A review of the Area Based Analysis

The OGC Area Based Analysis overview states: *Cumulative effects are defined as the "changes to environmental, social and economic values caused by the combined effect of past, present and proposed activities and events on the land base." Considering effects on only a project- or sector-specific basis can allow unintended impacts to accumulate over time. ABA incorporates key principles embodied in cumulative effects assessment methodology, and will be used as part of the Commission's permitting and authorization process.*[1]

We find there are fundamental and technical flaws with the current ABA process that collectively prevent the ABA from fulfilling this stated promise. In particular, and of great concern to Blueberry River First Nation, the ABA does not address the cumulative effects to treaty rights or the ecological values that matter for treaty rights.

This report has two sections:

ABA review: a review of the existing ABA context and specific methodology – many of these issues have been raised previously by Blueberry River First Nation but have not yet been adequately responded to by the OGC. Within this section we identify key gaps and make recommendations to fill those gaps.

Case study: this section compares the ABA and management direction for an individual watershed with analyses undertaken by others (both in government and outside). This case study illuminates the defects of the ABA, as the ABA results do not reflect either the type of analysis nor conclusions reached by others for the same landbase.

Section 1: ABA Review and Recommendations

A: Fundamental Flaws:

We believe the ABA cannot provide an effective process for analysing and managing for cumulative impacts with respect to Blueberry River Treaty Rights or for ecological values because of a number of Fundamental Flaws. Without resolving these fundamental issues the technical issues itemised in Part B will not provide effective resolution.

#1: Inadequate direction on land use values

In the Auditor General's 2015 report on cumulative effects, the province of BC states that landscape planning provides the context for determining land values for a region, within which finer scale decisions can then be made. Both the Auditor General and the Forest Practices Board (FPB) have identified significant issues with existing land use plans for providing adequate direction[2, 3]).

As the FPB has acknowledged, the land use plans in the northeast of the province are out of date. In any case, when developed, these land use plans did not incorporate First Nation values or Treaty Rights. And, existing plans do not reflect current scientific understanding of base levels of protection required to maintain ecological values into the future[4].

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[1] OGC 2014: Area-based Analysis Results for Northeast British Columbia.

[2] FPB 2008; FPB 2011; Auditor General 2015;

[3] FPB. 2008. Provincial Land Use Planning: Which way from here. FPB Special Report FPB/ SR/ 34.

[4] Canada's stated goal is to achieve 17% representation as a signatory to the Convention on Biological Diversity. Science suggests on the order of 50% of a region needs to be managed for conservation to maintain long term process and functions. This region has approximately 4% in protected areas (Lee and Hanneman 2012).

Practical immediate and significant gaps in landscape planning include spatial identification and protection of critical core areas required to maintain the practice of Treaty Rights, and core ecological areas to ensure adequate ecological representation and protection of critical habitat.

Recommendation: Work collaboratively with BRFN to identify core areas that must be off-limit to development. This is not intended to reflect a comprehensive land use planning exercise but a focused exercise to fill critical gaps in the immediate term.

#2: Treaty Rights values do not have an indicator within the ABA

Of the 9 potential indicators identified in the ABA none directly reflect First Nation Treaty Rights. This clearly prevents the ABA analysis – even if it was a part of a clear and transparent decision-making process (which we believe it is not – see below) – from assessing and managing the effects of development on Treaty Rights.

Recommendation: Work collaboratively with BRFN to identify specific indicators that reflect the ability to practice Treaty Rights.

#3: Key Uncertainties are not considered

Immediate uncertainties, such as the implications of natural fires for landscape condition, are not reflected in the triggers and interpretation used by the ABA. In addition, larger scale uncertainties such as climate change are not considered at all.

Recommendation: Identify and quantify key uncertainties with the potential to influence landscape condition. Ensure these uncertainties are appropriately considered in analysis and decision-making.

#4: ABA assesses against existing policy and therefore does not follow best practices of cumulative effects assessment

CE assessment is intended to understand the condition of the landbase in relation to natural baselines. Different policies have different 'social choice' decisions already incorporated into them, and therefore do not provide a useful baseline against which to understand actual risks to ecological systems. As a result of taking this approach the current ABA approach is better described as implementation monitoring.

