



March 2, 2020

Hon. Shane Thompson, Minister
Environment and Natural Resources
Government of the Northwest Territories
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Yellowknife, NT X1A 2L9
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Via Email
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Grand Chief George Mackenzie
Tłıchǫ Government
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Behchokò, NT X1A 1Y0
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Re: Information Request Round No.1 – Dìga (Dìga) Joint Management Proposal

Dear Minister Thompson & Grand Chief Mackenzie:

On January 31, 2020, the WRRB received a joint management proposal from Tłıchǫ Government (TG) and Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT), entitled “*Joint Proposal on Management Actions for Dìga (dìga) on the Bathurst and Bluenose-East Barren-ground Țekwò (Țekwò) Herd Winter Ranges: 2020 – 2025*”, which outlines proposed management for dìga in Wek'èezhì. The Board opened the 2020 Dìga Management Proceeding on March 2, 2020.

Following review of the dìga joint management proposal by the Board and its advisors, the WRRB has prepared and attached a list of information requests for both TG and ENR's response. **Responses must be received by no later than 5:00 p.m. on March 13, 2020.**

If you have any questions, please contact our office at (867) 873-5740 or jpellissey@wrrb.ca.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Judas", is written over a light blue circular background.

Joseph Judas
Chair

Attachment

Cc Dr. Erin Kelly, Deputy Minister, ENR-GNWT
Brett Elkin, A/Assistant Deputy Minister, Operations, ENR-GNWT
Bruno Croft, Superintendent, North Slave Region, ENR-GNWT
Laura Duncan, Tłıchǫ Executive Officer, TG
Tammy Steinwand-Deschambeault, Director, Culture and Lands Protection, TG
Michael Birlea, Manager, Culture and Lands Protection, TG

Dìga Joint Management Proposal Information Requests Round No.1

Science-related Information Requests; IRs #1-10:

Information Request #1 – Goals & Objectives:

- a) Please confirm that ʔekwò (barren-ground ʔekwò) recovery for the Bathurst and Bluenose-East herds is the joint management proposal's goal.
- b) Please provide objectives for TG/GNWT's joint management proposal's goal.
- c) Please include an objective for stopping points, including when enough dìga have been removed to achieve the goal of ʔekwò recovery in the five-year period.
- d) Please explain if, and, how the enhanced incentive and TG training program will transition from dìga removal to sustainable harvesting.

Parties Responsible: Tłchq Government and Environment and Natural Resources

Rationale for IR #1:

- a) The joint management proposal states *“To promote recovery of these two herds, it is our goal to increase survival rates of caribou and overall population growth through harvest management and wolf removal”*, but also the proposal's goal is given as the 60-80% removal of the dìga. In Section 3.4, dìga removal is also mentioned as an objective, which is confusing.
- b) The joint management proposal needs objectives, which are concrete statements so success or failure can be ascertained.
- c) The Dìga Technical Feasibility Assessment mentions that objectives should include criteria for when to halt dìga removal (including the incentive and training program). Stopping points may be based on the extent of ʔekwò recovery or if the removal is ineffective, inefficient or inhumane.
- d) See rationale for 1 c).

Information Request #2 – Dìga Removal Levels:

- a) Please clarify how the dìga removal target levels for the Bathurst and Bluenose-East herd winter overlaps were determined.
- b) Please clarify why the dìga removal levels are 300 when the Bathurst herd overlaps the Bluenose-East herd on the winter range but is not stated when the Bathurst herd overlaps the Beverly-Ahiak herd.

Parties Responsible: Environment and Natural Resources

Rationale for IR #2:

- a) The rationale for the number of dīga to be removed is first, the 60-80% rule of thumb, and second, computer model projections. The numbers of dīga associated with the Bathurst and Bluenose-East herds is uncertain, which questions applying the rule of thumb of 60-80% dīga removal. The Joint Management Proposal's Appendix E suggests that indicators for dīga numbers for the Bathurst range converge between 100-200 dīga but there was no equivalent for the Bluenose-East herd. The Feasibility Assessment modeling did not address the Bluenose-East herd or when the Bluenose-East and Bathurst herd overlap on the winter range.
- b) The TG/GNWT joint management proposal does not describe effects on the Bathurst herd recovery if there is an influx of dīga when the larger Beverly/Ahiak herd overlaps the Bathurst herd's winter range.

