

Western Interior Alaska Subsistence Regional Advisory Council

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APRIL 11 2025

Anthony Christianson, Chair
Federal Subsistence Board
c/o Office of Subsistence Management
1011 E. Tudor Road, MS 121
Anchorage, Alaska 99503-6199

Dear Chairman Christianson:

The Western Interior Alaska Subsistence Regional Advisory Council (Council) appreciates the opportunity to submit its FY-2024 annual report to the Federal Subsistence Board (Board) under the provisions of Section 805(a)(3)(D) of the Alaska National Interest Lands Conservation Act (ANILCA). At its public meetings held on October 2-3, 2024, the Council identified concerns and recommendations for this report. The Council approved this annual report at its February 25-26, 2025, meeting. The Council wishes to share information and raise a number of concerns dealing with implementation of Title VIII of ANILCA and the continuation of subsistence uses in the Western Interior Region.

1. Subsistence Users Continue to Bear the Brunt of Salmon Conservation in the Yukon and Kuskokwim Drainages

The Council grows increasingly frustrated with Federally and State managed commercial fisheries impacting Federally Qualified Subsistence Users (FQSU) ability meet subsistence needs. Specifically, the North Pacific Fisheries Management Council's (NPFMC) management and regulation of commercial fishing operations during the Bering Sea and Aleutian Island (BSAI) pollock trawl fishery, and the Alaska Department of Fish and Game (ADF&G) and the Board of Fisheries (BOF) management and regulation of commercial fishing operations in the South Alaska Peninsula (Area M) commercial salmon fishery.

In 2024, returns of Chinook and Chum salmon in the Yukon River were yet again catastrophically low, resulting in virtually no subsistence salmon harvest opportunities. The salmon returns on the Kuskokwim River were slightly better but did not allow for subsistence needs to be fully met for either of these species. Yet commercial salmon fishing continued to occur in the marine environment, where salmon bound for the Arctic, Yukon, and Kuskokwim drainages (AYK) were caught and discarded as bycatch in the BSAI fishery, or incidentally caught and subsequently sold in Area M fisheries. While salmon stocks continue to fail to meet

escapement goals in most of the AYK, much less meet FQSU subsistence needs, or meet international treaty obligations in the case of the Yukon River.

The regulation changes to the BSAI fishery the NPFMC initiated to reduce the number of salmon caught and subsequently discarded as bycatch is not a good faith effort, and by no means is a balance of conservation between the BSAI trawl fleet and FQSU. The NPFMC needs to take significant action that will provide actual protection to salmon stocks to allow these stocks to begin rebuilding. This includes modifications to trawl timing, gear modifications, and enforcing the fleet's requirement to not let trawl gear operate on the ocean floor.

The regulation changes that the BOF enacted during their March 2023 meeting to reduce the impact of marine interception of AYK stocks is also not a good faith effort and is also not a balance of conservation between the State managed commercial fishing fleet in Area M and FQSU. The BOF discussion of a very publicly supported regulatory proposal to reduce the amount of time commercial fishermen had to fish during times of known higher AYK bound salmon in this mixed stock fishery was concerning, as the BOF commented that the fleet had started to 'police themselves' and should be allowed to continue to do so without the BOF enacting additional regulations. During the 2023 commercial fishing season in Area M, nine citations were issued to captains and crew members who were observed discarding non-targeted salmon species to circumvent the non-target salmon cap, and in the 2024 season, the number of citations issued "*surged*" * with "*most [citations] written to fishermen harvesting in closed waters or during a closed period*" *. Yet these are the fishermen who are volunteering to limit when they fish to allow passage of AYK bound salmon during legal fishing openers. This is the definition of a fox watching the henhouse.

The Federal government is under obligation under ANILCA to prioritize subsistence needs, and the State is under a similar obligation under its state constitution, as well as to manage salmon under sustained yield management. Yet both the Federal and State government are failing to meet these obligations. The NPFMC and the BOF need to take significant action now that will provide actual relief to AYK bound salmon stocks to allow them to begin to recover and rebuild, instead of being caught and sold for profit in the commercial market or dumped over the side of fishing vessels.