Recommendation: Use ecological information to define indicators and appropriate targets to understand the current condition of the landbase. Do not intermix policy decisions with the notion of cumulative effects indicators, thresholds, and baselines.

#5: Unclear Management Responsibility (or, No One to Tell)

There is no explicit framework that defines the decision-making process or identifies the decision-maker who has ultimate responsibility for maintaining values into the future. If a trigger is exceeded, the onus is on industry to avoid, minimise, reduce impacts to Crown land, but without clear direction.

ABA material says "Using ABA, a Commission SDM can assess the impact of proposed oil and gas activities on ecological, cultural and social values in the context of all other development activities". However, there is no transparent or available policy that explains how this is done. This issue of having 'no-one to tell' is identified by the FPB (2011) and the AG (2015) as a flaw in provincial approaches to CE.

Recommendation: Develop policy to identify a clear decision-making framework. Identify clear management responsibility within government for landscape condition.

B: Technical Flaws:

There are a number of technical flaws encompassed within the existing OGC ABA and management process. This section presents a number of the most significant technical flaws. Blueberry River expects to be involved in further talks about these and other flaws of the ABA and to be engaged meaningfully when the OGC addresses each of them.

#1: Inadequate Indicators

Of the 9 ABA identified indicators, only 2 are currently implemented: hydroriparian and old growth. This despite ABA documentation that identifies the high priority need for implementation of some of the other identified indicators (e.g. for caribou – since '*woodland caribou are in decline', and 'the inclusion of this value is an immediate priority and is planned to be completed before end of 2014'*[5]*).* The ABA is incomplete, even on its own terms. Even putting aside its other flaws, the ABA does not constitute an effective cumulative effects assessment or management tool at this time because it considers so few values.

Recommendation: Complete the indicators already identified by the ABA, especially those identified as critical. Do not undertake any further development in habitat of critical species, in particular for caribou, before an adequate assessment and management procedure is in place.

Recommendation: Review proposed indicators to ensure they adequately reflect ecological values at appropriate scales and have appropriate, ecologically based management triggers identified. Develop new indicators, such as linear disturbance, as necessary.

Recommendation: Resolve the fundamental flaw identified above that no indicators directly address First Nation Treaty Rights.

#2: The Hydroriparian indicator does not include impacts on all of the hydroriparian habitat and does not provide an accurate assessment tool for water quantity

The Hydroriparian indicator is described as reflecting the condition for 'riparian habitat and water quantity'. However, the ABA measures disturbance only on a portion of the hydroriparian ecosystem - the Riparian Reserve Zone as defined by the EMPR policy. These reserve zones do not identify all elements of the hydroriparian ecosystem. This is a critically important distinction because many riparian features such as small streams, large wetlands and intermediate sized lakes are not ascribed a reserve zone in policy. Therefore, the ABA cannot detect, report on, or consider any interaction between disturbance and those riparian features not given a reserve zone.

The Hydroriparian indicator fails to reflect any disturbance impact on significant portions of the riparian ecosystem because not all component parts of the riparian ecosystem are included in the indicator definition.

Recommendation: Redefine the riparian habitat indicator to include all elements of the hydroriparian ecosystem.

In addition, the ABA relies on the Northeast Water Tool (NEWT) to assess water quantity. We have many concerns about NEWT, especially in light of the 2015 decision in which the Environmental Appeal Board found that "at this time there is no way of knowing the accuracy of results generated by NEWT," so that it "should not be relied upon as the primary tool for estimating hydrologic characteristics at a point of interest."

[5] BC OGC. 2014. (PAGE 19). Area-Based Analysis Results for Northeast British Columbia.

Recommendation: Work with Blueberry River to address the defects and limitations of NEWT and other hydrological tools for use within Blueberry River territory, especially where hydrological and other data is sparse.

#3: The Disturbance layer assumes an impact from the direct footprint only

The ABA generates a 'disturbance layer' from the data on activities on the land. No 'buffers' are applied to this layer, which assumes therefore that only the direct footprint of a development has any impact on ecological or Treaty Right values and indicators. Extensive literature contradicts this assumption. As a result, the ABA understates the true extent of cumulative effects of disturbance on ecological values and treaty rights.

