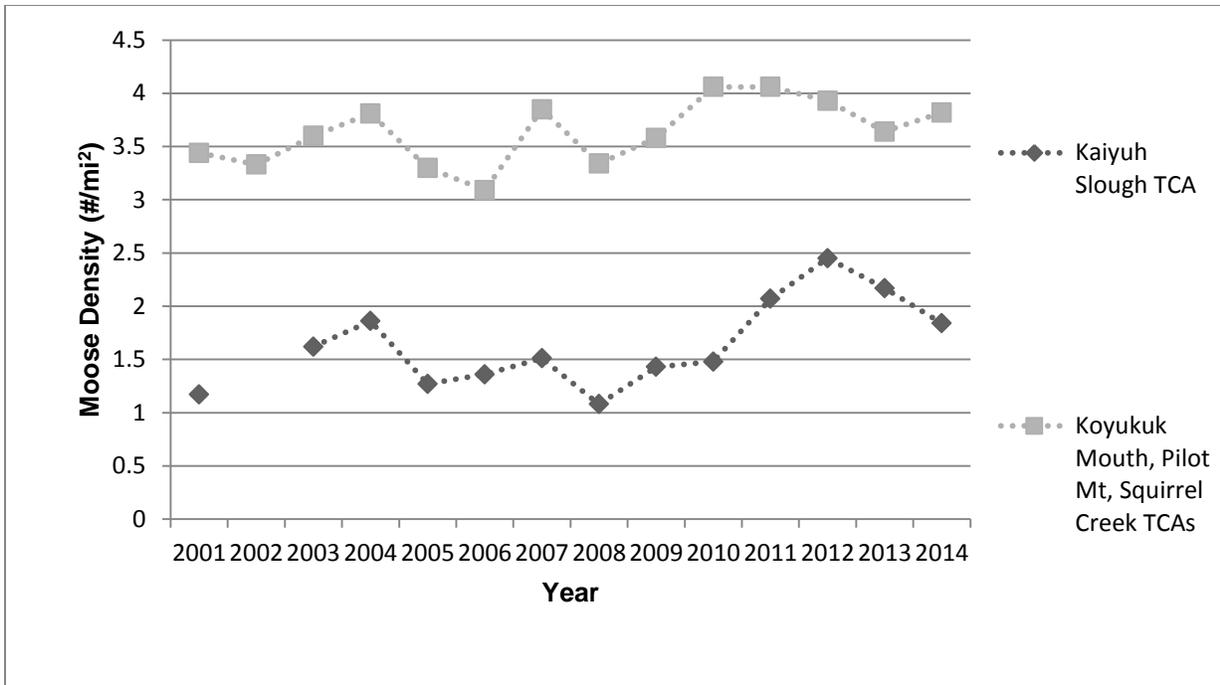


Figure 1. Moose density (Bryant and Scotton 2015).

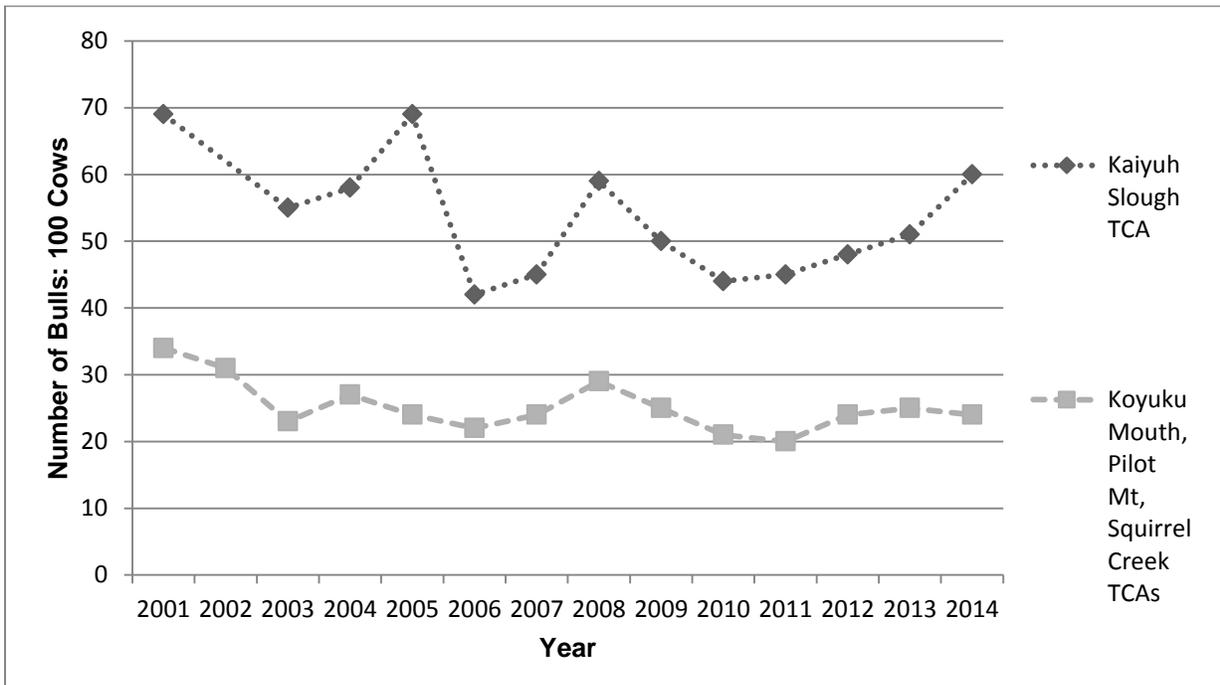


Figure 2. Bull:cow ratios (Bryant and Scotton 2015).

