Comments Received from Stakeholders

#	Comments Received	Group
1	Kevin McDonnell, Manager Regulatory and Environment	Yukon Government-Department of Energy Mines and Resources, Oil and Gas Management Branch
2	Greg Cowman, Forest Practices Forester	Yukon Government-Department of Energy Mines and Resources, Forest Management Branch
3	Debra Wortley, Silviculture Forester	Yukon Government-Department of Energy Mines and Resources, Forest Management Branch
4	Ryan Parry, Environmental Assessment Officer	Yukon Government-Executive Council Office, Environmental Assessment Unit
5	Marg White, Manager Land Use	Yukon Government-Department of Energy Mines and Resources, Land Use
6	Ken Colbert, Head Wildfire Management	Yukon Government-Department of Community Services, Protective Services Wildland Fire Management
7	Jon Bowen, Manager Environmental Affairs	Yukon Government-Department of Environment
8	Christian Thomas, Consultant	Consultant for Yukon Government Forest Management Branch and Heritage Resources Unit
9	Erin Evans, Environment Officer	Indian and Northern Affairs Canada-Yukon Region
10	Paula Pacholek, Northern Ecosystem Specialist and Benoit Godin, Head Environment Contaminants	Environment Canada Environmental Protection
11	Peter Sandiford, Forest Conservation Coordinator	Canadian Parks and Wilderness Society-Yukon Chapter
12	Karen Baltgailis, Forestry Coordinator	Yukon Conservation Society
13	Ulla Rembe, PLUS Coordinator	Southeast Yukon Proper Land Use Society
14	Rhonda Rosie, Southeast Yukon Resident	Southeast Yukon Resident

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY

YUKON CHAPTER

CPAWS-Yukon Comments and Recommendations: Project Description for Year 1 of the Interim Wood Supply Plan for the Kaska Traditional Territory

Comment Outline

A. Overview of Ecosystem-Based Planning
    a. Principles of EBP
    b. Assessing Values
    c. Tools for Achieving Goals

B. Key IWSP Concerns
    1. Failure to follow basic EBP process requirement
        a. IFS "Total Chance Plan"
        b. Significant ecosystem provisions only as claw-backs
        c. Opaque communications from the Forest Management Branch
    2. Failure to identify important values
        a. What values are being managed? How were they chosen?
        b. Key values missing
        c. Key values not adequately described
    3. Failure to provide rationale for chosen measures and what parameters would be used
        a. No explicit means to assess condition of ecosystem values
        b. Misuse of focal species concepts
        c. Marten and watershed assessments
        d. Values tables
    4. Failure to set clear and defensible ecosystem targets and development thresholds
        a. Goals, targets, and thresholds for FEN do not exist
        b. Access management not considered
        c. Forest interior habitat and habitat fragmentation not considered
        d. Management tools selected before assessing ecosystem values
    5. Failure to clearly show how the resulting IWSP strategies achieve, let alone relate to, any targets or thresholds
        a. Set-aside issues
        b. FEN issues
        c. Natural disturbance emulation issues
    6. Failure to identify a framework for adaptive management and monitoring

C. Conclusions and Recommendations
D. Glossary
E. Appendix

Ecosystem Based Planning

The first principle of the MOU is that plans must be ecosystem based. The IWSP then puts forward a goal to "apply an ecosystem-based approach". We strongly support an ecosystem-based planning (EBP) approach; however, the IWSP does not follow such an approach. We were disappointed to find that while many of the buzzwords and catch phrases associated with EBP were used repeatedly, none of the critical steps of EBP were followed properly, and some were missed entirely.

We have strongly advocated for EBP in the past and cannot support the perversion of such an important concept.

Principles of EBP

What makes EBP unique compared to all other forms of forest planning is that ***the primary management objective is to determine what should remain rather than what to remove***. ***Guiding these decisions is the goal to understand and minimize the impacts of development on ecosystems***. To understand the impacts of development, the integrity of the process followed is as important in EBP as the end product.

The following elements are found in EBP (modified from the *Coastal Information Team, Draft 3: Ecosystem-Based Management Framework*, 2003):

1. Describe the characteristics and components of the ecosystem.
2. Determine what values are found within the planning area.
3. Determine how these values can be measured.
4. Set appropriate thresholds for impacts and targets for desired values. Thresholds and targets are based on the best available information, and the rationale for their development is clear. These would normally be guided by higher level regional planning, but in this case, broad guidance from the KFRSC is appropriate.
5. Assess the resource extraction potential within the context of these targets and thresholds. Develop clear and defensible strategies to meet targets and stay below thresholds.
6. Assess whether strategies are achieving the predicted outcomes and alter current and future plans/practices accordingly. This is one of the key elements of ***adaptive management***—another important goal listed in the IWSP. If all of the above steps are not taken, adaptive management cannot be undertaken.

Assessing values

EBP typically considers three categories of values. They are: Representation, Special Elements, and Focal Species.

The value of considering **Representation** can be summarized in the well known statement by Aldo Leopold, "*To keep every cog and wheel is the first precaution of intelligent tinkering*". Representation values would include: ecological zones/ecoregions, distribution of seral stages, ecosystem types, stand types, terrain types. Depending on the broad goals established for the planning area, suitable targets can be set to ensure representation.

Special Elements are those ecosystem values that may not be captured by representation. These include habitats and biophysical features, such as: springs, salt licks, bird hotspots, critical habitats, rare plant communities, unique forest stand types, and remoteness. A variety of strategies and tools can be used to reach the explicit management goals set for these values. Socially important values such as culturally important sites and recreational features should not be overlooked, and can be considered in a parallel process.

Focal Species are more complicated. Focal species must be selected for a purpose, and the thresholds, targets, and measures used for that species must be tailored to the purpose for which that species was selected. In the simplest case, a species may be selected because humans value it or harvest/hunt it. In this case, a goal may simply be no reduction in the population size of that species. Around this goal, habitat targets and impact thresholds can be developed based on the best information. More often, a species may be selected to act as an indicator of some element of ecosystem function. These species may have one or several characteristics, including sensitivity to disturbance, sensitivity to fragmentation, use of many different ecosystem types, association with particular ecosystems, stabilization of ecosystems, dependence on interior forest habitat, dependence on disturbed habitat, dependence on particular ecosystem processes, or sensitivity to changes in water quality. None of these elements of ecosystem function can be represented or managed for generally. The selection and use of each focal species must be based on a clear rationale showing how some measure or measures of this species (e.g. population size or habitat use) is related to a desired ecosystem goal (e.g. maintaining connectivity). Careful selection and use of focal species provides a useful tool in assessing, planning, and managing the ecosystem impacts of industrial development.

<u>Tools for achieving goals</u>

EBP goals can be achieved in two fundamental ways. The principal tool used for achieving ecosystem maintenance goals is a network of conservation areas at multiple spatial scales. In the context of the IWSP's limited scope, an appropriate tool for such network is often called a Forest Ecosystem Network (FEN). A FEN is an area withdrawn permanently from industrial development in order to achieve EBP goals. This tool is useful because EBP planners can work through the established list of targets for representation, identified special elements, and focal species. Where values are already represented in the FEN, those values can be "ticked-off the list". Where targets are not yet reached, the FEN can be expanded to accommodate the given target for that value. The FEN must be established before any resource extraction is considered.

A second group of tools falls under Stand/Operational mitigations. These include retention, road layout, temporal zoning, etc. Identified thresholds and targets can help direct and inform the use of such tools in resource extraction planning.

EBP attempts to ensure that the impacts of resource extraction are known and deliberate. It acknowledges uncertainty through the use of the precautionary principle and adaptive management, whereby assumptions regarding impacts of development can be weighed against predicted impacts.

CPAWS-Yukon has followed the IWSP process carefully from the outset. We are concerned that neither the steps taken, nor the order in which the steps were taken meet even the minimum standards for EBP. We think that while the IWSP is structured to give the illusion of EBP, in actuality it has more in common with the out-dated "conventional" forest management planning approach. The MOU was to signify the turning of a new page in forest management, not to affirm business as usual, as it was in the 1980's and 90's.

Key IWSP Issues

IWSP is not a product of EBP. The commitment to EBP by the parties to the MOU reflects an important shift in how society views forests and sets high expectations for their management. **Our primary concern with the IWSP is that it claims to be EBP, but fails to meet *any* of the base criteria of EBP. Even if we do not agree with the choices made under EBP, we demand that the logical steps, good information, and clear rationale underlie the development of every stage of the plan. If it is not clear how decisions are made, what levels of impacts are deemed acceptable, and how these impacts will be measured, we cannot assess the resulting plan nor recommend mitigations.** Further, based on the actions we have observed through the IWSP process, we are concerned that the regulatory authority either does not understand what EBP is or that, contrary to commitments made, does not intend to implement EBP.

1. Failure to follow basic EBP process requirements

There is little to suggest that the IWSP process followed any rigorous process that can be called EBP. All evidence suggests that the process followed was more similar to out-dated conventional forest planning practices. Below we describe the serious departures from the EBP process. We identify these *process* issues first as they likely underpin why the IWSP has failed to meet EBP standards as a *product*.

We were satisfied with the process that the KFRSC was following up to the point where the Interim Wood Supply Committee (IWSC) began to develop plan options within the various IWSP areas. Evidently, this team did not receive clear directions regarding the EBP process. As a result, the Forest Management Branch apparently unofficially took charge of this group, which then followed a process familiar to the Branch, but inappropriate to the KFRSC's goal of EBP.

IFS- "Total Chance Plan"

The first indication that the IWSC was not working under the principles of EBP occurred when the Forest Management Branch tendered a contract to Industrial Forest Service (IFS) to carry out what they called, a "Total Chance Plan". A total chance plan is a fundamental part of the conventional forest planning that this process was supposed to avoid. Total Chance Plans typically identify how much merchantable wood exists within a defined area, and some of the values that will have to be mitigated when planning for accessing that wood. While it remains unclear whether the Branch had instructions from the IWSC or from the KFRSC to offer this contract, there are several issues of concern associated with this action.

First, by requesting this plan from IFS, the Forest Management Branch led the IWSC into the planning process on the wrong foot. Many of the preliminary and most important questions had not yet been answered. Sound EBP would see a thorough assessment of ecosystem values and cultural values before or concurrent with the identification of timber values. By commissioning this report, focus was placed on the impacts of management options to timber value rather than evaluating and managing for ecosystem requirements (i.e. the maintenance of biodiversity and ecosystem integrity are treated as *constraints* rather than management *goals*). In other words, the process flipped from being Ecosystem-based to being Timber-based

Second, the IFS report didn't turn out to be a total chance plan at all. What was supposed to be a preliminary information report went far beyond the normal scope of a total chance plan. The technical problems associated with this plan will be covered in more detail further on. Of importance now, however, was that it determined harvest areas, prescribed planning zones, set a management philosophy, and suggested mitigations all in absence of any direction from the KFRSC, IWSC or higher level plans or goals. Fittingly, it was pretentiously entitled a "Draft Interim Wood Supply Plan". This document that was intended to feed into the IWSP somehow became the IWSP. How was this allowed to happen? Why was a consulting group was given in almost $600 000 to bypass all assigned planning representatives to develop an interim wood supply plan that did not help reach any of the KFRSC's expressed goals with respect to EBP or Kaska Land Steward Involvement?

The issuing of this contract to IFS and the instructions given to IFS were so wrong-headed that it threatened a public back-lash. **Basing the IWSP on the IFS report is the single largest departure from EBP we have identified.**

Significant ecosystem provisions only as claw-backs

IFS did make some significant environmental concessions; but, this is exactly what they were—concessions. As a result, any efforts to retrofit this timber plan into something consistent with EBP required clawing back from what was in the IFS report. All significant environmental provisions within this report were achieved this way. We are

aware that an important set of values tables was being drafted early in the development of the IWSP. This approach was likely consistent with EBP. Where are these values tables and how were they used? The management section regarding Marten and Watershed values are examples of claw-backs that resulted in withdrawals of certain proposed harvest areas. If the plan was ecosystem-based, these values would have been identified and planned for up front. Late in the process, a set-aside was proposed to serve as a benchmark. In EBP, these values are identified and provided for at the onset and there should be no need for such significant changes at the end of the planning process.