Both the Federal and State government are also hindering native salmon stock recovery in a different way. The Federal government by lack of action regarding international hatcheries, and the State government by allowing over release of hatchery salmon into Alaskan waters. The hatchery salmon reduce the amount of food that wild stock salmon can find, reducing their overall fitness. The Department of the Interior (DOI) needs to fully understand the detrimental nature of hatchery releases in the current ocean environment, which other nations release, and how much, Pacific salmon, how many are being released, and where these salmon rear in the marine environment so that discussions may begin with these other nations about the formation of an agreement to severely reduce salmon hatchery production and release. The State needs to also rein in the amount of hatchery releases that are currently permitted. The current practice by

*Stewart, Carli. "Citations Surge During Bristol Bay Sockeye Season." National Fisherman, 11 July 2024, <https://www.nationalfisherman.com/citations-surge-during-bristol-bay-sockeye-season>. Accessed 13 December 2024.

both other nations and the State is not sustainable to the continuation of healthy wild salmon stocks in the North Pacific and Bering Sea.

Recommendation:

The Council requests that the Board to remind the Federal government and applicable agencies of its ANILCA mandate to prioritize subsistence, and to begin to formulate how an international discussion can start over capping international hatchery production. Additionally, the Council requests that the Board encourages the State to recall its constitutionally mandate to prioritize subsistence and sustained yield.

2. Continued Concern with the Lack of Data on Regional Non-Salmon Populations

Due to the continued poor run strength of multiple species of salmon into the Yukon and Kuskokwim rivers, FQSUs continue to rely heavily on nonsalmon species such as whitefish, Northern Pike, and Long Nosed Suckers to meet subsistence needs. Little is known of the population or harvest thresholds for these fish in either system. It is concerning to the Council that the people of the Yukon and Kuskokwim could unintentionally overharvest and damage the fitness of these populations while waiting for salmon runs to improve. The Council has previously voiced this concern and will continue to do so until more progress is made on this topic.

Recommendation:

While the Council will continue to utilize the priority information needs through the Fisheries Resource Monitoring Program (FRMP), the Council would like the Board to review how much research on these species has been funded by the FRMP as the Board formulates a reply to the Council so they are aware of what has, and has not, been done.

3. Creation of a Yukon and Kuskokwim Fish Commission

The Council has expressed concern over the lack of salmon available to subsistence users and over the impact of a higher reliance on nonsalmon species in AYK drainages, and concern over commercial marine fisheries managed by both the State and Federal government that harvest salmon bound for the AYK in this, and past Annual Reports. Additionally, the Council has sent individual and/or joint Council letters to the Board, the North Pacific Fishery Management Council, and the ADF&G and the BOF with concerns and requests for action in this time frame as well with little to show for it. The Council believes that the next step to create a Yukon and Kuskokwim Fish Commission so that the subsistence users in these drainages can build a stronger voice with our concerns and our requests, and to share information, ideas, and concerns more readily between the two drainages.

Recommendation:

The Council requests the Office of Subsistence Management and Board to assist with the creation of this commission.

4. Creation of a Memorandum of Understanding between the Department of Commerce, the DOI, and the Department of Agriculture Concerning Commercial Fishing

The Council would like a Memorandum of Understanding (MOU) to be created between the DOI, the Department of Agriculture (DOA) and the Department of Commerce (DOC) regarding commercial fishing where AYK bound salmon are caught. As marine commercial fishing continues to occur when FQSU are unable to even put a net in the water, the subsistence priority outlined in ANILCA is not being adhered to. This continued lack of action by the Federal government is jeopardizing FQSU ability to harvest wild salmon that have been utilized for millennia. This lack of action is also jeopardizing the sustainability of salmon culture in these drainages as with the lack of salmon there is no opportunity to pass along knowledge of where and how to fish for salmon, and when and how to process salmon to the next generation - subsistence fishing is so much more than how many fish were harvested. Also in jeopardy is the future viability of these salmon stocks for future generation. ANILCA is not an act that only applies to the DOI and DOA, but all Federal agencies, and all federal agencies should recognize this mandated subsistence priority.