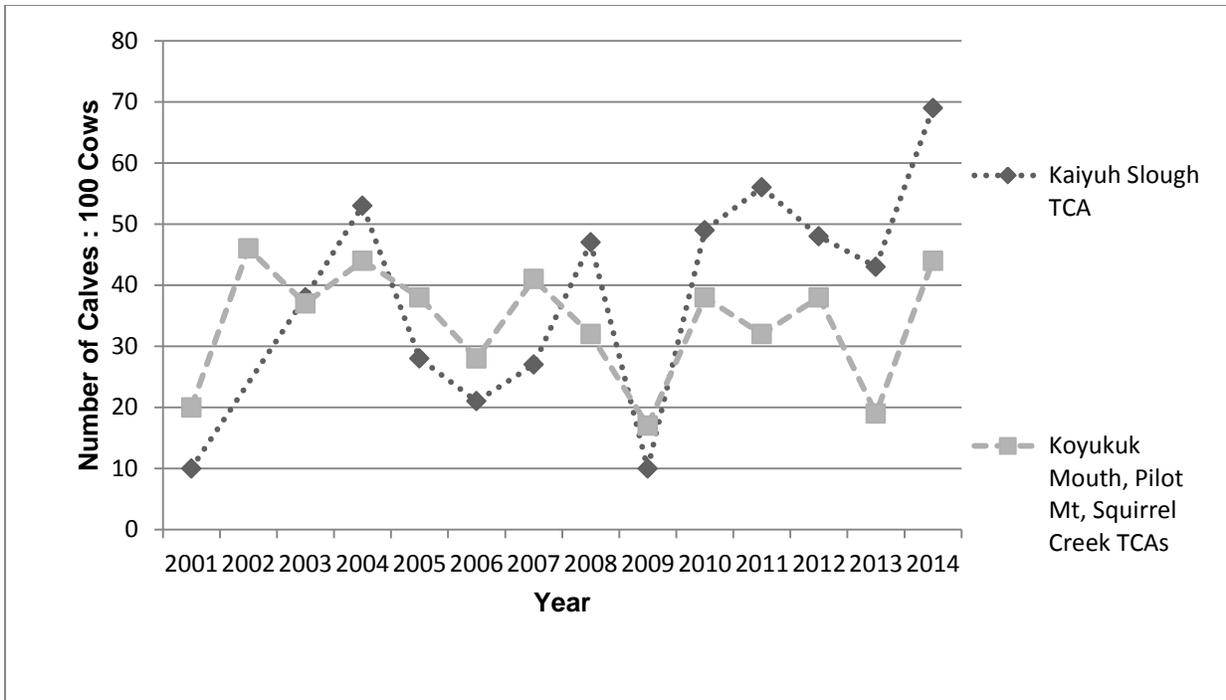


Figure 3. Calf:cow ratios (Bryant and Scotton 2015).

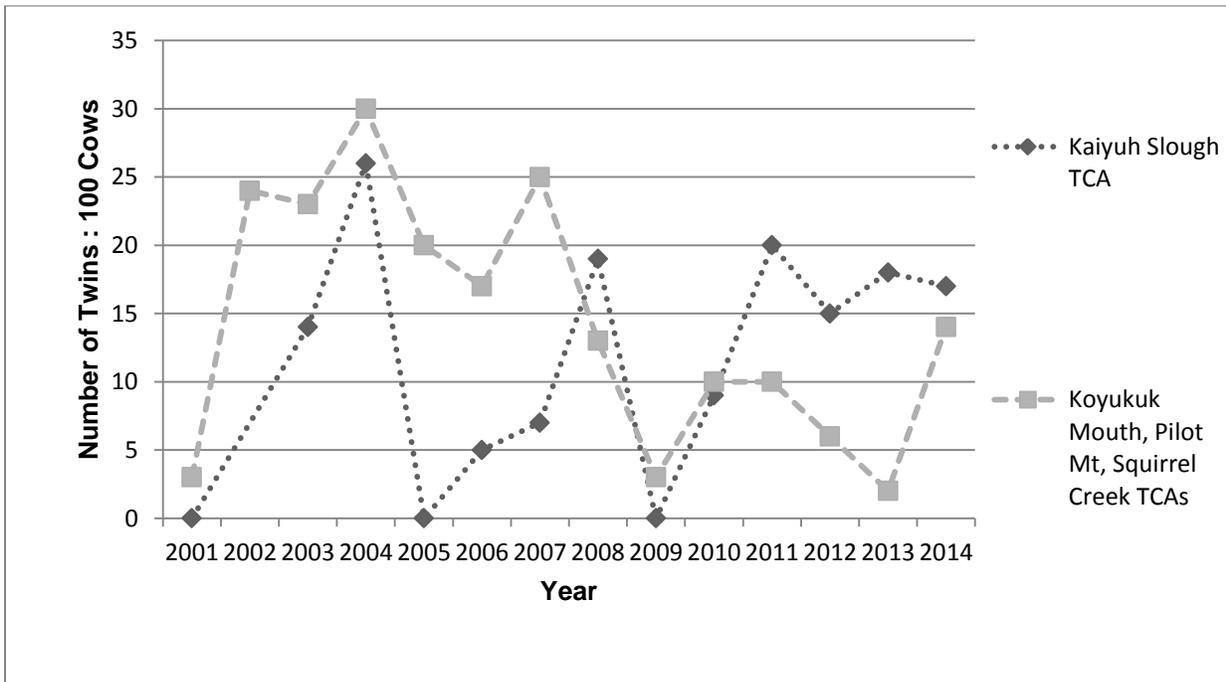


Figure 4. Twin:cow ratios (Bryant and Scotton 2015).