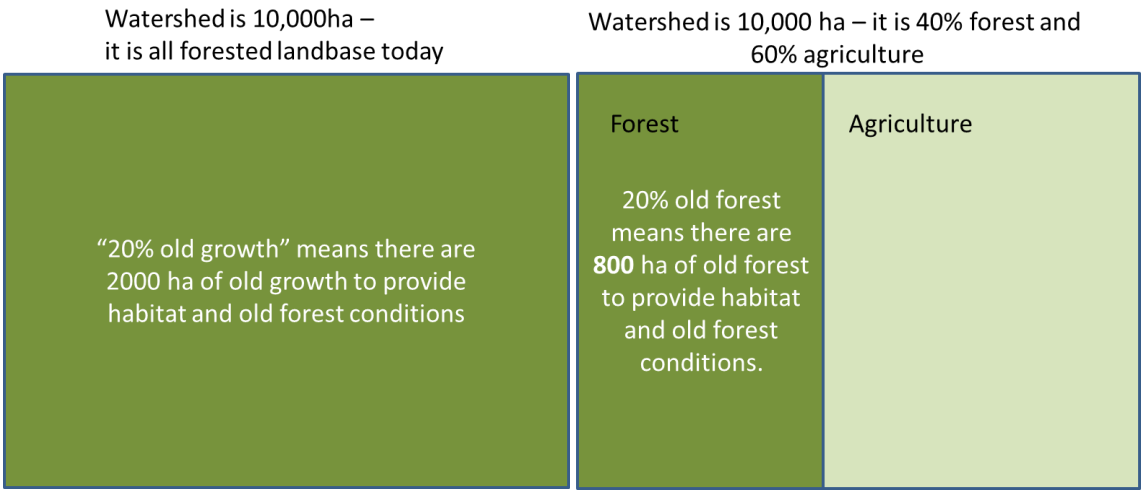
Recommendation: The disturbance layer should reflect the existing literature on the effects of disturbance on the values described by the indicators. The OGC must work with Blueberry River to define the appropriate zone of Influence or 'buffers'. The ABA process should include sensitivity analyses to reflect any uncertainty in the science or Traditional Ecological Knowledge.

#4: The Unit of Analysis used allows entire watersheds to have little or no old forest remaining and yet pass the old forest test

The old forest indicator measures the amount of old forest present within massive areas (e.g. 8.9 million ha for the Boreal Plains). This allows some watershed units to have lots of old forest while other watersheds can have no old forest and collectively they both 'pass the old forest test'. This mismatch of scales is critical because as ABA states, "*A significant portion of B.C. forest biodiversity is associated with older forest stands and associated structural elements, such as dead and dying trees and downed wood".* None of the animals that use old forest and that would be harmed by its destruction can move hundreds of kilometers or more to find habitat in distant watersheds. The ABA fails to capture the different condition of different watersheds and their ecosystems, but those watershed-level effects are critical to the ongoing exercise of treaty rights. This basic idea is commonly understood in other resource management fields – for example in forestry, old forest targets have to be met at the scale of watersheds / landscape units.

Recommendation: The analysis of old growth can use the ecological information generated at the scale of Natural Disturbance Units to <u>set</u> the old growth target, but that target must be <u>applied</u> at the scale of watersheds to provide an ecologically or humanly relevant assessment of ecological condition.

In addition, the old forest analysis asks how much old forest remains in today's forested landbase. Where significant areas within a watershed have been converted to a non-native ecosystems, such as agriculture, this can result in a significant disconnect between the apparent total old forest in a watershed, and the actual area of old forest that is available as habitat within that watershed.



This is an example of the shifting baseline syndrome[6].

Recommendation: where ecosystem conversion has occurred to a non-native ecosystem, this must be reflected in the ABA analysis on cumulative effects.

In addition, in some cases, it may be necessary to undertake analysis at an even finer scale than watersheds, to reflect the real values that maintain ecological services. For example, important components such as mineral licks will require finer scale analysis and these considerations must be addressed as indicators are developed.

