Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 26-H105.4

Date: 2026-08-31

Written Submission from the Ya'thi Néné Lands and Resources Office

Mémoire du Bureau des terres et des ressources de Ya'thi Néné

In the matter of

À l'égard d'

Orano Canada Inc.

Orano Canada Inc.

Application to renew the McClean Lake Operating Licence for 2-year term

Demande pour le renouvellement du permis d'exploitation de McClean Lake pour une période de deux ans

Hearing in writing based on written submissions

Audience par écrit fondée sur des mémoires

September 2026

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Canada

YA'THI NÉNÉ LANDS AND RESOURCES INTERVENTION

In the matter of the renewal of the CNSC licence for Orano Canada Inc.'s McClean Lake Operation for a two-year term

31 August 2026

1. Executive Summary

Ya'thi Néné Lands and Resources (YNLR) supports Orano Canada Inc.'s request for a two-year renewal of the existing licence for the McClean Lake Operation (MLO). YNLR understands that Orano is not seeking authorization for new activities through the present Application.

YNLR's purpose in making this intervention is therefore not to oppose the requested renewal. Rather, YNLR asks the Canadian Nuclear Safety Commission (CNSC) to recognize the coming two-year licence period as an important opportunity to prepare for future regulatory decisions concerning future MLO extension projects, such as Sue F and the Midwest project, using the best available and most current information.

This is particularly important for future licensing projects such as the Midwest Project. The environmental assessment (EA) for Midwest was completed in 2012 based on a project design involving open-pit mining and on environmental baseline information that, in important respects, is considerably older. Orano now proposes a different mining method, the Surface Access Borehole Resource Extraction (SABRE), and YNLR has developed substantially more detailed contemporary information concerning the cumulative physical disturbance of the surrounding landscape.

During summer 2025, YNLR contracted the Alberta Biodiversity Monitoring Institute (ABMI), with funding from the Weston Family Foundation, to undertake a LiDAR[1]-based aerial survey of approximately 10,000 km^2 of northern forest surrounding Points North, Saskatchewan. The purpose of the project is to provide a precise assessment of human linear disturbance and to evaluate the degree to which those disturbed features are recovering naturally.

Preliminary analysis covering 3,278 km^2, approximately one-third of the overall LiDAR study area, identified 5,487 km of cutlines, access roads and transmission lines. This represents an average linear disturbance density of approximately 1.7 km/km^2 across the area analyzed to date. The work also provides information about the type, width, vegetation and degree of recovery of these features.

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[1] LiDAR is an acronym for *light detection and ranging* or *laser imaging, detection, and ranging*

These results provide a materially more detailed and current picture of linear disturbance than was available when the earlier Midwest environmental assessment was undertaken. They are also not being developed in isolation. Through YNLR's broader land-use planning and protection work, including the Etthén Néné Stewardship Areas (ENSA) initiative, YNLR has assembled additional information concerning cultural values, ecological significance, Indigenous Knowledge, community land use, travel corridors and areas important to woodland and barren-ground caribou.

YNLR notes that water quality and healthy fish populations have already been flagged in the EA process as a very high priority. YNLR supports the DFO fish habitat offsetting required and therefore will not elaborate further in this submission beyond noting its importance and YNLR's role in participation. The ENSA planning process has involved Athabasca Denesųłiné communities and has drawn on information concerning places used for travel, harvesting, fishing, trapping, gathering and cultural activities, together with ecological information concerning wildlife movement and landscape connectivity. This broader body of information provides important context for interpreting the physical disturbance identified through LiDAR.

LiDAR results do not, by themselves, establish an effect on caribou populations or demonstrate an infringement of Treaty rights. They do, however, provide an important new means of measuring one component of cumulative environmental effects at a landscape scale. When considered together with ecological information, YNLR's Indigenous Knowledge, Land Use and Occupancy (IKLUO) information, and the additional cultural and landscape information developed through the ENSA initiative, the LiDAR findings can help regulators, Indigenous rights-holders and proponents better understand the present condition, use and connectivity of the landscape and make better-informed decisions concerning future development.

Therefore, YNLR would suggest and support the following course of action for the CNSC:

1. approve Orano's requested two-year licence renewal;
2. recognize YNLR's LiDAR-derived information as relevant new information for the future assessment and regulatory consideration of Midwest;
3. use the upcoming licence period to support engagement among CNSC staff, Orano and YNLR regarding how the completed LiDAR analysis, IKLUO information, relevant ENSA-derived land-use and ecological information, and other current evidence should inform the Midwest follow-up program and future licensing record;
4. ensure that future consideration of Midwest is informed by an updated understanding of existing cumulative disturbance, rather than relying exclusively on the environmental baseline available when the earlier EA was completed; and

5. support meaningful YNLR and Athabasca Denesųłiné participation in the application of adaptive management principles to review and apply appropriate monitoring, mitigation and remedial measures.

YNLR believes this approach is consistent with the licensing requirement at hand, the intent of the upcoming Midwest EA follow-up requirement and the constructive relationship that YNLR and Orano have developed over many years.

2. YNLR's Position and Endorsements

YNLR is 100% owned by the Athabasca Denesųłiné First Nations of Black Lake, Fond du Lac and Hatchet Lake (the "First Nation communities") and the Athabasca Basin municipalities of Stony Rapids, Wollaston Lake Post, Uranium City and Camsell Portage, together forming the Athabasca Basin communities ("the communities"), for which YNLR supports consultation and engagement.

YNLR's mandate includes protecting the lands and waters of Nuhenéné, the traditional territory of the First Nation communities, and advancing the long-term interests of the Athabasca Denesųłiné and Basin residents. In carrying out this mandate, YNLR combines Indigenous Knowledge with contemporary scientific information to support informed decision-making regarding development in Nuhenéné. YNLR recognizes the importance of responsible resource development to northern Saskatchewan and supports development that protects the land, water, Denesųłiné culture and the ability of Indigenous people to exercise their Aboriginal and Treaty rights meaningfully.

In that context, YNLR supports Orano's present request for a two-year renewal of the MLO licence. However, YNLR is cautious and requests assurance that this licence proceeding will not be used to determine whether the future Midwest or Sue F projects should proceed. YNLR is of the view that those decisions should remain the subject of future regulatory processes. Indeed, YNLR asks the Commission to recognize that the evidentiary landscape has changed since the last MLO licence and even more so since the Midwest EA was completed. New, high-resolution information concerning existing linear disturbance is now becoming available, together with YNLR's growing body of IKLUO and other environmental information. The central recommendation of this intervention is therefore straightforward: Yes, MLO's two-year transitional licence should be approved; however, the next two years should be used collaboratively by YNLR, Orano and CNSC to ensure that future decisions concerning MLO's extension projects (such as Sue F) and Midwest are informed by the best available current information, including YNLR's LiDAR-derived information concerning linear disturbance and cumulative environmental effects.

This is not a request to revisit the correctness of decisions made using the information available at the start of MLO's operations or during subsequent licensing processes in the past decades. It is a request to ensure that future decisions are informed by information that is available today.

3. YNLR and its Relationship with Orano

YNLR has maintained an active working relationship with Orano through the Ya'thi Néné Collaboration Agreement signed in 2016. Through this relationship, YNLR and Orano meet regularly to discuss environmental, community and rights-related matters and to work toward resolving concerns in a manner that respects the values and priorities of Athabasca residents. YNLR considers this relationship important.

The LiDAR project discussed in this intervention should be understood within that broader collaborative approach. YNLR is increasing its technical capacity to collect, analyze and communicate information about the condition of Nuhenéné. That information can benefit not only YNLR and its member communities, but also proponents and regulators seeking to make better-informed decisions for continued and future development in Nuhenéné.

