



**Management Plan for Dall's Sheep
In the Northern Richardson Mountains**

Recommended Draft Plan

Prepared by
Working Group for Northern Richardson Mountains Dall's Sheep

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Note

The goals, objectives and management actions are subject to priorities and budget constraints of the partners. Modifications to the plan may be necessary to include new objectives or findings.

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SUMMARY OF MANAGEMENT ACTIONS AND MONITORING BASED ON SIZE OF DALL'S SHEEP POPULATION IN THE NORTHERN RICHARDSON MOUNTAINS

	Sheep numbers fall to between 500-350	Sheep numbers fall below 350	Sheep numbers increase to above 350 (but below 500)
Hunting	Voluntary closure of beneficiary harvest. Legislated closure of all other hunting.	Legislated closure of all hunting including beneficiary.	Legislated closure of beneficiary harvest is immediately lifted. Beneficiary harvest returns to a voluntary closure. All other hunting still closed.
Population	<p>If the community monitoring system (CMS) shows the population is still declining, then population counts would be every two years.</p> <p>If the CMS shows the population is not still declining then population counts would be every three years.</p>	If the population drops below 350 sheep then the population count would be repeated in the next year, and every two years after.	Population counts every three years
Harvest	Ensure collected annually Required reporting	Harvest management	Ensure collected annually
Lamb Recruitment	Ensure collected annually	Ensure collected annually	Ensure collected annually

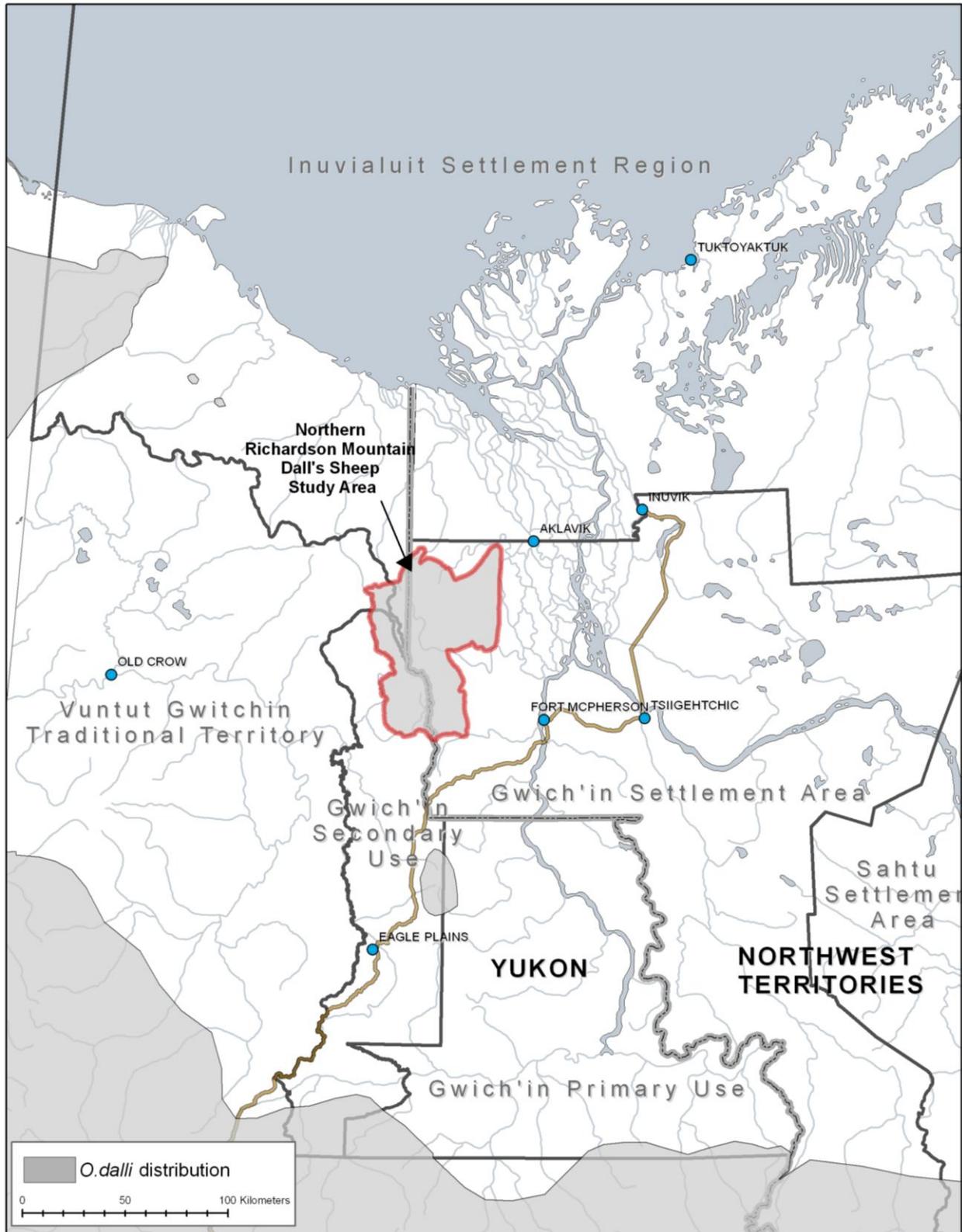


Figure 1: Location of the Northern Richardson Mountains Dall's sheep management area.

INTRODUCTION

PLANNING PROCESS AND PARTNERS

This management plan is intended to provide recommendations and actions to conserve the Dall's sheep population in the Northern Richardson Mountains. There is nothing in this plan that changes or replaces the constitutional rights of First Nation people outlined in the Gwich'in Comprehensive Land Claim Agreement, the Vuntut Gwitchin First Nation Final Agreement, or the Inuvialuit Final Agreement.

The range of the Northern Richardson Mountains sheep population is shown in Figure 1. The development of this management plan began in June 2005. Organizations and governments from the Northwest Territories and the Yukon met in Dawson City to discuss concerns about declining sheep numbers, current research, and the principles and objectives for managing the population that is shared among various communities in the two territories. Elders, youth and community members are an important part of the plan, and were represented by the different groups at the meeting. The plan partners include the following governments, co-management boards and councils (Appendix C):

- Vuntut Gwitchin Government (VGG),
- Gwich'in Tribal Council (GTC),
- Inuvialuit Game Council (IGC),
- North Yukon Renewable Resources Council (NYRRC),
- Gwich'in Renewable Resource Board (GRRB),
- Ehdiiat Gwich'in Renewable Resource Council (EGRRC),
- Tetlit Gwich'in Renewable Resource Council (TGRRC),
- Gwichya Gwich'in Renewable Resource Council (GGRRC),
- Nihtat Gwich'in Renewable Resource Council (NGRRC),
- Inuvik Hunters and Trappers Committee (IHTC),
- Aklavik Hunters and Trappers Committee (AHTC),
- Wildlife Management Advisory Council (North Slope) (WMAC),
- Yukon Fish and Wildlife Management Board (YFWMB),
- Yukon Government (YG), and
- Government of Northwest Territories (GNWT).

The plan partners decided a smaller group was needed to develop a draft plan that would come back to all the partners for review and approval. Terms of Reference were developed for the working group (Appendix A) and members were chosen (Appendix B). The working group produced a timeline for completion and approval of the plan by all partners. The group agreed that conservation of the sheep population was the highest management priority. The working group hired an independent facilitator to lead workshops and draft the plan. The group held three workshops in 2006 and one in 2008 to develop the plan objectives and actions, and assign tasks for partners to complete. Workshops in 2006 were held March 14-16 in Inuvik, October 13-15 in Aklavik, and October 27-29 in Inuvik. A final workshop in 2008 was held April 4th in Inuvik. All workshops were open to the public. The working group wrote this draft plan using the principles of consensus agreement.

As the Working Group developed this plan, concern was raised about the conservation of Dall's sheep in the Southern Richardson Mountains. As a result, the Working Group makes the following recommendation to Parties responsible.