Recommendation: Development of critical indicators related to ecological and First Nation Treaty Rights must be implemented immediately, and must be applied at ecologically appropriate scales.

#5: ABA Management 'triggers' do not protect ecological values

a) For the old forest indicator, the Management Trigger reflects the bottom end of the scientific range for natural levels of old forest and is therefore not precautionary

The identified target for each NDU is set at or below the lowest number from the 'range of natural old forest' identified by Delong 2011. Even if measured at an appropriate watershed scale, this approach sets the 'trigger' at the bottom of the range, rather than at a precautionary level (as the ABA documentation suggests). This is important as, even if the analysis was undertaken at an appropriate scale (which it currently is not) it allows development to drive each unit to an ecological minimum leaving no flexibility to adapt to broader uncertainties such as fire, climate change, or incorrect assumptions. This non-precautionary approach introduces serious risk for the ecological values in question, as well as for Blueberry River's treaty rights.

E.g. the trigger for Boreal Plains NDU is 17%, while the natural range is defined as 17-49%. The trigger for Wet Mountain NDU is 55%, whereas the natural range identified is 84 – 93% old forest. Similar patterns exist for the other NDUs and their management triggers.

Recommendation: use Management Triggers that are less aggressive and allow some room for risks and uncertainty – i.e. reflect the midpoint of the range of natural, not the bottom of the range or below.

[6] Pauly, D. 1995 defined the Shifting or Sliding Baseline – a concept which can result in a loss of perception of change when generations of people redefine what is 'natural' based on their own generations experience.

b) **The Hydroriparian trigger does not reflect the potential disturbance on all hydroriparian habitat**

The trigger for hydroriparian is stated in the ABA as being a precautionary "greater than 95% intact". However, since the indicator does not include all hydroriparian features it is impossible to know the actual level of intactness of the riparian system. The ABA currently does not measure it.

Additionally, as identified above, the analysis assumes only the direct footprint of disturbance impacts ecological values since no buffers are added to the disturbance layer. Even given these concerns, many OGC basins are identified as not meeting this management trigger, but we would expect this to increase if ecological 'zones of influence' were acknowledged in the analysis.

Recommendation: Identify hydroriparian habitat based on best available ecological knowledge, and buffer the disturbance layer based on science to ensure that the management triggers reflect all potential impacts.

#6: Individual Permits are processed without either short- or longer-term historic and future context

The ABA considers only the individual impact of a permit on current conditions as analysed by the ABA process. It does not account for the thousands of permits applied for annually, many of which are processed at the same time. For example, Blueberry River received 9,252 permit referrals from the OGC in 2015. The ABA does not appear to consider the potential impacts of the many permits that are being considered concurrently by the OGC.

In addition, the ABA does not explicitly consider either a historic baseline, nor develop future scenarios to provide context for its decision-making.

Recommendation: The ABA should assess all outstanding and pending permits for a watershed in each evaluation.

Recommendation: Work with Blueberry River to develop an appropriate historic baseline, plus future scenarios, to assess cumulative effects on ecological values and treaty rights

#7: No Management Limits

If a trigger is exceeded, the onus is on industry to avoid, minimise, and reduce impacts, but there are no actual limits to the amount of disturbance that is permitted. The management triggers, if crossed, appear to require only procedural changes (e.g. reports), not actions to prevent the breach of a threshold.

This approach is not consistent with the basic principles and discoveries of the science of ecology. Where ecological limits are known, they must be respected. Where such limits are not known, precautionary management limits should be implemented and monitoring undertaken.

Recommendation: Identify clear limits at appropriate scales beyond which development will not be permitted. Ensure these are responsible, reflect all relevant values including treaty rights, and are based on the best available science.

#8: No Follow-up Monitoring or Regular Review

It is necessary with all systems to ensure that assumptions are tested and management responses changed if and when new information becomes available.

Recommendation: Ensure monitoring to test key assumptions is in place.