Harvest History

Between 1995/96 and 2014/15, total reported moose harvest in all of Unit 21D (Unit 21D remainder and the Koyukuk CUA) ranged from 205-466 moose/year, averaging 309 moose/year (**Figure 5**, Stout 2010, ADF&G 2015). Between 1995/96 and 2013/14, total estimated harvest ranged from 378-619 moose/year, averaging 458 moose/year (**Figure 5**). Total estimated harvest includes reported, unreported, and ceremonial moose harvest. Ceremonial harvest accounted for 1-25 of the total moose harvest/year, averaging 11 moose/year (**Figure 5**, Stout 2012, 2014).

Total estimated moose harvest was likely within State management objectives for all years. Estimated harvest has never exceeded 700 moose, but it is difficult to determine whether or not > 7% of the total moose population in Unit 21D was harvested annually as population estimates are not available for every year. In 2009 and 2011, an estimated 5% of the moose population was harvested (408 moose harvested out of an estimated population of 8,103 in 2009, Stout 2010; 419 moose harvested out of an estimated population of 8,611 in 2011, Stout 2012), which is well within the State's management objectives.

The total number of hunters in all of Unit 21D has been within management objectives in all years (**Figure 6**, Stout 2012, 2014). Beginning in 2004/05, Unit 21D was divided into 2 hunt areas: the Koyukuk CUA and Unit 21D remainder. Between 2004/05 and 2014/15, reported moose harvest in Unit 21D remainder averaged 44% of the total reported moose harvest for all of Unit 21D. During the same time period, local residents harvested the majority of the moose in Unit 21D remainder (**Figure 7**). Harvest by local residents has been relatively stable over the past 9 years (2006/07-2014/15). Residents of Galena have consistently harvested more moose in Unit 21D remainder than any other community, followed by Nulato. (**Figure 7**, ADF&G 2015).

Between 2000/01 and 2013/14, the majority of the reported moose harvest in all of Unit 21D occurred in September, with most moose being harvested during the last 10 days of the fall season (**Figure 8**). During the same time period, only 1-10% of the moose harvested from Unit 21D were taken in August (**Figure 8**). However, this does not include unreported harvest, which primarily occurs from October-March (Stout 2012, 2014).

Most moose hunters access Unit 21D by boat along the Yukon and Koyukuk rivers. Between 1992/93 and 2013/14, boats accounted for 81-92% of the transport method used by successful hunters. Airplanes, snowmachines, highway vehicles, and ATV's accounted for the remaining percentage (Stout 2012, 2014).

Since 2002/03, the ADF&G has conducted meat evaluation surveys of users hunting in the Koyukuk CUA at the Koyukuk River checkstation. Hunters subjectively rank the quality of their meat on a scale of 1-5, with a score of 1 being the lowest. Overall average scores have always been > 4 and since 2004/05, the percentage of hunters with scores < 3 has been well within management objectives (**Table 1**, Stout 2014).