YNLR's technical and stewardship capacity has also expanded substantially through other initiatives undertaken across Nuhenéné. In particular, YNLR's Etthén Néné Stewardship Areas initiative has involved extensive work with Athabasca communities to identify cultural, ecological and land-use values requiring long-term consideration in land-use planning. The ENSA initiative was developed not simply by drawing boundaries on a map, but by considering multiple forms of information, including Indigenous Knowledge, community use, cultural values, ecological significance, wildlife and human travel corridors, present and past use of areas in Nuhenéné, and the relationship between these values and existing and potential resource development. This work provides an additional source of contemporary landscape information relevant to YNLR's consideration of cumulative effects. Together with the LiDAR project and YNLR's IKLUO information, it demonstrates YNLR's growing capacity to integrate Indigenous knowledge, community-derived information, spatial analysis and contemporary environmental science.

YNLR believes that bringing this information into discussions with proponents and regulators can strengthen project planning and regulatory decision-making. YNLR's objective is not to use these datasets to preclude responsible development, but rather to help identify where and how development can proceed while reducing cumulative impacts on the ecological and cultural systems upon which Athabasca residents depend. YNLR therefore raises the matters in this intervention not as criticism of Orano's current licence performance, but as an opportunity to strengthen the common evidentiary foundation for future decisions.

YNLR believes that the coming two-year licence period provides sufficient time for YNLR, Orano and CNSC staff to review the completed LiDAR findings, consider them alongside other ecological and IKLUO information, and determine how this information should appropriately inform future MLO projects and the Midwest assessment, follow-up, mitigation, remediation and monitoring.

4. Midwest's Relevance to MLO's Two-Year Renewal

The current Application seeks a two-year renewal of Orano's existing McClean Lake Operation licence without changes to the currently authorized activities. YNLR nevertheless considers Midwest relevant to the present proceeding because Orano has indicated that it intends to seek authorization for new mining activities at MLO's Sue F area and Midwest through a future application, together with a longer licence period for the McClean Lake Operation.

The Midwest uranium deposit is located approximately 17 km west of the McClean Lake mill, beneath Mink Arm of South McMahon Lake. The site has a lengthy regulatory and development history. A test mine was developed during the 1980s, and the project was subsequently assessed for development as an open pit mine. The federal environmental assessment process was completed in 2012. Although the project received EA approval, the project did not proceed at that time for what YNLR understands to be strategic commercial reasons. Orano now proposes to develop Midwest using SABRE technology rather than the previously assessed open-pit mining method. Orano has identified potential environmental advantages associated with SABRE, including a smaller physical disturbance footprint, reduced waste-rock volumes and reduced water-management requirements. YNLR recognizes these potential advantages.

At the same time, the environmental context within which the project would operate must be understood as it exists today. The eastern Athabasca Basin has experienced decades of mineral exploration and development. That activity has produced roads, trails, exploration cutlines, transmission corridors and other linear disturbances across the landscape. The question for future regulatory consideration is therefore not simply the current footprint of the MLO and the incremental footprint of Sue F and Midwest considered in isolation. These projects must also be understood in the context of the cumulative disturbance already present on the landscape. YNLR's LiDAR project provides important new information for that purpose.

4.1 The 2012 Midwest Assessment and Follow-Up Requirement

The Midwest EA was completed in 2012 following a lengthy environmental assessment process. The assessment concluded that the project, with identified mitigation measures, was not likely to cause significant adverse environmental effects. YNLR does not suggest that the CNSC should now reassess whether that conclusion was reasonable based on the information available at the time. The more relevant point for present purposes is that the earlier decision contemplated follow-up.

The purpose of environmental assessment follow-up is, among other things, to verify the accuracy of environmental assessment predictions and determine the effectiveness of measures intended to mitigate adverse environmental effects. Follow-up also provides a basis for adaptive management when new or unanticipated

effects or conditions are identified. That function is particularly important for a project such as Midwest, where a considerable period has elapsed since the environmental baseline was established and where the proposed mining method has subsequently changed. Much has also changed in the surrounding landscape.

YNLR's position is therefore that the earlier assessment and the new information should not be viewed as competing bodies of evidence. The earlier assessment provides the regulatory foundation; contemporary information provides an opportunity to test, refine and update the understanding of current conditions. YNLR considers its LiDAR work directly relevant to that task.

5. New Information Available Since the Earlier Assessment

5.1 YNLR's LiDAR-Based Linear Disturbance Assessment

During summer 2025, YNLR contracted ABMI-Alberta to conduct a LiDAR-based aerial survey of human linear disturbance across approximately 10,000 km² of northern forest surrounding Points North, Saskatchewan. (See Figure 1) The project was funded through a grant from the Weston Family Foundation. The project has two primary objectives:

1) to provide a precise estimate of human linear disturbance across the study area; and
2) to assess the state of regeneration on linear disturbances.

Data acquisition occurred between August 7 and September 11, 2025. LiDAR data were collected using a Galaxy T2000 sensor at a minimum density of 12 points/m². Multispectral aerial imagery was also collected using a Phase One iXM-RS150F aerial camera at a targeted ground sampling distance of approximately 8.5 cm.

The analysis has three principal components:

a) delineating linear disturbance features, including cutlines, access roads and transmission lines;
b) characterizing vegetation occurring on those disturbed features using LiDAR derivatives, aerial imagery and complementary landscape information; and
c) calculating vegetation and vegetation-recovery metrics for those features.

A field program was also conducted in June 2025 to validate the delineation and classification of linear features and assess LiDAR horizontal and vertical accuracy.

This combination of high-resolution remote sensing, field validation and subsequent analysis allows YNLR to identify not simply the apparent presence of disturbance, but also the type of disturbance and aspects of its ecological recovery. The results presented in this intervention remain preliminary. Approximately one-third of the overall 10,000 km² study area has been analyzed to date. (See Figure 2) ABMI will complete the remaining analysis, and YNLR intends to make the final results available to Orano, CNSC, other federal and provincial regulators, industry and other appropriate parties.