Opaque communications from the Forest Management Branch

We were led to believe that forest management planning would be transparent. We have had no issues with the chair of the KFRSC on this issue; however, we are concerned with how the representatives of the Forest Management Branch denied the existence of particular documents, when we knew of their existence. One example of this is the values tables. These tables simply summarized what was known about different species of interest and could by no interpretation be seen as sensitive or classified. In another case, the Forest Management Branch denied that some members of the IWSC were developing alternative option scenarios for the consideration of the KFRSC. Again, it is difficult to make a case that this information should be classified, if public input is truly valued and welcomed. Lastly, information either is not included in this proposed IWSP, or is only partly included. If the information was valid and it informed planners of important ecosystem elements or alternative approaches, why were these elements and alternatives not used in their entirety and made public? We have seen these documents and can affirm that they are founded in better information and sound science than the costly IFS report. These reports also would have laid the ground-work for proper EBP rather than derailing it, as the IFS report has.

This evidence has convinced us that the IWSP process was neither transparent, nor ecosystem-based, nor technically defensible. It appears to have been driven by political agendas rather than good process, good information, and good will.

2. Failure to identify important values

The description of the forest ecosystem and identification of forest values is one of the most important stages in EBP. Values that are not identified cannot be managed for, and values that are identified but not described adequately may not be managed for appropriately. This is particularly true in EBP where decisions regarding industrial activities are based on identified ecosystem values and specific management goals for those values. It is often said that the primary product of EBP is a forest, and that opportunities for resource development are based around this. In conventional forest planning, the primary product is the identification of operable timber, with mitigations to sustain the forest weighed against this. The IWSP is a conventional timber-based plan and falls far short of what is needed for legitimate EBP.

The provided documents identify forest values in two places. In the IFS report, the values for consideration in forest management are identified in the section 4.0 of the IFS report. These are: Forest Types, Land Cover Classification, Wildlife, Visual Resources, Forest Health, and Cultural Resources. In the KFRSC Report, under "Taking Care of Forest Values", *some* forest values are listed as: Biological Diversity, Ecological Sustainability, Habitats, Mammals, Birds, Fish & Water, and Amphibians. The KFRSC report also lists "Key Values" above each map of "Proposed Planning Areas". These lists include a range of values for each of the identified areas.

What values are being managed? How were they chosen?

It is impossible to evaluate the IWSP as it is not clear what values are being managed. EBP is founded on the best possible identification of forest values, and rational decisions being made around those identified values. The IWSP fails to consistently identify forest values. Inconsistent treatment of forest values cannot lead to effective EBP.

There appears to be some confusion in the KFRSC report regarding the identification and description of forest values and determining useful ecosystem measures. Normally, best efforts would be made to identify and describe ecosystem values as accurately and precisely as possible. From these descriptions, clearly rationalized targets and thresholds for the values are set (this will be covered in more detail further on). Only then can appropriate measures be determined. The KFRSC report provides two mixed lists in the section, "Taking care of forest values". These lists are apparently related to one another, but both lists are virtually meaningless jargon. This is simply not acceptable as *the* foundation to EBP.

Key values missing

Even if we accept all listed values, regardless of inconsistencies among reports and regardless of the quality of their descriptions, the IWSP fails to identify several key values. The IFS report approach identifies only conventional values, such as game or target species. There may be *some* value to managing for target species; however, is commonly acknowledged that managing strictly for the short-term production of a target species is inadequate when maintenance of an ecosystem is the primary goal. Identification of values must run much deeper than in conventional forest planning. The IWSP fails to consider values such as: remoteness, ecosystem resilience, plant and animal communities, intact predator-prey systems, and landscape-scale connectivity. We do not claim that this is a complete list; however, it is clear that only the most simplistic view of ecosystems was used by IFS in determining the ecosystem values found within the planning area. **An over-simplified description of a planning area will necessarily result in an over-simplified management plan for that area.**

Note that because we do not omperfectly understand ecosystems and cannot thoroughly describe them does not mean we that we should ignore all values we don't understand. If considered important, these values can be managed through the precautionary principle

and adaptive management. If values are not identified, they cannot be planned for, and can not be managed.

Key values not adequately described

It is unacceptable that IFS has used superficial literature reviews and field surveys to determine key values for consideration within the planning areas. As described above, the needs of the EBP and conventional planning processes are significantly different. It is inadequate to rely on previous conventional forest planning reports as the foundation of an EBP report. These reports should certainly be used as a starting point, but not the end point. Consequently, key values have been completely overlooked, and identified values are inadequately described. There is little content to suggest that IFS understands the value of any species within the context of an ecosystem. The KFRSC report throws jargon around including "keystone species" and "umbrella species", but never are these concepts defined, nor are they used in rationalizing any management objective or action.

IFS does recognize "Listed Species" as a value that requires attention; however, they do little more than list the number of these species. Is this an appropriate treatment for species that are potentially threatened with significant range loss, extirpation, or potential extinction? Knowing that there are 49 listed species will not inform anyone in managing for them adequately.

We are dismayed, but not surprised, to see such a dated view of Forest Health forwarded in the IFS report as one of the key areas of forest value for consideration. We assert that a forest ecosystem is healthy so long as all natural patterns and processes may continue uninterrupted by the effects of human actions. The definition that IFS forwards is related more to retaining timber value and not ecosystem function. We reject the IFS interpretation and use of Forest Health as a key ecosystem value.

3. Failure to provide rationale for chosen measures and what parameters would be used

Once ecosystem values have been identified and described, under EBP, the planning team must develop an approach for determining appropriate measures or indicators for the identified values. By identifying how given forest values can be assessed or measured, EBP moves one step closer to identifying the critical thresholds and targets around which resource planning can occur.

No explicit means to assess condition of ecosystem values

The IWSP displays a complete misunderstanding of this critical step and fails to provide any rational basis for assessing the condition of ecosystem values within the planning areas. **Without agreeing to a basis for assessing ecosystem values, how can a plan propose to understand and monitor the impacts of development or engage in meaningful adaptive management?** Where the forest value is an identified species, the measure may be easily identified as some parameter of a given population. Where the

forest value is based on a more complicated concept relating to ecosystem function, several measures may be required to reflect that concept at different spatial and temporal scales. Regardless of whether a value is simple or complex, EBP plans must clearly link each identified measure to a related value.

This element of EBP is completely lacking in the proposed IWSP.

Misuse of focal species

As described in the brief overview to EBP, a case can be made for the use of focal species as indicators for some elements of more complex ecosystem functions. Focal species must be used with extreme care and careful consideration. It is inappropriate for the KFRSC to claim to be use "keystone" and "umbrella" species without any rationale as to what values they represent and what measures will be used to indicate the condition of those identified values.

Marten and watershed assessments

These assessments may have provided grounds for mitigations to a conventional forest management plan. Had these assessments been developed at the onset, they may have provided a basis for developing a suite of considerations for the identified ecosystem values. As they were developed at the end of the planning process and only used to negotiate small mitigations on the IFS plan, they cannot be considered to be elements of EBP. Further, they represent only two values that received a heightened level of consideration. Where is the same consideration for all other ecosystem values? How might the plan look different if such analyses were done? Can this plan claim to be EBP if only some of these important values are being considered as last-minute mitigations and claw-backs?

Values tables

Where are the much talked about values tables? Instead of developing finalized versions of these tables and using them as the foundation upon which EBP could be done, they have been given mere lip service by IFS. That these tables were in development, but cast aside, indicates not only an ignorance of EBP, but possible contempt for it by the regulatory authority.

4. Failure to set clear and defensible ecosystem targets and development thresholds

Any development, no matter how carefully planned, will have some effect on an ecosystem. It is the task of the EBP planners to explicitly determine what the forest will look like after the implementation of a forest management plan. Again, with the support of a clear and defensible rationale, EBP planners can set targets for the full suite of desirable values and thresholds for undesirable impacts to these values. The indicators and measures for the values serve as the link between the ecosystem value condition and the acceptable threshold or target.

There are no clear and defensible targets identified in the IWSP. Besides the last-minute claw-backs for marten and watersheds, there is no evidence that any particular targets or thresholds were developed or applied throughout the development of the IWSP. That several critical considerations were left to future planning is a clear case in point that when a systematic, EBP approach is not used important issues get overlooked.

Goals, targets, and thresholds for FEN do not exist

While still failing to set defensible targets and thresholds, the IFS report's description of the FEN displays a basic recognition that certain values should remain after harvest. This simplistic discussion sets no explicit targets or thresholds, yet refers to these targets and thresholds as though they exist. IFS claims to have "incorporated representative ecosystems as expressed by forest or habitat type", yet there is no consistent method for reporting these as a percentage of existing elements in the planning area, nor are they related to any ecosystem-based target. We support the use of a designated FEN as a significant tool in achieving EBP targets, but without "defining the job" in the plan, there is no way to assess whether the plan is "doing the job".

Access management not considered

We were surprised to find that access management was not covered in the IWSP apart from one sentence in the KFRSC recommendations that states a plan will be developed. Roads are possibly the single most significant negative impact that results from logging activities. Key wildlife values display high sensitivity to the impacts of access. Even if society is willing to accept a higher level of impact to certain values as a result of more access, it *must* be incorporated into the assessments so that we clearly understand the anticipated ecosystem effects of the various management options. The access management plan should be an integral part of all forest planning exercises. These plans must be linked to clear and defensible thresholds for the various affected ecosystem values.

Forest interior habitat and habitat fragmentation not considered

Another large gap in setting thresholds and targets is the failure of the IWSP to set targets for interior forest habitat and thresholds for habitat fragmentation. Our purpose is not to assert any specific target or threshold, but rather to highlight the risks associated with not following or providing a clear foundation for proposed management actions. As it stands, we cannot assess whether this type of analysis was needed, whether it was overlooked, or whether it was already considered.

The plans for the East Hyland planning area give rise to concerns with respect to this measure. We provide one example for consideration. While the East Hyland planning area is not the core range of any caribou herds, it is used by caribou of the following herds: Little Rancheria, Coal River, Horseranch, and Nahanni. That four caribou herds

utilize this area as peripheral range suggests that this area may be important for landscape scale connectivity among these herds and their long-term viability.

Forest developments are known to have a significant impact on caribou habitat use and behaviour. Simon Dyer outlined some of these effects in a presentation at the 2002 Workshop in Whitehorse entitled, "Assessment and Management of Cumulative Environmental Effects of Linear Developments". In his research, he found that caribou showed a significant avoidance of human developments by approximately 250m (edge effect), both as habitat and as a barrier to movement. In other words, to a caribou, the effective opening of resource extraction extends 250m into the forest around the site of development. The Timber Harvest Planning and Operating Guidebook considers edge effect to be 300m.

To assess the potential impacts of the East Hyland Planning Area proposed developments to caribou movement across the landscape we tested three scenarios to assess interior forest habitat. These scenarios assessed interior forest habitat based on: no edge effect, 100m edge effect, and 250m edge effect (Appendix 1). Based on this analysis, it is clear that there is very little interior forest habitat left after the proposed harvest. When we used the edge effect found by Dyer, the entire complex of proposed and existing cutblocks is effectively one opening of 2627ha. When the conservative 100m edge effect is considered (i.e. less than half of the documented edge effect on caribou), the complex of proposed and existing cutblocks are effectively two large openings of 680ha and 910ha, plus one small satellite opening of 45ha. These findings contrast the IWSP assessment of adjacency. This absurdly simplistic approach only considered those existing cutblocks *directly* adjacent to proposed cutblocks and no consideration was given to edge effects.

In EBP thorough efforts to explore and understand all ecosystem values must be made. Where there is uncertainty, certain explicit assumptions can be made, but plans should err on the side of precaution and should be incorporated into the adaptive management plan. The precautionary principle is a key philosophical element in EBP. By not discussing and justifying rational decisions around this potentially important ecosystem value, there is no context for managing with precaution at the risk of unknowingly losing this ecosystem value.

This case was made only for one measure for one species. Without exploring the full suite of identified ecosystem values, can the IWSP claim to be meeting clear targets and thresholds? Can it claim to have implemented EBP effectively?

<u>Management tools selected before assessing ecosystem values</u>

We are disappointed with the pre-mature and wrong-headed determination by IFS to forward the use of Natural Disturbance Mimicry as a primary tool to achieve management objectives (however ill-defined). This concept is forwarded early and throughout the IFS report; however, there is no convincing basis provided in support of its use. Their faulty logic is as follows: big openings occur in the boreal forest as a result

of natural disturbances; logging is a type of disturbance; therefore, logging should create big openings. This is fundamentally flawed logic because the goal of EBP is to ensure the protection of identified ecosystem values. It is not the goal of EBP to emulate another disturbance to the forest, natural or otherwise.

Regarding fire emulation in particular, there are other key considerations that do not support this tool as a basis for EBP. First, the days of believing that we can effectively control wildfires are over. We now know that wildfires will burn, and that while we may be able to delay them, these result in more catastrophic burns. Today, no forester will deny this. Therefore, it is not reasonable to suggest that logging will ever replace or compensate for fires across boreal landscapes. If they do not compensate, then they must be additive. If they are additive, then arguments for large openings as maintaining critical landscape patterns is fundamentally flawed. Natural fires will continue to maintain these patterns regardless of logging.