Recommendation 1: Dall's sheep in the Southern Richardson Mountains is a shared population between the Northwest Territories and the Yukon. This population is small, isolated, and at risk to overharvest and other factors that could cause numbers to decline. A cooperative management plan for Dall's sheep in the Southern Richardson Mountains should be developed following the principles outlined in this plan.

GOAL

Dall's sheep in the Northern Richardson Mountains and their habitats should be managed to:

1. Ensure long-term conservation by making sure human use of sheep is sustainable and that other activities do not diminish sheep numbers or reduce the ability of the land to support sheep in the future.
2. Provide for traditional and other uses of sheep that benefit all people.

PRINCIPLES GUIDING THE PLAN

As set out in the terms of reference, this management plan shall:

1. Be guided by and implement the principles of conservation which are:
 - a. The maintenance of the natural balance of ecological systems;
 - b. The protection of wildlife habitat;
 - c. The maintenance of vital, healthy wildlife populations capable of sustaining harvesting needs.
2. Recognize and protect the rights of aboriginal users, while recognizing other harvesters and non-consumptive uses.
3. Recognize the Dall's sheep population as shared among many management Parties in the Northwest Territories and Yukon Territory.
4. Recognize the need for improved communication and better sharing of decisions among Parties.
5. Be guided by and implement the Precautionary Principle which is: in the absence of complete information, where there are threats of serious or irreparable damage, the lack of complete certainty shall not be a reason for postponing reasonable conservation measures.
6. Make full use of the best available scientific and Traditional Knowledge.
7. Recognize and respect differences and similarities in approach to the collection and analysis of Traditional Knowledge and scientific information.
8. Recognize the connection of the Dall's sheep with other components of the physical, biological and cultural environment.
9. Be guided by the past, present and future experience, knowledge and values of northern peoples.
10. Be dynamic and adaptive in managing sheep to ensure the interest and needs of future generations of northern people are met.

BACKGROUND

The importance and use of Traditional Knowledge and science in this plan

Traditional knowledge and science are equally valued, and both information sources are used in this plan. Regional communities of Aklavik, Fort McPherson, Inuvik, and Old Crow were all involved in the information gathering about Dall's sheep, and development of plan recommendations and actions. Many of the ideas about what makes the size of sheep populations increase and decline in the Northern Richardson Mountains comes from long-term observation and knowledge of local people. Careful monitoring of sheep should include regular scientific counts by government as well as on-the-land projects that monitor harvest, disturbance, and population health and trend. The management actions outlined in this plan will continue to use Traditional Knowledge, local knowledge and science to guide sheep conservation in the Northern Richardson Mountains.

Dall's sheep status in the Northern Richardson Mountains- A brief summary

Dall's sheep in the Northern Richardson Mountains are near the northern extent of their range (Figure 1). These sheep are isolated from surrounding populations, and it is likely that there is only limited genetic mixing among the groups. Arctic range conditions are difficult for sheep, so the population is sensitive to many forces including weather, predation, and harvest. Sheep have been counted in the Northern Richardson Mountains periodically by helicopter using the same methods since 1984. Figure 2 shows the survey blocks flown. The Sittichinli block was added after consultation with the Tetlit Gwich'in in 1997 but to date, no sheep have been seen there during counts in June or August. People in Aklavik told us to extend the survey blocks to the north to include all known sheep areas in the Northern Richardson Mountains. The numbers of sheep increased from low levels in the mid 1980s to a high of almost 1600 in 1997 (Figure 3). Since then the population has decreased to 704 animals (2006). The population decline is apparently slowing and sheep numbers appear to be stabilizing (Figure 3).

Productivity is the number of lambs per 100 nursery sheep (ewes and yearlings). The trend in productivity determined from the aerial surveys is shown in Figure 4. Productivity of sheep can be variable, but biologists have determined that more than 25 lambs per 100 ewes indicate the population is growing. If lamb recruitment is much lower, the population is likely declining.

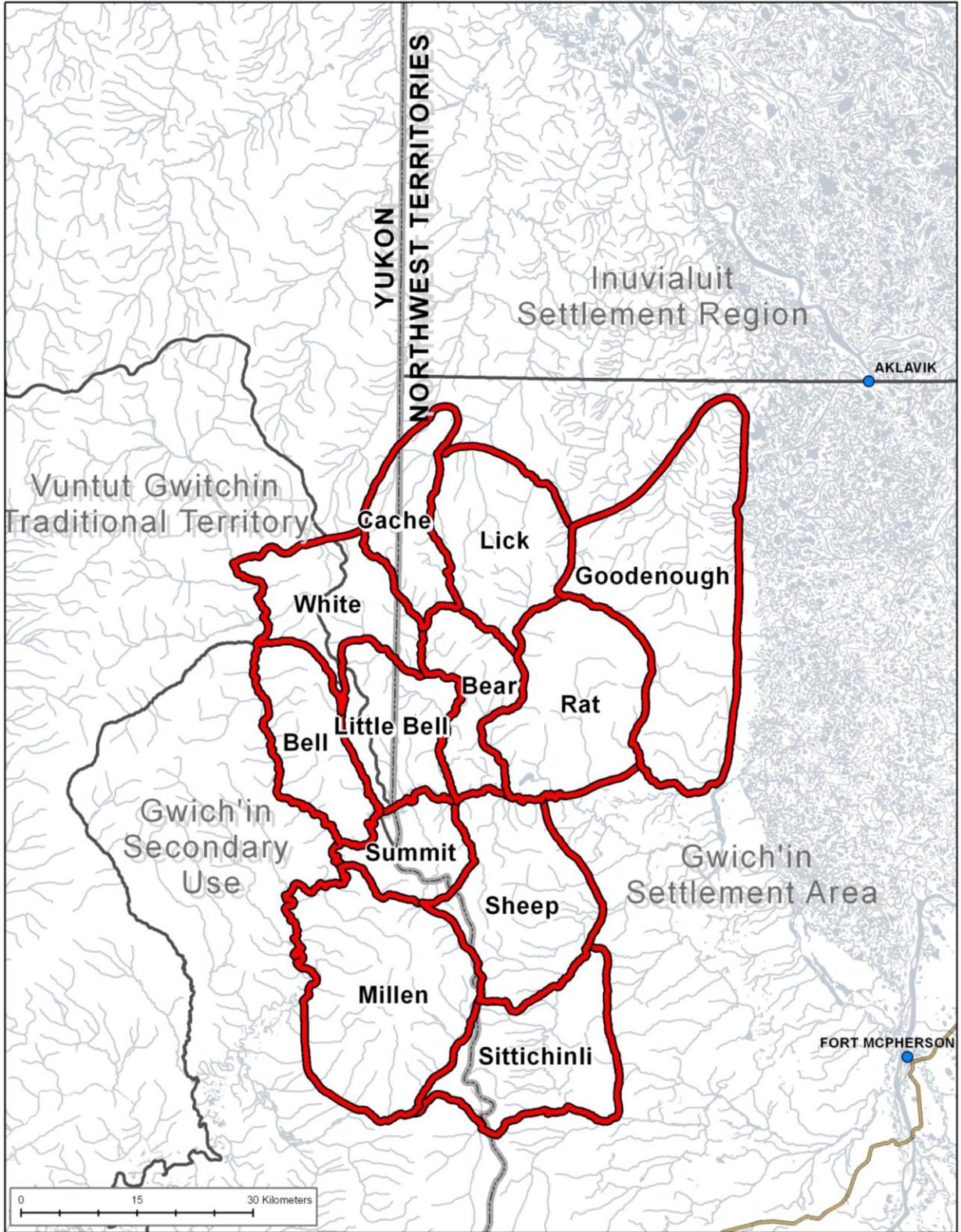


Figure 2. Aerial count blocks in the Northern Richardson Mountains.

