

NORTH YUKON REGIONAL LAND USE PLAN CONFORMITY CHECK	
YESAB Project #	2014-0112
Project Title:	Eagle Plains Multi-Well Exploration Program
Date:	December 8, 2015
Submitted to:	YESAB Dawson Designated Office Box 5060 Dawson City, YT Y0B 1G0
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More information on NYLUP conformity checks:	http://planyukon.ca/index.php/resources/planning-regions-2/north-yukon/59-north-yukon-conformity-checks
Project conforms to Regional Land Use Plan: (select one) Yes	



Background Information and Conformity Check Analysis

Affected Landscape Management Unit(LMU)(s): (insert rows as needed for additional LMUs) Map 1 and Section 6							
LM Unit #	9	LMU Name:	Eagle Plains				
Zoning:	IMA – Zone IV	Land Owner:	YG & VGFN (VGS-7A1)				
Landscape Disturbance Indicators:) Table 3.2, sections 3.3.1.1, 5.1.1							
Surface Disturbance (ha):							
LMU	Cautionary Level	Critical Level	*Current est. Level	Project Estimate	Total Estimate	Notification Rqr'd***	Parties Notified
9	4811	6415	1295	126**	1386**	No	No
Linear Disturbance (km):							
LMU	Cautionary Level	Critical Level	*Current est. Level	Project Estimate	Total Estimate	Notification Rqr'd***	Parties Notified
9	4811	6415	1806	15.4**	1821**	No	No
<p>*current <u>estimated</u> cumulative effects levels are to be provided by the Plan Parties. In the meantime, adjustments to the amount of historical disturbance estimated by the North Yukon Planning Commission (Appendix A2.5, Final Recommended Plan) combined with disturbances from YESAB project 2013-0067 (Eagle Plains 3D Seismic Survey) were used. Adjustments include natural recovery of disturbances as suggested by the Commission (20%) and the fraction of each disturbance that appears to be forested.</p> <p>**estimates based upon the definition of Functional Disturbance, pg.3-2, North Yukon Regional Land Use Plan, June 2009. Estimates have been adjusted by the fraction of the proposed disturbance that appears to be forested.</p> <p>*** the YLUPC shall notify the Parties prior to submitting the conformity check to YESAB if they are concerned cautionary or critical levels may be reached</p>							

Special Management Considerations: (Section 6, LMUs)	
LMU	Special Management Consideration
9	<ul style="list-style-type: none"> • Potential new all-season access roads into LMU #9 from Dempster Highway corridor require careful assessment and management. • 25% of this LMU was affected by wildfire in summers of 2004 and 2005
Affected Values and General Management Directions (GMD): (Section 5) Only include values identified in LMU. If no GMDs exist or are relevant, do not include in this table.	
Ecological Resources:	Corresponding GMD:
Wildlife Habitat	<p>2.1.1 Reduce size, intensity and duration of human-caused physical surface disturbances (e.g., utilize low impact seismic, winter roads and enhanced reclamation).</p> <p>2.1.2 Reduce other human land use impacts such as noise, smell and light.</p> <p>2.2. Minimize habitat fragmentation as a result of human features.</p> <p>2.2.1 Coordinate, manage and minimize new road and trail access.</p> <p>2.3. Minimize potential habitat avoidance that results from human features and activities.</p> <p>2.3.1 Avoid or reduce activities in significant wildlife habitats during important biological periods (e.g., utilize timing windows).</p>
Fish Habitat	<p>3.1.1 Minimize surface and vegetation disturbance in riparian areas.</p> <p>3.3.1 Avoid direct disturbance to sensitive over-wintering habitats.</p> <p>3.3.3 Avoid or reduce activities in fish habitat during important biological periods or seasons (e.g., utilize timing windows).</p> <p>3.3.4 Avoid or reduce winter in-stream water withdrawals in sensitive over-wintering fish habitat.</p>
Wetlands, Lakes and Rivers	<p>4.1-3.1 Avoid or minimize industrial land use activities in wetlands and riparian areas.</p> <p>4.1-3.2 Coordinate and manage road and trail access.</p> <p>4.1-3.3 Reduce surface and vegetation impacts in riparian and sensitive permafrost areas.</p> <p>4.2.4 Minimize alteration of drainage patterns, water flow and soil temperature.</p>

Heritage, Social, Cultural Resources:	Corresponding GMD:
	<p>5.1.2 Minimize land use conflicts by avoiding or reducing the level of land use activities in important subsistence harvesting and current community use areas.</p> <p>5.1.3 Avoid or reduce activities in significant heritage and current community use areas during important seasonal use periods (e.g., utilize timing windows).</p>
Economic Development:	Corresponding General Management Direction:
	6.3.3 Manage location, scale and intensity of land use.