The goal of EBP is to minimize the disturbance of logging activity to forest values, not to disturb the forest at the scale or extent of another forest disturbance. Fires will burn, and will burn again. We cannot add value to a forest by aiming to behave like a fire.

5. Failure to clearly show how the resulting IWSP strategies achieve, let alone relate to, any targets or thresholds

The IWSP proposes a number of strategies and tools to be used to reach forest management goals. The plan fails to explain how these proposed strategies will contribute to achieving specific thresholds and targets. Thus, there is no way to evaluate whether any of the identified strategies and tools is appropriate, whether it is being used properly, or whether one might be missing. Had the EBP process been followed to this point, tools like the FEN and the set-aside could be weighed against a list of targets that may represent a series of ecosystem values. As well, cutblock layout and variable retention plans would be mapped back to specific thresholds or targets. On the site tour of the East Hyland planning area with IFS last fall, Barry Mills, author of the IFS report stated that, “everything left behind needs to have a purpose”. We agree in principle that decisions need to be based on clear rationale. It is odd then that we do not find this “purpose” well described in the final IFS report.

<u>Set-aside issues</u>

We are pleased to see a significant set-aside as part of the final recommendations for the IWSP; however, the provisions for this set-aside, and the rationale for its determination are faulty and unclear. If this benchmark is to serve as a measure against which harvested areas can be compared then this must continue to exist as a set-aside until the harvested area is no longer measurably different from the set-aside. If there is a reason to limit the set aside to half of a rotation period, then there must be a clear and strong case made for this, as it is counter-intuitive. If EBP had been followed, it would be simple to determine for what purpose the set-aside is to be created, and what provisions need to be in place to ensure it meets the identified needs. As the IWSP stands, these relationships

are not clear. Such provisions also include a rationale for the size and placement of the set-aside. There is too little rationale provided that stem from such vague goals that it is impossible to know whether we agree with the creation of the set-aside, its lifespan, its size, or its placement.

FEN issues

We applaud the use of a FEN as a progressive forest management tool; however, it is unclear how the FEN is linked to specific targets and thresholds. The IFS report provides a list that describes what can be found in the FEN. For some of these elements the report includes a percentage of the total amount of that element found within the planning area. For other elements, there vague statement, such as "significant amounts of…". We can not evaluate the FEN based on vague statements such as this. We cannot evaluate the FEN based on specific % of various ecosystem elements if they are not tied back to a clearly rationalized goal. If the list of FEN achievements is meeting explicit targets then these targets should be listed.

Natural disturbance mimicry issues

Related to the discussion in the previous section, we find no basis in the IWSP for using natural disturbance emulation as a rational strategy for achieving EBP. See the discussion in section 4 for details.

6. Failure to identify a framework for adaptive management and monitoring

Adaptive management is one of the most promising elements of EBP. It provides the context for learning through the implementation of a well designed plan; but, also provides the context for applying what has been learned in one planning exercise to future plans. There is no indication that the regulatory authority will be able follow through with its commitment to adaptive management or monitoring. Unless there is a monitoring framework set up to answer specific questions before harvesting begins, then there will be no adaptive management. As the plan exists, identified management strategies exist without specific objectives. It should be of no surprise then that it is impossible to tell whether these strategies are reaching specific goals. There are no goals. There is no means to determine whether this plan has succeeded or failed beyond achieving timber harvesting targets. The condition of the ecosystem is largely unknown and will remain thus through to the end of this plan's implementation.

Conclusion and Recommendations

We are dismayed with the results of the IWSP process. We think that a flawed process inevitably led to this flawed product. The IWSP has little value as EBP because it fails at every level of this type of planning. So long as the IWSP claims to be Ecosystem-based, CPAWS-Yukon has little option but to reject this plan. Had the Forest Management Branch dedicated their $580 000 towards a truly informed EBP process rather than an ill-conceived conventional planning contract with IFS, the product probably would have

been appropriate. CPAWS-Yukon would be pleased to discuss EBP with both the KFRSC as well as any future technical planning teams and, as appropriate, help to develop a sound process and useful product.

Recommendations

1. We encourage the KFRSC to improve the level of direction, guidance, and general leadership they provide to the technical planning team; this planning team should report to the KFRSC and not to other government bodies while carrying out this work.
2. Re-commit to developing true ecosystem-based management plans.
3. Engage CPAWS-Yukon, as appropriate, in helping to develop a sound ecosystem-based planning process for Regional Forest Management Planning.
4. **Either** do the IWSP again to develop true ecosystem-based plans as described above, **or** remove the reference to EBP in the IWSP and explicitly declare within the IWSP that while EBP is a commitment to future forest planning, it will not be achieved by the IWSP.
5. If the regulatory authority proceeds with the latter recommendation found in point 4, above, then we endorse the operational mitigations provided by YCS.
6. As the Forest Management Branch appears either unable or unwilling to act in an un-biased manner, we recommend that this and future Environmental Assessments carried by Environment Directorate directly. If this is not possible, we recommend that they actively oversee this file, and intervene as appropriate.
7. Due to persistent process issues in the development of the IWSP, we recommend that clear and complete minutes be taken at all official meetings of the KFRSC and any appointed committees.
8. All information relating to the development of plans should be available to the public for review and consideration. This includes technical information, reports, minutes, and expenditures/budgets.

Glossary

Adaptive Management: A formal process of "learning by doing" where management practices are designed to increase understanding about the ecological or human system being managed. Adaptive Management can be "active" where management is designed and implemented as an experiment, or "passive" where management follows a known best option.

Keystone Species: Species whose loss from a system would precipitate further species loss. Their presence is crucial in maintaining the organization and diversity of their ecological communities.

Precautionary Principle: A principle forwarding that the uncertainty in managing natural systems should be explicitly acknowledged and managers should make every effort to err on the side of caution.

Umbrella Species: Species whose occupancy area (plants) or home range (animals) are large enough and whose habitat requirements are wide enough that, if they are given a sufficiently large area for their protection, will bring other species under that protection.

Appendix 1

		New Cutblocks (ha)	**Effective Opening Size (New and Existing Blocks)**		
		4, 6, 8, 10, 11	**No Edge Effect (ha)**	**100m Edge Effect (ha)**	**250m Edge Effect (ha)**
# of Openings		11	9	3	1
Smallest Opening		0.7	1.7	45.4	2963
Largest Opening		64	102	911.4	2963
Total Opening		242.9	405.7	1637.9	2963
Average Opening		22.1	45.1	546	2963
Block No		Opening Size (ha)		100m Buffer	
C4			20.5	911.4	2963
			32		
C6	A		54.2		
	B		1.71		
	C		48.1		
C8			18.6	45.4	
C10			86.5	681.1	
			102		
C11			42.3		

Table 1- Assessment of Interior Forest Habitat and Effective Opening Size, based on mapping analysis in attached PDF maps.

CANADIAN PARKS AND WILDERNESS SOCIETY

YUKON CHAPTER

March 5, 2004

Ms. Robin Sharples
Environmental Assessment Coordinator
Box 2703 (K-918)
Whitehorse, Yukon
Y1A 2C6

Re: CPAWS-Yukon Comments and Recommendations: Project Description for Year 1 of the Interim Wood Supply Plan for the Kaska Traditional Territory

Dear Ms. Sharples,

Thank you for inviting CPAWS-Yukon to comment on the proposed Interim Wood Supply Plan (IWSP). We have followed the process closely, and have reviewed this package of information carefully. CPAWS-Yukon supports the Memorandum of Understanding on Forest Stewardship for the Kaska Traditional Territory (MOU). This agreement has led to the formation of the Kaska Forest Resources Stewardship Council (KFRSC) which has guided the forest management planning to date. Several improvements in the planning process have resulted, but we are alarmed at the gap between what this plan claims to be and what it is.

We have supported the actions and recommendations through to the selection of IWSP areas (i.e. East Hyland, Ross River, etc.); however, we have had serious concerns with the process from this point on.

In this critique, we address concerns with both the technical rationale underlying this plan and with the planning process followed. While the IWSP is limited in time and scope, we are concerned that the problems identified here will, if not addressed immediately, persist into future planning efforts and the regional planning. The following comments can be used not only to assess this IWSP, but also to inform and improve the upcoming Regional Forest Management Planning (RFMP), on which the KFRSC is about to embark.

Box 31095, Whitehorse, YT, Y1A 5P7 (Mailing)
506 Steele Street, Whitehorse, YT, Y1A 2C9 (Delivery)
Phone: 867-393-8080 x.8
Fax: 867-393-8081
Email: psandiford@cpawsyukon.org

We understand that the request for comments asked that we remain focussed on the specified blocks that constitute “the project”; however, the foundation and principles on which the plan sits are so flawed that we found it impossible to provide comments and suggested mitigations on the specific actions associated with these blocks alone.

Based on concerns described in these comments, CPAWS-Yukon must reject this plan until the plan is either based on the principles of Ecosystem-Based Planning (EBP) or it does not claim to be EBP. For the sake of expediency, we recommend that this plan explicitly acknowledge that it is not EBP, and re-commit to EBP in all future planning. CPAWS-Yukon would be pleased to help the KFRSC explore EBP and support its meaningful implementation. A complete list of recommendations is available at the end of our comments.

Sincerely,

Peter Sandiford
Forest Conservation Coordinator
CPAWS-YT

ENVIRONMENT CANADA
Environmental Protection

ENVIRONNEMENT CANADA
Protection de l'environnement

Environment Canada
91780 Alaska Highway
Whitehorse, Yukon
Y1A 5B7

01 March 2004

Environmental Assessment Coordinator
Yukon Government
Forest Management
Whitehorse, Yukon
Y1A 2C6

Attention: Robin Sharples

RE: Interim Wood Supply Plan and Kaska Forest Resources Stewardship Council Recommendations, February 13, 2004, Yukon Energy Mines and Resources letter

Thank you for the opportunity to comment on the Interim Wood Supply Plan (Kaska Forest Stewardship Council 2004) prior to the initiation of an environmental assessment of this plan by Yukon Government.

It is our understanding that the Forest Management Branch (FMB) is currently initiating an environmental assessment of the Interim Wood Supply Plan. It is somewhat unclear from the Feb 13th letter what the scope of this environmental assessment will be but we assume that this will be further clarified in the screening report.

For this environmental assessment it is our understanding that Yukon Government is "the proponent" and that "the project" is the five cut blocks, C-4, C-6, C-8, C-10, and C-11.

It is our understanding that the following 3 documents form the project description for this environmental assessment:

1. Interim Wood Supply Plan (Kaska Forest Stewardship Council 2004)
2. Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09 in the Kaska Yukon Traditional Territory (IFS 2003 Report)
3. Interim Wood Supply for Southeast Yukon, Proposed Amendments and Additions Draft November 30, 2003

In our review we see that there has been no discussion or analysis of cumulative environmental effects in the Interim Wood Supply Plan document. The environmental assessment should include a careful assessment of the cumulative environmental effects of this project in combination with other past, present and future projects in the region. The spatial and temporal scope of this cumulative effects assessment should be outlined and discussed in the screening report. Other projects to consider could include past forest harvesting projects as well as future oil and gas projects such as pipelines.

We are satisfied with the information and rationale for cut blocks C-4, C-6, C-8, and C-11 detailed in the Interim Wood Supply Plan, as we noted in our letter of January 28, 2004 to Robin Sharples, Re: EA Screening of the Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09.

However, we remain concerned that block C10 as proposed, when considering adjacent existing cut blocks, will result in an overall clearing size of roughly 190 hectares. The size of this block exceeds the recommended maximum cut block sizes of 40 hectares and 60 hectares for complex and simple upland, respectively (Timber Harvest Planning and Operating Guidebook 1999). Furthermore, the area in question (Cosh Creek watershed), according to Industrial Forestry Services, has 69% of its patches less than 50 hectares in size. Such a clearing size would be inconsistent

with the majority of patch sizes found in the area and may constrain opportunities for appropriate retention of representative forest types and connectivity at the stand and sub-watershed scale. We recommend that this block receive further review during the environmental assessment and that the size of this block be modified by Council to ensure that it is more consistent with the forest stand patterns found in the area.

It is our expectation and understanding that there will be an additional opportunity for the public and for Environment Canada to review and comment on the draft screening report from this environmental assessment before it is finalized.

Thank you again for the opportunity to comment on the Interim Wood Supply Plan and we look forward to the opportunity to comment on the draft screening report from this environmental assessment.

Please contact us if you have any questions or require further clarification.