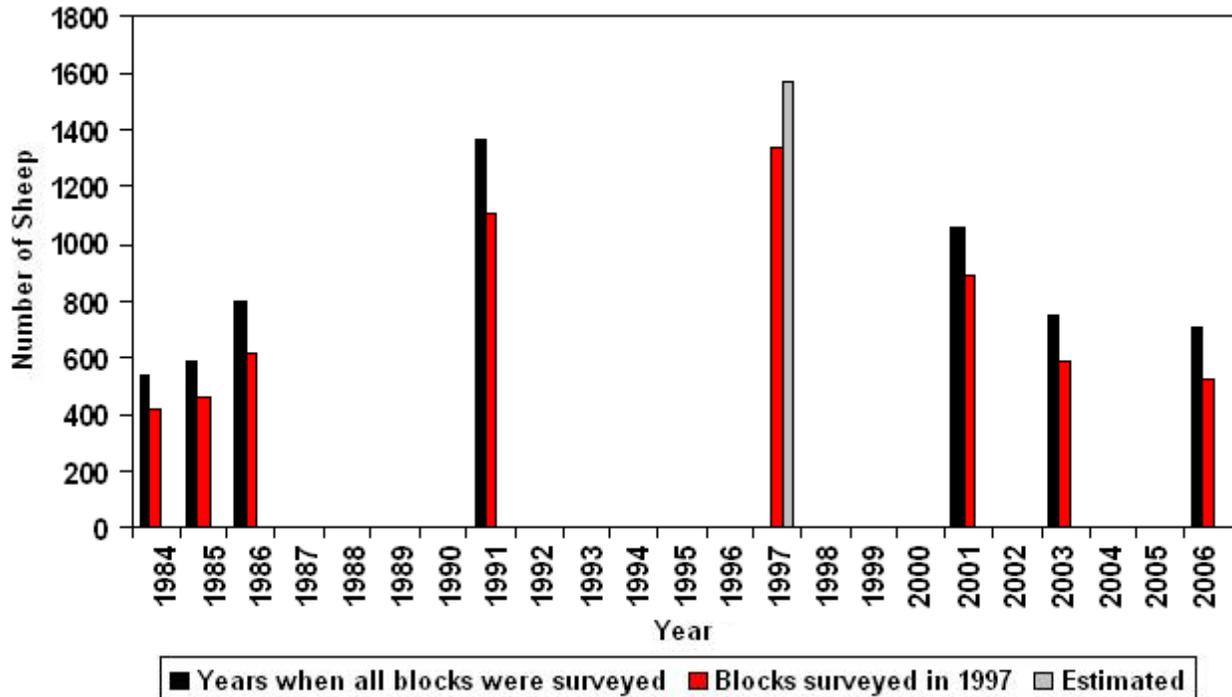


Figure 3. The number of sheep counted in the 12 count blocks in the Northern Richardson Mountains during helicopter surveys (June- August). The total number of sheep is an estimate in 1997 because three blocks were not surveyed due to weather. The numbers of sheep in these blocks were estimated based on the proportions found in these blocks during the 1991 count.

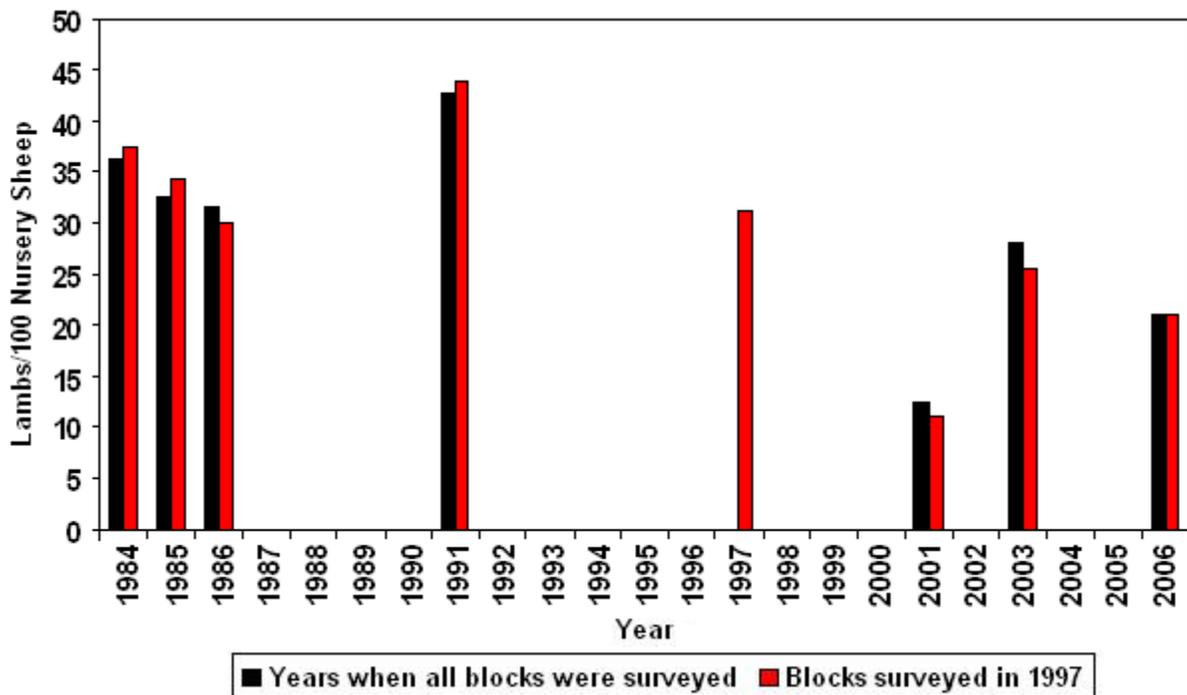


Figure 4. The ratio of lambs for every 100-nursery sheep seen during aerial counts in the Northern Richardson Mountains between June and August (1984-2006).

The plan partners are all concerned that sheep are vulnerable to overharvest, particularly if numbers fall to low levels. In the Yukon, harvest is small. In the last three years, there was no reported harvest for the Vuntut Gwitchin. There is information that at least 11 sheep were taken in the last 12 years by Vuntut Gwitchin hunters. Since 2004, the Yukon government has annually issued two resident hunting permits for rams on the Yukon side of the Northern Richardson Mountains. There were no permits issued in the 2007 hunting season.

In the NWT, there is only aboriginal harvesting from this population. Accurate sheep harvest information is not available. Average reported harvest in the Inuvialuit Settlement Region from 1987 through 1997 was less than two sheep per year (range 0 to 8). Average annual reported harvest in the Gwich'in Harvest Study was four sheep (1995-1999), ranging from one to 14 sheep. In recent years some NWT aboriginal hunters sold and exported the cape and horns of animals they killed. The Aklavik HTC harvest study (2001-2006) indicates a small annual harvest (average 1.3, range 0-4). In the NWT horns should be plugged, but this has not always happened. Because of this the total harvest is unknown.

Table 1. Known harvest of Dall's sheep in the Northern Richardson Mountains, 1995 to 2007

Group	Data source	Period	Annual Range	Annual Average
Gwich'in	GHS	1995-1999	1 to 14	4
Inuvialuit	IHS	1988-1998	0 to 8	Less than 2
Inuvialuit	HS	2001-06	0 to 4	1 to 2
NWT	NWT Plug data			
Vuntut Gwitchin	Anecdotal	1995-2007		1
Resident	YG	2004-07	0 to 1	

Current information indicates that harvest is limited, but there is concern that harvest has increased in recent years. Other factors that could be affecting this population include: weather, predation, parasites and diseases, disturbance, overgrazing, and competition with other species. There is also concern that climate change could be negatively affecting sheep. This plan sets out monitoring and management actions that will help to assess the effect of such factors on Dall's sheep in the Northern Richardson Mountains and promote the long-term viability of this population. Factors that we can influence by management actions will get priority.

MANAGEMENT ELEMENTS, OBJECTIVES & ACTIONS

This section describes the elements, objectives and actions for the management of Dall's sheep in the Northern Richardson Mountains. Objectives are achieved through Actions that partners commit to completing in the first five years of the plan. Partners complete actions by sharing in various tasks or jobs. The task schedule includes: **early** (first two years), **mid** (around third year) or **late** (fourth or fifth year) in the plan. Refer to Planning Process and Partners (page 1) for abbreviated names of plan partners that will do the tasks.

Five plan elements have been identified.