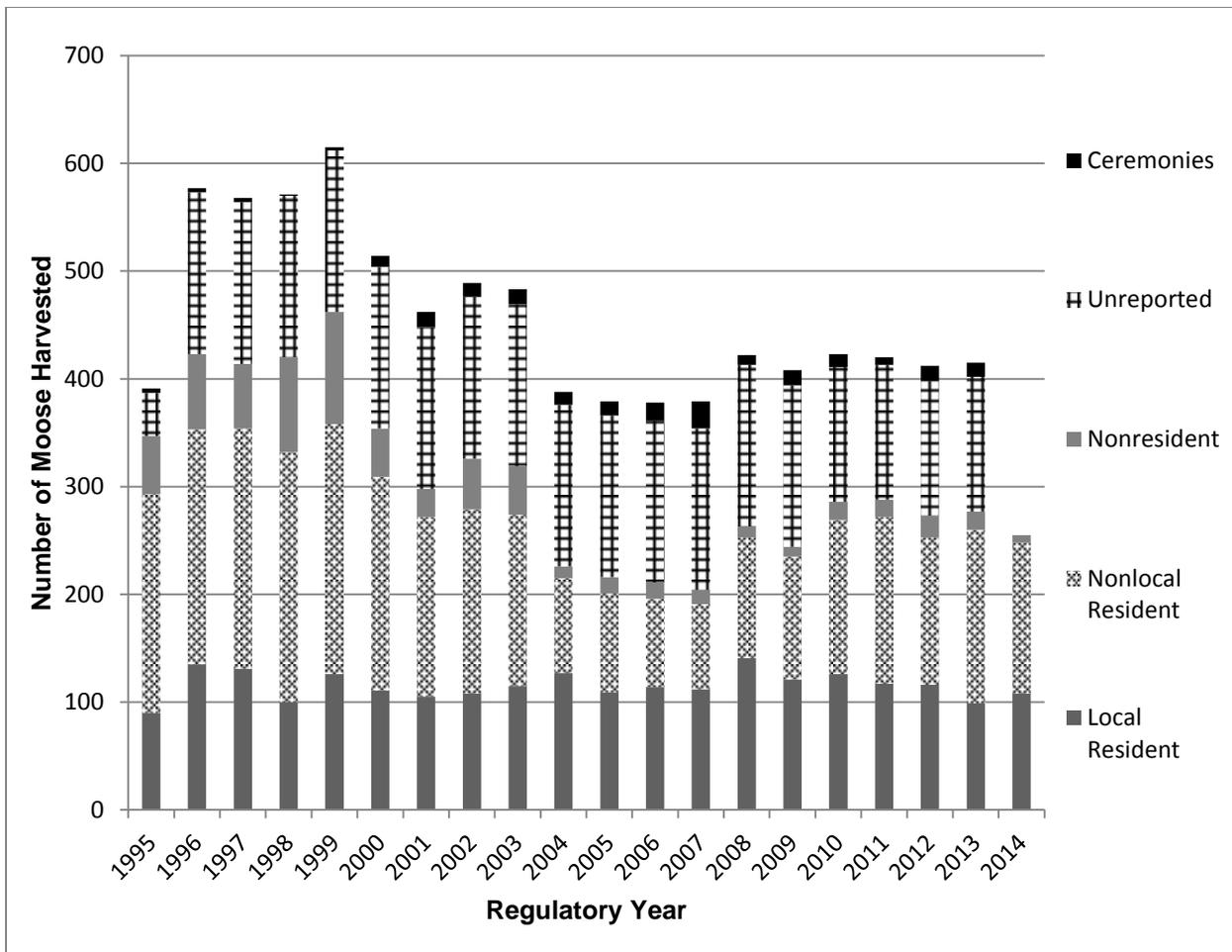


Figure 5. Total estimated moose harvest in all of Unit 21D. Data from 1995/96-2013/14 is from Stout 2012, 2014. Data from 2014/15 is from ADF&G 2015. Notes: 0-4 moose/year were reported harvested by hunters of unknown residency, which are not included in this figure. Unreported harvest estimates are based on ADF&G- Subsistence Division’s Household survey and other sources. Ceremonial harvest includes all Potlatch, Stickdance, Ceremonial, and Cultural permit harvest.

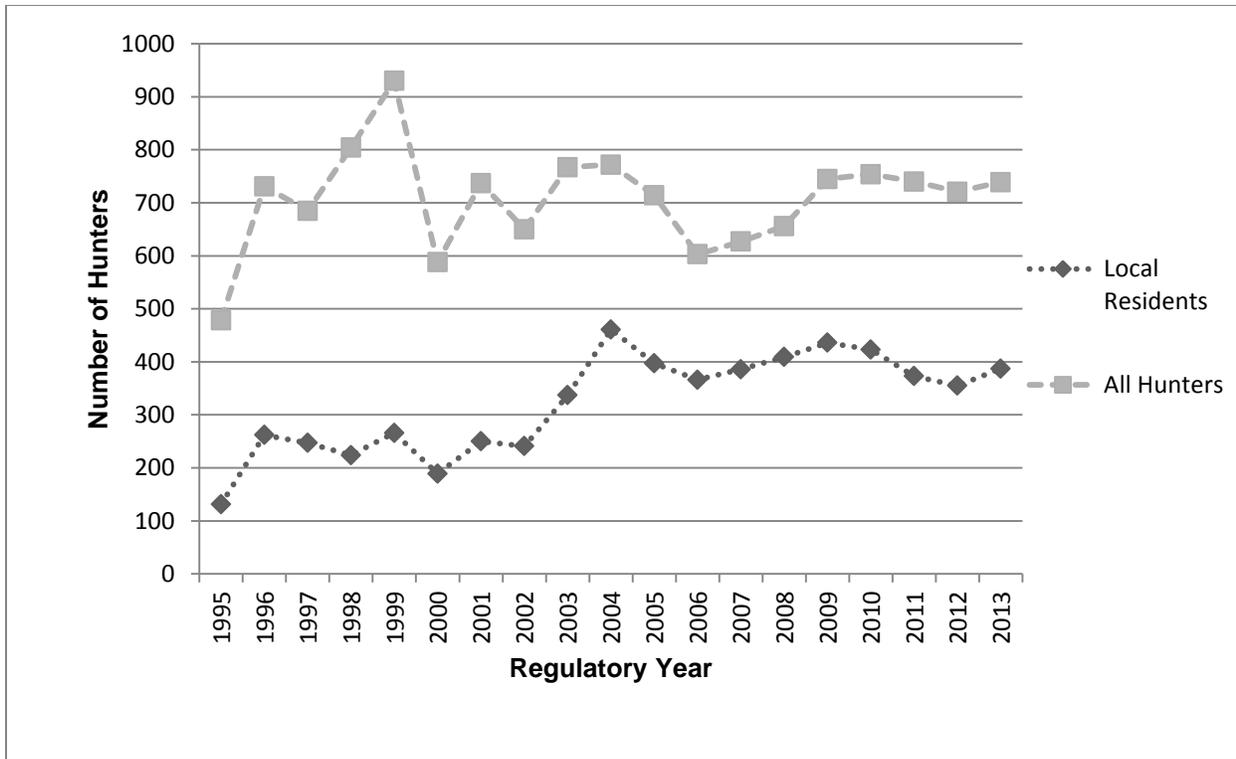


Figure 6. Total number of moose hunters in Unit 21D (Stout 2012, 2014).