Sincerely,

Paula Pachblek
Northern Ecosystem Specialist,
Environmental Conservation Branch

FOR
Benoit Godin
Head, Environmental Contaminants
Environmental Protection Branch

cc. **Ian Church, Manager, Environmental Assessment Unit, Executive Council Office, Yukon Government**

Southeast Yukon ***Proper Land Use Society (PLUS)***

Southeast Yukon ***Proper Land Use society (PLUS)***

PLUS comments to Project Description regarding year 1 of the Interim Wood Supply Plan for Forest Management Units YO2, YO3 and YO9 in the Kaska Traditional Territory:

Before we make our comments on the material reviewed we would like to reiterate that this process has rather been very frustrating.
Right from the start necessary information was withheld from Forest Management Branch and only forwarded to PLUS due to our insistence to receive all public documentation. As a result there was a delay of a week and even then some of the information was illegible. We only received the last piece of information, namely the Site and Harvest Plans one day after the so-called "official deadline"!

Other organizations had to deal with the same problems and we were told that due to the circumstances an extension of the deadline was acceptable. However, I was informed on the morning of Tuesday, March 2.04(one day after the official deadline) that the deadline had not been extended. On the same day in the afternoon I received a call that it was indeed o.k. to submit comments by Friday, March 5.04 and since I met with Norm MacLean that afternoon he confirmed the latest statement.
At this point I was totally annoyed by all the mixed messages and send a letter of complaint to the Director of Forest Management Branch, Gary Miltenberger.
On March 3.04 I received an e-mail back telling me that the official deadline had indeed not been extended and comments could only be still submitted because his staff wasn't dealing with the matter until the next week anyways.

Secondly, Gary Miltenberger has sent out a cover letter with the Interim Wood Supply Plan Summery Report claiming that the KFRS Council has been presented with a consensus Interim Wood Supply plan by the Interim wood supply interagency technical committee.
This statement is definitely false!
In fact the technical group was <u>unable to reach consensus</u>, which is clearly stated black on white on page 2 of the Proposed Amendments and Additions Draft November 30,2003, by Ken Kiemele, Jan Adamczewski and Mike Gill.
I was also present at a meeting with members of the technical committee where it was pretty clear that Forest Management Branch members disregard and disrespect other scientists.

Overall some of the staff of Forest Management Branch have conducted themselves rather unprofessionally and have clearly demonstrated a biased attitude.
According to Mr. Miltenberger's e- mail his staff seems to be overworked and stressed, as they have to attend to many issues at the same time.
We realize that the department has to deal with a lot of political and public pressure but don't think that should result in unprofessional behavior nor should it compromise eco-system based Forest Management.
At this point we have serious concerns that the Environmental Assessment will be conducted in an impartial manner.
We were going to recommend that if the department of Forest Management Branch is indeed overburdened that Environmental Assessment Branch should take over the process.
However, Ian Church has just informed us that this will not be the case. We accept the fact that we are all in the process of learning and therefore we hope that Forest Management Branch will address our concerns in a proper fashion and would certainly like to contribute our part to a more decent and understanding working relationship.

Southeast Yukon ***Proper Land Use Society (PLUS)***

PLUS comments to the report:

In general we support:

The goals of the plan outlined on page 4 of the summery

1. To identify up to 128 000 cubic meters/year of commercial timber for three years.
2. **The concept of eco-system based Forest Management**
3. **To apply adaptive management strategies**
4. **A technical, concise, clearly understood and transparent document**

The inclusion of Traditional Knowledge

- Traditional Knowledge is very valuable in estimating non-timber forest values and has to be fully acknowledged and implemented.

Rezoning the upland ecosystem in the east Hyland to be complex upland

- There seems to be clear evidence that the area is complex upland which has to be reflected in the plan

The establishment of a Forest Ecosystem Network to protect high ecological values

- We support the establishment of a FEN in general but it's purpose has to be more clearly defined and adhered to.

The concept of a set-aside area to be similar to the one being logged

- According to the interim Wood Supply plan summery report a set aside area of similar forest types, zones, and merchantable forests is being established to maintain forest values on the landscape and to allow monitoring for comparison on how the forest regenerates after timber harvesting and how wildlife use the area over time.

Permanent removal of proposed year 2 and 3 blocks from the west and north sides of the Cosh Creek watershed

- We support the councils proposed removal of these blocks but would ask that the public will be provided with rationale.

Deferral of Blocks C5, C9, and 12

- Due to high level of old age classes (145-213 years) and the proposed large opening sizes these blocks have to be reviewed very carefully to ensure that all values have been considered and ecological sustainability is not compromised

Southeast Yukon ***Proper Land Use Society (PLUS)***

The proposed Amendments and Additions Draft November 30.03 by Ken Kiemele, Jan Adamczewski and Mike Gill

- We support the recommendations made in this document in general, as it provides valuable comprehensive data that cannot be ignored if we want to achieve ecologically sound timber harvesting methods.
- Their recommendations and concerns have to be evaluated carefully and adjusted to the new proposed blocks where necessary.

The recommendation to manage the ecological unit on a sustainable basis by keeping forest cover removal to less than 18% by the department of Fisheries.

- Again valuable information is provided that should be fully implemented, if the plan wants to address legitimate concerns regarding water flow and quality as well as managing for marten and other wildlife and bird habitat.

Selective logging and partial cut.

- Selective logging and partial cut should be the only methods allowed in eco-system based forest management as they have definitely less impacts on other forest values, which is a criteria under eco-system based forest management.
- We would like to see definite priority to winter logging with selective logging, especially in the older age classes and some patch cuts in the younger age classes with opening sizes of existing and new blocks combined not to exceed 40 ha and minimum retention of 15%.
- Summer logging has to follow specified requirements which address issues like soil compaction and erosion, like selective logging and practices that leave a light footprint only!
- Summer logging should only be considered to support the local small-scale operators who are currently in operation.

Natural reforestation before any other silviculture

- as it is clearly a requirement of eco-system based management to avoid or minimize impact to non-timber values the principle of natural reforestation should prevail as it keeps the opening sizes small enough to minimize impacts

No raw log exports

- unless there are very good reasons for a small amount of timber to leave the Yukon in the form of raw logs, that have been demonstrated and explained to the public and sanctioned by the public we oppose the export of raw logs.

Major concerns about the proposed plan:

The summary does not provide the public with enough detail to make an informed and intelligent decision. It is at this point not meeting the goal to be concise, clearly understood and transparent.

- It is more like a sum of ideas and concepts but lacks necessary definitions, explanations and real life examples.
- The maps included with the summery are not sufficient, due to size and illegible legends.
- It should clearly inform the public that the Interim Wood Supply Plan has not been arrived through consensus by the technical committee and what the issues are. Not doing so is withholding important public information
- Why and where there is strong disagreement among the technical committee has to be brought to the public's attention and should be explained in detail if this is supposed to be a transparent process

Very important scientific and technical documents like Appendix 2 and 3 and the proposed Amendments and Additions Draft are not included for general public.

- There should be a more comprehensive summary of the scientific data, recommendations and rationale included. This is valuable information that would definitely help to give the public a broader more comprehensive view.
- Inventory data and information on how and when the volume was determined needs to be included
- The summary lacks any information about harvest methods, use of machinery, equipment, roads etc.
- A summary of a reforestation plan and road decommission plan should be included.
- Natural Reforestation should be given priority in eco-system-based management yet there is no mention of Natural reforestation anywhere.

Traditional Knowledge has to be implemented as well as other local knowledge of elders and land stewards.

- Plan needs to ensure that scientific information and data as well as local and traditional knowledge is fully incorporated

Language in general is to vague, i.e." non-merchantable trees should be left standing, preferably in groups." Should read:" non-merchantable trees <u>must</u> be left standing in groups."

- There are numerous examples throughout the document where should or could have to be replaced with <u>will</u> or <u>have to</u>.

The Summary report should have a definitions section, explaining methods and practices and rationale behind them.

- What exactly are best practices? Examples of Best Management practices for habitat and species maintenance have to be listed and explained, i.e. " selective logging versus patch-cut versus clear-cut scenarios".
- How forest practices and forest removal will effect the ecosystem, water flow and water quality has to be explained and addressed accordingly with clear examples.
- It is mentioned that further work is required to identify zoning. Is that happening before or after harvesting?
- How can edges of cut-block be wind-firm? We believe that this is not achievable without a long-term special harvesting system that would create a staggered edge of the remaining forest
- Sections like "how to take care of forest values" need specific examples and explanations
- Rationale behind a method or management practice needs to be included, i.e. how and why do we try to mimic specific stand sizes and patterns?
- The issue of soil compaction and erosion during summer logging has to be clearly explained and addressed
- Variable retention needs to be more defined (size, number etc.) and their purpose has to be explained. Aggregate retention makes more sense and should always have priority over dispersed retention to meet mitigation goals.
- What diameter is merchantable timber in the Yukon?

The management for multiple forest values is not precise enough in the summary report

- Questions like: "what are suitable habitats?", "what is the right mix of forest types?" and " who determines what is right and wrong?" need to be answered.
- The extent of the existing and proposed forest removal from the Cosh Creek drainage and it's potential effects on water flow and quality, fisheries and on sensitive wildlife species like marten, goshawks and forest songbirds has to be clearly demonstrated in a concise but comprehensive form and manner.
- We question why the West Rancheria is even included in the plan if it is not recommended for harvest? The Little Rancheria Caribou Herd Winter Range has to be identified on maps distributed and the public has to be informed about the contentious issues if it is indeed included in the IWS plan
- It is not clearly demonstrated how this plan addresses impacts to other forest users like trappers, outfitters, wilderness tourism and the recreational values.

Impacts on the marten population and the traditional lifestyle of trapping have to be clearly demonstrated and mitigated

- Since marten is the "bread and butter" animal for local trappers this issue is very important and has to be dealt with up front.
- The information provided in the summery about how to manage for marten is inadequate and too vague. According to the studies provided in

Appendix 2 the impacts on the marten population are obvious and removing more than 30% of the forest will result in tremendous impacts.

- Cumulative effects could be detrimental on the marten population and has to be addressed and included in the plan.
- The issue of trapper compensation has to be incorporated

Current Timber Harvest Planning and Operating Guidebook.

- We agree to updating the current guidelines as recommended by the KFRSC but current guidelines have to be followed until such a time where changes have been approved and a higher level, long-term ecosystem-based Forest Management plan is in place.
- Planning a timber harvesting operation based on guidelines that are not legally enforceable is questionable to begin with. Without a higher level plan it is unclear if this plan is indeed ecologically or economically sound and therefore the Guidebook has to be seen as minimum requirements.
- It is clearly indicated that opening sizes should not exceed 40 ha in complex upland zoning and the plan has to reflect that.

IFS (Industrial Forest Service) Report

- The IFS report has been misnamed the Interim Wood Supply Plan for FMU'S Y02, Y03 and Y09 as a "higher level and other plan". This is clearly misleading!
- It should be recognized as technical information that contributes to the Interim Wood Supply Plan, since that is what it represents.
- The public should be informed about who actually initiated the contract to IFS, who gave direction to it and how spending almost $ 600 000 can be justified.

Clear-cut logging emulating Natural Disturbances.

- The impacts of clear-cuts are not clearly demonstrated.
  The IFS report claims that logging emulates fire and large clear-cuts reduce fragmentation. There is strong disagreement within the technical committee on this issue but there is clear evidence that larger openings generally result in increased impacts. However the purpose of ecosystem-based Forest Management is to avoid or minimize impacts not to increase them.
- It is also known that we cannot mimic or control fire or other natural disturbances so we have to take their natural occurrence into account to ensure the protection of identified ecosystems.

Adaptive Management Strategies and Practices

- We support the concept of Adaptive Management in general for a long-term higher level plan as long as it is clearly demonstrated that it is not to be confused with a "cut-first-plan later" approach.
- we question the adaptive management strategies to have valuable input in the short-term plan as monitoring data will only start to be useful in years to come.
- Adaptive Management Strategies and Practices can be applied to a long-term plan only due to time involved in process. For the short-term all

available data and information of comparable stands and comparable ecosystems from other jurisdictions must be considered and included.
- Adaptive Management should be applied to small study area only within a short-term plan

Establishing a Forest Ecological Network (FEN)

- The current document states that timber harvesting in the FEN is not allowed for the duration of the Interim wood Supply. If the FEN's purpose is to provide connectivity to upland ecosystems, maintain riparian and lowland forests, wetland complexes and important landscape habitats for a number of species as outlined in the plan it should be set aside in perpetuity.
- We need to ensure that it includes adequate representation of rare stands of 131year or older.