- Element 1 addresses how the plan partners **cooperate** to ensure objectives are met.
- Element 2 describes how the sheep **population** should be monitored.
- Element 3 deals with the **harvesting** of sheep.
- Element 4 outlines how key sheep **habitat** should be managed.
- Element 5 describes how communities and governments should be **informed** about sheep management.

ELEMENT 1: COOPERATION

Objective: Improve the communication, cooperation, and sharing of management responsibilities for Dall's sheep in the Northern Richardson Mountains

In order for this plan to be effective we all need to work together. In the spirit of the terms of reference (TOR) of the Working Group (Appendix A), all partners should be consulted and involved in decisions about this shared resource. In the past, decisions by government Ministers were made without consultation with all partners, and difficulties and distrust resulted. Everyone needs to remember this is a shared sheep population.

Action 1: Implement the plan in a manner that improves cooperation among partners

The primary tool for improving cooperation will be consultation. Consultation in this plan was defined in the TOR (Appendix A section A 3.) In plain language, we assume consultation means letting all parties know what you are planning, give them sufficient time to comment, and then consider their comments or concerns before you make a decision on the issue. We should

strive for consensus. Consultation extends beyond basic legal requirements, and includes all partners shown in Appendix C.

Recommendation 2: The implementation of this management plan should follow the cooperative principles that guided the Working Group in developing this plan. The plan actions should be delivered by an Implementation Team that consults with all partners listed in Appendix C. Decisions should be by consensus.

Action 2: The plan should be implemented and renewed in a timely and effective manner

In order to ensure the action items in the plan are completed, the Implementation Team (Appendix B) will need to work together and review the plan regularly. This plan is a working document that will need to be renewed and updated on a regular basis. The recommended period is five years, but the approved plan will continue to be in effect until it is renewed.

Task	Who	When
1. Review the actions items and inform communities.	Implementation Team - GNWT lead Year 1	Mid and late
2. Renew the plan. Priorities and budgets should be identified during review.	Implementation Team (Working Group function)	5 years after approved
3. Distribute the new plan to all partners for review and approval.	All partners (defined in Appendix C)	5 years after approved

ELEMENT 2: POPULATION MONITORING

Objective: Conserve sheep in the Northern Richardson Mountains at levels required to maintain a sustainable population

To best manage Dall’s sheep in the Northern Richardson Mountains we need to maintain an understanding of changing information, such as how many sheep live there and what makes the population size increase or decrease. Key factors that influence Dall’s sheep elsewhere include: weather, predators, range conditions, disease, parasites, hunting, and other human activities.

Action 1: Complete status report.

In order to make informed management decisions it is necessary to write a status report that summarizes all that is currently known about Dall's sheep in the Northern Richardson Mountains. The status report will also identify the gaps in the knowledge and help determine research priorities. The report will be organized under the same headings (Elements) as this plan. It will be a plain language document for all partners to use. The status report will include scientific information, and local and Traditional Knowledge about sheep in the Northern Richardson Mountains.

Task	Who	When
4. Complete draft of status report and plain language summary.	YG , GNWT, GRRB	Early
5. Review draft report.	All partners	
6. Add any new revisions.	YG , GNWT, GRRB	
7. Renew and update status report before management plan is renewed.	YG , GNWT, GRRB, VGG	Late

Action 2: Monitor population size at appropriate intervals

It is important to know how many sheep are in the population. Monitoring the population size over time provides information about long-term trends in the number of sheep.

Task	Who	When
8. Monitor population size by counting all sheep by helicopter.	GNWT, YG, GRRB	June every 3-5 years
9. Meet with communities before the next count to ensure all areas that sheep live in area included.	All partners	Early
10. Add traditional names of the survey blocks so local people will understand where sheep are being counted.	All partners	Early

Action 3: Monitor lamb survival and composition and population change - (see Action 6)

We can predict if sheep numbers are stable or if they are increasing or decreasing based on changes in the sex and age composition from year to year. This way of estimating sheep numbers is especially important in years between helicopter counts. A community-based

program should be used to monitor composition, and other aspects of the sheep population (See Action 4).

Task	Who	When
11. Monitor lamb survival and ratio of ewes: rams and ewes: nursery sheep.	GNWT, YG, GRRB	From aerial survey every 3 to 5 years
12. Have local people that are on the land count the number of ewes, lambs, and rams to determine how well the population is reproducing each year.	See task 13 (below)	Early, and every year

Action 4: Design a community-based monitoring project.

There is a lot of information about sheep that can be collected by people as part of their on-the-land activities. This is the least expensive way to monitor sheep but it is the most difficult to set up and run each year. The community-based monitoring project needs to be well designed and include all partners for it to work well. In order for this to work there needs to be a primary coordinator.

Task	Who	When
13. Assign a primary coordinator and design a community based monitoring program that is first focussed on harvest and lambing, but can also include other factors in the future: composition, lamb survival, kill locations and habitat use.	All partners	Early
14. Consult with each community and set up an effective monitoring program that reflects each community's capacity and interest (see Task 13). Establish annual funding.	Primary coordinator , all partners Apply to YG, GNWT, GRRB, GTC, INAC and other appropriate sources for funds	Early
15. Assess community monitoring program and make necessary changes.	Primary coordinator and all partners	Mid to late
16. Collect additional information and traditional knowledge to indicate population trend.	All partners	Ongoing

Action 5: Establish indicators that show if the sheep population is having problems

Information collected from aerial counts of sheep and community monitoring can be used to predict if the population size is declining, stable, or increasing. There should be an agreement reached on what indicators will be used to predict the population trend in the years between aerial counts.

Task	Who	When
17. Establish list of indicators of sheep population having problems.	YG, GNWT, GRRB	Early
18. Determine acceptable criteria for establishing trends (see Action 6).	All partners	Early to Mid

Action 6: Alter monitoring frequency based on sheep population size and trend

The schedule for monitoring the population depends on whether sheep numbers continue to decline, stabilize or increase in the next few years. The governments of the Northwest Territories and the Yukon are responsible for conducting aerial counts. Community monitoring and indicators established (see action 5) should help determine the trend between counts. A population of more than 500 sheep is considered “low risk”. If numbers fall lower, aerial counts should be more frequent and harvest should become more restricted (see Action 2 under Harvest). Fewer than 350 sheep is considered at “high risk” and aerial counts should then be the most frequent. Should the population fall to these low levels, studies to determine the causes of the decline should be developed and reviewed with all partners. Actions 7, 8 and 9 are intended to provide ongoing baseline information about sheep. Ways to help the recovery of the population should be based on the best available research.

Table 2. Protocol for monitoring sheep based on population size and trend.

Below 500 sheep but not declining	Below 500 sheep and still declining	Below 350 sheep
If the population falls below 500 sheep (not including lambs) and the community monitoring system shows the population is not still declining then aerial counts should be every 3 years. Ensure lamb recruitment is collected annually.	If the population falls below 500 sheep (not including lambs) and the community monitoring system shows the population is still declining , then aerial counts should be every two years. Ensure lamb recruitment is collected annually.	If the population drops below 350 sheep then aerial count should be repeated in the next year, and every two years thereafter. Ensure lamb recruitment is collected annually.

Action 7: Study the importance of natural predation on sheep population

Predation, particularly on lambs, can have a strong effect on sheep population dynamics. A predation study was started in 2006 due to community concerns. To protect radio-collared sheep, the location information should not be public knowledge in case people use the information to locate and hunt radio-collared sheep. If a collar's radio signal is unchanging it means the animal is dead. These collars should be investigated in a timely manner.

Task	Who	When
19. Complete ecology study of Dall's sheep and their predators (grizzly bears and wolves) on Black Mountain.	GRRB, University of Alberta	2006-2009

Action 8: Study the effects of disease and parasites on sheep population

Monitoring the prevalence of disease and parasites is an important indicator of the long-term health of the population. Climate change may cause an increase in the numbers of parasites, or a change in the kind of parasites present.