Recommendation:

The Council wishes the Board to request that the Secretary of DOI, DOA, and DOC gather to discuss establishing a MOU concerning the protection of salmon bound for the AYK.

5. Western Bound Salmon Genetic Information Collection and Availability

There is an imperative need for increased genetic monitoring for all commercial fisheries in the State and Federally managed marine waters of Alaska where salmon stocks headed for the AYK are caught. This should be done for both where salmon are targeted intentionally, such as in mixed stock intercept fisheries like what occurs in Area M, or unintentionally, such as in the BSAI fishery. These fleets are harvesting AYK bound salmon in a variety of methods and with different intentions, but the result is less of these salmon being able to return to their natal streams to meet escapement, much less be available for FQSU needs.

This information should then be compiled and made easily available to the public. While the Council acknowledges that these fisheries are managed by both State and Federal entities, they both need to be aware of what the other is doing so that they understand the full impact of their actions on Western bound salmon stocks. Current management by both means that essentially the right hand is not talking to the left. The Council also acknowledges that genetic monitoring is currently conducted by both entities, but finding the results in multiple different locations is difficult for the public.

Recommendation:

The Council will direct their Coordinator to continue to pursue having reports on this topic at upcoming Council meetings. The Council would like the Board to encourage a collaborative database where genetic information from marine commercial fisheries can be stored for review, and to have this database available for the public in locatable and understandable fashion.

6. Concern with Transporter Operating in the Innoko Wildlife Refuge

The Council would like to draw the Boards attention to repeated concerns expressed at the Council's fall 2023, winter 2024, and fall 2024 meetings over activities of nonlocal hunters that

are utilizing a transporter operating out of McGrath. This transporter is relatively new business owner in McGrath and is taking clients into the Innoko National Wildlife Refuge (INWR). A previous transporter had operated in this area, but did so on a much smaller, more sustainable scale that the community didn't not have concerns over. This current season it was reported to this Council that 100 clients were taken out by this one outfit.

While the INWR is only 40 nautical miles from McGrath, the Kuskokwim Mountains lay between them, and any weather event slows down the retrieval of moose and hunters from the field. During the fall hunting season, bad weather events are typical in this part of Alaska. In 2023 and 2024, the weather was bad long enough that to the extent that nonresident family members were reaching out to McGrath residents to assist in retrieving their loved ones from the field as the transporter was unable to retrieve hunters via plane. This delay caused meat to be in the field longer than anticipated with individuals who were unaware or unable to take proper care of it. When the weather did lift, all the hunters and their harvested meat returned to McGrath in a large influx. Limited space was available to properly store the influx of meat, and only one commercial meat processor in the community to assist in processing. Attempts were made to distribute some of the meat in the community, but most of it was not fit for dog teams by the time these efforts were made. Much of the meat ended up at the McGrath dump to be disposed of by the community again taxing McGraths resources and angering community members to see such waste especially for those individuals who were unable to harvest a moose in the fall.

Recommendation:

The Council was pleased to have Mr. Karlin Itchoak, US Fish and Wildlife Service (FWS) Assistant Director of Refuges, attend the fall meeting in Galena to speak to this concern. Additionally, the Council was glad to hear that the transporter in question is being investigated by federal wildlife agents, but it is unclear at this time if any charges resulted in this investigation, or if the transporter will be issued permits to operate in the INWR in the future. The Council requests that the Board direct the FWS to report to the Council the outcome of this investigation, as well as what steps are being done to ensure that these series of events does not continue to occur regardless of the end result of the investigation.

The remainder of this report is for informational purposes only and the Council does not require a response; however, the issues are significant and important, and the Board may benefit from this knowledge