The concept of a set aside area

- According to data in the summary report the size and composition of the set- aside **is** quite different from the Interim Wood Supply Area. This is contrary to the goal and has to be adjusted accordingly.
- We also disagree with the proposed 40 year turn around. It should instead be a full rotation cycle of the average age of harvested forest, in this case 140 years.

Local Manufacturing

- We support the notion to process timber in the Yukon but definite steps have to be taken to establish and support a Manufacturing Industry in the Yukon. Since we do not have this capacity right now excuses could be made for raw log export. Given the close location and exceptionally large and high volume stands in the Cosh Creek Area, we believe that it makes more economic and ecological sense to reserve this wood to support the development of a long-term manufacturing industry in Watson Lake.
- If we talk about the support of a local economy the public has to be informed about the local capacity and interest. Who actually needs 60,000-80,000 cubic meters and how is it going to be used?

Small-scale local operators

- The Southeast Yukon Proper Land Use Society has always been an advocate to support the local small-scale operators and their small volume needs can definitely be addressed without compromising ecological values.

In closing I would like to point out that the plan lacks clear demonstration that it is indeed eco-system based.
We welcome the fact that block sizes have already been reduced and that most fir leading stands are no longer being considered for harvesting.
However, we do believe that the currently proposed plan does not achieve some of it's goals and therefore needs to be adjusted accordingly
As outlined in the Amendments and Additions Draft timber harvesting in the small water shed of Cosh Creek has already been significant and logging should not proceed to a point at which key

values and principles are compromised. This is definitely not the case with the currently proposed plan.

I would also like to point out that PLUS has reviewed the document first and foremost from the perspective of the general public. It is part of our mandate to inform and educate the general public on forest management and other land use issues and therefore we are interested in forwarding easy to understand, concise but comprehensive information.
We believe that the public has a right to know all the “ins and outs” but time and again the government has failed to conduct a clear and transparent process.
We appreciate the efforts by the KFRS Council to support proper stewardship of the land and realize that this is a very hard and complicated process. As there is always room for improvement we hope that our combined efforts will indeed achieve the goal of eco-system Based Forest Management.
Also concerning the time frame and volume of the document to be reviewed I would like to comment that it was simply impossible for me to go into greater detail at this point and I am sure we have missed some issues. Therefore I would like to state our full support for comments put forward by Yukon Conservation Society and CPAWS Yukon.

On behalf of the Southeast Yukon ***Proper Land Use Society (PLUS)*** I would like to thank you for the opportunity to contribute to the IWS Plan and look forward to further participation to ensure that the plan will meet the requirements for eco-system based management to avoid or minimize non-timber values.

Sincerely,

Ulla Rembe
PLUS coordinator

.

COMMENTS RE THE PROPOSED KFRSC FOREST MANAGEMENT PLAN
AND
INTERIM WOOD SUPPLY PLAN

From
Rhonda Rosie
Mailbag 600
Watson Lake, Y.T. Y0A 1C0

1: A PERSONAL VIEW OF FORESTRY AND OTHER DEVELOPMENT IN SE YUKON

As a resident of southeast Yukon since 1970, who chose the Yukon as home for its natural beauty and wilderness character, I am interested in and concerned about what happens to our environment. Over the decades, mines and mills have come and gone in southeast Yukon, against a backdrop of ever-increasing interest in resource extraction as industrial development moves inexorably northward from Alberta and B.C. towards the Yukon. I hear and sympathize with the lamentations of my friends in Watson Lake whose children had to leave their home town to find work elsewhere, and who want to see some of that industrial development established here to provide jobs and spur further regional growth. While this is not my personal vision for southeast Yukon, I recognize the legitimacy of their desires and accept the inevitability of some development taking place.

As with most human activities, it's not so much what we do to our environment, but the scale it's done at, that matters. The boreal ecosystems of southeast Yukon have managed to adapt and survive for thousands of years in balance with their physical environment, despite floods, fires, storms, disease, and other natural phonenomena. Disruption of this balance by the aboriginal population was nil to minimal because of their low numbers and their dependence on the integrity of the natural world for their survival. Large-scale industrial development in southeast Yukon will, however, inevitably disrupt this balance and force us into a regime of constant monitoring and maintenance of the environment to minimize and correct the negative impacts that invariably accompany such development. Add to that our less-than-complete understanding of boreal ecosystems, and we are likely to make serious mistakes that make matters even worse.

Because of this, I believe a conservative approach to the extraction of the natural resources of southeast Yukon, forestry in particular, is essential and more likely to lead to a stable and sustainable long-term industry for the area than the boom and bust approach we've seen in the past. Greed and political expediency have no place in a rational, responsible approach to resource extraction, and those pressures must be resisted or we will have neither a sustainable economy nor an environment worth passing on to future generations.

It must also be understood that the forests are a public resource, and as such belong to no one group. Trappers, recreationists, wilderness tour operators, people living on the land, hunters and fishermen all have a stake in the forests, and their needs and desires must be considered along with those of the logging and other industries. It will be a juggling act, and compromises will have to be made all around, and if not done in a spirit of mutual respect and consideration we will forever be going around in circles and getting nowhere.

I believe the KFRSC provides the opportunity to start doing things right in southeast Yukon, to lay out the framework for a sustainable forestry in the area, so that future generations can live and work here while enjoying the benefits of a healthy natural environment.

2: COMMENTS ON THE IWS SUMMARY REPORT

Having read through the draft IWS summary report, I'm pleased to see the principles of ecosystem-based forest management and planning accepted as a guide to responsible and sustainable forestry in southeast Yukon. It puts us in the mainstream of modern approaches and gives us the opportunity to create an enviable model for other northern communities to emulate.

I'm very much interested in following the development of the final management plan as it's fleshed out in greater detail with application to specific stands and areas, especially regarding timber volumes/ha, stand retention amounts and types, regeneration of logged areas, burning vs. leaving slash in situ, and other matters relevant to desired post-harvest conditions.

I'd also like to see the possible impact of forest fire on timber supply taken into consideration in the final management plans, as well as issues such as access to merchantable stands and economically viable volumes/ha as constraints on the total available timber supply.

I believe ongoing public education in ecosystem-based forest management principles and practices is essential to counteract the all-too-common lack of understanding as to why it's necessary and a better approach than old-style forestry.

With regard to the proposed East Hyland Area of Interest, I have some questions regarding the impact of logging on marten habitat and populations. I don't have a map of the harvest area showing the locations and sizes of the proposed logging blocks but I understand they lie in the area which has already been partly harvested, which, judging from aerial photos, appears to be fairly heavy. I had the opportunity recently to see part of that area on foot, and saw that the merchantable stands of mature Pine and White Spruce appear to be prime marten habitat, with abundant coarse woody debris. Barry Mills of IFS explained to me how parts of these stands would be retained from logging, and how the snag and coarse woody debris components of the logged parts would remain intact or be mimicked as much as possible. This appears to be good practice and will no doubt help maintain marten presence in the area, but it seems inevitable that the population there will be less than what it would be in similar but undisturbed forest.

Looking to the future beyond logging in the short-term wood supply area, it seems reasonable to conclude that if logging in the rest of the mature upland Pine-Spruce forests is carried out at the same intensity as in the short-term supply area, marten populations will decline, perhaps significantly. Given that there is at least one active trapper in the East Hyland Planning Area, future planning should include provision for large undisturbed and unfragmented areas of these mature forests to ensure viable marten populations. These areas would also provide habitat for other species requiring mature forest cover, as well as serving other functions critical for maintaining the biodiversity and ecosystem integrity of the area.

With this in mind, I would like to see support for more marten research in the proposed logging area, to gather baseline data on populations, their use of logged and unlogged areas, and the required size of undisturbed areas. The positive and negative effects of logging on other species, such as moose and black bear and others, should also be monitored and documented. Only with this information can future planning be done with confidence that important components of the ecosystem will be preserved.

Overview Assessment of Potential Heritage Concerns in the East Hyland, Watson Lake, West Rancheria and Ross River Planning Areas

January 2004

Prepared by

Christian D. Thomas
Thomas Heritage Consulting
Whitehorse, Yukon

For
Heritage Resources Unit
Culture Services Branch
Tourism and Culture
And
Forest Management Branch
Energy Mines and Resources

Government of Yukon

Contents

Figures

Tables

1.0 Introduction

The following report presents the results of a desktop heritage overview assessment of Forestry Management Units (FMU) Y02 and Y03, in the Watson Lake area, and Y09 in the Ross River area. The results of this study are intended to identify potential impacts to heritage resources that may result from proposed forestry activities and to assist in the planning of impact assessments that may be required as result of the forestry activities. Recommendations presented here may need to be reevaluated with the addition of traditional land and resource use information from the Liard First Nation and the Ross River Dena Council.

2.0 Objectives

The objective of the present overview assessment is to identify areas within the East Hyland, Watson Lake, West Rancheria and Ross River Forest Planning Areas that may have elevated potential for the presence of heritage sites. The heritage resource potential maps are based on information available in published sources, researcher and government reports, and resource inventories. The results of the heritage potential mapping will assist the *Forest Management Branch* and the *Heritage Resources Unit* in the planning of timber harvesting.

3.0 Methodology

The results of this study were obtained by examining 1:20,000 and 1:40,000 scale orthographic photos and 1:50,000 scale topographic maps of the forestry planning areas. The researcher identified geographic locations that appear to have favorable biophysical and topographic characteristics that are generally associated with heritage sites based on the results of previous studies. Areas that are deemed to have elevated potential for the recovery of heritage sites were then highlighted on development plan maps. Proposed cut blocks that correspond with areas of high heritage potential were flagged as areas that may require further heritage assessment work. Recommendations regarding how to mitigate concerns are included at the end of this report.

The base line data used in this study are derived from previously documented Kaska land use studies and from generalizations regarding the known distribution of heritage sites in the southeast Yukon and Northern British Columbia. Land use patterns, for regions including the Liard, Frances, Hyland, Coal and upper Pelly river drainages, have been compiled from several academic, government and professional sources that document the results of a variety of cultural resource management studies variously related to mining exploration, forestry, academic research and government sponsored land use planning initiatives. The main source materials that were referred to during this are archaeological resource inventories of: the Liard and Frances river drainages (Gotthardt 1987, 1993) and (Hare 1998); the Coal River Springs Park (1984; 1985); archaeological overview assessments of the Wolverine Lake (Greer 1996), and the information compiled for the Kaska Forest Resources LTD., proposed Timber Harvest Agreement Project by (Olson and Olson and EcoNorth Anonymous 2001). Ethnographic information relating to the

Kaska peoples has been derived from historic, archival and ethnographic sources (Gotthardt 1987; Honigmann 1949; 1964).

4.0 Study Area

4.1 Planning Unit Locations

FMU Y02 is located adjacent and to the west of the Hyland/Frances divide and encompass areas of the Liard River drainage as far west as the continental divide and as far north as the Pelly Lakes and south to the territorial boundary. Two planning units are included with in this FMU: Watson Lake and West Rancheria. The former unit surrounds the community of Watson Lake and the latter can be found roughly 80 km west of Watson Lake on the north side of the Alaska Highway (Figure 1).

FMU Y03 lies to the east of the Frances/Hyland divide and extends as far east as the Smith River/NWT border and as far north as the NWT border. The Hyland planning unit is found within this and can be found roughly 45 km east of Watson Lake between the Hyland and Coal Rivers from the Territorial boundary in the south to the headwaters of Irons Creek (Figure 1).

FMU Y09 encompasses the Upper Pelly Drainage to the west of FMU Y02. Herein the Ross River planning unit is comprised of two sub-units (Buttle Creek and Coffee Lake) that lie within 10-15 km of the community of Ross River (Figure 1).