Task	Who	When
20. Do long term monitoring of trends in disease and parasites by collecting samples from sick or diseased animals to determine cause (see Action 9).	Hunters collect biological samples incidentally GNWT, YG provide timely results to community and hunters	Ongoing

Action 9: Develop system for collecting biological samples provided by hunters

Biological samples can help us understand factors that influence sheep population performance and health. We can learn a lot about the physical condition of sheep by encouraging hunters to provide samples of sick animals they harvest. We can also monitor the long-term health of sheep by developing a detailed schedule for collecting other scientific samples.

Task	Who	When
21. Review literature to determine important sheep health issues which can affect the population.	YG, GNWT, GRRB	Early
22. Recommend methods to collect samples from hunters for monitoring condition, diseases, health, and parasite effects on the population.	GRRB, YG, NWT	Mid to Late

23. Continue to collect samples from sick or diseased animals to monitor health and provide feedback to hunters (see Action 8).	GNWT, YG	Ongoing
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Action 10: Study the genetics of Dall’s sheep in the Northern Richardson Mountains

The addition of genetic information from Dall’s sheep in the Northern Richardson Mountains will provide knowledge about the genetic variability of northern sheep, and how these sheep are related to surrounding populations (see Map 1).

Task	Who	When
24. Collect horn core samples as part of the ongoing harvest monitoring programs.	GNWT, YG	Ongoing

ELEMENT 3: HABITAT

Objective: Key habitats of Dall’s sheep should be conserved, and human activities should not reduce the ability of the range to support sheep

Sheep in the Northern Richardson Mountains are one of the most northern populations in the world. Key habitats include winter range, lambing cliffs, salt licks and migration corridors. Great care and attention needs to be given to sheep habitat to ensure that human activities do not reduce the ability of the land to support sheep now or in the future.

Action 1: Design an effective, affordable, and reliable system for monitoring changes to sheep range and key habitats

Monitoring the sheep range can reveal changes to habitats and potential effects on the sheep population. We need to review the information and recommend projects that will monitor appropriate factors to address the key risks to sheep habitats.

Task	Who	When
25. Review literature to evaluate key risks to sheep range such as climate change, overgrazing, and competition with other species.	GRRB, YG, GNWT	Early
26. Evaluate and if required, recommend habitat monitoring projects.	GRRB, YG, GNWT	Late

Action 2: Map key habitats and vegetation of sheep range in the Northern Richardson Mountains

Information about the habitat and vegetation used by sheep in the Northern Richardson Mountains allow us to monitor and evaluate human effects on the sheep and their range. There have been various land use plans that include mapping and conservation designations for key sheep habitat in the Northern Richardson Mountains including: Beaufort Sea Integrated Management Planning Initiative, the Gwich'in Land Use Plan, North Yukon Land Use Plan (in review) and the Protected Areas Strategy. The habitat information in these plans and any new information needs to be brought into one place and stored in a form that is easily used by all partners. Once this information is collected and organized, we need to evaluate our knowledge about key Dall's sheep habitats, and determine if more information is required.

All partners are responsible for the security of their own information. The partners agree to share the map products derived from information in a manner that can be used by all without compromising the protection of the source information. This is important so that everyone has the most complete picture possible of the important sheep habitats in the Northern Richardson Mountains.

Task	Who	When
27. Develop standard steps to make decisions and share information about the locations of sensitive sheep habitat (for example: salt lick locations).	VGG-Heritage, GRRB, GNWT, YG, in consultation with RRCs and AHTC	Early
28. Review and collect key habitat information based on scientific studies and Traditional Knowledge. Key habitat mapping information resulting from this review will be stored in protected GIS databases held by the appropriate Parties.	GNWT, GRRB, VGG, YG	Mid
29. If required, hold workshop in communities to review key sheep habitat maps.	GNWT, GRRB, YG	Late if workshop is required
30. Collect vegetation information from previous research in Northern Richardson Mountains and evaluate if information helps understand sheep range.	GRRB , GNWT, YG	Early

Action 3: Evaluate and reduce the effects of access and disturbance by human activities on sheep range use

We need to review the type and amount of human activities that are currently allowed and already happening in the Northern Richardson Mountains. The Gwich'in Land Use Plan and the Aklavik Community Conservation Plan recognize the importance of Dall's sheep habitat in the Northern Richardson Mountains. Both plans recommend restricting certain land use in key sheep habitats. We also need to develop and use a set of guidelines and recommendations for proposed land use activities that are based on what has worked well in other places under similar circumstances to help reduce the effects of these activities on sheep range. These guidelines could become more restrictive when sheep population is low.

Task	Who	When
31. Review current land-use plans, Community Conservation Plans, and evaluate effects of access, tourism, and industrial development on sheep range use.	VGG – North Yukon Land Use Plan GRRB – Gwich'in Land Use Plan AHTC, IGC –Community Conservation Plan	Ongoing Early Early
32. Develop guidelines to mitigate effects of human activities on sheep and sheep range.	YG All Partners review	Early
33. Review guidelines with stakeholders.	All Partners	Early
34. Provide these guidelines for doing environmental assessments on proposals on or near sheep range.	All partners	Mid-late

Action 4: Recognize that there is an interest in tourism and work to ensure it does not affect the sheep population and their key habitats, or traditional hunting.

Tourism is a potential activity on sheep range. Individuals have identified an interest in providing commercial sheep viewing opportunities. In order to ensure there is no conflict with other activities - including aboriginal harvesting - partners need to develop guidelines to decide where and when commercial sheep watching should be allowed.

Task	Who	When
35. Discuss community interest in any sheep viewing projects with all partners.	All partners	Ongoing
36. Identify where and when to consider sheep viewing activity.	All partners	Late

ELEMENT 4: HARVEST

Objective: Harvest should be sustainable and not cause the population to decline

Vuntut Gwitchin, NWT Gwich'in, and Inuvialuit hunters traditionally harvest sheep in the Richardson Mountains. There is also a small harvest by residents of the Yukon. To ensure harvesting is sustainable we need estimates of the number and sex and age of all sheep harvested by all users. Harvesters need to understand they can affect the population - especially when numbers are low. Hunters can also play a key role in our understanding of the health of sheep by collecting biological samples to check for disease, parasites and to determine genetics.

Action 1: Design and implement a coordinated, affordable, and reliable harvest monitoring program for all users

Sheep numbers have declined in the past years and there is a need to ensure that hunting does not cause a further decline. Wildlife harvesting information has happened in different parts of the Northern Richardson Mountains at different times over the last twenty years. Sheep harvest tends to increase when Porcupine caribou are not available. Getting a good estimate of the number of sheep taken by all hunters each year in the Northern Richardson Mountains is essential to good harvest management.

Recommendation 3: For Dall's sheep to be managed cooperatively in the Northern Richardson Mountains, the number of animals taken by all hunters should be collected every year. A harvest study of all important fish and wildlife –including Dall's sheep - should be carried out and the information freely shared among the partners.

Task	Who	When
37. Review harvest monitoring projects used in NWT and Yukon Territory, and provide list of necessary information to collect.	YG	Early
38. Evaluate harvest monitoring designs and recommend one for sheep.	All partners	Early
39. Implement harvest monitoring program.	All partners	Mid

Action 2. Change harvest management based on population size and trend

Based on historical recovery of this population from known low population size, the ecology of this species and population, and the precautionary principle, the working group has set these definitions of low and high risk as current values to direct management actions. As described below in Action 3, these values are subject to change based on a completed Population Viability Analysis, which has yet to be done for sheep. Depending on the results of the analysis, methods for harvesting sheep could change.

Managing harvest is one of the first things that can be done should sheep numbers fall to low levels in the next five years. Hunting restrictions should become stronger the lower the sheep population size. All efforts should be made to make sure sheep numbers remain above 500 animals, and harvest restrictions are not needed. All harvest, including by beneficiaries, should be stopped if numbers fall below 350 sheep. These thresholds also determine changes to population monitoring schedules (See Action 6, Element 2). To be proactive, other harvest management options need to be considered and these may vary depending on community. Implementation of harvest restrictions shall be in accordance with existing frameworks as outlined in the Vuntut Gwitchin Final Agreement, the Gwich'in Comprehensive Land Claim Agreement, and the Inuvialuit Final Agreement.