Figure 1: Orano McClean Lake Operation Regional Context

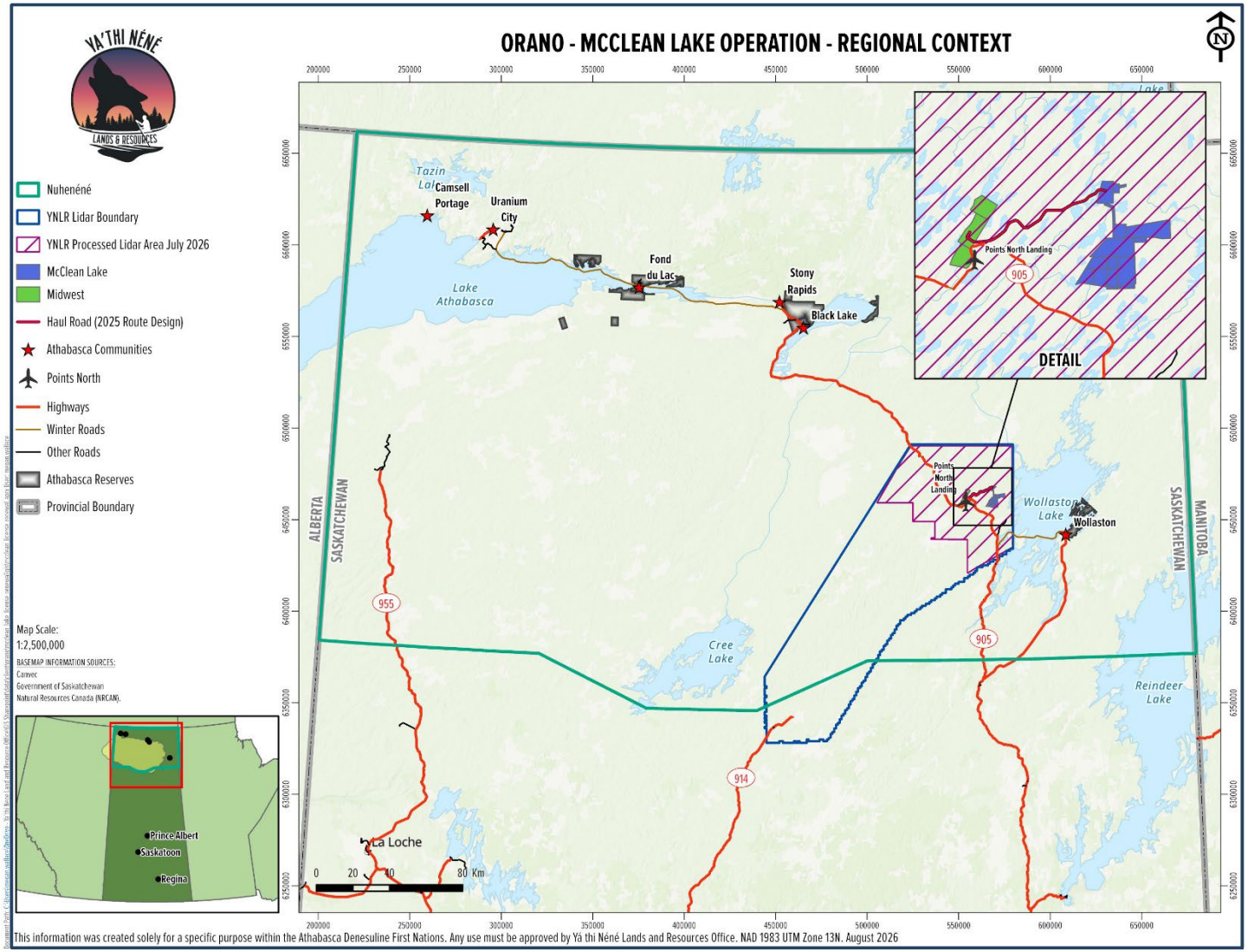
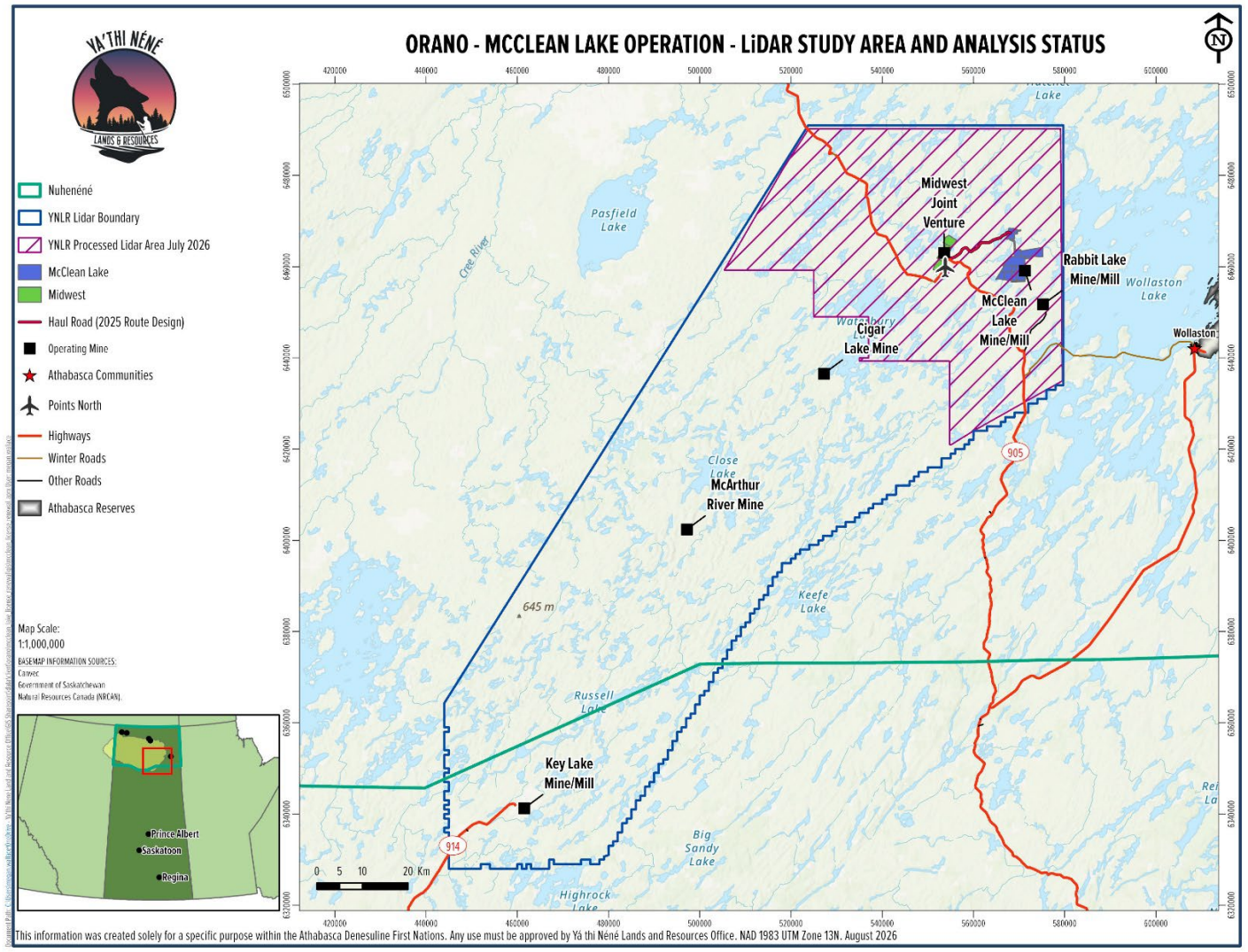


Figure 2: Orano McClean Lake Operation – LiDAR Study Area and Analysis Status



5.2 Preliminary Linear-Disturbance Findings

To date, the analysis covers approximately 3,278 km². Within that area, the analysis identified approximately 5,487 km of cutlines, access roads and transmission lines, yielding an average linear disturbance density of approximately 1.7 km/km² (see Figure 3). There is also considerable variation in linear disturbance densities across smaller selected areas of concern within the total area. These areas include the proposed Midwest mine site (5.02 km/km²), the McClean Lake mill site (3.81 km/km²) and the connecting travel corridor (proposed haul road – 6.17 km/km²) (see Figure 4).

The identified linear features comprise approximately:

- 42% narrow cutlines, generally 1–2 m wide;
- 10% wide cutlines, approximately 3 m wide;
- 44% access roads, approximately 5 m wide; and
- 3% transmission lines, generally greater than 10 m wide.

These results demonstrate the current extent and variety of linear disturbance present across the landscape. They also demonstrate why simply measuring the number or total length of linear features is insufficient. The ecological condition of those features matters.

The preliminary results also show considerable variation in recovery. Approximately 82% by area of narrow cutlines had achieved what the study characterizes as partial functional regeneration, compared with approximately 52% of wide cutlines and 30% of access roads. The average median height of recovering vegetation was approximately 0.7 m on narrow cutlines, 0.3 m on wide cutlines, 0.2 m on access roads and 0.3 m on transmission lines. This information is significant because it provides a means of distinguishing linear features that may be undergoing meaningful vegetation recovery from features that continue to function as relatively open disturbances on the landscape.

The results should be interpreted carefully. Linear disturbance density is an important landscape metric, but density alone does not determine the ecological consequences of every mapped feature. Feature type, width, vegetation recovery, surrounding habitat, the level of ongoing anthropogenic disturbance in high-use areas of already disturbed habitats, and other factors are also relevant (see Figure 4). For these reasons, YNLR cautions that the stand-alone use of threshold disturbance values as a metric for management initiatives would oversimplify the solutions required for mitigation and restoration activities.