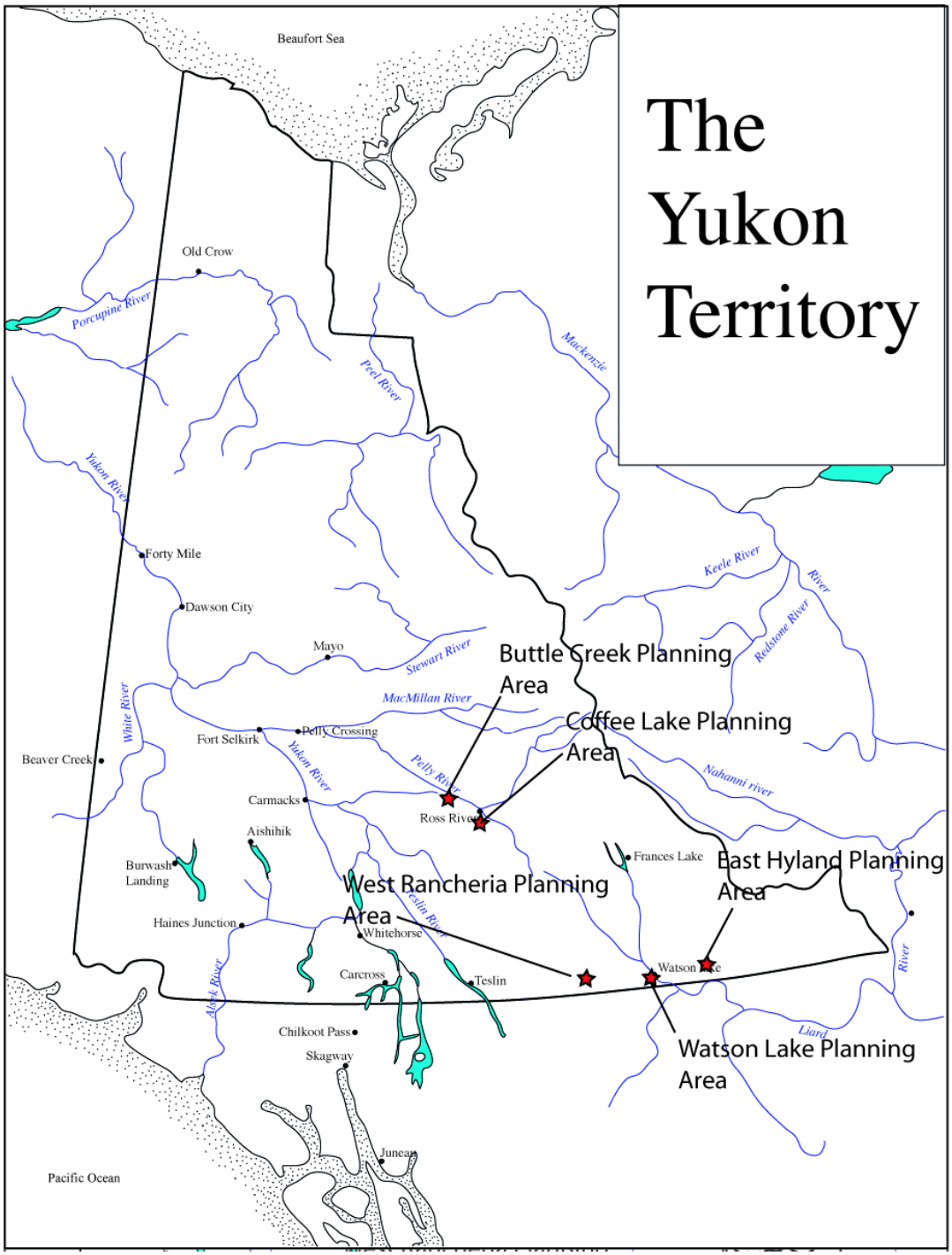


Figure 1: Map of Yukon depicting the locations of southeast Yukon planning areas.

5.0 Cultural Context

Very few studies have focused on the archaeology or pre-contact history[1] of the southeast Yukon. As a consequence, the researcher must borrow from the archaeological record of adjacent areas as a method for extrapolating a possible sequence for the southeast Yukon. Two likely sequences that may pertain to this area are that of the southern Yukon and the southwest Mackenzie District or Mackenzie corridor. Wright (1995; 1999) has suggested that these two areas have a similar archaeological sequence and has stated that both areas falls into what is known as the Northwest Interior Culture. The archaeological sequence for the region, based on studies to date, appears to span years at least the last 5,000 years and likely longer.

The indigenous inhabitants of the study area are the Kaska peoples that are now living in the modern communities of Watson Lake, Ross River, Faro, Lower Post and Dease Lake. Summaries of Kaska land use patterns tend to suggest that local populations were composed of small highly mobile groups of people that traveled on seasonal cycles and tended to use larger fish lakes as central habitation/meeting places. Their principal economic activities tended to revolve around hunting, fishing and trapping activities that varied in importance depending on the season.

[1] In this case, 'pre-contact history' implies that part of the history of the southeast Yukon, as would be studied using archaeological techniques, which occurred before contact between Kaska and Euro-Canadian Peoples in the early to mid-nineteenth century.

6.0 Definition of Heritage Resources

6.1 Heritage Sites:

Heritage resources are protected and managed under the Chapter 13 of the *Umbrella Final Agreement* (UFA) and under the *Yukon Historic Resources Act* and annexed *Archaeological Sites Regulation*. In the latter heritage resources have been defined as "(i) a historic site, (ii) a historic object, and (iii) any work or assembly of works of nature or of human endeavor that is of value for its archaeological, palaeontological, pre-historic, historic, scientific, or aesthetic features"(Anonymous 1991). Furthermore, the management of heritage sites relating specifically to the history of Yukon First Nations is dictated in Chapter 13 of the *Umbrella Final Agreement* (UFA). The functional definitions that are useful to this report are borrowed, in part, from "Guidelines for the Management and Protection of Historic Resources for Timber Harvest Planning" (Government of Yukon 2003) and are as follows:

1. A **site** means, as the case may require, an area or a place, or; a parcel of land, or; a building or structure, or; an exterior or interior portion or segment of a building or structure**.**
2. **Historic Sites** are cabins, caches, graves, brush camps, transportation features and any other man-made structures, features or objects that have been abandoned and are of greater than 50 years in antiquity but generally post date the initial period of contact between Europeans and indigenous First Nations people.
3. **Archaeological sites** tend to date to before European contact and are found on or under the ground surface, and generally consist of the remains of ancient camps, hearths and stone tools and debris.
4. **Palaeontological resources** are fossil and other remains of extinct or prehistoric plants and animals.

6.2 Burial Sites

Burial sites are not defined here as heritage "resources" or "sites" though they are afforded similar measures of protection under *Historic Resources Act* and the *Umbrella Final Agreement*. The definitions of what a burial site consists of, as per the "Guidelines Respecting the Discovery of Human Remains and First Nation Burial Sites in the Yukon" are as follows:

1. A **burial site** is the location of any human grave or remains that have been interred, cremated or otherwise placed, and includes ossuaries, single burials, multiple burials; rock cairns; cave or cache burials etc. not situated within a cemetery.
2. A **First Nation burial** is a place outside a recognized cemetery where the remains of a cultural ancestor of a Yukon First Nations person have been interred, cremated or otherwise placed.
3. **Human remains** mean the remains of a dead human body and include partial skeletons, bones, cremated remains and complete human bodies that are found outside a recognized cemetery.

4. A **grave offering** is any object or objects associated with the human remains which may reflect the religious practices, customs or belief system of the interred.
5. A **recognized cemetery** is a defined area of land that is set aside for the burial of human remains.

7.0 Heritage Resource Overview Assessment

7.1 Identification of Potential Impacts to Heritage Resources as a Result of Timber Harvest Activities

Forestry and related activities impact the landscape in a variety of ways therefore these activities can have a variety of effects on historic and archaeological sites. Furthermore not all 'heritage values' will be equally impacted by development activities so it is important that the various development activities be assigned 'significance levels' based on the magnitude of the disturbance. *Alberta Western Heritage* (AWH) has developed the 'Cultural Resources Impact Classification System' (CRICS), which subdivides forestry related impacts into 6 significance levels (Gibson and Finnigan 1998). The significance levels classify impacts by the extent to which the surface or subsurface is disturbed by development activities.

For the purpose of this discussion a preliminary significance level system will be imposed on development activities (see Table 1). However, it will be modified somewhat from the CRICS model to accommodate the current standards for protecting archaeological sites in the Yukon. Three significance levels will be used and these are as follows:

1. Level 0- impacts classified here involve either negligible or low intensity modification of ground surface as well as the removal of small amounts of the vegetation cover or standing timber. Activities of this nature are unlikely to impact heritage sites.
2. Level 1- impacts classified here involve low intensity disturbances of the ground surface in combination with the removal of significant areas of the surface vegetation and/or standing timber. This type of development activity would impact surface heritage values such as log or brush structures and graves. This type of activity would not significantly impact subsurface heritage values such as archaeological sites.
3. Level- 2- impacts classified here involve activities that disturb the subsurface of the land. Any activity that involves the systematic modification of subsurface sediments may lead to the alteration or destruction of a buried archaeological sites or graves.

Project Activity	Sub-class	Impact on Heritage Resources	Significance Class
Pre-Harvest Planning and Assessment		Nil	0
Survey and Layout		Minor clearing of vegetation. Surface heritage sites may be encountered but can be avoided without altering the scope of the layout.	0
Road Use and Increased Vehicle Access		Disturbs previously exposed heritage sites. Potential for unauthorized artifact collection.	0
Road and Landing Construction	Slashing and Processing	Clearing of vegetation. Could impact surface heritage sites such as log or brush structures and burial sites.	1
	Road Construction	Grading of roads disturbs the surface and subsurface and will therefore impact buried archaeological sites and/or graves.	2
	Summer stream crossing	May involve grading of the bank or construction of bridge or culvert. This can impact the subsurface and may therefore disturb buried archaeological sites or graves.	2
	Winter stream crossing	This involves construction of an ice bridge. No impact on subsurface therefore sites will not be impacted. If the modification of bank grade is required, please see above.	0
	Landings	Clearing of vegetation. Could impact surface heritage sites such as log or brush structures and burial sites. Occasionally the subsurface is impacted therefore subsurface heritage sites may be disturbed.	2
Timber Harvest	Falling and Skidding	Clearing of vegetation. Could impact surface heritage sites such as log or brush structures and burial sites.	1
	Loading and Hauling	Nil	0
Reforestation	Mechanical Site Treatment	In most cases this activity represents a significant disturbance of the ground surface which, depending on sedimentation, can lead to the partial or total disturbance or destruction of subsurface archaeological sites or features.	2
	Leave for Natural Treatment	Nil	0
	Planting	Nil	0
	Monitoring	Nil	0

Table 1: Forest development activities and associated impact levels.

7.2 Criteria Used to Identify Heritage Sites/Resource Potential

The types of geographic locations where heritage sites are found Correspond well with the types of sites that past and present First Nations people used to harvest natural

resources. These are places that, at or within close proximity to the site, have a number of favorable characteristics that allow for people to live and be economically viable. These places tend to be directly related to traditional pursuits such as hunting, fishing, trapping and trading. Other types of heritage sites correspond with events in the historic development of the Yukon by Euro-Canadian people. These sites will be located at or near historic centers or along historic routes. The following types of geographic criteria are looked for when determining heritage sites potential:

Biophysical/Topographical Feature	Site Type
River or stream bank	Traditional or pre-contact era fishing or habitation site. May find historic or archaeological remains.
Confluence of a stream and/or river	Traditional or pre-contact era fishing or habitation site. May find historic or archaeological remains. Some such locations were targeted as the location of early fur trade era trade forts and as such became local trade centers.
Perimeter of a Lake	Traditional or pre-contact era fishing or habitation site. May find historic or archaeological remains.
Lake outlet or inlet	Traditional or pre-contact era fishing or habitation site. May find historic or archaeological remains. Fish bearing lakes usually have a high concentration of archaeological sites.
Terraces overlooking significant water bodies.	High terraces often served as good lookouts. Lookouts were either used to spot game, orient ones self on the landscape or search for signs of human activity. Archaeological sites are usually found at this type of location.
Hills, knolls and other elevated topographical feature overlooking wildlife habitat associated with lakes, ponds and wetlands	These types of locations were used as hunting lookouts. One usually finds archaeological remains at this type of site.
Valleys and water drainages	Historic and prehistoric travel routes followed water drainage systems. Short term habitation sites are found along these routes. These may include brush structures and other types of temporary dwellings.
Alpine and sub alpine game trails	There is generally a low potential for the recovery of heritage sites in alpine and sub alpine regions. However, sites include snaring and herding features such as game fences, that are usually located along game trails.

Table 2: Geographic features considered to have elevated potential for the presence of heritage sites.

7.3 Specific Heritage Concerns Within Planning Areas

7.3.1 Watson Lake Area

The Watson Lake planning area (Figure 2) is within the Liard River flood plain to the south of the community of Watson Lake. The examination of topographic maps and orthographic photos reveals that several cut blocks may conflict with areas of high archaeological potential. The Liard flood plain is a geographic type locality that was used by the Kaska people for a number of traditional activities. These would include hunting,

fishing, travel and short or long-term habitation. As such there is potential for the recovery of heritage values of pre-contact (subject to level 2 impacts) and historic (subject to level 1 impacts) antiquity. The second concern is the presence of historic structures (subject to level 1 impacts) related to the history of Watson Lake. Areas of concern are as follows:

Planning Area	Cut Block	Associated Geographic Feature Type	Recommended Mitigation Strategy
Watson Lake	W-1	High river terrace and confluence of stream with a now extinct Liard River channel.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terrace.
	W-3	High terrace over looking the Liard River.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terrace.
	W-5	High terrace over looking an extinct channel of the Liard River.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terrace.
	W-7	Proximity to a small lake or pond. Possibility of elevated knolls or terraces that may have served as game lookouts.	(1) Preimpact inventory of surface historic sites. (2) Buffer terraces and knolls in close proximity to water front or wetland. (3)Conduct post impact monitoring.
	W-11	High river terrace and confluence of stream with Liard River channel.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terrace.