Task	Who	When
40. Implement harvest conservation measures to limit harvest, if required, as outlined based on population size.	All partners (include recommendation letter to appropriate Ministers)	When required
41. Evaluate other harvest management options, such as tags, male-only hunts, aircraft restrictions, and downtime.	All partners	Mid to late

Table 3. Recommended harvest responses based on sheep population size and trend.

Population falls to between 500-350 animals	Population falls below 350 animals	Population increases above 350 animals
Beneficiary harvest is voluntarily closed and all other hunting is closed.	All hunting stops by legislation.	The legislated closure of beneficiary harvest is immediately lifted, and returns to a voluntary closure.
Investigate other harvest management options.		
Required reporting of sheep harvest.		Required reporting of sheep harvest.

Action 3: Evaluate the ability of the sheep population to support other harvesting opportunities including resident and commercial outfitting in the Northern Richardson Mountains

A Population Viability Analysis (PVA) on this sheep population should be done. It can estimate the likelihood of the herd size increasing, decreasing or staying the same under different ecological conditions. This evaluation needs to be completed to review the sustainability of current and future harvest plans. It might also change the thresholds of 500 and 350 animals that are set in this plan. There needs to be an agreed upon criteria to allocate harvest fairly when the population can sustain non-beneficiary harvest. A small resident permit hunt happens annually on the Yukon side, and some people are interested in commercial guiding of sheep hunts on the NWT side. There is also significant opposition to any change from beneficiary-only use in some communities. These interests need to be resolved fairly and openly.

Task	Who	When
42. Complete a population viability analysis of hunting at different possible herd sizes and provide this information to the users.	GRRB, YG, GNWT	Early
43. Consult with community groups on allocation of harvest when population is more than 500 sheep.	GRRB, VGG, GTC, IGC, WMAC (NS), YG, GNWT	Early
44. Provide recommendation on allocation of harvest based on community consultations.	GRRB, GTC, IGC, WMAC (NS), YG, GNWT	Early

Action 4: Improve understanding by hunters of the effects of their harvest on sheep population dynamics in the Northern Richardson Mountains

It is important for hunters to understand how their harvest affects the sheep population. Hunters need to know what has been decided in this plan and the role they play in conservation. Key issues for hunters to understand include: legal rights, voluntary restrictions, taking animals for trophy sale, the wastage of meat, wounding of animals and traditional hunting ethics - for example: taking only what you need.

Task	Who	When
45. Continue to inform hunters about the management of sheep hunting in the plan (pamphlet, poster, radio, meetings, hunter education programs).	All partners	At the time plan is released, and ongoing

ELEMENT 5: EDUCATION AND INFORMATION EXCHANGE

Objective: Communities in the region should be well informed about the Dall’s sheep population in the Northern Richardson Mountains

The successful management of sheep requires that communities that use sheep be knowledgeable and informed about how the population is doing from year to year, and what the most important factors are that affect sheep numbers each year. This is important for community-based monitoring programs to work.

Action 1: Continue to educate youth in the region about sheep biology and management in the Northern Richardson Mountain

It is important to provide information to youth about sheep including traditional knowledge, biology, hunting practices, and this management plan. For example, students of Moose Kerr School in Aklavik have visited sheep range through one of their school courses. Involving youth in research and monitoring programs will help to ensure long-term conservation of the resource.

Task	Who	When
46. Develop hunter education project for youth interested in hunting sheep.	YG, GNWT in cooperation with all partners	Late

47. Include opportunities for youth to participate in sheep research and community monitoring projects, whenever possible.	All partners	Ongoing
48. Encourage sheep researchers to visit the schools and talk to youth about the research and management issues.	All partners	Ongoing

Action 2: Inform the communities about sheep management plan and research programs

It is essential that communities understand the management plan recommendations, and why research is done. Possible information tools include newsletters, posters, reports, websites, public meetings, RRC and AHTC meetings, and the Yukon Fish and Game Association newsletter. There is a need to ensure the message is consistent to all of the Yukon and Northwest Territories public. Sharing materials between partners saves time, increases efficiency and provides a consistent message.

Task	Who	When
49. Inform the communities and the partners about sheep management and research projects.	All partners	Ongoing as needed
50. Share informational materials between all partners to allow for consistent messages.	All partners	Ongoing

APPENDIX A – TERMS OF REFERENCE OF THE TECHNICAL WORKING GROUP

NORTH RICHARDSON MOUNTAINS DALL’S SHEEP MANAGEMENT PLAN

WORKING GROUP TERMS OF REFERENCE

WHEREAS the North Richardson Mountain Dall’s Sheep (NRMDS) historically move between the Northwest Territories and the Yukon;

AND WHEREAS the continued well-being of this population and the maintenance of their habitat requires coordinated and collaborative management, goodwill and co-operation between the two territories;

AND WHEREAS it is recognized that, as well as the value of the Dall’s sheep to Canadians generally; a special relationship exists between the aboriginal users and this population;

A Working Group be established as per these terms of reference.

A. Definitions

In this TOR:

- “North Richardson Mountains Dall’s Sheep” means those Dall’s Sheep (*Ovis dalli dalli*) that regularly use the that portion of the Richardson Mountains as identified on the map in Appendix A, and historically move back and forth between the Yukon and Northwest Territories.
- “Habitat” means the whole or any part of the biosphere upon which the North Richardson Mountains Dall’s Sheep population depends, including all of the land, water and air that it inhabits, crosses or utilizes at any time.
- “Consultation” means the provision, to the party to be consulted, of notice of a matter to be decided in sufficient form and detail to allow that party to prepare its views on the matter; the provision of a reasonable period of time in which the party to be consulted may prepare its views on the matter, and provision of an opportunity to present such views to the party obliged to consult; and full and fair consideration by the party obliged to consult of any views presented;

B. Objectives

1. Recognize and protect the rights of aboriginal users as set out in the Umbrella Final Agreement, the Gwich'in Comprehensive Land Claim Agreement and the Inuvialuit Final Agreement while providing appropriate access and recognition to other lawful harvests and non-consumptive uses.
2. To recommend to the appropriate responsible parties a five-year Management Plan for the North Richardson Mountains Dall's Sheep population and its habitat in accordance with the principles set out in Section E below.
3. To recommend a process of shared responsibility for the implementation of the Plan.
4. To promote and strengthen communication and sharing of information among all groups interested in or affecting the management of the North Richardson Mountains Dall's Sheep population and their habitat.

C. Membership of the Working Group

The Working Group will be composed of one representative from each of the following:

- The Department of Environment (YTG)
 - The Department of Environment and Natural Resources (GNWT)
 - Vuntut Gwitchin Government Natural Resources Department
 - Gwich'in Tribal Council
 - North Yukon Renewable Resources Council
 - Gwich'in Renewable Resource Board
 - Inuvialuit Game Council
 - Yukon Fish and Wildlife Management Board
 - Wildlife Management Advisory Council (NS)
1. Each member may choose an alternate to participate in the event the representative is not available.
 2. Members and alternates shall be knowledgeable, willing and able to bring forward the interests and opinions of their constituents and in turn provide information and feedback from the Working Group to their constituents.
 3. The YTG and GNWT shall be responsible for representation of the public interest and groups without membership on the Working Group such as outfitters, industry, and environmental organizations.

D. Working Group Responsibilities

The Working Group shall have the following duties and responsibilities:

1. To prepare a work plan, including at minimum:
 - a) a detailed task list;
 - b) a schedule;
 - c) a budget; and
 - d) provisions for consultation and communications.

2. To prepare, within one year, a draft plan for the conservation and management of the North Richardson Mountains Dall's Sheep and their habitat. The Management Plan shall address, but is not limited to the following:
 - (a) monitoring the status of the population and its habitat;
 - (b) habitat management and conservation;
 - (c) research priorities;
 - (d) standardized data collection and presentation;
 - (e) sustainable harvest of this population;
 - (f) guidelines for regulating the methods of harvest;
 - (g) a process for implementation of the plan; and
 - (h) a process for review and revision of the plan.

3. To review and compile public and community consultations needed to obtain meaningful input for plan preparation and to report to users on its findings and progress.