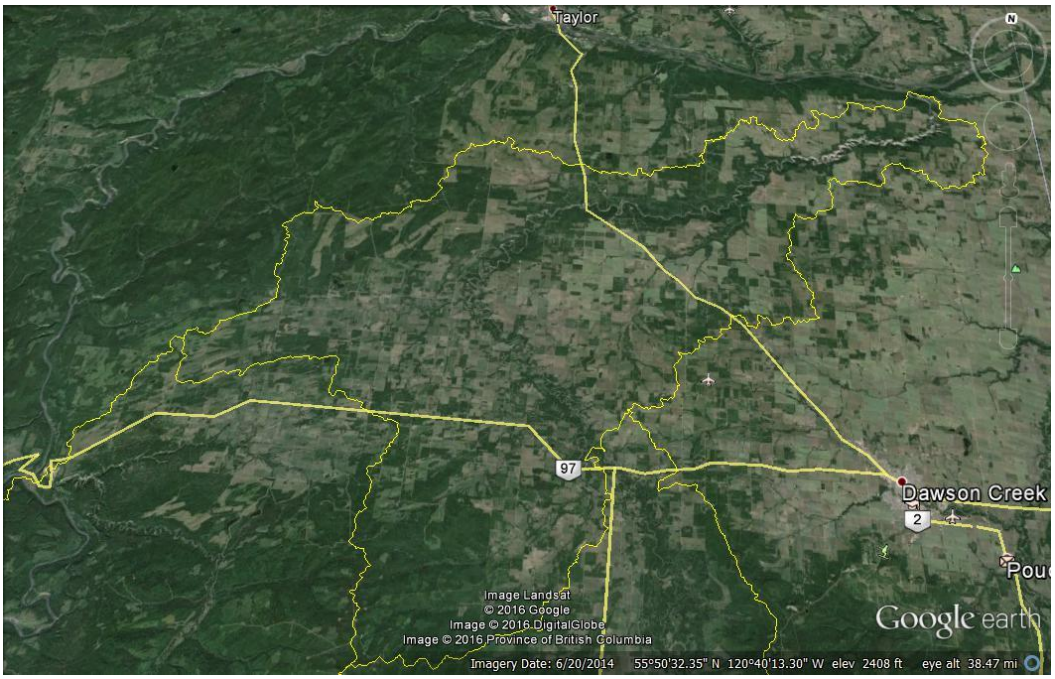
Recommendation: Ensure the ABA is constantly improved using a clear and reliable process, where new information is incorporated as a part of business as usual.

Section 2: Case Study – The Lower Kiskatinaw Watershed

The Kiskatinaw Watershed is located in the south Peace region, within Blueberry River territory. This watershed was chosen as a Case Study because it has been the subject of a number of different cumulative effects analyses, allowing us to compare both the methods used and the conclusions reached about landscape condition in this specific place.

The Lower Kiskatinaw Watershed is one of 69 OGC watersheds identified for the Northeast of BC. It is part of the larger Kiskatinaw watershed that is reflected in the Case Studies below.

In the figure below, the Lower Kiskatinaw watershed is outlined in yellow, with highway 97 and 2 running through it. The watershed has seen fairly extensive conversion to a non-native ecosystem (i.e. agricultural land which is predominantly privately owned). The approximately 60% of this watershed that is now agriculture therefore has little or no functional forested ecosystem, and its hydrologic patterns are significantly disrupted. In the remainder of the forested area within this watershed, there are few larger patches of contiguous forest except in the very south of the watershed. This OGC basin is about 60,000ha in size.



In short, the cumulative effects analyses conducted prior to the ABA (and independently of the OGC) follow standard practice, reflect scientific literature, and confirm significant adverse cumulative effects on the ecological values in this watershed. In contrast, and as discussed in more detail above, the ABA has serious methodological and scientific defects. As a result of those defects, the ABA departs from the other analyses and finds only limited effects on the Lower Kiskatinaw watershed.

Analysis #1: OGC Area-based Analysis

The report generated by the ABA for the Lower Kiskatinaw watershed concludes:

For Old Forest: the ABA report states that old forest is 'normal', and no management triggers are exceeded. No additional consideration is therefore required for oil and gas development relating to the forest values in this watershed.