Plan Recommended Best Management Practices: (Section 5 following each value)	
Wildlife	<ul style="list-style-type: none"> • Avoid or minimize the creation of new access roads and trails; utilize existing routes unless their use will cause additional long term environmental impacts (e.g., permafrost degradation). • Avoid or minimize the size, extent, duration and level of activities in concentrated seasonal use areas. • Use appropriate operational timing-windows in significant wildlife habitats to minimize activities, whenever possible, during periods of wildlife use. <p>When new access creation is necessary:</p> <ul style="list-style-type: none"> • Non-permanent winter access routes should be developed and utilized versus all-season access routes. • Gate or otherwise restrict hunting along new access routes. • Where possible, direct new access routes through less significant wildlife habitats.
Porcupine Caribou	<ul style="list-style-type: none"> • Avoid using or crossing seasonal migration corridors with new access routes. • Define and implement safe operating distances from the herd. • Consider the following seasons when determining appropriate operational timing-windows (seasons when Porcupine caribou occupy the region) <p>Winter: December 1 to March 31 Spring migration: April 1 to May 31 Early summer: July 1 to July 15 Mid to late summer: July 16 to August 7 Fall migration: August 8 to October 7 Rut: October 8 to November 30</p>

<p>Wetlands, Lakes and Rivers</p>	<ul style="list-style-type: none"> • Minimize construction of new permanent river crossing structures and routing new all-season access roads through Major River and other riparian corridors. • Where new all-season or winter access roads and/or trails are required to cross Major River and other riparian corridors, these should be designed, constructed, and used in a manner that minimizes direct and indirect impacts to fish, wildlife and their habitats. • Surface disturbance and land use activities within and adjacent to Major River and other riparian corridors should not result in diminished water quality, quantity or flow.
<p>Heritage, Social, Cultural Resources:</p>	<ul style="list-style-type: none"> • In identified current community use areas exploration and construction activities should be minimized or mitigated during subsistence harvesting periods.
<p>Transportation and Access</p>	<ul style="list-style-type: none"> • Avoid or minimize the creation of new access roads and trails; utilize existing routes unless their use will cause additional long term environmental impacts (e.g., permafrost degradation). • Where new all-season or winter access roads and/or trails are required, these should be designed, constructed and used in a manner that minimizes direct and indirect impacts to fish and wildlife, their habitats and human viewsapes (i.e., minimize size and extent of features). • Avoid important trapping, harvesting, and current use areas. • Avoid using or crossing wildlife seasonal migration corridors with new access routes. • Whenever possible, land use activities should be coordinated to utilize the same access route(s). • Reclamation requirements and decommissioning strategies should be considered during planning and assessment of new road and access features. • Limit and/or control use

Additional Analysis or Comments:

Cumulative Effects

- The cumulative effects analyses of this project were not changed since the initial analyses of December 2014 because none of the relevant parameters appear to have changed.
- The cumulative effects analyses of this project, and its predecessor (2013-0067), were complex. As described by the footnote on page 1, total cumulative effects estimates were based in part on the historical disturbance estimated by the North Yukon Planning Commission (NYPC). The estimates were adjusted by estimated natural recovery rates of the old disturbances (80%, see Appendix A5 of the NYPC's *Final Recommended North Yukon Land Use Plan* (January, 2009), and the amount of the new (this project and 2103-0067) and old disturbances that were forested (the NYPC's definition of recovery was restricted to forested areas). This analysis was done spatially to better account for overlaps between surface disturbances.
- The proportion of disturbance that was forested was determined using the ecological land classification data that was used by the NYPC.
- In order to simplify the analysis and to minimize double counting of features, the contribution of new access for 2013-0067 was ignored. Most access from that project overlapped seismic lines.
- These adjustments reduced the amount of estimated surface disturbance from 49.9km² to 13.8 km², and linear disturbance from 6391km to 1821km. Without these adjustments, the cautionary level would be exceeded.
- The nature of these adjustments has been communicated to all Parties to the North Yukon Land Use Plan (YG & VGG), but a full discussion has not yet occurred (to the knowledge of YLUPC).
- Considering the NYPC's definition of disturbance as any disturbance that facilitates travel by people or animals, and their definition of recovery (in forested areas) as when woody vegetation (trees and shrubs) approximately 1.5 metres in height, there is a good case for including shrubby areas in the definition of disturbance. If this was the case, the predicted cumulative effects indicators would come in closer to the cautionary level.
- When considering the combined surface disturbance of the 3D seismic program (2013-0067) and the projected surface disturbance of this program:
 - 60% of surface disturbance is from seismic line cutting
 - 25% of surface disturbance is from borrow pits (gravel extraction)
 - 13% of surface disturbance is from access (roads)
 - 2% of surface disturbance is from well pads.
 - Most of the potential surface disturbance of this proposal is from borrow pits.
 - Therefore, purely from a surface disturbance perspective, gravel use, and by extension, all-season road development should be minimized. See comments under access below.
- The above analysis was made possible by spatial data provided by NCY on their recent work and proposed work. NCY is encouraged to continue providing as much spatial data as possible in order to best determine conformity and to track cumulative effects.