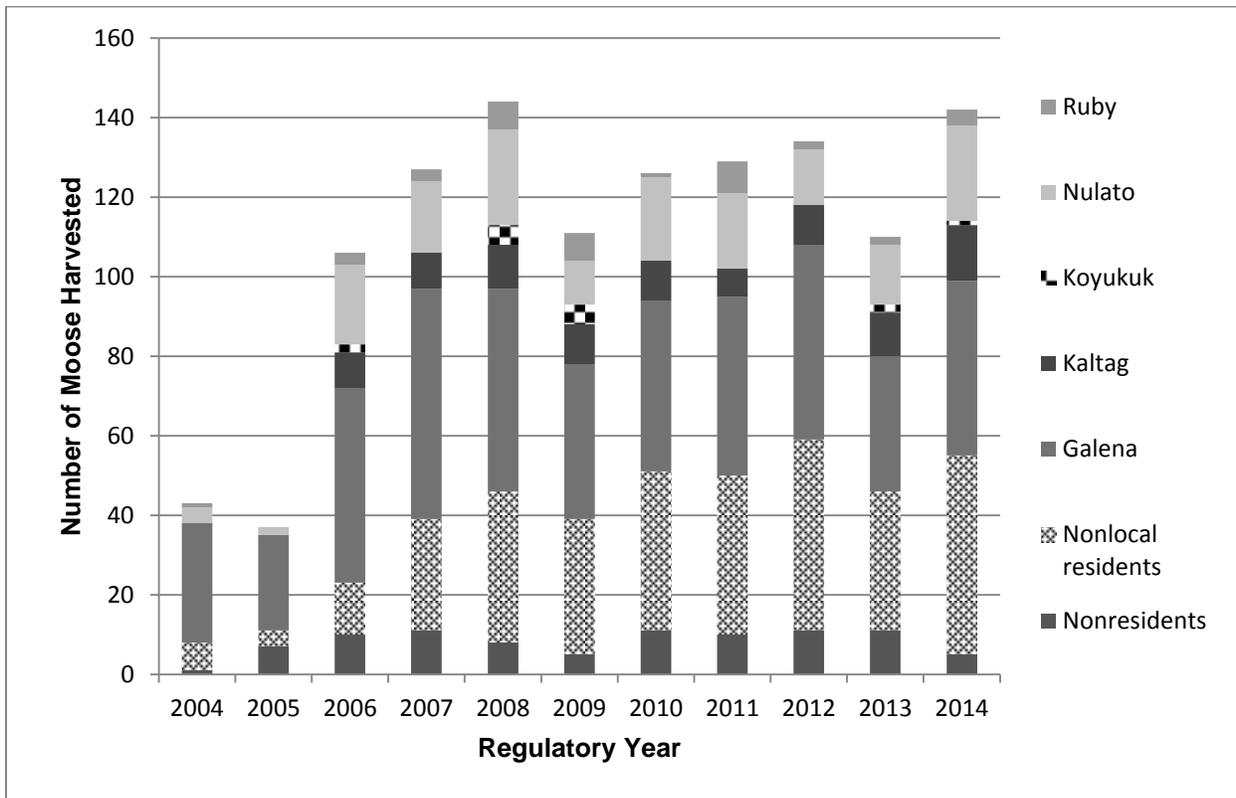


Figure 7. Total reported moose harvest in Unit 21D remainder (ADF&G 2015). Note: Huslia harvested 2 moose total between 2004/05 and 2014/15, which are not included in this figure.

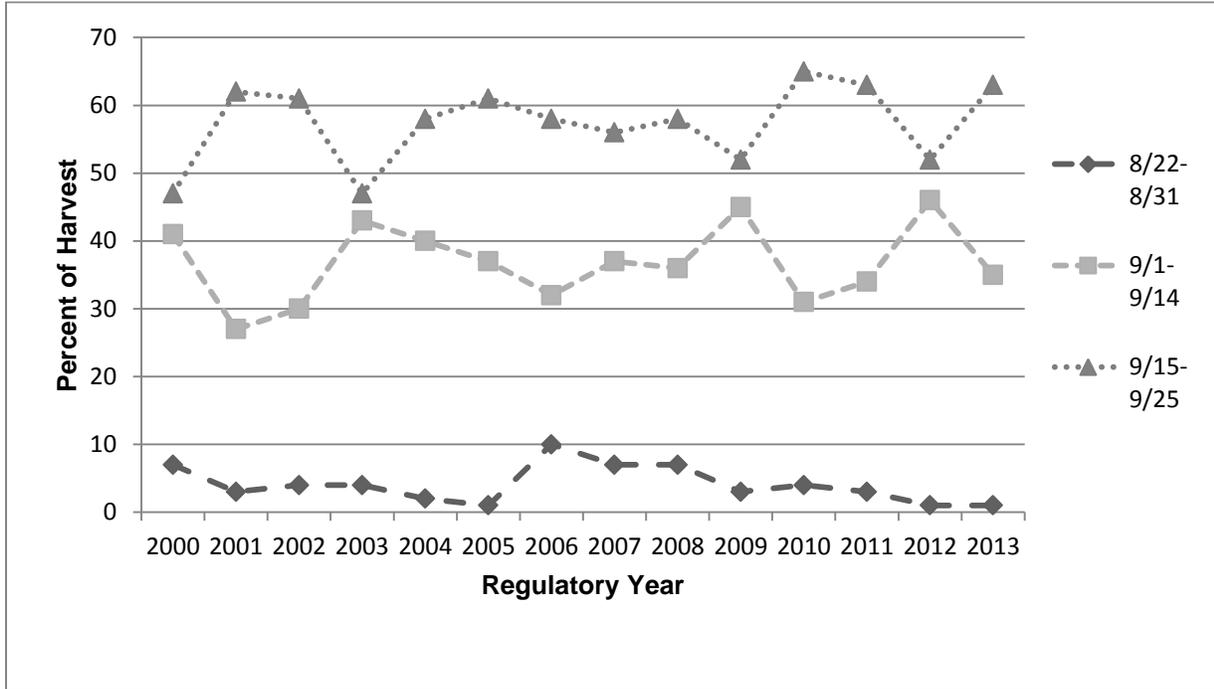


Figure 8. Chronology of moose harvest in all of Unit 21D by month/day (Stout 2012, 2014). Note: From 2000-2003, 5-8% of the moose were harvested during a winter season running 2/1-2/10.

Table 1. Overall scores for meat evaluation at Koyukuk River checkstation, regulatory years 2002/03-2013/14 (Stout 2012).

Regulatory Year	Avg. overall score ^a	% Hunters scoring < 3	Sample size (n)
2002/03	4.3	4.4	184
2003/04	4.2	4.5	199
2004/05	4.6	1.1	96
2005/06	4.8	0	95
2006/07	4.8	0	90
2007/08	4.6	0	84
2008/09	4.9	0	118
2009/10	4.8	0.7	140
2010/11	4.7	2	148
2011/12	4.7	0	158
2012/13	4.7	0.7	140
2013/14	4.9	0	164

^a Subjective ranking scale of 1-5, with a score of 1 being lowest.