7. Continued Efforts to Finalize the Council's Sheep Management Strategy Guidelines

The Council continues to have concerns over reopening Federal public lands in Unit 24A and a portion of Unit 26B to sheep hunting. With the approval of Wildlife Special Action WSA22-02, the Board temporarily closed these Federal lands to all users through the wildlife regulatory year 2023-2024. This closure was enacted due to conservation concerns over the sheep population in these units, and the original special action request was submitted by this Council. The Council then submitted Wildlife Proposal WP24-26 to place the actions initiated by WSA22-02 into regulation. The Council's expectation is to draft a proposal to rescind this closure when the sheep population rebounds, and reopening is warranted. As previously noted, the Council would like to establish a management framework for when these units should be reopened to sheep

hunting, and the Council wishes to establish these parameters in advance and drafted the *Dall Sheep Management Strategy Guidelines*. The Council will be requesting applicable Federal land managers review and offer feedback on this document before it is submitted to the Board during the upcoming wildlife regulatory cycle, and the Gates of the Arctic Subsistence Resource Commission (GAAR SRC) is assisting in this endeavor, as they have requested National Park Staff evaluate and prepare comments for the Spring GAAR SRC 2025 meeting. The Council feels that the region needs to move forward with scientific understanding data for Dall Sheep to assist in the recovery of this species.

8. Liberalization of Central Arctic Caribou's Harvest Limit Implications to FQSUs

The Council is highly concerned over the recent liberalization of the harvest limit for caribou in Unit 26B at the March 2024 Alaska Board of Game meeting. At this meeting, the harvest limit in 26B, which is where the Central Arctic Caribou Herd migrates through, was changed from 4 bulls to 5 caribou for residents, and from 1 bull to 2 bulls for nonresidents. Currently, many of the other caribou herds in Alaska are in a decline, such as the Nelchina, Fortymile, and Western Arctic, and the harvest limits and seasons have been adjusted accordingly. This liberalization will result in greater hunting pressure on this heard by non-Federally qualified subsistence users, which will impact FQSU and communities that this herd migrates close to. Due to this change, the Council wishes to inform the Board not only of our concern, but also to prepare the Board for the potential of regulatory change requests directed at federal lands within the migration pattern of this herd.

The Western Interior Alaska Subsistence Regional Advisory Council appreciates the Board's attention to these matters and the opportunity to assist the Federal Subsistence Management Program in meeting its charge of protecting subsistence resources and uses of these resources on Federal public lands and waters. The Council looks forward to continuing discussions about the issues and concerns of subsistence users in the Western Interior Region. If you have any questions regarding this report, please contact me via Nissa Pilcher, Subsistence Council Coordinator, Office of Subsistence Management, at nissa_pilcher@ios.doi.gov, or 1-800-478-1456 or (907) 891-9054.

Sincerely,



Jack Reakoff
Chair

Enclosure: Topic 7: Dall Sheep Management Strategy Guidelines

cc: Federal Subsistence Board
Western Interior Alaska Subsistence Regional Advisory Council
Interagency Staff Committee
Office of Subsistence Management

Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Gam
Mark Burch, Assistant Director of Wildlife Conservation, Alaska Department of Fish and
Game
Administrative Record

WIRAC Dall Sheep Management Strategy Guidelines

April 2023

The Western Interior Alaska Regional Advisory Council continues to have grave concerns regarding the current Dall sheep populations within the Central Brooks and Alaska Ranges. The Council's authority to ensure healthy populations of fish and wildlife using recognized scientific principles is found in ANILCA Title VIII, sec. 805 (3) (A) through D.

Sec 805 (3) (A) is explicit regarding evaluation and recommendation concerning policies and management plans. (3) (D) (i) through (iv) requires councils to identify and make recommendations regarding management of fish and wildlife to ensure subsistence uses.

The Dall sheep populations have been reduced to numbers far below the long-term carrying capacity of the habitat. These declines are due to multiple climate events in the past decade and in some excessive harvest mortalities in popular sport hunting areas. Local Rural residents have utilized and relied on these sheep for non-wasteful consumptive use. The Customary and Traditional use determinations reflect these uses. Many local rural residents have recognized the critical declines in the sheep populations and voluntarily reduced harvest.

The State of Alaska Board of Game endeavored to develop a sheep management plan in 2014/15. The broad based user group's participants could not come to a consensus on several issues. The planning process was a failure. Without a plan to set basic parameters for Dall sheep management, the populations can be harvested beyond sustainability.

WIRAC has successfully advocated for FSB regulatory closure for all hunting of suppressed sheep populations in GMU,s 24A and 26B west of the Sagavnirktok River through 7/1/2024.