4. To recommend the draft Management Plan to appropriate responsible parties for review, approval and implementation.

E. Principles Guiding Development of the Management Plan

The Management Plan shall:

1. Be guided by and implement the principles of conservation, which are:
 - (a) the maintenance of the natural balance of ecological systems;
 - (b) the protection of wildlife habitat; and
 - (c) the maintenance of vital, healthy wildlife populations capable of sustaining lawful harvesting needs.

2. Recognize and protect the rights of aboriginal users while recognizing other lawful harvesters and non-consumptive uses.

3. Be guided by and implement the Precautionary Principle which is: in the absence of complete information, where there are threats of serious or irreparable damage, lack of complete certainty shall not be a reason for postponing reasonable conservation measures.
4. Make full use of the best available scientific and Traditional Knowledge.
5. Recognize and respect differences and similarities in approach to Traditional Knowledge and scientific data collection and analysis.
6. Recognize the interconnection of the Dall's sheep with other components of the physical, biological and cultural environment.
7. Be guided by the past, present and future experience, knowledge and values of northern peoples.

F. Working Group Rules and Procedures

1. The Working Group will establish from time to time rules and procedures for its functioning, including among other things that:
 - (a) a facilitator will be used to chair and facilitate meetings of the Working Group;
 - (b) decisions of the Working Group will be made by consensus (to be defined by the Working Group);
 - (c) where consensus cannot be reached and where appropriate, the dissenting view will be included along with the majority view;
 - (d) the Working Group will keep minutes and records of all its meetings, circulate them amongst its members and make them available to the public;
 - (e) the proceedings of the Working Group will be open to the public;
 - (f) the Working Group will make use of teleconferences to conduct business whenever appropriate;
 - (g) meetings will be held in communities or locations within or immediately adjacent to the North Richardson Mountains Dall's Sheep range whenever possible; and
 - (h) public comments and presentations will be encouraged.
2. Any disputes regarding the interpretation or implementation of this TOR will be resolved only by the participants.

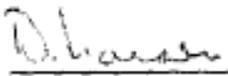
G. Funding for the Working Group

1. All Parties will be responsible for expenses of their representatives and/or alternates on the Working Group.
2. The YTG and GNWT will, subject to the terms and conditions of this TOR and to funds being appropriated by their respective legislative authorities, provide funds necessary to ensure that the Working Group is able to function in the manner as stated above.
3. For greater certainty, the YTG and GNWT will provide for facilitation, meeting facilities, translation and interpretation (if required) and secretariat support.

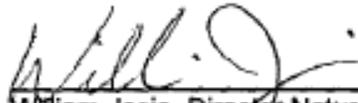
H. General

1. All reports, summaries or other documentation prepared or otherwise completed under these TOR will become the joint property of all members of the Working Group.
2. This TOR will be terminated once the five-year plan has been recommended to the appropriate parties.
4. This TOR may be extended or amended with the unanimous approval of the Parties hereto.
5. This TOR is without prejudice to any:
 - (a) Rights or responsibilities of each of the governments with respect to consideration and approval of the Management Plan prepared by the Working Group; or
 - (b) Existing Aboriginal or treaty rights of any Party to the TOR;
6. In recognition of the importance of this population of Dall's Sheep and its habitat, the decision not to accept these TOR or the withdrawal of any of the Parties from these TOR will not preclude the remaining Parties from continuing with the objectives and processes set out in the TOR.

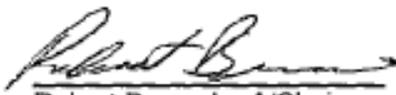
THE PARTIES HERETO HAVE EXECUTED THIS TERMS OF REFERENCE as attested by the signatures of their officers duly authorized for such purposes.


For Harvey Jessup, A/Director
Department of Environment
Yukon Government

March 7, 2006
Date


William Josie, Director Natural Resources
Vuntut Gwitchin Government

Date


Robert Bruce Jr., A/Chair
North Yukon Renewable Resource Council

March 8, 2006
Date


Frank Pokiak, Chair
Inuvialuit Game Council

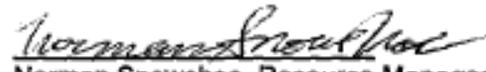
Date


Lindsay Staples, Chair
Wildlife Management Advisory Council (NS)

Date


Ron Morrison, Superintendent
Department of Environment and Natural
Government of Northwest Territories

Date


Norman Snowshoe, Resource Manager
Gwich'in Tribal Council

Date

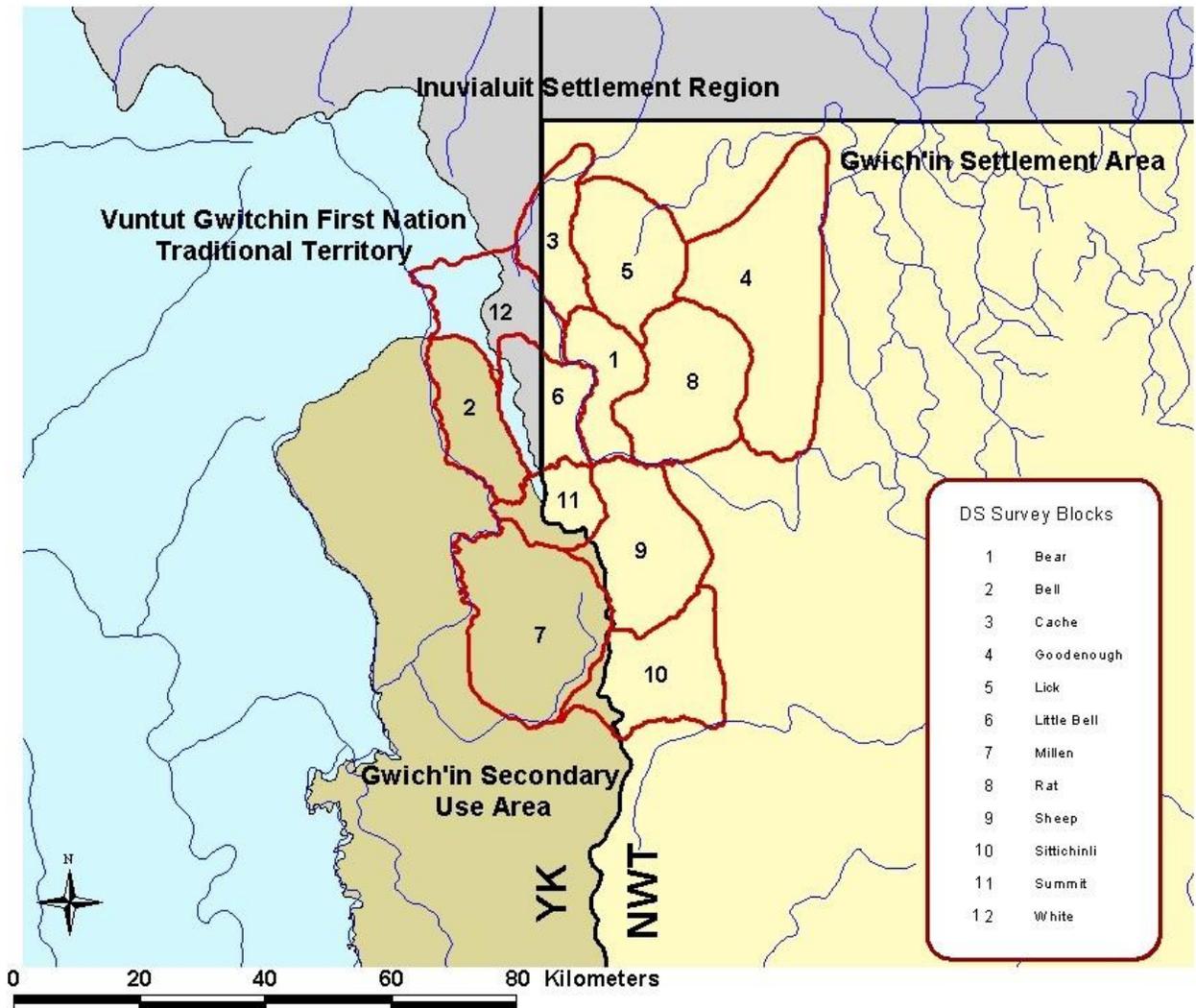

Robert Charlie, Chair
Gwich'in Renewable Resource Board

Date


Dar McDermid, Chair
Yukon Fish and Wildlife Management Board

Date

APPENDIX A *Continued*



Map A. North Richardson Mountains Dall's Sheep Management Area

APPENDIX B – NORTHERN RICHARDSON SHEEP TECHNICAL WORKING GROUP WHO DEVELOPED THE PLAN

The individuals representing the members of the working group was dynamic. The table below lists who was in attendance for each organization at each meeting. The TOR states that the working group is comprised of one representative from each organization however all meetings held were open. Therefore, in addition to the working group members, a list of other attendees is included in the table.