Other Alternatives Considered

One alternative considered was to retain the August season. Federally qualified subsistence users as well as all State residents are able to hunt during this season under State regulations, so eliminating the Federal August season seems unnecessarily restrictive for Federally qualified subsistence users. However, the proponent requested that the August season be eliminated and additional days in September be added to the fall moose season, claiming that hunting conditions are better in September than in August. The longer season in September gives Federally qualified subsistence users increased hunting opportunity over other users. Due to these reasons, this alternative was not considered further.

Another alternative considered was to change the dates that an antlerless moose season could be authorized by the in-season Federal manager from Sept. 21-Sept. 25 to Sept. 26-Sept. 30. This modification would reduce regulatory complexity by aligning the closing date of the may-be-announced antlerless moose season with the closing date of the Federal subsistence moose season. However, any changes to delegated authority must go through the entire review process during the regulatory cycle as a proposal. Due to this reason, this alternative was not considered further.

Effects of the Special Action

If this special action request (request) is approved, the fall moose season dates in Unit 21D remainder would be shifted from Aug. 22-Aug. 31 and Sept. 5-Sept. 25 to a continuous season running from Sept. 1-Sept. 30. The continuous season would provide Federally qualified subsistence users improved hunting opportunity due to better hunting conditions in September, but it would not increase the total number days in the Federal season.

Approval of this request would create a misalignment of Federal and State seasons, resulting in increased regulatory complexity for users and law enforcement. If approved, this request would eliminate the 2015 Federal August season. However, users could still hunt during this time period under State regulations. Therefore, elimination of the Federal August season would not have any impact on Federally qualified subsistence users. However, Federally qualified subsistence users would still need to carry a State registration permit while hunting on Federal public lands during the State's August season and for the Sept. 5-Sept. 25 portion of the Federal season.

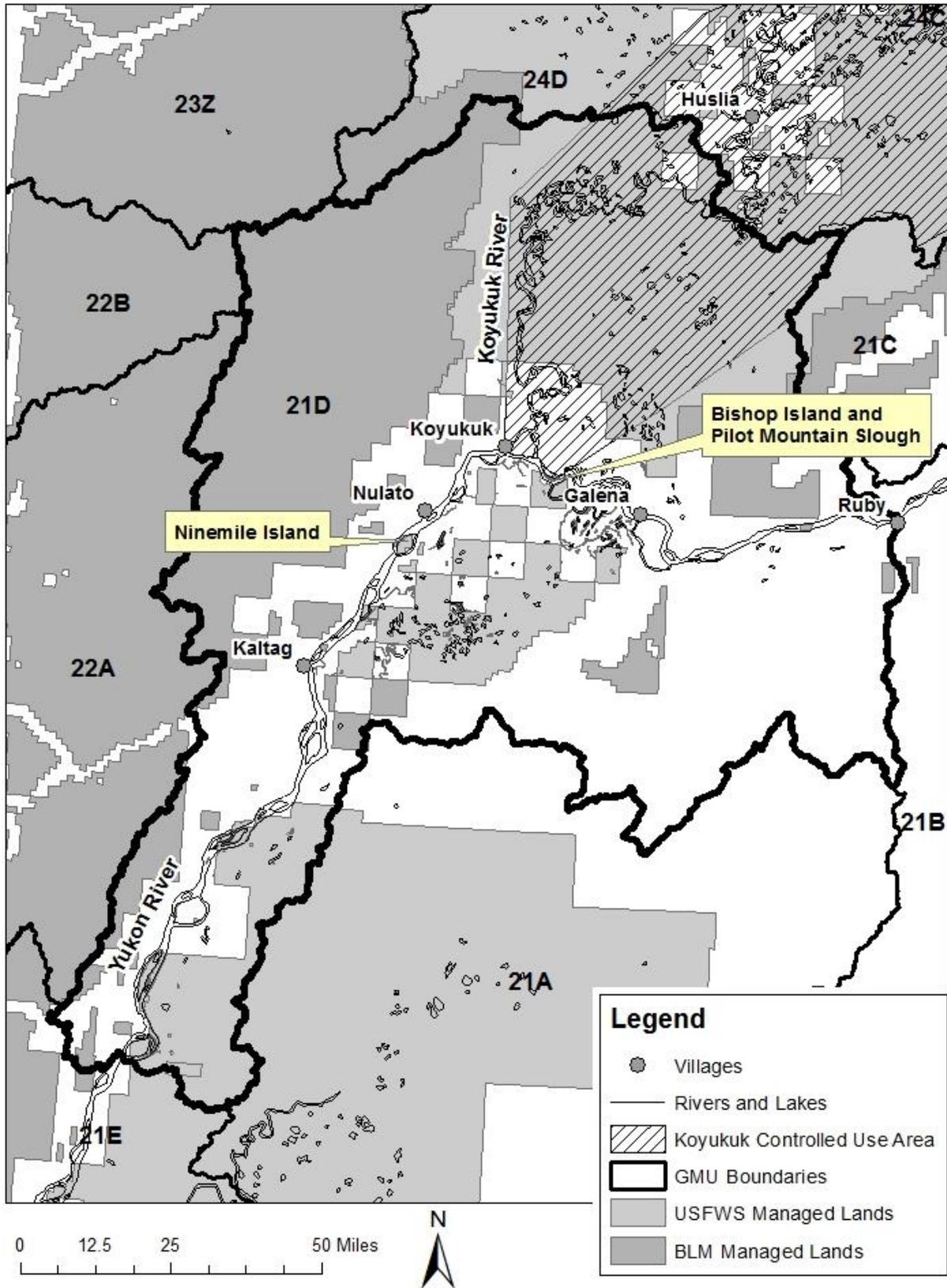
If this request is approved, Federally qualified subsistence users would need to distinguish between Federal and non-Federal lands during the portions of Federal season that are misaligned with the State season (i.e. Sept. 1-Sept. 4 and Sept. 26-Sept. 30). The land ownership in Unit 21D remainder is a checkerboard of Federal and non-Federal lands, especially along the Yukon River (see Unit 21 Map). Only approximately 11% of the easily accessible area along the Yukon River (includes water, islands, and land within one half mile of the bank) is Federal public land. As the vast majority of users access the area by boat along the Yukon River, hunting pressure is expected to be concentrated in a few areas, including Bishop Rock Island, Pilot Mountain Slough, and Ninemile Island (**map 3**).