Figure 3: Orano McClean Lake Operation – Current Linear Disturbance

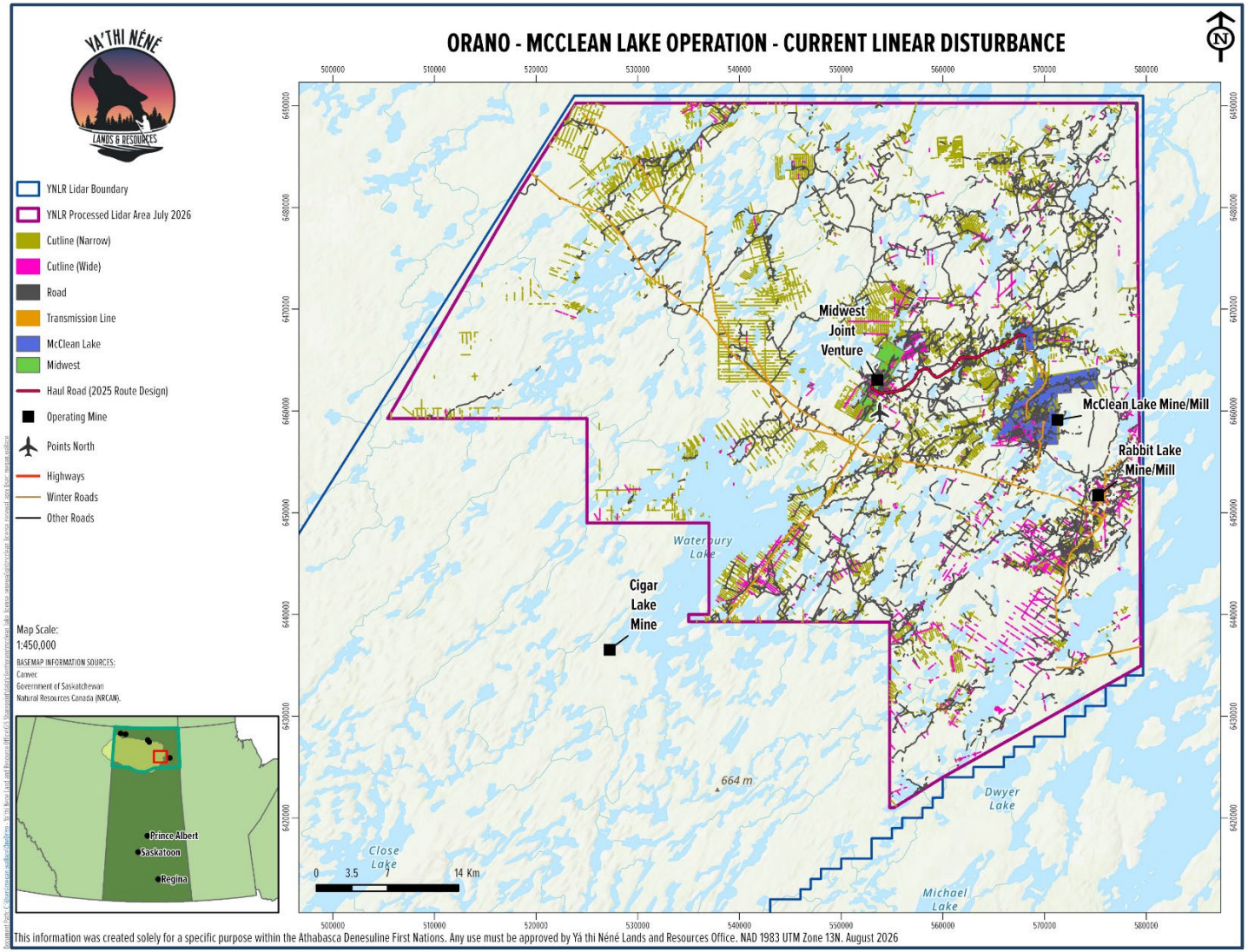
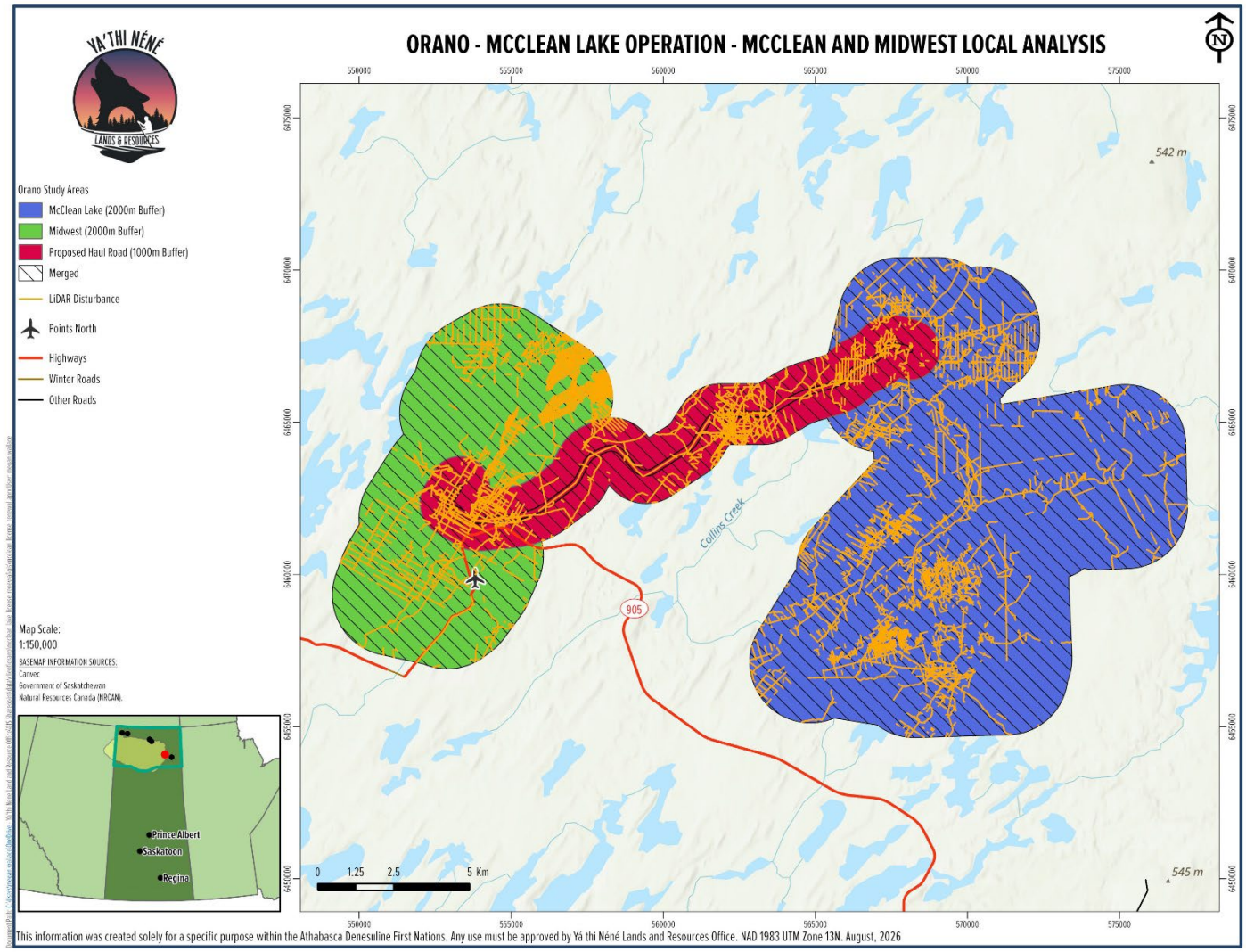


Figure 4: Orano McClean Lake Operation – McClean Lake and Midwest Local Analysis



5.3 Woodland Caribou Implications

In addition to being a threatened species in Saskatchewan[2], Woodland caribou are an important indicator species for understanding cumulative landscape effects in northern Saskatchewan. Habitat alteration, industrial disturbance and associated linear features can affect the ecological conditions upon which woodland caribou depend. Linear disturbances can fragment habitat and can influence how animals, including predators, move through the landscape. The ecological significance of a particular linear feature may also change as vegetation recovers. This is one reason the LiDAR project's vegetation-recovery component is important.