Fish Habitat

- Attachment # 15 - Fish and Fish Habitat_Winter Roads_2015.pdf corroborated the NYLUP's overview of regional values in finding that fish overwintering habitat is likely rare in LMU 9. Nonetheless it commits to testing stream crossing for moving water and overwintering habitat. It also appears to address all of the relevant GMDs.

Wildlife

- While the North Yukon Regional Land Use Plan does not ask that Technical Working Group for Porcupine Caribou be created, it does make some recommendations that would be in the purview of such a group, if instated. Such a collaborative approach would better fit the Plan's definition of "adaptive management" – a central concept of the Plan.
- NCY's *Wildlife and Mitigation and Monitoring Plan (WMMP)* and *Protection of Fish and Fish Habitat During Winter Road Construction* address, to varying degrees, most of the fish and wildlife GMDs issued by the NYRLUP.
 - The WMMP presents a series of phased reductions in project activities that depend on proximity and number of collared caribou. This procedure appears to address many of the relevant BMPS and GMDs of the NYRLUP, and clearly describes what will and will not happen at trigger points. However:
 - This process is based on the location of collared caribou which represent less than 0.1% of the herd. The described monitoring framework using snow track surveys and height-of-land surveys makes sense in principle. In practice, heights-of-land offering 360° views of a 6km radius in the subdued terrain often found in Eagle Plains may be uncommon. Additional types of monitoring or monitoring frameworks may be necessary.
 - The process should apply to not only "active drilling sites" but also to active borrow pits given their concentration of potentially disruptive activities (e.g., blasting, traffic, crushing and screening).

Heritage and Culture

- The NYRLUP talks about avoiding or minimizing heritage and historic features. Other organisations are better able to determine the adequacy of NCY's mitigations in this regard.
- The NYRLUP also recommends minimizing conflicts with subsistence harvesting and other community uses by avoiding or reducing activities in important areas and/or in important seasonal use periods. While the WMMP could mitigate some of these conflicts, dialogue on residual conflicts could occur via NCY's proposed weekly summary reports on wildlife monitoring activities.

Access

- The North Yukon Regional Land Use Plan made the following recommendation:
In advance of significant levels of energy sector activity, an access management plan should be developed for the Eagle Plain oil and gas basin.
 - An access management plan should have been in place before this proposal was evaluated. One should be developed by the Parties to the North Yukon Land Use Plan in advance of subsequent phases (and therefore permits) of energy sector activity in Eagle Plains.
 - In the absence of such an access management plan, NCY recently provided its own Access Management Plan (AMP) for this project. Though it's geographic scope is limited to the project area (rather than all of LMU 9), it does contain many of elements, approaches and values that would be expected in such a plan. Comments:
 - It is unclear if this newer plan resulted in any changes in the access routes proposed over a year ago. There is no direct discussion of how there are 4 accesses are described in NCY Response to IR4 Deficiencies_Part 1.pdf (p. 48), while 6 were described in earlier documents. Nonetheless, the fewer accesses fit the NYRLUP better.
 - The AMP does not include a map of proposed access routes. Without such a map, it is impossible to judge the how many of the management approaches outlined in the AMP are to be implemented.
 - It is good to see winter roads will be used whenever possible and that the

minimum number of feasible access points will be used.

- Where possible, gates should be strategically located to minimize the chance of off-road vehicles circumventing them.

Injection Wells

- Text on p. 73 of the original proposal indicates that the suspended well Blackie M-59 is being considered as an injection well. This well is outside the North Yukon Planning Region, and is in the Peel Watershed Planning Region. This, in addition to access complications, could make this well a poor choice.