The Council is compelled to recommend management strategies regarding the biological parameters needed rebuild and maintain the Dall sheep populations and the subsistence and non-subsistence uses on Federal public lands.

Sheep Ecology

It is a recognized fact that Dall Sheep are a very social animal with minimal movements within their learned habitat. Dall sheep are to be managed within the Game Management Unit (GMU) and sub-units they reside in. These sub populations should not be expected to provide the large majority of sport harvests for the entire mountain Range encompassing multiple GMUs. GMU and sub-units with snow shadow that hold higher sheep populations should not be combined with areas with typically higher snowfalls.

Dall sheep rams and ewes are raised and learn the use areas for the various times of year, feeding, rutting, and mineral uses. Sheep rarely move over 6 to 12 linear miles throughout their lives. As sheep move with older animals than themselves, they learn predator evasion strategies. Younger sheep will run to the mature sheep to lead them out of harms way. Sheep routinely live to 10-12 years of age under normal conditions. Many lightly hunted areas routinely sustain 10-12 year old ram harvests.

Wind scouring of winter habitat is very important to all sheep. Early wet snow with rain on snow seals the ridges, not allowing wind scouring. Dall sheep are not very tall (12-20" to the belly), and have a climbing hoof not conducive to excavating a lot of snow.

Rain on snow, deep snow, and late springs that exhaust the weaker individuals of the population cause population declines. Weaker individuals that are lost first are young of the year, smaller yearlings that were late-born, and older animals over 10 to 12 years old. Most rams 2 to 10 years old survive in real hard winters. Ewes are approximately 50% smaller and have higher mortalities in deep snow than rams.

When winter-stressed ewes survive deep wet snow and/or late springs, their physiological recovery can take all summer, and fecundity is affected for the next reproductive cycle. Lambs produced by stressed ewes will typically be late born, smaller than average, with reduced winter survival rates, especially if another bad winter is encountered. Young ewe sheep that survived to adulthood after a hard winter start in life may not produce lambs until their fourth birthday.

Sheep rely on snow melt-off on steep south-facing slopes to access new growth in late April. They will move to very low elevations to get green florescence as soon as it is available. With each additional week that the melt off is delayed, overall sheep mortality increases, especially gestating ewes and yearlings. A one-month delayed melt-off in 2013 proved to be extremely detrimental to vulnerable segments of the sheep population. Most yearlings, older sheep, and lambs died; causing a greater than 50% decline in the overall sheep populations. The severely stressed ewe component again produced extremely low lamb numbers in 2014. The end-result caused three recruitment cohorts, (2012, 2013, and 2014) to be predominately missing.

Sheep move up the south-facing, melted slopes with the green up. In mid to late May through the 14th of June most sheep are on south-facing alpine slopes that have Dryas and other wildflower forbs in pre-blossom and in flower. This is the critical period when there is high protein pollen available to put into muscle recovery and lactation. Periodic rain events delay pollenating insect activity, providing longer access for sheep to this high-quality feed. The sheep move onto ridges and north-facing slopes as the wildflower forbs come into later phenology blossom. Damp, cloudy summers are a big advantage to sheep because this extends their access to high protein. Recruiting lambs will have much heavier fall weights. Conversely, rapid melt off with hot weather maximizes the insects to pollenate the forbs. When they pollinate quickly, the high-protein food source is available for a shorter period of time. Lactating ewes will have less exposure to high quality feed, affecting fall lamb weights, yearling growth rates, and the ewe's own fat reserves. Very young rams leave their natal ewe group in the summer of their second or third year, having 1/4-1/2 curl horns. Established 1/2 and 3/5 curl rams typically ostracize these young rams, as they endeavor to join ram groups. Most rams separate from ewes in summer/and fall working out their pecking orders for dominance. These young rams are inexperienced in predator detection so are at a vulnerable position before they are accepted into a ram group. Young rams all run to the oldest rams when predators are detected. Mature sheep lead the way to escape terrains they know intricately in their home range.