The old growth analysis finds that old growth is normal because the ABA does not ask what level of old growth is present in this large watershed (it currently stands at ~ 5% of this 60,000ha) but rather asks whether the massive NDU of the boreal plains (8.9 million ha) meets a target level of old growth. The ABA does not actually assess the amount of old growth forest in this – or any other – watershed. The significant reduction in old forest in the Lower Kiskatinaw is clear from the figure above, as well as from the fact that approximately 60% of its landbase has been converted to agriculture. The lack of old forest in this watershed is clearly material to the species and functions relating to old forest here, since 60,000ha is much larger than most species' home ranges. For those species to be able to live in this watershed, the old forest must be located here, not elsewhere in the Boreal Plains NDU.

Hydroriparian indicator: the ABA report states that riparian intactness is 91.4%, which puts the watershed in an enhanced management trigger.

No specific direction is available from the OGC as to what actions will be taken to increase riparian intactness in the future. To our knowledge, no permits have been rejected as a result of being in the enhanced management zone.

As explained in the technical review above, the ABA analysis of riparian intactness is incomplete. The riparian intactness numbers do not include any assessment of riparian condition / habitat or functioning on the 60% of the watershed that is agricultural land. On the remaining forested portion, the ABA assesses disturbance only of a subset of the hydroriparian ecosystem, and it does not buffer the disturbances so reports out on the direct disturbance footprint only. The ABA does not provide any sense of the uncertainties introduced by making these assumptions.

In Summary: the ABA report states that old forest is normal, and that riparian habitat intactness is 91.4% (just below the trigger of 95%). This gives the general impression that this watershed is in good condition, and that minor modification to layout of oil and gas activities would result in an intact / functioning watershed.

Analysis #2: Forest Practices Board Cumulative Effects Analysis: Dawson Creek[7]

In the context of undertaking a special investigation into the state of cumulative effects management in BC, an independent provincial watchdog, the Forest Practices Board (2011) undertook a case study cumulative effects analysis for the larger Kiskatinaw watershed. This larger watershed encompasses the Lower Kiskatinaw reported on above.

The FPB analysis examined four valued ecosystem components (forest soil, winter habitat for caribou, and drinking water quality and quantity). Here we report only on the conclusions for their forest-related indicator (caribou winter habitat) and the conclusions for drinking water quantity, since they most closely relate to the current ABA analysis.

The FPB report notes that historic, current and predicted future conditions should be analysed to generate meaningful cumulative effects results. In their report, the two historic conditions (mid 1980s and mid 1990s) were compared to the current condition of the landbase in 2007. These historic and current conditions were then compared to future scenarios of development. For each valued ecosystem component, 'limits' were identified in advance of the analysis, based on best available information. These limits are used to interpret the significance of the results for each indicator.

FPB Results: Historically, caribou ranged throughout the Kiskatinaw watershed, but today only a subset of the watershed is used as winter caribou habitat, as a result of the human disturbance in the watershed (FPB 2011). The FPB used the full watershed and this sub-area of inhabited land as two

[7] FPB 2011. Cumulative Effects: From Assessment Towards Management. FPB/ SR/ 39. Plus Appendix Report: A Case Study for the Kiskatinaw River Watershed. Special Report.

different analysis units. The FPB developed indicators that reflect the caribou value namely core habitat, average core habitat patch size, and density of linear corridors. (A process the ABA has as yet been unable to complete). All disturbances on the landscape were buffered, and the potential effects evaluated. The FPB report concludes:

> *Caribou have likely retreated south in the study area, as habitat quality has deteriorated because of increased human activity. All indicators of winter habitat quality for caribou have deteriorated over time, to the point where they have exceeded the limits of concern derived from published literature. As a result, there is no need to project these indicators to 2017. Any additional industrial development will drive the indicators further from the limits set.*

For drinking water, the FPB report concludes:

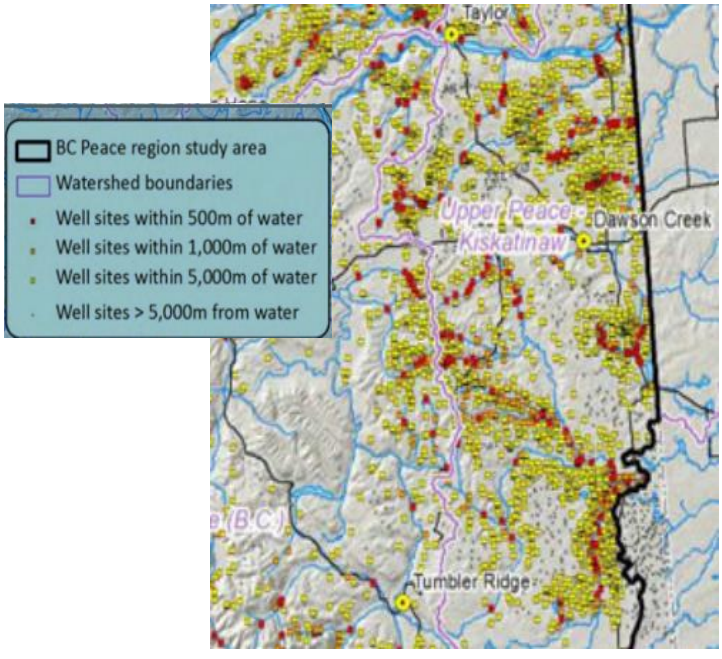
> *The CEA found relatively unambiguous indications of changes in the flow regime of the river, over the period of record, that indicate a concern for drinking water quantity. Additional human activity, particularly in the form of drilling for natural gas, has the potential to cause withdrawals from the river that exceed limits of concern.*

In Summary: the FPB demonstrates important aspects of a framework for doing effective cumulative effects analysis, using multiple indicators and measuring changes over time in relation to ecological limits identified from literature and from which they interpret their analysis results. In addition to identifying concern for caribou habitat and drinking water, the FPB identifies a large number of problems with the existing use of cumulative effects assessments for resource management in BC. Key flaws include the lack of any requirement to assess the effects of the *"myriad of minor activities that are continually authorized on the land. The result is these remain largely unknown and unmanaged"*. Attempts to solve these problems are largely unsuccessful because there are no "*institutional mechanisms to use the results of the assessments – that is, there is no one to tell"*. In addition, values must be linked to indicators that actually reflect the values. This process must *"include the notion of limits".* The FPB concludes that methods for effective cumulative effects analysis are well documented and researched, but that there is a need for **"a comprehensive land management framework in which those methods could be used".**

Analysis #3: Lee and Hanneman, 2012[8]

In a cumulative effects analysis for the broader Peace region, this report identifies the large number of different disturbance agents that have caused a change from the natural conditions in the Peace Region.

The report provides data on the large array of disturbances by watershed. For example, at the time of the analysis, there were 8517 petroleum and natural gas facilities, 358km^2



[8] Lee,P.G. and M. Hanneman. 2012. Atlas of land cover, industrial land uses and industrial-caused land changes in the Peace Region of British Columbia. Report prepared for Global Forest Watch and David Suzuki Foundation.

of pipeline right-of-ways and 9781km^2 of active oil and gas tenures in the study area.

The report summarises 15 broad categories of development types and overlaps them to understand the cumulative footprint of all activities. The disturbance layer is buffered to understand the potential implications of impacts over and above the direct footprint.

A single disturbance layer – the number of well sites adjacent to wetland and riparian features – is shown as an example for the Kiskatinaw watershed (Figure above).

In summary: Lee and Hanneman compile results by watershed zones and conclude that:

- 90.2% of the Upper Peace-Kiskatinaw is disturbed;
- 66.9% of the entire study area was disturbed when applying a 500m buffer to disturbances;
- the Upper Peace-Kiskatinaw watershed had the highest numbers of water crossings in the region, with 747 water crossings (of a total of 2296 in the region);
- two of five watersheds (Beatton and Upper Peace Kiskatinaw) have very few remaining intact forest landscapes (<6% each); and
- three of the 10 caribou herd ranges that are all or partly within this study area were more than 50% disturbed by development in 2012.

This analysis included the effects of all industrial development, including agriculture and other factors not included in the ABA analysis. They also identify the low overall level of protection in this region (~ 4% in protected areas), so there is not an ecologically appropriate amount of the landbase that is off-limits to development where natural processes can persist.