The study considers recovery from both a vegetation perspective and a functional perspective, including whether vegetation on disturbed features has reached heights that may reduce the efficiency with which wolves can travel along those features. The LiDAR analysis therefore provides more than a map of where disturbances occur. It begins to provide information about their present physical condition and recovery. YNLR is careful, however, not to overstate what this evidence demonstrates.

LiDAR data can provide strong evidence concerning the physical extent, type and condition of linear disturbance. LiDAR alone does not establish the magnitude of an effect on woodland caribou populations. That determination requires consideration of additional ecological evidence, including habitat conditions, species distribution and movement, predation, fire and other natural and human-caused influences. YNLR's position is that the LiDAR information strengthens the factual baseline from which those broader ecological questions can be assessed.

5.4 Water Quality and Healthy Fish Populations

This has been flagged as a very high priority in the EA process of the Midwest project. YNLR supports the DFO fish habitat offsetting that will be required for this project. While federal fisheries set strict limits on harmful discharge substances, an independent lead monitoring program that routinely collects water, sediment and fish tissue samples in downstream watercourses would benefit local communities as well as the company.

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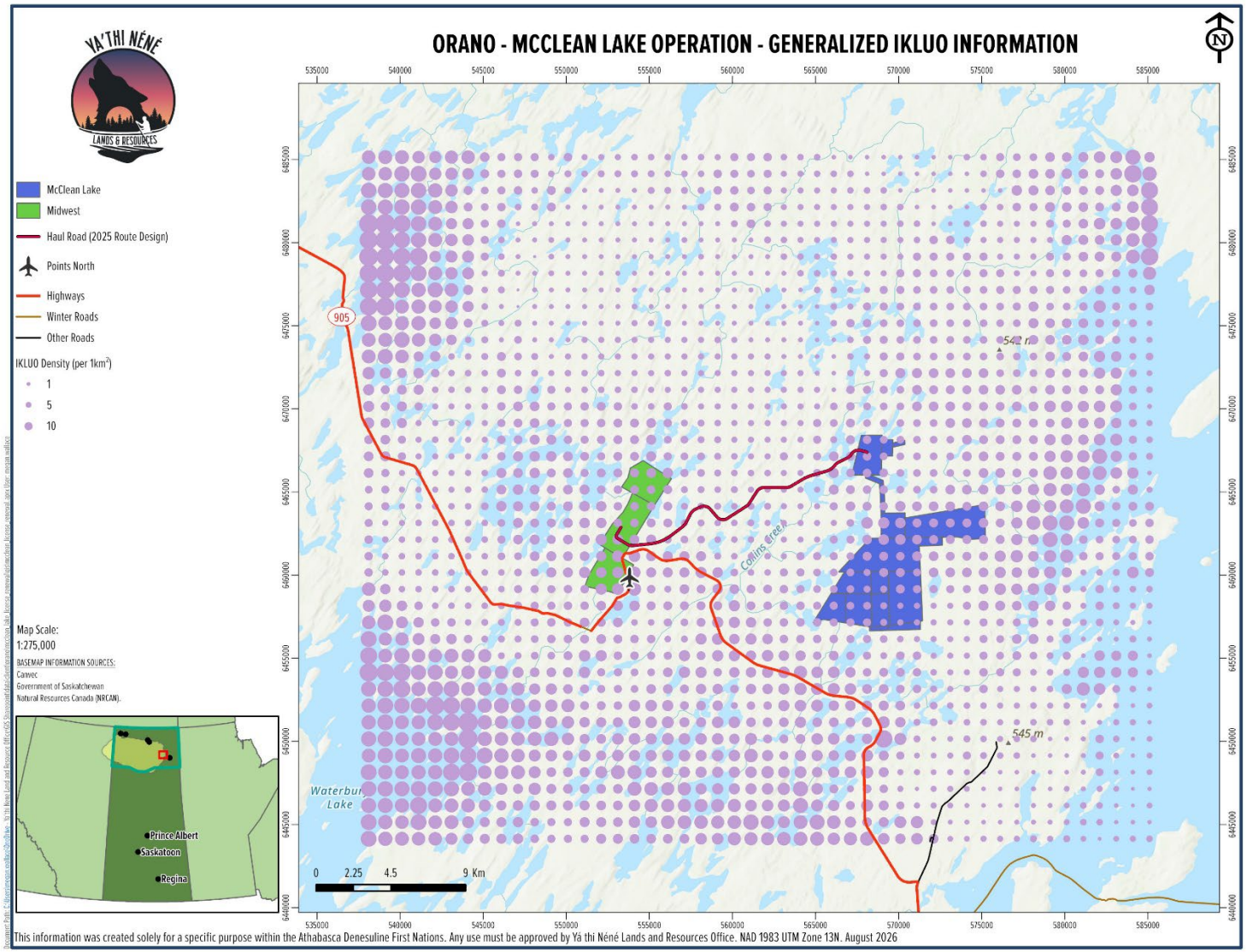
[2] Boreal (Woodland) caribou are listed under the federal *Species at Risk Act*.

5.5 Indigenous Knowledge, Land Use and Occupancy

The earlier MLO and, in particular, the Midwest Comprehensive Study Report (CSR) identified limited Traditional Land Use within the local assessment area, including reference to two traditional trappers and a conclusion that other Traditional Land Use activities were concentrated outside the Midwest local area. YNLR's contemporary IKLUO information provides a substantially richer picture of Indigenous use and occupancy of the region.

Athabasca Denesųłiné have travelled through, harvested from, occupied and maintained cultural relationships with this landscape for generations. Travel routes, harvesting areas, cultural sites and other forms of land use cannot be understood solely by counting isolated points on a map. They form part of a connected cultural landscape. Indeed, through interviews, surveys, workshops and other information-gathering methods, YNLR has documented harvesting locations, travel routes, camps and cultural locations, burial and sacred sites in the regional study area. However, YNLR recommends that sensitive IKLUO information be presented to the Commission in aggregated or spatially generalized form where necessary to protect confidential Indigenous Knowledge. A generalized map can nevertheless demonstrate the extent to which areas of documented Indigenous use coincide with areas experiencing contemporary linear disturbance. (See Figure 5)

Figure 5: Orano McClean Lake Operation – Generalized IKLUO Information



5.6 Additional Information Developed Through the ENSA Initiative

YNLR has also gathered and synthesized important land-use, cultural and ecological information through the development of the Etthén Néné Stewardship Areas. (See Figure 6) The ENSA initiative is part of YNLR's broader land-use planning and protection work within Nuhenéné. Its development has been informed by Athabasca Denesųłiné and Basin communities and by information concerning cultural values, ecological significance and traditional community use. The original ENSA planning work considered areas containing or connecting:

- travel routes;
- harvesting, fishing, trapping and gathering areas;
- culturally significant landscapes;
- wildlife movement and caribou-related areas;
- ecological corridors; and
- areas important to maintaining connectivity between communities, cultural landscapes and relatively intact habitat.