Information Request #3 – Overlapping Winter Distribution:

- a) Please provide the report on the analysis of ʔekwò herd winter distribution to determine the overlap in winter distribution between neighboring herds, referenced in the TG/GNWT joint management proposal.
- b) Please explain how TG/GNWT defines 'overlapping winter distribution' relative to setting the herd-specific targets.
- c) Please clarify how dīga removed during the Tłıchǫ training program, GNWT's Enhanced North Slave Dīga Harvest Incentive Program and the Nunavut harvester's dīga removals will be attributed to a specific herd?

Parties Responsible: Tłıchǫ Government and Environment and Natural Resources

Rationale for IR #3:

- a) The TG/GNWT joint management proposal explains that geospatial analyses have been undertaken to describe annual changes in the extent of ʔekwò herd overlap.
- b) The TG/GNWT joint management proposal does not discuss what is meant by 'overlap', if and how it changes during the winter and how it will be defined.
- c) The TG/GNWT joint management proposal's emphasis is how the aerial shooting of dīga will be allocated among the herds based on the ʔekwò collars. However, there is no mention of how dīga removed on the basis of other approaches to dīga removal will be allocated among the herds.

Information Request #4 – Pauses When Overlap Beverly/Ahiak ʔekwò:

- a) Please explain the risks for ʔekwò recovery during the winters when the three herds overlap (Beverly/, Bathurst and Bluenose-East), which means a likely influx of dīga onto the Bathurst herd's range and the aerial component of dīga removal will not be undertaken.

Parties Responsible: Environment and Natural Resources

Rationale for IR #4:

- a) Modeling in the Dìga Technical Feasibility Assessment to project the number of dìga to achieve ʔekwò recovery assumes annual removal and does not project how an annual pause in dìga removal would affect ʔekwò recovery. Dìga can double their numbers in 2-3 years, which suggests that even one year without dìga removal may increase dìga numbers the following year.

Information Request #5 – Sections 3.1 & 3.5 – Dìga Joint Management Proposal:

- a) Please clarify whether Catch per Unit Effort (CPUE) will be applied to the aerial shooting and how CPUE will be used to generate a relative index of dìga numbers on the winter ranges when neighboring herds overlap.

Parties Responsible: Environment and Natural Resources

Rationale for IR #5:

- a) While it is clear that CPUE is a recognized technique, the joint management proposal does not mention whether CPUE has been applied to dìga removal elsewhere and whether CPUE has been applied when a population is reduced to 20-40% of its starting size. The effects of pack size changes, flight distances and possible Allee effects are not included as potential limitations to an index to dìga numbers. The applicability of CPUE as an index will depend on allocation between herds when they overlap in winter distribution.

Information Request #6 – Section 3.2 Dìga Collars – Dìga Joint Management Proposal:

- a) Please clarify whether dìga collaring is the joint management proposal's only proposed dìga monitoring other than carcass examination and CPUE.
- b) Please explain how likely is it that 10 dìga /herd (unknown sex ratio) will be an adequate sample size to measure how dìga are travelling among ʔekwò on the winter range; between herds; find den sites and determine fidelity to den sites.
- c) Please clarify if the GPS collared dìga will be used to locate dìga for aerial shooting.
- d) Please explain why dìga, when captured, will not be sterilized.

Parties Responsible: Environment and Natural Resources

Rationale for IR #6:

- a) The joint management proposal does not describe how the dìga collaring fits in an overall monitoring program, including the objectives to measure how the seasonal exposure of ʔekwò to dìga will change during dìga removal and the effects on relative dìga abundance. Other monitoring techniques, such as cluster analysis for GPS locations to index predation rates, would be useful especially for the summer range.
- b) Adequate sample size is essential for drawing any inferences of the effect of dìga removal.

- c) The rationale for clarity about using collared dīga to find dīga during the aerial shooting is to be specific about whether dīga in the collared dīga's pack would be considered for aerial shooting. The Dīga Technical Feasibility Assessment referred to the need to consider dīga as social animals with high social intelligence.
- d) The collared dīga may at least double their numbers during the five-year collaring project.