Analysis #4: Nitschke 2008[9]

This cumulative effects analysis is focused on the Peace-Moberly as a study area (which overlaps in part with the Kiskatinaw watershed). Habitat models based on forest cover attributes were developed for a wide range of species. A historic scenario (1970s) was compared to current (mid 2000s) to look at change over time. The study identified that a significant increase in the area affected by industrial disturbance had led to a change in landscape structure and a significant change in forest biodiversity. The approach looks at how individual species interact with specific habitat elements, looking for data driven 'thresholds' that result in population changes for species that thrive in different environments. Early seral species increased in number in the region, while older forest, and old forest species declined in relation to natural conditions because of forest fragmentation.

In summary, the Nitschke analysis concludes that the decrease in *'interior habitat was one of the variables that significantly impacted the response of modeled species'*, and it notes that the reduction in interior habitat (i.e. undisturbed blocks of older forest) was a predominant cause of species decline. The author notes that other researchers have identified that species requiring old growth and interior habitat were likely to be most affected by cumulative development, and concludes that this study shows "*interior species requiring mid-late seral coniferous forest have already been adversely impacted by cumulative development"* (2008).

The multiple changes that were shown to have occurred over space and time from the variety of different footprints resulted in a *"cumulative effect of recent resource development on ecological integrity that is both additive and synergistic. The proposed acceleration of development will increase the risk to maintaining the biodiversity and ecological integrity in the Peace Moberly region"*.

[9] Nitschke, C.R. 2008. The cumulative effects of resource development on biodiversity and ecological integrity in the Peace-Moberly region of Northeast British Columbia, Canada. Biodivers. Conserv. 17: 1715- 1740.

Case Study Conclusion:

Before the ABA was introduced, there had been a number of cumulative effects assessments in the south Peace region. Those analyses followed the scientific literature of how to undertake an effective cumulative effects analysis, including identifying multiple indicators, forecasting historically and into the future, buffering the effects of disturbance to reflect scientific literature on how disturbance affects values, and identifying limits against which to interpret the effects. **However, the ABA does not use these same methods that are well documented in the literature of cumulative effects assessment.**

The pre-ABA cumulative effects studies reviewed above all raise concerns about the pervasiveness of the effects of development across the region that encompasses Blueberry River territory. They identify serious harms and risks, including local extirpation of species, loss of interior habitat required to maintain key species, and the density of the disturbance footprint, especially in some large watersheds within the south Peace region. **By contrast, the ABA is the only "tool" that suggests the landscape of the Blueberry River First Nation territory is a 'normal' or 'intact' ecosystem. All the other analyses suggest that ecological limits have been or soon will be surpassed for a variety of species and processes.**

As outlined in Section 1 of this report, we have identified a large number of fundamental and technical concerns regarding the Area-based Analysis and management system. The results for a specific landscape as viewed through different studies demonstrate that **the issues raised are significant and have profound implications for our understanding of the ecological condition of Blueberry River First Nation territory.**

Section 3: Next Steps

The ABA does not meet its stated goal of meaningfully assessing cumulative effects. It does not assess cumulative effects on Blueberry River treaty rights and it does not meet its own objective in assessing cumulative effects on ecological values. The OGC should not use (or allow proponents to use) this instrument in place of real cumulative effects assessment. Among other things, Blueberry River is deeply concerned that some proponents appear to be using ABA results to mitigate and justify significant cumulative effects for purposes of the BC environmental assessment process.

The OGC must work with Blueberry River to address the flaws in the ABA discussed above. As noted, at this time, the ABA is not a cumulative effects assessment tool. It should not be used or presented as such a tool at this time, and its results should not be used as a substitute for a real cumulative effects assessment. In order to address these flaws properly, Blueberry River and the OGC will require a transparent and timely process for discussions. Blueberry River also will require meaningful capacity funding and other technical support, as Blueberry River has already spent a significant amount of time and money to identify and help the OGC address a number of issues with the ABA.

April 12, 2016

Prepared by Rachel Holt for Blueberry River First Nations