Organization	March 15/16 th , 2006, Inuvik, NT	October 13-15 th , 2006, Aklavik, NT	October 27/28 th , 2006, Inuvik, NT	April 4, 2008, Inuvik, NT
Working Group				
VGG, Natural Resources	Melissa Valja	Sonja Foss	Sonja Foss	Jennifer Lee
GTC, Lands Resources and Implementation	Norman Snowshoe	Glen Alexie	Glen Alexie	Jozef Carnogursky
NYRRC	Robert Bruce	Dennis Frost		
GRRB	Catherine Lambert	Amy Thompson	Amy Thompson	Kristen Callaghan
IGC	Dennis Arey	Dennis Arey	Dennis Arey	
WMAC (North Slope)	Danny C. Gordon	Danny C. Gordon	Danny C. Gordon	
YFWMB	Randal Tetlich	Randal Tetlich	Randal Tetlich	
YG, Department of Environment (DOE), Whitehorse	Jean Carey	Jean Carey	Jean Carey	Jean Carey
GNWT, Department of Environment and Natural Resources (ENR), Inuvik	Marsha Branigan	Marsha Branigan	Marsha Branigan	Marsha Branigan
Others in Attendance				
VGG, Natural Resources	Georgie Moses	Georgie Moses	Georgie Moses	
NYRRC	Darcie Matthiessen			
GRRB		Amy Thompson	Amy Thompson	Amy Thompson Melody Nice-Paul
YFWMB	Graham Van Tighem			
YG, DOE, Dawson City	Dorothy Cooley	Dorothy Cooley	Dorothy Cooley	
GNWT, ENR, Inuvik	Tracy Davison	Tracy Davison	Tracy Davison	Rose Adams
Tetlit Gwich'in RRC	James Andre Neil Colin			
Ehdiitat Gwich'in RRC		Fanny Greenland Jerome Gordon Richard Ross Eddie Greenland James Edwards Ian McLeod		
Aklavik HTC		Billy Archie Winnie Elanik		
Facilitator		Bob Hayes	Bob Hayes	Bob Hayes

APPENDIX C – CONTACT INFORMATION FOR PARTNERS OF THE PLAN

Acronym	Organization	Contact	Address	Phone
VGG	Vuntut Gwitchin Government	Director of Natural Resources Department	PO Box 94 Old Crow, YK Y0B 1N0	(867) 966-3261
GTC	Gwich'in Tribal Council	President	PO Box 1509 Inuvik NT X0E 0T0	(867) 777-7900
NYRRC	North Yukon Renewable Resources Council	Chair	PO Box 80 Old Crow, YT Y0B 1N0	(867) 966-3034
GRRB	Gwich'in Renewable Resource Board	Chair	PO Box 2240 Inuvik, NWT X0E 0T0	(867) 777-6600
IGC	Inuvialuit Game Council	Chair	PO Box 2120 Inuvik NT X0E 0T0	(867) 777-2828
EGRRC	Edhittat Gwich'in Renewable Resources Council	President	PO Box 118 Aklavik, NT X0E 0A0	(867) 978-2336
TGRRC	Tetlit Gwich'in Renewable Resources Council	President	PO Box 30 Ft McPherson, NT X0E 0T0	(867) 952-2330
GRRC	Gwichya Renewable Resource Council	President	General Delivery Tsiigehtchic, NT X0E 0B0	(867) 953-3608
NRRC	Nihtat Renewable Resource Council	President	PO Box 2570, Inuvik, NT, X0E 0T0	(867) 777-6652
AHTC	Aklavik Hunters and Trappers Committee	President	PO Box 151 Aklavik, NT X0E 0A0	(867) 978-2723
WMAC (NS)	Wildlife Management Advisory Council (North Slope)	Chair	PO Box 31539 Whitehorse, YT Y1A 6K8	(867) 633 -5476
YFWMB	Yukon Fish and Wildlife Management Board	Chair	PO Box 31104 Whitehorse, YK Y1A 5P7	(867) 667-3754
YG	Yukon Government	Minister of Environment	PO Box 2703 Whitehorse, YK Y1A 2C6	(867) 667-5806
GNWT	Government of the NWT	Minister, Department of Environment and Natural Resources	PO Box 1320 Yellowknife, NT X1A 2L9	(867) 669-2377

APPENDIX D – CONTACT INFORMATION FOR THE IMPLEMENTATION TEAM

The Implementation team is responsible for ensuring that the tasks in this plan are completed. The contact position that would be responsible for implementing the plan for each organization needs to be determined.

Acronym	Organization	Contact	Address	Phone / FAX
VGG	Vuntut Gwitchin Government	Director of Natural Resources Department	PO Box 94 Old Crow, YK Y0B 1N0	(867) 966-3261 (867) 966-3800
GTC	Gwich'in Tribal Council			
NYRRC	North Yukon Renewable Resources Council			
GRRB	Gwich'in Renewable Resource Board		PO Box 2240 Inuvik, NT, X0E 0T0	
IGC	Inuvialuit Game Council			
TGRRC	Tetlit Gwich'in Renewable Resource Council		PO Box 30 Fort McPherson, NT, X0E 0J0	
GRRC	Gwichya Renewable Resource Council		General Delivery Tsiigehtchic, NT, X0E 0B0	
NRRC	Nihtat Renewable Resource Council		PO Box 2570, Inuvik, NT, X0E 0T0	
AHTC	Aklavik Hunters and Trappers Committee			
WMAC (NS)	Wildlife Management Advisory Council (North Slope)			
YFWMB	Yukon Fish and Wildlife Management Board			
YG	Yukon Government			
GNWT	Government of the NWT	Manager, Wildlife Management	ENR, Bag Service #1 Inuvik, NT X0E 0T0	(867) 777-7310 (867) 777-7236

APPENDIX E. OTHER DEFINITIONS

Gwich'in Traditional Knowledge: Gwich'in Traditional Knowledge is that body of knowledge; values, beliefs and practices passed from one generation to another by oral means or through learned experience, observation and spiritual teachings, and pertains to the identity, culture and heritage of the Gwich'in. This body of knowledge reflects many millennia of living on the land. It is a system of classification, a set of empirical observations about the local environment and a system of self-management that governs the use of resources and defines the relationship of living beings with one another and with their environment.

Source: Gwich'in Tribal Council Traditional Knowledge Policy 2004.

Local Knowledge: Local knowledge originates from persons with experience and observations of a particular environment, irrespective of aboriginal status, genetics or heritage.

Source: paraphrased from a definition of TEK in Usher, P.J. 2000. Traditional Ecological Knowledge in Environmental Assessment and Management, Arctic 53: 183-193.

Appendix F. Comment on Community Concern Regarding Impact of Muskoxen on Dall's Sheep

Action items included in this plan have been given priority over other possible actions based on their relative importance to the management of this Dall's sheep population and by the likelihood that working group partners can accomplish tasks identified in the plan within the timeframes specified. Some community members have raised concerns about the impact of muskoxen on Dall's sheep and have suggested that potential interactions between the two species within the Northern Richardson Mountains be identified and investigated. This is a worthwhile endeavor and such research is acknowledged for its potential value. At this time, partners to the plan do not have the capacity to undertake this research and have currently ranked other actions higher based on their immediate value to Dall's sheep management. Investigating interactions between these species will be considered again during future reviews of the finalized management plan.