Table 3: Development areas that may conflict with heritage sites in the Watson Lake Planning Area.

These concerns can be mitigated in a number of ways. The Liard First Nation and the community of Watson Lake should be consulted regarding the presence of traditional and historic sites in this area before timber harvest begins. If this consultation leads to the identification of concerns then the identified sites should be avoided (existing guidelines state that a 60 to 100 m buffer is required) or a qualified archaeologist should be called in to assess potential impacts to the site.

Pre-contact era archaeological sites are not likely to be disturbed by timber harvest activities though road and landing construction does pose a threat. To avoid impacting archaeological sites all roads and landings should avoid (i.e. should be built at least 60 to 100 m distant from) riverbanks, streams, confluences, lakes, ponds, terrace edges as well as the edge of any other elevated topographic feature that over looks a recognizable water body or parcel of wildlife habitat. If the features mentioned in table 3 cannot be avoided or buffered then an archaeological inventory and impact assessment will have to be conducted before development proceeds.

Timber harvest areas that overlap with and are not buffered from features described in Table 3 will be subject to post development archaeological inventory and impact assessments. This should be completed before reforestation ground treatments are initiated.

7.3.2 West Rancheria Planning Areas

The majority of this planning area is in an area of low archaeological potential with the exception of areas that are adjacent to the Meister River (Figure 3). The study of 1:50,000 scale topographic maps and 1:40,000 scale orthographic photos has not led to the observation of geographic features that would likely be used repeatedly by past human populations. The exceptions are as follows:

Planning Area	Cut Block	Associated Geographic Feature Type	Mitigation Strategy
West Rancheria	W-12, 13, 19, 23 and 24	Mountain stream drainage in proximity to mineral lick or spring. Presence of camp noted.	(1) First Nations consultations. (2) Preharvest survey for cultural features. (3) Avoid of buffer features.

Table 4: Development areas that may conflict with heritage sites in the West Rancheria Planning Area.

It is noted here that these features *are already buffered* from the development area. However, the presence of mineral licks increases heritage sites potential. The mitigation of potential concerns related to these features can be dealt with in a number of ways. It is recommended that Liard First Nation be consulted about the presence of traditional values in this area before timber harvest begins. If, during this consultation, the presence of know heritage values (subject to level 1 impacts) is discovered then those values should be avoided or a qualified archaeologist should be called in to inspect and evaluate the potential impacts.

7.3.3 East Hyland Planning Area

No heritage sites have been identified within the East Hyland planning area to date. A detailed study of 1:20,000 and 1:40,000 scale orthographic photos as well as 1:50,000 scale topographic maps of the planning area has revealed that the entire area could be considered to have low to moderate potential for the recovery of Archaeological sites based on the criteria established during previous studies. Figure 4 illustrates areas that may have moderate to high (outlined in red) potential for heritage site recovery. These areas include the Cosh and Irons creek drainages as well as areas adjacent to the Hyland River. As well, several wetland areas and small ponds and lakes that correspond with elevated terraces have been flagged. Areas of potential represent places where either archaeological or First Nation traditional sites are likely to be discovered. For the most part, flagged areas are likely travel corridors that may have been used for trap lines or for travel into higher sub-alpine hunting regions. Other flagged areas represent probable game habitat that is associated with elevated hunting lookout features. The entire bank of the Hyland River has been flagged as an area of potential. The position of cut blocks in the area indicates that most of these areas will not be impacted by timber harvesting or other related developments.

The cut blocks that do correspond, in whole or in part, with areas of potential are:

Planning Area	Cut Block	Associated Geographic Feature Type	Mitigation Strategy
East Hyland	C-14	Elevated topographical features overlooking a wetland and stream system. Area has potential for travel/trapping route.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.
	C-16	Elevated topographical features overlooking a wetland and stream system. Area has potential for travel/trapping route.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.
	L-31	Elevated topographical features overlooking a wetlands and ponds. Area has potential for travel/trapping route as well as hunting lookout.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.
	L-32	Elevated topographical features overlooking a wetland and stream system. Area has potential for travel/trapping route as well as hunting lookout.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.
	L-33	Elevated topographical features overlooking a wetland and stream system. Area has potential for travel/trapping route as well as hunting lookout.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.
	H-26	Elevated topographical features overlooking a wetlands and ponds. Area has potential for travel/trapping route as well as hunting lookout.	(1) Buffer terrace edge. (2) Conduct post impact monitoring of terraces for presence of archaeological remains.

Table 5: Development areas that may conflict with heritage sites in East Hyland Planning Area.

These concerns can be mitigated in a number of ways. Firstly, regarding historic remains and burials that may be impacted by 'level 1' disturbances, the Liard First Nation should be consulted regarding any known or potential heritage concerns they may have. If historic heritage concerns are identified during the consultations then the area or site should either be avoided, allowing for at least a 60 to 100 m buffer around the site, or a qualified archaeologist should be called in to assess the potential for disturbance before timber harvest or road construction begins.

Regarding subsurface archaeological sites that may be impacted by 'Level 2' developments, these areas can either be avoided or a post harvest impact assessment is required. It is imperative that an impact assessment be conducted before reforestation ground treatments begin if the areas in question cannot be avoided or buffered.

Regarding the construction of roads, creek crossing and landings, it is recommended that these activities avoid terrace edges in areas of potential. If any 'level 2' development disturbance is to take place within a flagged area then an impact assessment will be required in advance of development.

7.3.4 Coffee Lake

The Coffee Lake area is considered to have high potential for the recovery of archaeological and historic remains (Figure 5). The harvest area is in close proximity to the Community of Ross River as well as being adjacent to a chain of small lakes that are currently inhabited. In this case there is a general increase in the potential for the presence of historic and traditional cultural features through out the planning area. The proximity to Coffee Lake also increases the potential for subsurface archaeological remains.

Planning Area	Cut Block	Associated Geographic Feature Type	Mitigation Strategy
Coffee Lake	C-1-6	Elevated topographic features in proximity to streams, lakes and ponds. The planning area is also in proximity to a historic center and traditional habitation site.	(1) Consult First Nations regarding traditional sites. (2) Preharvest surveillance for historic sites. (3) Avoid and buffer terrace edges. (4) Post harvest monitoring for archaeological sites.

Table 6: Development areas that may conflict with heritage sites in Coffee Lake area.

The heritage concerns can be mitigated in the following ways. Firstly it is important to consult with the Ross River Dena Council regarding any concerns they may have in the development area. Specifically, the area should be checked for historic camp remains that may be disturbed by 'level 1' timber harvest activities. If the First Nation does identify heritage concerns then a qualified archaeologist will have to assess the potential impacts.

It is the consultant's opinion that subsurface archaeological remains will not be impacted by timber harvest activities therefore it will not be necessary to conduct an archaeological impact assessment before harvest begins. However, it is advised that the edges of all terraces or hills be buffered. Furthermore, if sensitive areas cannot be avoided or buffered, it is mandatory that an impact assessment be initiated before reforestation ground treatments are initiated.

7.3.5 Buttle Creek

The Buttle Creek planning area is located in close proximity to the Pelly River waterfront, an area that may correspond with favorable hunting and trapping habitat. Background studies have revealed that there are documented traditional stories relating to this area. The traditional *Dena Cho* Trail is located on the opposite bank of the Pelly River indicating the presence of a significant travel corridor. As well, the lake that feeds Blind Creek is named *Bede Luge* or *Mede Luge* meaning 'food fish' (Moore(Ed.) 1997). The name suggests that this area was known for fishing. Grayling fishing during the spring season is mentioned. As such the entire area is considered to have moderate potential for the recovery of heritage sites. Please contact Kaska Tribal Council or Ross River Dena Council for more information about this area. The following cut blocks may conflict with heritage values:

Planning Area	Cut Block	Associated Geographic Feature Type	Mitigation Strategy
Buttle Creek	B-1	Prominent hill overlooking pond/wetland.	(1) Buffer hill edge. (2) Conduct post impact monitoring of terrace.
	B-3	Prominent hill overlooking pond/wetland.	(1) Buffer hill edge. (2) Conduct post impact monitoring of terrace.
	B-7	Terrace and camp site in proximity to lake.	(1) Preimpact inventory of surface historic sites. (2) Buffer terraces and knolls in close proximity to water front or wetland. (3)Conduct post impact monitoring.
	B-10	Proximity to Pelly River and to camp site.	(1) Buffer river bank. (2) Buffer camp.
	B-11	Proximity to Pelly River and to camp site.	(1) Buffer river bank. (2) Buffer camp.

Table 7: Development areas that may conflict with heritage sites in Buttle Creek area.

The identified heritage concerns can be mitigated in a number of ways. Firstly, Ross River Dena Council should be consulted regarding the presence of heritage and other concerns in the area. If they identify concerns, those sites should be avoided or a qualified archaeologist will have to assess the potential impacts. Secondly, all of the cut blocks included in the red transparency (Figure 6) have a high potential for the recovery of subsurface archaeological remains. It is the consultant's opinion that these remains will not be disturbed by timber harvesting and will not require an impact assessment in advance of development. However, it is recommended that new access roads avoid the banks of streams and ponds. Furthermore, if the cut blocks are to be subject to reforestation ground treatments an impact assessment will be required in before such work takes place.

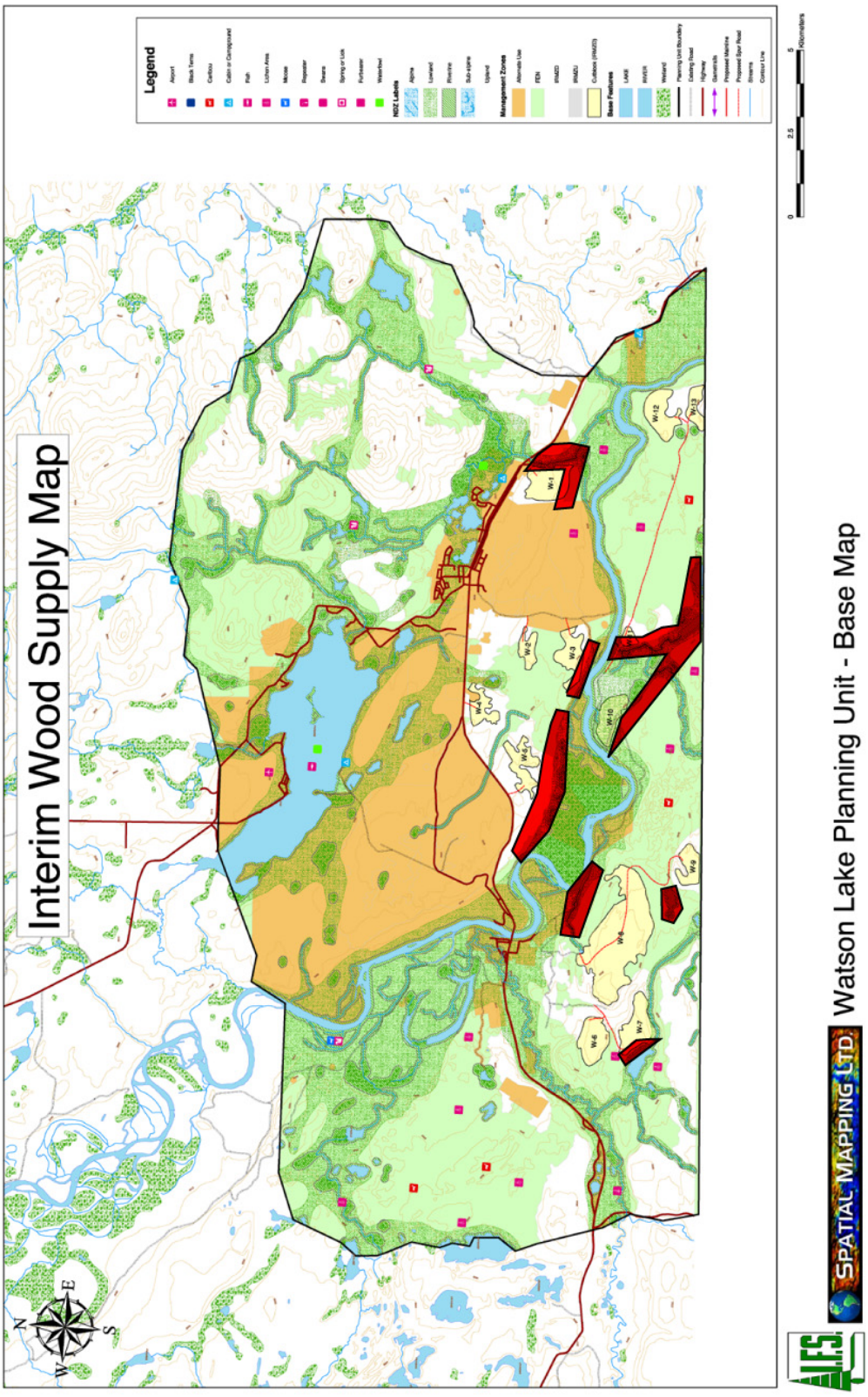


Figure 2: Watson Lake Planning Area. Areas with high potential for heritage sites are highlighted in red.