Information Request #7 – Section 3.3 Biological Research & Monitoring – Dīga Joint Management Proposal:

- a) Please explain why the dīga monitoring does not build on the existing 1996-2013 baseline of den occupancy as an index to relative changes in dīga abundance on the summer range.
- b) Please explain why the rate of dīga sightings during ʔekwò sex and age surveys (fall and spring) and on the calving grounds are not included as an index to relative changes in the exposure of ʔekwò to dīga.
- c) Please confirm that the dīga carcasses are from both the harvested dīga and the dīga killed through the aerial shooting and explain why all carcasses will not be necropsied.
- d) Please describe if dīga reproductive characteristics of dīga carcasses (ovarian or uterine scars, embryos) will be monitored and how humaneness of the harvesting and removal will be monitored during the carcass examination.
- e) Please explain if and how ʔekwò responses during the dīga removal will be monitored to determine if the dīga removal is causing disturbance to the ʔekwò.

Parties Responsible: Environment and Natural Resources

Rationale for IR #7:

- a)-b) TG/GNWT accepted the WRRB's Recommendation #4-2019 (Predator) that "*the WRRB recommends that dīga management should be closely monitored for effectiveness of halting or slowing the decline of the sahtì ekwò and kokètì ekwò herds in order to provide future harvesting opportunities*".[emphasis added] This indicates that an integrated approach, including indices for dīga monitoring, is required.
- c) The joint management proposal describes comparing the dīga by sex, age and herd assignment which suggests that sample size could be a limitation in drawing statistically valid inferences unless all dīga removed are examined.
- d)-e) The Dīga Technical Feasibility Assessment provided details on the required monitoring (location of bullet-wound tracts; samples for stress from hair, blood and fecal) and evaluated removal techniques relative to potential ʔekwò disturbance.

Information Request #8 – Section 3.4 Estimating Actual Dīga Removal Levels – Dīga Joint Management Proposal:

- a) Please explain why monitoring humaneness is not considered along with assessing the efficiency of dīga removal techniques.
- b) Please provide details of approaches to deal with the uncertainty in assigning the dīga removal to individual ʔekwò herds when their winter distribution overlaps.

Parties Responsible: Environment and Natural Resources

Rationale for IR #8:

- a) The Diga Technical Feasibility Assessment identified that one of three monitoring questions was to assess whether diga removal was humane. In 2019, TG/GNWT accepted the WRRB recommendation (#3-2019) that “*TG and ENR should review the Diga Technical Feasibility Assessment: Options for Managing Diga on the Range of the Bathurst Barren-ground ʔekwò Herd*” submitted in November 2017 to determine the most effective, humane and cost-efficient methods that would have the least impact and disturbance on the ekwò herds themselves”. [emphasis added]
- b) The Diga Technical Feasibility Assessment identified a key monitoring question was whether the numerical targets for diga removal were met. The joint management proposal describes how the diga removed would be assigned to the ʔekwò herds based on ʔekwò collars weighted by herd size, but also noted that assignment is uncertain.

Information Request #9 – Section 3.6 – Diga Joint Management Proposal:

- a) Please offer an approach to resolve the joint management proposal’s caution about whether the effects of diga removal can be related to changes in ʔekwò survival and herd size.

Parties Responsible: Environment and Natural Resources

Rationale for IR #9:

- a) The joint management proposal’s Action 3.6 raises concern that halting the decline and the extent of recovery may not be able to be attributed to diga removal as the joint management proposal stresses the need for caution, “... *when attempting to interpret and attribute the specific contribution of diga reduction to any observed changes in ʔekwò productivity and/or population change*”. But monitoring the ʔekwò responses is key to justifying the diga removal and key for adaptive management during the diga removal. Part of the justification for increasing the number of collared ʔekwò has been to increase the efficiency of measuring adult survival which is then difficult to reconcile with the concerns in the joint management proposal. There are techniques and approaches through adaptive management to determining how changes in ʔekwò demographic rates can be allocated to a reduction in predation relative to environmental factors.

Information Request #10 – Adaptive Management:

- a) Please describe how adaptive management will guide adjusting annual rates of diga removals relative to changes in ʔekwò adult and calf survival.