Management should assure that sufficient adult rams (>7 years old) are available post hunting season. Mature rams aged 7 to 12 years old have fat reserves to endure the rutting activity and combat with other rams. Heavy fat reserves translate to kinetic energy when

butting horns. Adult rams' orbital gland weeps a strong pheromone that is attractive to ewes. Adult rams will provide more synchronous first estrus with best advantage to the lamb's survival. These adult rams have a much higher winter survival rate than if only young rams are available. Young rams 3 to 6 years old have less pheromone with a disruptive effect on breeding ewes. Younger rams left as primary breeders reduce successful recruitments to the population. In the absence of older rams, younger rams will expend a tremendous amount of energy chasing ewes that are essentially rejecting them. Often, ewes will pass their first estrus without breeding when only younger rams are available. If they do breed with these younger rams, it may be during their second estrus, resulting in late-born lambs not hearty enough for the coming winter. Young rams with much lower fat reserves and body mass expend too much energy as primary breeders and die prematurely in normal winter stress.

The social presence of 7 to 12 year-old rams is very important to the overall sheep populations' survival. Mature rams defend ewes from young rams while in rut, saving young rams' fat reserves. Mature rams are larger and have more experience evading predators, helping younger rams' survival throughout the annual cycle. Mature rams' larger body mass allows them to access varied feeding areas in winter by break trails for smaller sheep on the mountain. Mature rams and ewes lead younger cohorts throughout their home ranges, to mineral sources, spring feeding sites, rutting areas, and in predator avoidance.

Dall Sheep Management Plan

Remote weather monitoring by staff

Winter weather events should be monitored by federal management agencies that have sheep and habitats. Many times there are remote sensing instruments and weather reporting stations to draw data from. There are also webcams that can be remotely accessed. Regional Advisory Councils' and State Advisory Committees' comments on local conditions such as deep snow, rain on snow, late spring, far fewer animals observed, etc. need to be taken seriously for sheep conservation and management. There should be open dialogue and sharing of findings between managers and local users.

Adverse conditions to sheep's over-winter success:

- Early winter deep snow with rain events
- Extended warm up with liquid rain that freezes crusts on snow throughout the winter.
- Late spring melt off timing

Positive conditions for sheep's successful wintering:

- Freeze up before significant snowfall
- Cold snowfall at typical levels throughout the winter
- High winds to scour the ridges
- Melt-off commencing in late April on south facing slopes

Survey timing and methodology

- Dall sheep are to be managed within the Game Management Unit (GMU) and sub-units they reside in. These subpopulations should not be expected to provide large sport harvests for the entire mountain Range encompassing

multiple GMUs. GMU and subunits with snow shadow that hold higher sheep populations should not be combined with areas with typically higher snowfalls.

- Sheep aerial and ground surveys should be conducted immediately after lambing and when sheep are aggregated on south facing slopes and ridges from June 5 to June 20. Weather is typically still in a dry air mass with good visibility. The sheep are very easily found when on green slopes gorging on flower blossoms in the sun. Federal agencies should seriously look at changing when aerial sheep surveys are conducted. Arbitrarily doing surveys in mid July has large disadvantages. Sheep have dispersed into north-facing shadowed areas, especially during hot weather, making them much harder to spot. By July, wildfire smoke can be excessive in hot summers, affecting sight-ability, or preclude if the surveys can be conducted that season. Mid-July also enters into the typical weather shift to higher precipitation with cloudy weather. Mountain obscuration is normal from Mid-July to late August during the highest precipitation of the entire year. These disadvantages add additional expensive flight time.
- The currently depressed sheep population should be surveyed using what is known as the minimum count method. Distance sampling with extrapolation has very high error rates that have not been documented when sheep populations are historic lows. At a minimum, there needs to be some minimum count units throughout the area where distance sampling is conducted. Depressed sheep population groups since 2018 are few and far between. Encountering an aggregate can overestimate sheep presence and underestimate if the group is missed in the extrapolation calculation.
- Ram groups need to have composition documentation to calculate age classes present in the overall sheep population, and success or loss of certain cohorts. This is best achieved with high definition digital video with optical zoom cameras. All ram groups should be video recorded during the survey, to make classification assessments after the survey. Classification of rams by curl should be 1/2, 5/8, 3/4, 7/8, and 4/4 full curls. It is a management imperative to know if there are adult rams entering a hunted population. Only enumerating only full curl rams that may be killed before the next breeding season is futile. The delineation of the various ram cohorts is a strong indicator of the ewe age classes. Missing cohorts from multiple years can be used to anticipate longer recovery times.
- Data interpretation should not consider recruitment values for neonatal lamb:ewe ratios. Lambs are not recruited until June of the following summer. Lambs can have high mortalities with adverse conditions. The recruitment performance is determined by overall “ewe-likes” relative to the previous surveys. The ewe-like trend shows if gains or losses of the core population are occurring. Rams survive at higher rates than the ewe-likes. Ram trends can be disparate to ewe-like. Ram:ewe ratios can markedly increase as the core ewe-like population is declining. Some managers are encouraged with higher ram:ewe ratios or lamb:ewe ratios, but this is a false understanding and interpretation of the data sets.