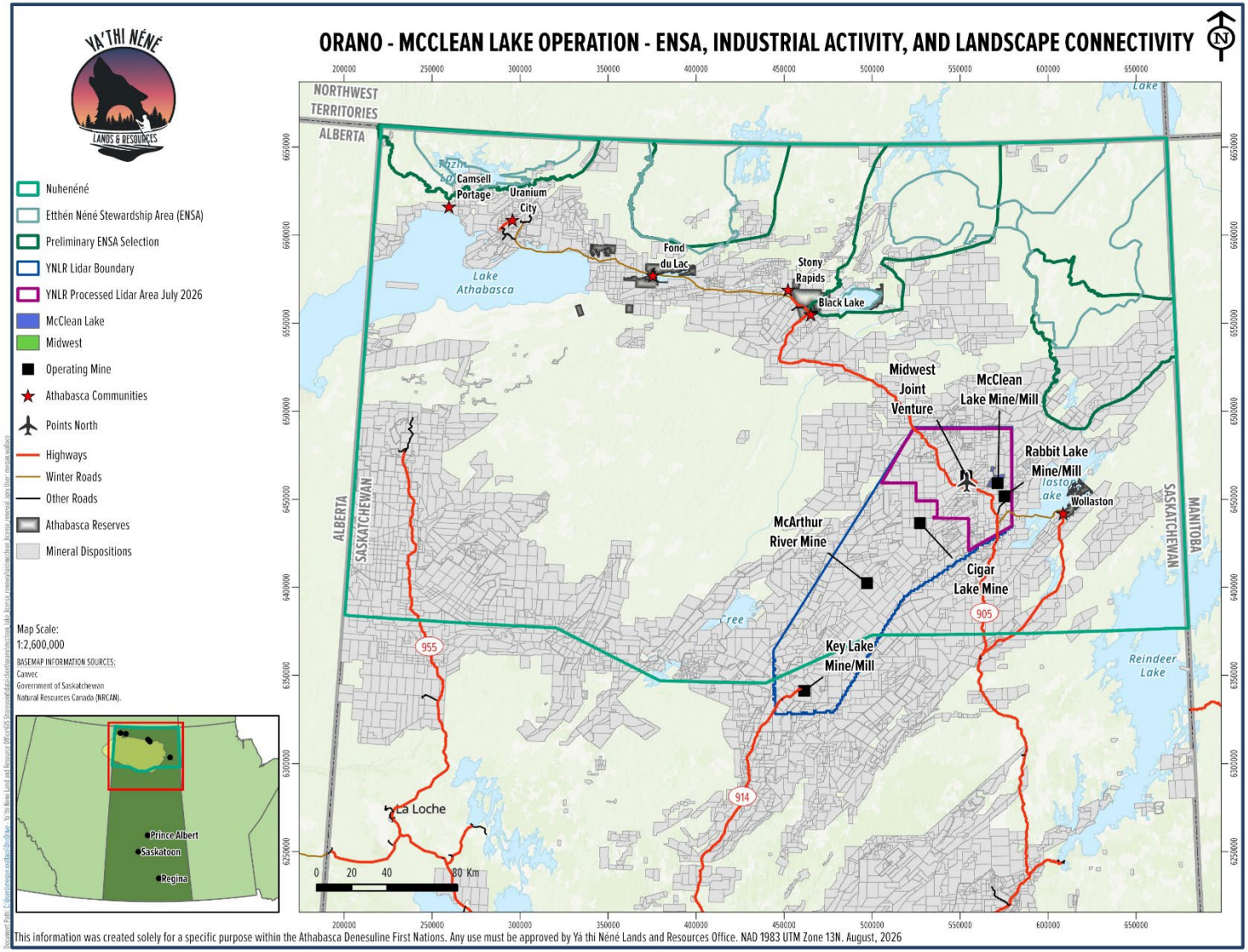
This work is relevant to the present intervention because cumulative effects are not experienced only at individual project sites. The ecological and cultural functions of the landscape depend in part upon connections between places. A road, exploration cutline or other disturbance may occupy a relatively small physical footprint when considered individually. At a regional scale, however, multiple disturbances can fragment habitat and intersect travel routes, harvesting areas and other culturally important landscapes.

The ENSA planning work therefore provides an additional landscape-scale perspective for interpreting the LiDAR findings. In practical terms, the different YNLR information sources contribute different parts of the cumulative-effects picture:

YNLR information source	What it contributes
LiDAR assessment	Contemporary measurement of the location, type, density and recovery condition of physical linear disturbance
IKLUO information	Evidence of where and how Athabasca Denesųłiné use, occupy and maintain cultural relationships with the land
ENSA planning information	Broader information concerning ecological and cultural values, landscape connectivity, community priorities and areas identified for long-term stewardship
Community & land-user local knowledge	Contemporary observations concerning environmental change, access, harvesting, wildlife and cultural use

Ecological information	Evidence relevant to habitat condition, species responses and cumulative environmental effects

Figure 6: Orano McClean Lake Operation – Industrial Activity and Landscape Connectivity



These information sources should not be treated as substitutes for one another. Their value lies in their integration. For example, LiDAR may identify a concentration of linear disturbances. IKLUO information can indicate whether the same landscape is important for harvesting or travel. ENSA-related information may demonstrate that the area is also part of a larger cultural or ecological corridor. Ecological evidence can then assist in determining the implications for wildlife and habitat. Together, these sources provide a much more complete basis for assessing cumulative effects than any one dataset considered independently. (See Figures 7 and 8)

Figure 7: Integrated information for Contemporary Cumulative Effects Baseline

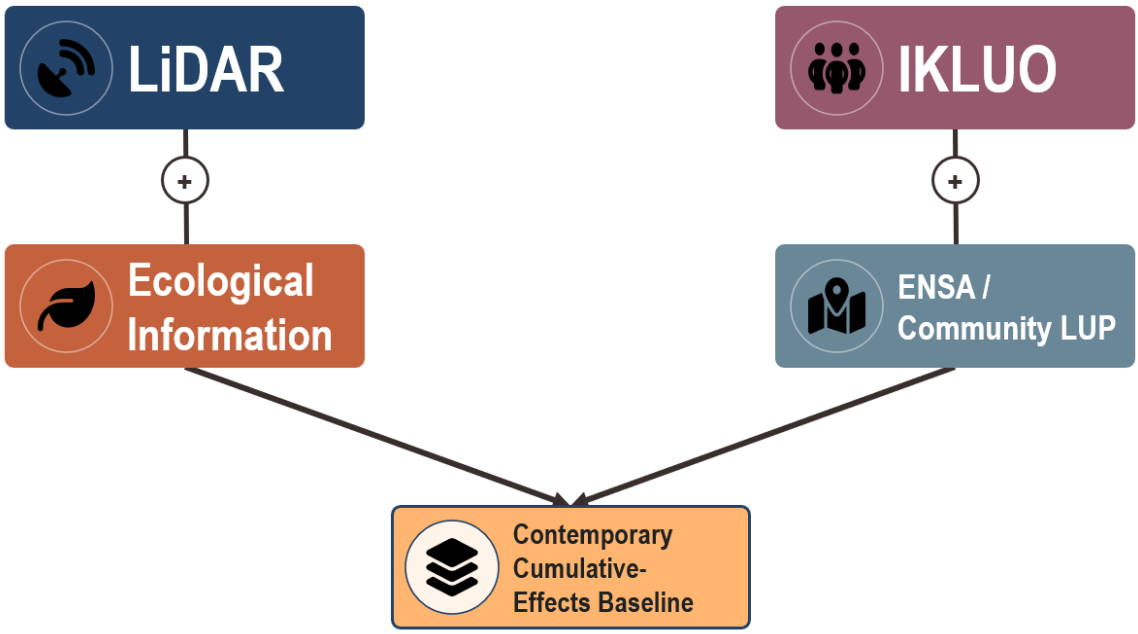
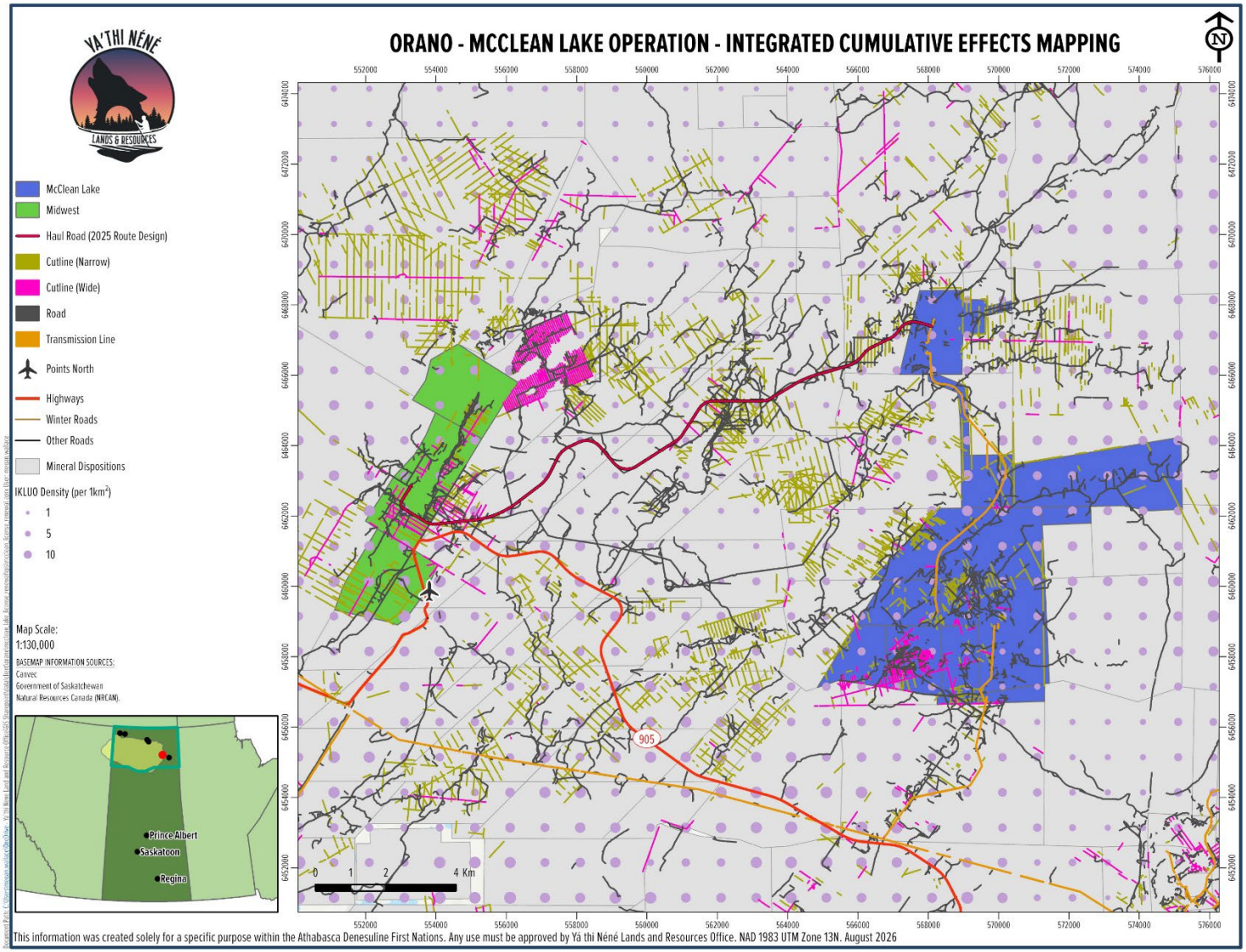