Parties Responsible: Environment and Natural Resources

Rationale for IR #10:

- a) The main findings of the Dìga Technical Feasibility Assessment included using an adaptive management approach to maximize the likelihood of supporting Ɂekwò herd recovery. The Section 2.3 of the joint management proposal uses similar wording, “*maximize the likelihood of Ɂekwò recovery*”, but does not provide details of the indicators, decision points and how they will modify which actions.

Tłchq Knowledge-related Information Requests (IRs); IRs #11-12:

Information Request #11:

- a) Does TG agree that dīga have other sources of food, such as *Lłwe* (fish), *Hozì ejie* (muskox) and *Dedì* (moose), and that that dedì and hozì ejie are becoming more accessible to dīga than when Ɂekwò herds were large?
- b) Does TG agree that it is possibly that łwe, dedì and hozì ejie are keeping the dīga population sufficiently healthy to continue harvesting the smaller populations of calves and female Ɂekwò, especially those small herds that are not protected by large bulls?

Parties Responsible: Tłchq Government

Rationale IR #11:

The joint management proposal states that “*a total of 60 dīga were harvested within the Enhanced North Slave Wolf Harvest Incentive Area in 2018-2019, primarily on caribou winter range*”. Thirty-seven (37) of the 38 dīga studied had Ɂekwò in their stomachs. The proposal does not indicate what the 38th dīga’s diet consisted of nor does it clearly state if the other 22 of 60 dīga harvested had nothing in their stomachs or if their stomach contents were impossible to analyze. This information suggests that only 61.5% of the harvested dīga, rather than 95%, were successfully hunted and consumed Ɂekwò.

The joint management proposal also states that “*Although the abundance of wolves and caribou have both declined significantly since 2000, it is believed that the relative abundance of wolves today may be having a significant impact on the Bathurst and BNE herds*”. Given that during the 1990s, when Ɂekwò numbers were high, several Tłchq Elders’ commented that dīga follow Ɂekwò, but their diet also consists of “*fish, moose, caribou, muskox and beaver, and are known to ...teach their pups how to catch fish...*” (Tłchq audio tape as mentioned in Legat and Chocolate, 2016). Further, TG’s monitoring evidence around Kòk’èetì (Contwoyto Lake) indicates that dedì numbers are increasing in the area (Jacobson: Presentation at Barren-Ground Caribou research Workshop Feb 18 and 19, 2020), and it is common knowledge that hozì ejie have moved onto the Ɂekwò range.

Information Request #12:

- a) Does TG agree that those Tłıchǫ who can harvest dıga often did so at the dens while on the tundra?
- b) Does TG agree there is/was a traditional method of killing pups and adults dıga – known to sustain dıga populations but is not being used currently?
- c) Do ENR and TG agree that given numbers of dıga are not known, the harvest of dıga could be enhanced by killing pups at their dens throughout the area where the three herds overlap?
- d) Do ENR and TG agree that under the circumstances harvesting pups should be financially compensated?

Parties Responsible: Tłıchǫ Government

Rationale IR #12:

The TG/GNWT joint management proposal states that *“Wolf management in other jurisdictions has shown that an effective program must remove 60 to 80% of the wolves in a population because they can sustain annual removals of 30-40%”*. Tłıchǫ elders’ comments support dıga resilience as well as killing pups as well as adult dıga. Pierre Wedzin stated,

“When hunting muskox...I saw six wolf pups. I shot them all...The six pups just stayed put; they did not attempt to flee... Wolves do not leave their dens. The mom came back...So this is how I know, by walking on the land, watch, no matter how many we trap, we think we kill them all. But the next year when we go back to trap them in the same place, they will be as many as the year before because wolves bear five to six pups each litter.” (Tłıchǫ audio tape PHP-950524).

Alex Black stated dıga have eight to ten pups (Bluenose-East Caribou Herd Public Hearing April 8, 2016: 170), with Joseph Judas stating, *“In one-year wolves can have two or three litters. If they kill 30 to 40 caribou each... I’m concerned...”* (Bathurst Caribou Herd Public Hearing, February 23, 2016: 118).

The joint management proposal mentions between 100 and 300 dıga will be removed, but there is no mention of the current dıga population numbers, nor is there any mention of harvesting pups at the dens. The proposal states that *“collars will be used to update data on Bathurst range and document dens on BNE range”*, an indication that ENR knows where many of the dens are in the Bathurst caribou herd range.