Carrying capacity

- There are data sets from surveys done for the last >20 years. Many of the sheep populations have shown the carrying capacity of the habitats. If areas have historically shown 1500-1800 sheep and are currently 500-600, then harvest needs to be curtailed on mature rams to maintain the breeding composition. Sheep populations with healthy breeding cohorts will return to carrying capacity if weather events permit. When suppressed populations have missing cohorts, as determined by composition data, there is a need to reduce hunter encounter rates and harvest to ensure enough mature rams are present through the impending young ram trough. Once more abundant younger ram cohorts move up to mature status, hunting opportunity can increase utilizing “full-curl/both-horns-broken” only management. Many hunters miscount annual ring annuli, mistakenly taking immature rams. Moving away from sport hunters counting annuli is an essential part of this management plan.
- There is only minor documentation of incidental hunting mortalities. The state seizures of sublegal rams at sealing of harvested rams are only the tip of the iceberg. In many areas where moose have antler restrictions, several illegal bulls are found abandoned in the field by Fish and Wildlife enforcement every year. The USFWS Atigun Gorge sheep composition data from 1986 to 2012 reflects young ram cohorts missing after $\frac{3}{4}$ curl when mature 360-degree full curl rams are unavailable. *(below)
- The State Regulation allowing hunters to estimate age of sheep annuli for 8 rings causes hunters to take $\frac{3}{4}$ curl to below full-curl rams. Most rams with horns $\frac{3}{4}$ to just under full curl that are taken are not 8 years old, illegal, and are lost for recruitment as mature rams.

Allocation of Dall sheep on Federal lands

- Priority one is to maintain healthy populations of the Dall sheep resource, using best science. If the recourse needs harvest reduction, this needs to happen once the population data is available. When survey data is unavailable or incomplete for a struggling sheep population, management should default to restrictive management. A lack of data should never lead to overharvest.
- Healthy populations of Dall sheep at carrying capacity will support subsistence harvests annually. This is a priority use, typically nominal when rams only are taken. Some subsistence ewe harvest when sheep populations are at or above carrying capacity is sustainable, especially in remote or limited eligibility areas like Park units.
- Road accessible areas like the Dalton Highway area in GMU 24A, and 26B have high impact use by non-federally qualified resident and commercial hunters, typically 10-20 miles from the road. Sheep move perpendicular to the road in mountainous habitats. Sheep ram populations within the 20-mile zone move in and out of the Dalton Highway Corridor management area. The ram populations are subjected to multiple encounter rates by walk in, aircraft, and boat hunters. The complete lack of any mature rams >7 years old within the Dalton Highway corridor management area's 5-mile-zone attests to the full extirpation by these user groups, primarily with firearms outside of the Archery area.
- Commercial allocations within the high road impact zone 20 miles should be calculated for a small percent of available legal rams. This would maintain subsistence allocation and for the high resident non-federally qualified hunter

participation. Management on Federal public lands should never allocate all available legal rams to commercial permitted guides, as has been happening until recently. Guided hunter success rates are very high.

- Federal management is charged with maintaining healthy populations of fish and wildlife using recognized scientific principles on Federal public lands. When sheep populations show declines with missing cohorts and the need to protect mature rams, it is incumbent to inform the Regional Advisory Council to anticipate needed restrictions. The State should be informed of the same need for conservation. Ideally both Federal and State Boards will support conservation until the sheep populations are well on the way to achieving carrying capacity.