Figure 8: Orano McClean Lake Operation – Integrated Cumulative Effects Mapping

ORANO - MCCLEAN LAKE OPERATION - INTEGRATED CUMULATIVE EFFECTS MAPPING



This information was created solely for a specific purpose within the Athabasca Denesuline First Nations. Any use must be approved by Yá thi Néné Lands and Resources Office. NAD 1983 UTM Zone 13N. August 2026

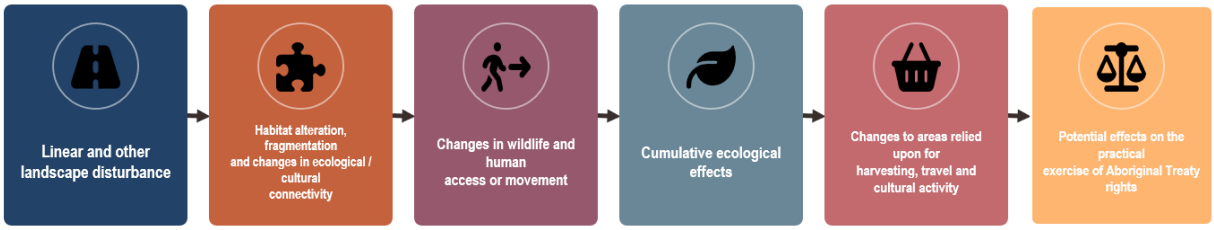
6. Implications for Cumulative Effects and Treaty Rights

The significance of the LiDAR information becomes clearer when it is considered together with YNLR's IKLUO information and the landscape-scale information developed through the ENSA initiative. Mineral exploration and development can create roads, trails, exploration cutlines, transmission corridors and other linear disturbances. Those disturbances can alter and fragment habitat. Depending upon their condition and recovery, they can also change animal and human movement through the landscape. At sufficient scale and in combination with other disturbances, these changes can contribute to cumulative ecological effects, including effects relevant to caribou. The same physical disturbances can affect the quality, accessibility and experience of places used by Indigenous people for harvesting, travel, cultural activities and other traditional purposes. They may also disrupt connections between places. This issue of connectivity is particularly important because both ecological systems and Indigenous land use operate across landscapes rather than within isolated project footprints.

YNLR's ENSA planning work has reinforced the importance communities place on maintaining ecological and cultural corridors. These include areas connecting wildlife habitat and movement routes as well as travel routes used by generations of Athabasca people. Consequently, landscape disturbance is relevant to ecological assessment and to understanding the conditions under which Aboriginal and Treaty rights are practically exercised. The relationship through exploration and development can be summarized as follows: (See Figure 9)

- linear and other landscape disturbance
- habitat alteration, fragmentation and changes in ecological/cultural connectivity
- changes in wildlife and human access or movement
- cumulative ecological effects
- changes to areas relied upon for harvesting, travel and cultural activity, and
- potential effects on the practical exercise of Aboriginal and Treaty rights.

Figure 9: Cumulative Effects Pathway



LiDAR makes the physical-disturbance component of this pathway measurable at landscape scale. It allows YNLR and others to identify the extent, type and condition of physical linear disturbance with substantially greater precision. Understanding effects on woodland caribou requires ecological evidence. Understanding effects on the exercise of Treaty rights requires IKLUO information and the perspectives of the Indigenous rights-holders themselves. IKLUO information describes important dimensions of Indigenous use and occupancy. ENSA-related information helps identify broader cultural and ecological values and connections across that landscape. None of these sources alone answers every cumulative-effects question. Together, however, they provide a substantially stronger evidentiary foundation for asking the right questions and designing appropriate monitoring, mitigation and adaptive-management responses. YNLR is increasingly able to bring these different forms of knowledge together. That integrated approach, including contemporary remote sensing, ecological analysis, Indigenous Knowledge and documented land use, is the principal value of the information YNLR is placing before the Commission.

YNLR is not asking the Commission in this proceeding to determine that existing cumulative effects constitute an infringement of Treaty Rights. Rather, YNLR asks the Commission to recognize that the extent of contemporary disturbance and its relationship with documented Indigenous use are relevant matters that should be incorporated into MLO's project and future Midwest assessment, follow-up and decision-making.

7. Proposed Collaborative Path Forward

YNLR believes the next two years, the extent of MLO's proposed licence renewal, provide an opportunity to move from identifying concerns to collaboratively developing solutions. The objective should be to establish a current and credible baseline against which the future MLO Sue F project and Midwest effects, mitigation and recovery can be assessed. YNLR proposes that this work address the following areas:

Updated and Integrated Baseline

YNLR will complete its LiDAR analysis and make the resulting information available to CNSC, Orano and other appropriate parties. YNLR recommends that the completed analysis be considered together with contemporary ecological information, Orano's project-specific information, appropriate IKLUO information and relevant information developed through YNLR's ENSA land-use planning work.