If this request is approved, total moose harvest is expected to increase, but not above State management objectives. The vast majority of moose are harvested in September when conditions such as temperature, water levels, moose movements, and visibility are more favorable for hunting. Additionally, Federally qualified subsistence users passing through Unit 21D remainder on their way home from hunting in the Koyukuk CUA may utilize the portion of the Federal season (Sept. 26-Sept. 30) that is misaligned with the State season in Unit 21D remainder and the Federal season in the Koyukuk CUA, further increasing hunting pressure on the easily accessible Federal public lands in Unit 21D remainder (Moos 2015, pers. comm.).

If this request is approved, the moose population in Unit 21D remainder may be negatively affected, although specific impacts are expected to vary based on location and access to Federal public lands. The Kaiyuh Slough area has a very high bull:cow ratio, but is low density. Therefore, even small increases in harvest could quickly reduce the bull:cow ratio as well as the overall abundance of moose in this area. The area around the confluence of the Koyukuk and Yukon rivers (3 combined TCAs) is high density, but has a low bull:cow ratio. Additional harvest in this area could further depress the bull:cow ratio.

Approval of this request could also affect moose breeding. Over a 12 year period, Ballenberghe and Miquelle (1993) found moose in Interior Alaska copulate between September 24 and October 7. If this request is approved, Federally qualified subsistence users would have additional opportunity to hunt during the breeding season, which could disrupt mating moose and delay impregnations.

If this request is approved, the Federal moose season would be moved later into the fall when weather is normally cooler. As a result, the likelihood of meat spoilage is expected to be reduced. However, due to the high meat evaluation scores from the Koyukuk CUA (**Table 1**), meat spoilage has likely been very low in Unit 21D remainder as well.



Map 3. Federal public lands in Unit 21D remainder.

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- ADF&G. 2001. Koyukuk river moose management plan, 2000-2005. Unit 24 and the northern portion of Unit 21D. Alaska Department of Fish and Game. Division of Wildlife Conservation. Fairbanks, AK.
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INTERAGENCY STAFF COMMITTEE RECOMMENDATION
WSA15-11

The Interagency Staff Committee (ISC) did not reach consensus on its recommendation for WSA15-11.

A majority of the ISC recommend **deferring** special action request WSA15-11 until the next regulatory cycle.

Justification

The issues addressed in WSA15-11 would be better dealt with through proposals to the Federal Subsistence Board and the Alaska Board of Game, where there can be broader participation and input by Federally qualified subsistence users from the other affected communities that have not had an opportunity to provide input on the special action request. Approval of this special action would make the complex patchwork of State and Federal hunting seasons in the area even more complicated for users, as well as law enforcement. In addition, there are conservation concerns that additional harvest pressure could adversely impact the moose populations in Unit 21D remainder.

While the effects of climate change have real impacts on Federally qualified subsistence hunters, the annual fluctuations of weather conditions are largely unpredictable. Thus, there does not appear to be a time-sensitive circumstance, as described in §____.19(c). The request does not seem necessary to ensure the continued viability of the wildlife population or address a public safety reason. In addition, it does not seem necessary to continue subsistence uses of wildlife, as the reported harvest has not been impacted. The issue is described as a trend in weather patterns, not a response to a specific event, and users from Nulato seem to be adapting to the changes (e.g., transporting meat home sooner during the early season to keep it from spoiling).

Approval of the special action would add regulatory complexity for users and law enforcement in the hunt area, as follows:

- Aug. 22-31: the hunt area would be open to everyone with a State registration permit;
- Sept. 1-4: only Federal public lands would be open to those with a Federal registration permit;
- Sept. 5-25: the hunt area would open to everyone with a State registration or drawing permit;
- Sept. 26-30: only Federal public lands would be open to those with a Federal registration permit.

In addition to the alternating lands open to hunting and permit requirements, Federally qualified subsistence users would also have to identify those limited Federal public lands during the Federal-only seasons. During the Federal-only season, harvest pressure would be concentrated on the limited Federal lands and it is difficult to predict the effect of the focused harvest; however, the Federal public lands of the hunt area are accessible to communities with customary and traditional use determinations.

While the request is to shift the Federal season dates while keeping the same number of hunting days, the effect would be to add 9 days of harvest opportunity because of existing State seasons. If approved, moose hunting would occur continuously on portions of the hunt area from Aug. 22 - Sept. 30 rather than the current split fall season. The two survey areas in Unit 21D remainder are associated with moose

populations at different densities; however, both populations could be negatively affected by increased harvest resulting from the longer season. While the Kaiyuh Flats area has a high bull:cow ratio, the abundance and density of moose are low. The other section (Combined TCA in the analysis), which covers portions of the Koyukuk CUA and remainder sections, is at high moose density but has a low bull:cow ratio.

A minority of the ISC recommends **supporting** WSA15-11.

Justification

Through their three tribal consultations held over a number of months, the Nulato Tribe has voiced their concerns about meeting their 2015 subsistence moose harvesting needs. As their issues were not fully addressed during or after these tribal consultation sessions, the Tribe has had to submit their request to change the Federal subsistence moose hunting season for this area.