The Alaska Range GMU 19 B and C have had large declines in Dall sheep populations also. The Council is very concerned about the Dall sheep recovery in these units also. The recent Board of Game action to eliminate non-resident harvest will help reduce the most successful segment of the hunting public. There will still be a lot of resident hunters that will continue to affect the recovery of the sheep population. The western Interior Council represents rural residents who have used sheep in GMU 19.

* The data below was provided by USFWS Dall Sheep Composition work done by ground survey annually from 1986 to 2012 in the Atigun Gorge in the Arctic NWR. This area starts near the road extending east. Hunting was closed until 1982, the haul road was open to permitted commercial use only through 1992. Commercial guides were permitted, and many resident hunters gained access with false commercial mining claims. By 1986 hunting pressure was extensive in the Atigun valley where this survey work was done. Most sheep hunters walk out of the archery corridor 5 miles to use firearms. Unfortunately this data did not continue into the brutal declines of 2013 to 2020. The ram composition average, on the bottom line graphically shows that rams below 3/4 curl have low mortality rates. Approximately 60% of 7/8 curl sub-legal rams are miss aged by hunters in the long-term average. Few mature rams are left.

Sheet1		Age comp		Yr_L ratio		L_E ratio										
Dates	Year*	Ewes	Da	Yrlgs	2Yr	1/4 curl	3/8 curl	1/2 curl	5/8 curl	3/4 curl	7/8 curl	1/1 curl	Unk	Total	Ann Growth	% change
6 June	1986	79	42	62	24	0	18	9	9	10	0	1	0	254		
15 June	1987	93	47	20	17	7	13	10	10	12	7	0	0	236	0.93	-7
14 June	1988	138	80	54	29	0	11	13	16	10	6	3	16	376	1.59	59
19 June	1989	145	40	56	36	16	15	16	21	12	7	0	0	364	0.97	-3
11-13 June	1990	112	69	19	21	13	8	15	8	13	5	0	0	283	0.78	-22
11-17 June	1991	193	122	82	21	22	10	16	3	18	4	2	22	515	1.82	82
14-15 June	1992	171	39	81	35	22	7	15	0	10	2	0	0	382	0.74	-26
10 June	1993	127	24	21	35	23	5	10	12	14	5	1	0	277	0.73	-27
5 June	1994	169	89	25	13	18	10	12	9	13	3	5	0	366	1.32	32
11 June	1995	165	28	41	18	23	5	10	8	4	5	0	0	307	0.84	-16
6-7 June	1996	90	49	16	8	7	4	4	2	2	0	0	2	184	0.60	-40
14-16 June	1997	51	16	27	13	13	8	3	5	7	4	0	0	147	0.80	-20
11-12 June	1998	99	70	42	0	7	4	9	3	2	0	0	2	238	1.62	62
10-12 June	1999	89	40	29	22	9	8	6	2	4	3	0	8	220	0.92	-8
14-16 June	2001	95	44	16	22	12	5	6	1	5	2	0	0	208	0.97	-3
7-9 June	2003	161	68	52	43	20	10	10	3	8	3	1	10	389	1.37	37
6-8 June	2004	138	34	29	26	17	11	10	6	8	1	3	3	286	0.74	-26
6-8 June	2005	149	80	19	21	22	20	18	6	10	5	2	3	355	1.24	24
8-10 June	2006	123	55	29	20	2	6	13	7	10	4	4	17	290	0.82	-18
11-12 June	2007	44	19	12	14	4	5	4	4	3	1	1	9	120	0.41	-59
7-9 June	2008	96	46	16	20	10	4	9	6	4	3	1	13	228	1.90	90
7-8 June	2011	71	38	14	5	8	6	7	6	2	2	0	3	162	0.89	-11
7-8 June	2012	63	39	18	11	6	1	10	8	9	3	1	1	170	1.05	5
	2014															
Average =		116	51	34	21	12	8	10	7	8	3	1	5	276		
Ram Composition, Atiquin Pass, 1986-2014																