Regarding water quality and healthy fish populations, YNLR will continue to work with Orano on the Community Based Environmental Monitoring Program (CBEMP) and also work to establish an independent monitoring program to routinely collect water, sediment and fish tissue samples in downstream watercourses.

The objective of the data collection should be an integrated contemporary baseline that identifies not simply where disturbance (aquatic and terrestrial) occurs, but also:

- the type and condition of that disturbance;
- areas important to wildlife and habitat connectivity;
- documented Indigenous use and occupancy;
- cultural and community values;
- travel and harvesting connections across the landscape; and
- areas where additional disturbance, restoration or mitigation may have particular cumulative significance.

The ENSA initiative demonstrates the importance of considering sustainable economic development at a landscape scale. YNLR considers that same principle useful in future planning for MLO's extension projects and Midwest. Development decisions should be informed by an understanding of both the project footprint and of the broader ecological and cultural landscape within which the project would operate.

Mitigation

Where future development has the potential to add disturbance to an already disturbed landscape, project design should seek first to avoid and minimize additional effects where reasonably achievable. The contemporary disturbance baseline can assist in identifying locations or types of disturbance where mitigation would provide the greatest benefit.

Restoration

YNLR's LiDAR work is particularly useful for restoration planning because it measures not only the location of linear disturbances but also the status of vegetation recovery. This creates an opportunity to distinguish features that are naturally recovering from those that remain poorly recovered and may warrant active restoration. Subject to completion of the analysis, this information may assist YNLR, Orano and regulators in identifying priority areas for restoration.

Information developed through the ENSA initiative may also assist in identifying where restoration would contribute not only to local vegetation recovery but also to broader ecological or cultural connectivity. For example, restoration of poorly recovered linear disturbances may provide greater cumulative benefit where those disturbances intersect important habitat, wildlife movement areas, traditional travel corridors or other culturally significant landscapes.

Offsetting where appropriate

Where adverse effects cannot reasonably be avoided, minimized or adequately restored, environmental offsetting may be considered where appropriate and consistent with applicable regulatory requirements and policies. YNLR has supported habitat offsetting of mining footprints as a minimum standard. The proposed haul road from the Midwest project to the MLO is of particular concern, given the high densities of linear disturbances in that location and the anticipated increase in anthropogenic disturbance at that site. Regarding aquatic habitat, YNLR supports the required DFO fish habitat offsetting. YNLR recommends that any offsetting approach be informed by current landscape information and developed with meaningful Indigenous involvement.

Monitoring and adaptive management

Monitoring should be designed to answer clear management questions. The LiDAR dataset can provide a contemporary baseline against which future changes in linear disturbance and vegetation recovery can be measured. Future monitoring should therefore consider not only whether additional disturbance occurs, but whether existing and new disturbances are recovering and whether mitigation and restoration measures are achieving their intended objectives.

Indigenous participation and data review

Athabasca Denesųłiné and Basin communities' participation should extend beyond consultation about completed monitoring results. YNLR recommends meaningful involvement in the design of monitoring questions, identification of culturally and ecologically important indicators, review and interpretation of data, consideration of adaptive-management responses, and evaluation of restoration priorities. (see Table 1) Meaningful participation will allow Indigenous Knowledge, land-user experience and scientific information to inform one another throughout the process.

TABLE 1 – Proposed Two-Year Work Program

Work Area	YNLR Role	Orano Role	CNSC Role	Intended Outcome	Timeline
Complete LiDAR analysis	Provide data/results	Review and engage	Review relevance for future regulatory requirements	Updated disturbance baseline	TBD
Integrate IKLUO / ENSA context	Provide protected/generalized information	Consider information in planning	Ensure appropriate consideration	Improved understanding of land-use context	TBD
Mitigation/Restoration/ Offsetting	Identify priorities and knowledge	Develop project measures	Regulatory oversight	Reduced/mitigated/restored disturbance	TBD
Monitoring	Participate in design and review	Develop and implement plan	Review and oversight	Test predictions and mitigation	TBD
Adaptive management	Participate in interpretation	Respond to findings	Regulatory oversight	Timely response to unexpected effects	TBD

8. Recommendations to the Commission

YNLR respectfully recommends that the Commission:

1. Approve the two-year renewal. YNLR supports Orano's requested two-year renewal of the existing McClean Lake Operation licence.
2. Recognize the relevance of the new LiDAR information. The Commission should recognize that YNLR's 2025 LiDAR project provides materially more detailed and current information at a landscape level and hence a new baseline for evaluation of mitigation and restoration through an adaptive management process than was available in previous MLO licensing processes and when the earlier Midwest assessment was completed.
3. Use the two-year licence period constructively. CNSC staff should engage with YNLR and Orano during the coming licence period to determine how the completed LiDAR analysis and associated ecological, IKLUO and relevant ENSA-derived information should appropriately inform future MLO projects and the Midwest follow-up program and future licensing record.
4. Ensure that a contemporary and integrated cumulative-effects baseline informs future MLO projects and Midwest decisions. Future regulatory consideration of MLO projects and Midwest should incorporate current information concerning existing landscape disturbance, ecological and cultural connectivity, Indigenous land use and other relevant landscape values. They should not rely exclusively on historical baseline conditions.
5. Integrate different forms of evidence. LiDAR-derived information should be considered together with ecological information, YNLR's IKLUO information, relevant ENSA-derived land-use and stewardship information, Indigenous knowledge and appropriate project-specific information.
6. Support meaningful Indigenous participation in follow-up and monitoring. YNLR and Athabasca Denesųłiné rights-holders should have meaningful opportunities to participate in the design, review and interpretation of monitoring, mitigation, restoration and adaptive-management programs relevant to their rights and interests.
7. Apply the information to solutions. The completed analysis should be used, where appropriate, to help identify opportunities for avoidance, mitigation, restoration, monitoring and, where necessary and appropriate, environmental offsetting.
8. These recommendations do not require the Commission to prejudge future MLO projects or Midwest licensing applications. They provide a practical means of ensuring that when such decisions come before the Commission, they can be made using a more complete and contemporary evidentiary record.

9. Conclusion

YNLR's LiDAR project is one of several ways in which YNLR's knowledge of contemporary conditions in Nuhenéné has expanded. Through its IKLUO work, community engagement and the development of the Etthén Néné Stewardship Areas, YNLR has also assembled information concerning Indigenous use and occupancy, culturally significant landscapes, ecological values, wildlife and human travel corridors, and community stewardship priorities. These bodies of information are complementary.

LiDAR provides an increasingly precise picture of the physical disturbance present on the landscape. Indigenous Knowledge and IKLUO information provide evidence about how Athabasca Denesųłiné know, use and depend upon that landscape. ENSA-related work contributes a broader understanding of the ecological and cultural connections communities are seeking to maintain over time. Together, they give YNLR, Orano and the CNSC an opportunity to approach future licensing decisions with a considerably more complete understanding of the landscape than was available when the earlier environmental assessment and operating licensing were undertaken. This information should not be viewed as evidence that the earlier approvals were wrong. It should be viewed as an opportunity to make future decisions better.

YNLR intends to continue sharing appropriate information with CNSC, Orano, provincial and federal regulatory bodies and other parties while respecting the confidentiality of sensitive Indigenous knowledge.

YNLR acknowledges that water quality and healthy fish populations have been flagged as a very high priority. YNLR supports the DFO fish habitat offsetting and will participate by providing recommendations for site selections. Meaningful and ongoing involvement of the Athabasca Denesųłiné in assessment, monitoring, land-use planning and adaptive management in Nuhenéné will contribute to better-informed regulatory decisions, stronger relationships among YNLR, proponents and regulators, and more durable environmental and socio-economic outcomes.

YNLR therefore asks the Commission to approve the requested two-year licence renewal and to support a collaborative process over the coming licence period through which YNLR, Orano and CNSC, and other interested parties, can ensure that the best available contemporary information, including LiDAR, IKLUO, ecological and relevant ENSA-derived information, informs future licensing consideration.