We concur with the Nulato Tribe that the existing season dates are problematic for meeting their subsistence needs. We base our recommendation on the following local knowledge and observations that the Tribe has provided (which are included in the OSM analysis):

"... due to changes in weather patterns, moose are moving later in the season, the risk of meat spoilage is increasing, and vegetation is staying greener later in the year, reducing visibility. Additionally, gas prices are high and it is not economical to hunt early in the season when bulls are not moving. Access is also a problem early in the season due to low water. The [Nulato Tribe] states that the water rises later in the season improving access to hunt areas, specifically the Kaiyuh Flats."

It is important to note that the Nulato Tribe has not asked for extra days to conduct their Federal subsistence moose harvesting, but rather that the season start be delayed so that they are better able to travel to these hunting areas (in a cost efficient manner), hunt when moose are moving into accessible areas, and ensure that their meat could be handled under more optimal preservation conditions.

While a majority of the ISC disagrees, we feel that this request does meet the Federal Subsistence Program's special action criteria. Local residents have been monitoring the area's environmental conditions throughout the 2015 year (as well as during the previous, recent seasons), and they thus base their concerns about warmer temperatures, potential for meat spoilage, delay in moose movements and vegetation changes, and inability to meet their 2015 moose harvest needs, on actual, direct observations within/adjacent to the actual hunt area. Both ANILCA, section 801(1) and 50 CFR 100.19(a) ensure the opportunity of Federally qualified subsistence users to meet their subsistence needs.

With regards to the concerns about land ownership and potential for hunter confusion/enforcement issues, the Nulato Tribe has indicated that they are well aware of the different land boundaries in their local areas.

If this special action is approved, a modification to require the use of a Federal registration permit would enable the in-season manager to monitor the number of hunters and moose taken — and to close the season, if doing so would be necessary to minimize conservation concerns. We would also recommend that the manager(s) work closely with the Nulato Tribe, to ensure that prospective subsistence hunters do know about land ownership boundaries, to monitor their harvests, and also to promptly notify them if the hunt needs to be terminated earlier than scheduled.

To submit a Special Action request, please provide the following information:

Name/Group:

Nulato Tribal Council

P.O. Box 65049 Nulato, AK 99765 (907) 898-2339 nulatotribe@hotmail.com

Describe the action you are requesting. Reference the current regulations you wish to change.

Unit 21D—Koyukuk Controlled Use Area—1 bull; 1 antlerless moose by Federal registration permit (FM 2106) if authorized by announcement by the Koyukuk/Nowitna NWR manager. Harvest of cow moose accompanied by calves is prohibited. A harvestable surplus of cows will be determined for a quota.

Sept. 1 - Sept. 25

Mar. 1 - Mar. 5 season to be announced

Or

1 antlered bull by Federal registration permit (FM 2106) if there is no Mar. 1 - 5 season and if authorized by announcement by the Koyukuk/Nowitna NWR manager and BLM Central Yukon field office manager. A harvestable surplus of bulls will be determined for a quota. Announcement for the Mar. and Apr. seasons and harvest quotas will be made after consultation with the ADF&G area biologist and the Chairs of the Western Interior Alaska Regional Advisory Council and Middle Yukon and Koyukuk River Fish and Game Advisory Committees.

Apr. 10 - Apr. 15 season to be announced

Unit 21D remainder—1 moose; however, antlerless moose may be taken only during Sept. 21 - 25 and the Mar. 1 - 5 season, if authorized jointly by the Koyukuk/Nowitna National Wildlife Refuge Manager and the BLM Central Yukon Field Office Manager. Harvest of cow moose accompanied by calves is prohibited. During the Aug. 22 - Aug. 31 and Sept. 5 - Sept. 25 seasons, a State registration permit is required. During the Mar. 1 - 5 season, a Federal registration permit (FM 2107) is required. Announcement for the antlerless moose seasons and cow quotas will be made after consultation

~~Aug. 22 - Aug. 31~~

Sept. 15 - Sept. 30 ~~25~~

Mar. 1 - Mar. 5 season to be announced

with the ADF&G Area Biologist and the Chairs of the Western Interior Alaska Subsistence Regional Advisory Council and Middle Yukon Fish and Game Advisory Committees.

Have there been unusual or significant changes in resource abundance or unusual conditions affecting harvest opportunities that could not reasonably have been anticipated and that potentially could have significant adverse effects on the health of fish and wildlife populations or subsistence users?

Weather patterns in this area have changed, producing warmer fall seasons and resulting in lack of moose movement earlier in the season, and greater potential for meat spoilage. Further, later green vegetation presence hinders visibility for hunting. Shifting the season dates to respond to those changing weather patterns would better accommodate harvest opportunity and quality of harvest for residents in this area without adding days to the existing season, only shifting dates.

Is the requested action needed for reasons of public safety or administration? no

What are the extenuating circumstances that necessitate a regulatory change before the next regulatory review?

1. Gas prices are really expensive, we waste gas going out hunting during the early hunt when the bulls are not moving and we see only cows.
2. Weather patterns are a huge factor during the early hunt season, the bulls are not running during this time due to major climate changes. Even if we get a bull during the early hunt, the weather is still too warm. We have to butcher the moose, transport it home ASAP, process it before the meat spoils and/or blue flies lay their eggs on the meat. They all remember a time when they would be able to get a moose, hang it in camp for a few days and continue to camp out, no need to rush it home before meat spoilage and/or blue flies infestation.
3. Low water is a concern during the early hunting season, we do not have as much access to areas where we usually hunt. The water raises later in the hunting season and people could then access hunting grounds, specifically the Kaiyuh Flats.