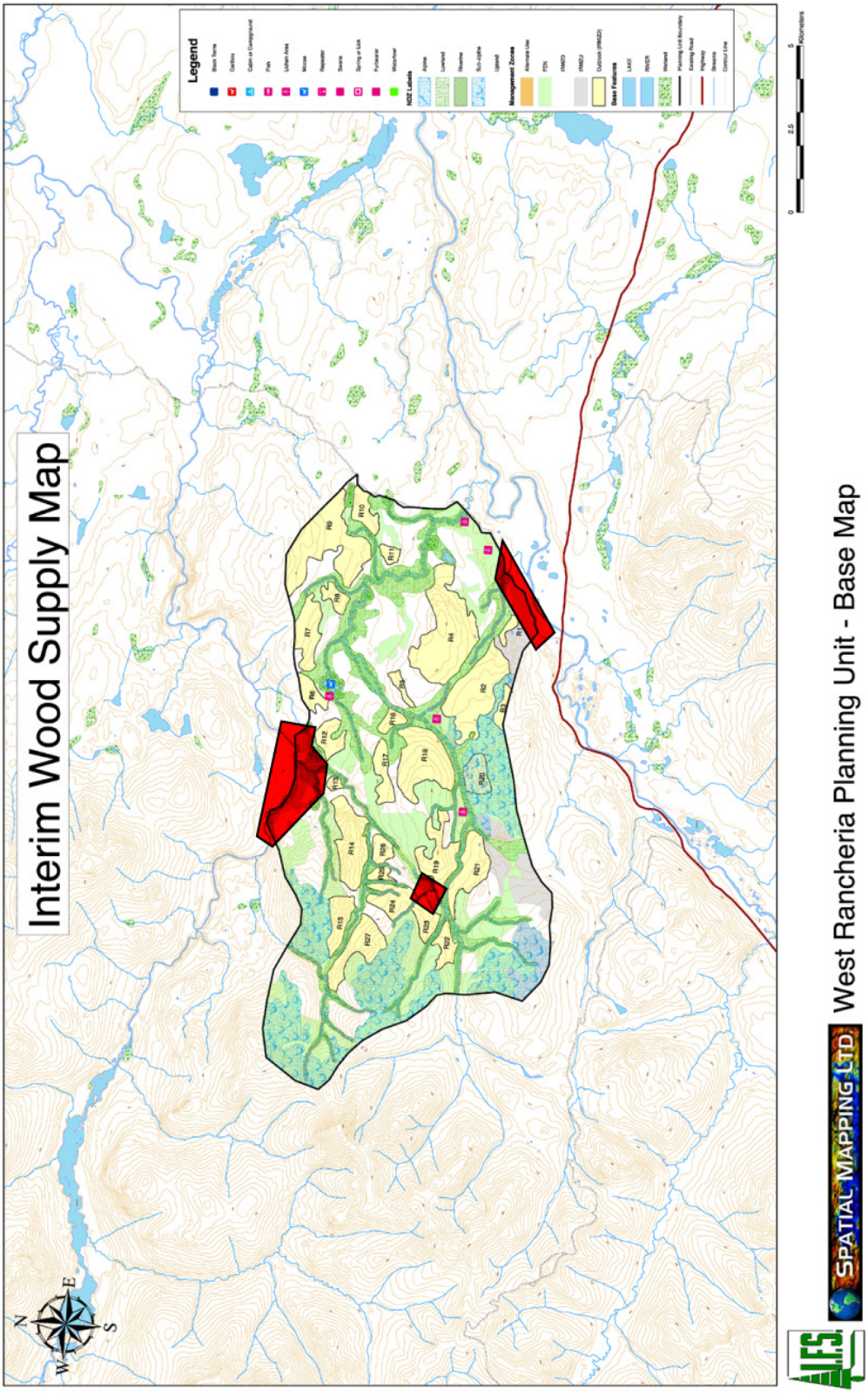


Figure 3: West Rancheria Planning Area. Areas with high potential for heritage sites are highlighted in red.

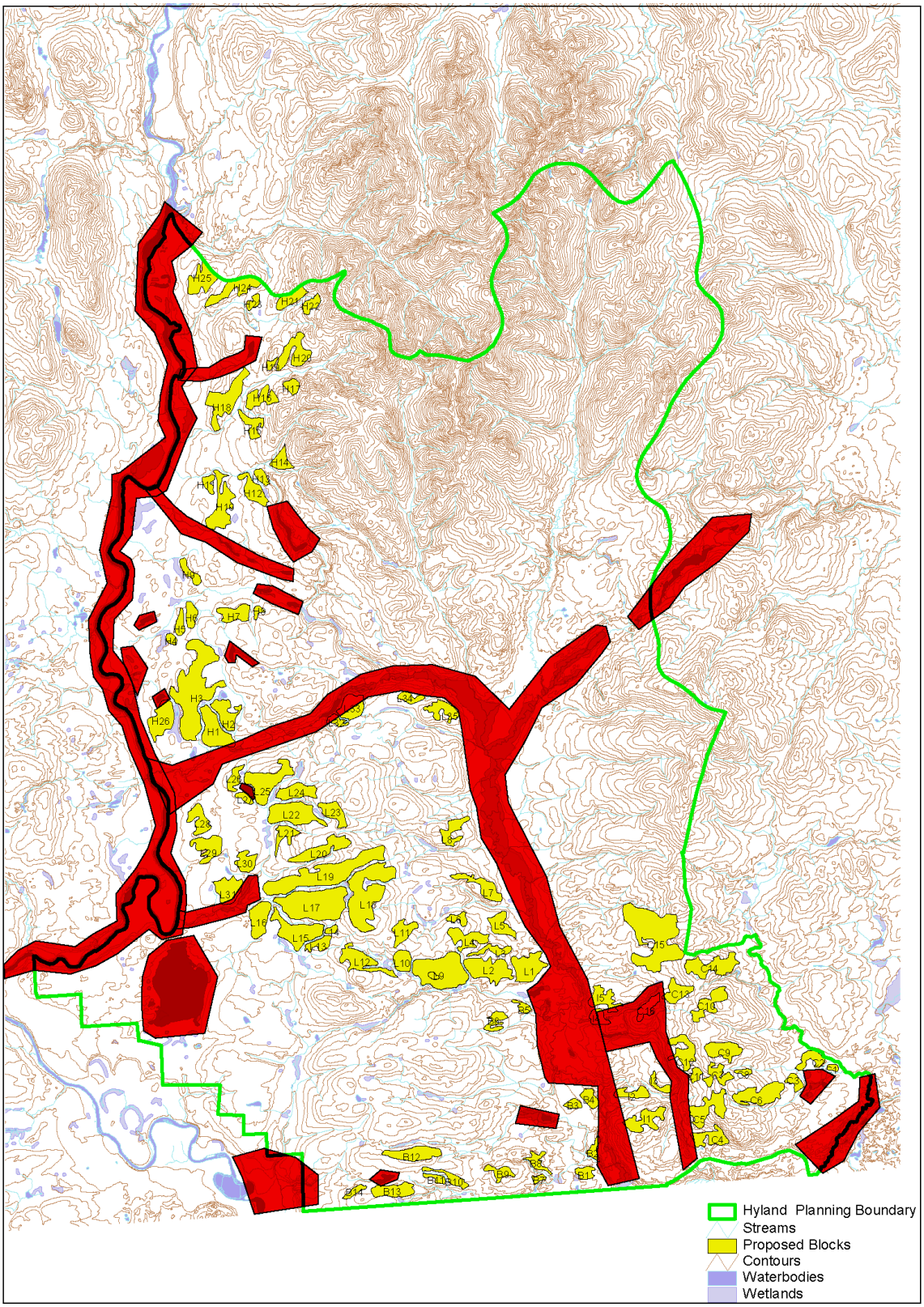


Figure 4: East Hyland Planning Area. Areas with high potential for heritage sites are highlighted in red.

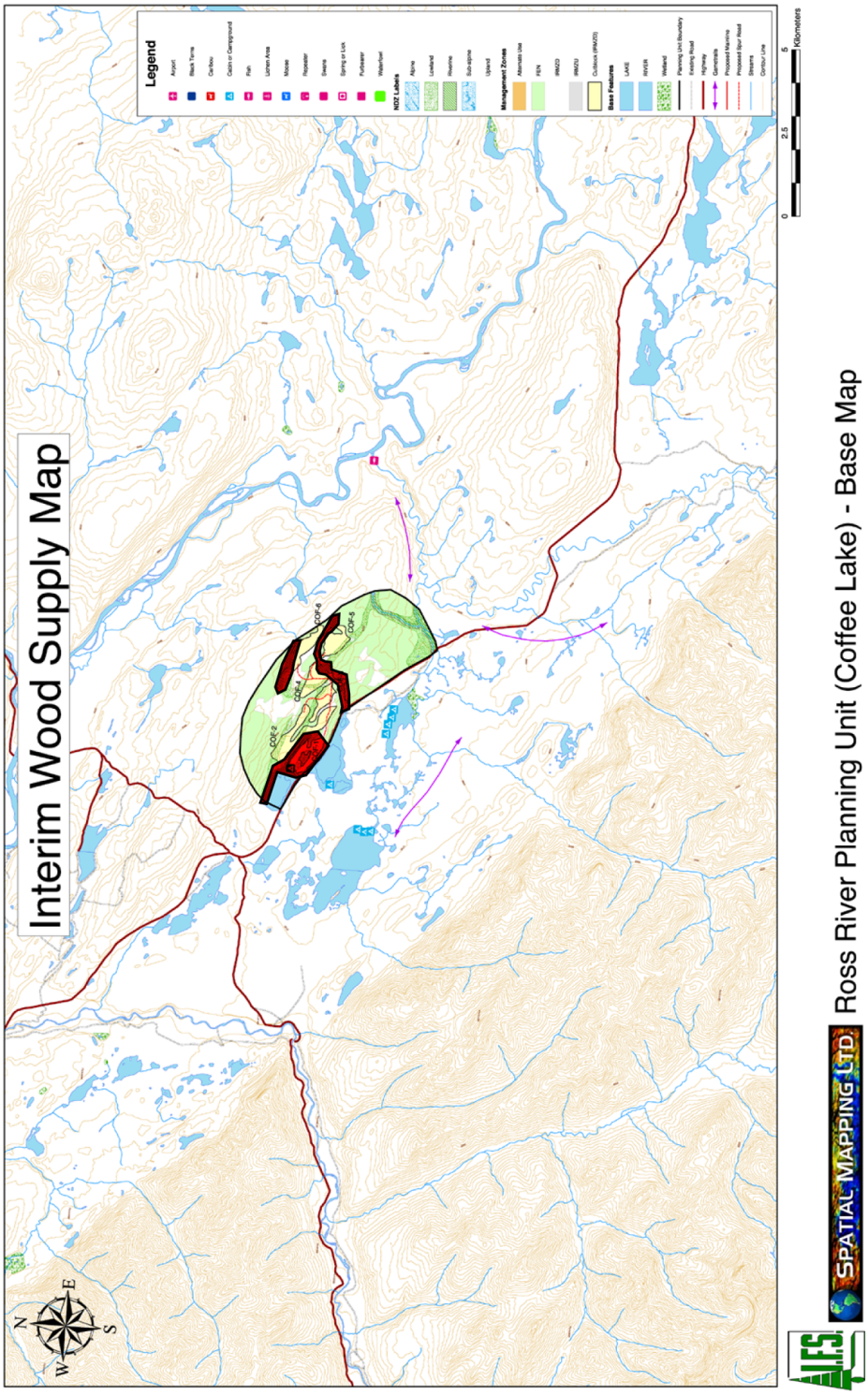


Figure 5: Coffee Lake. Areas with high potential for heritage sites are highlighted in red.

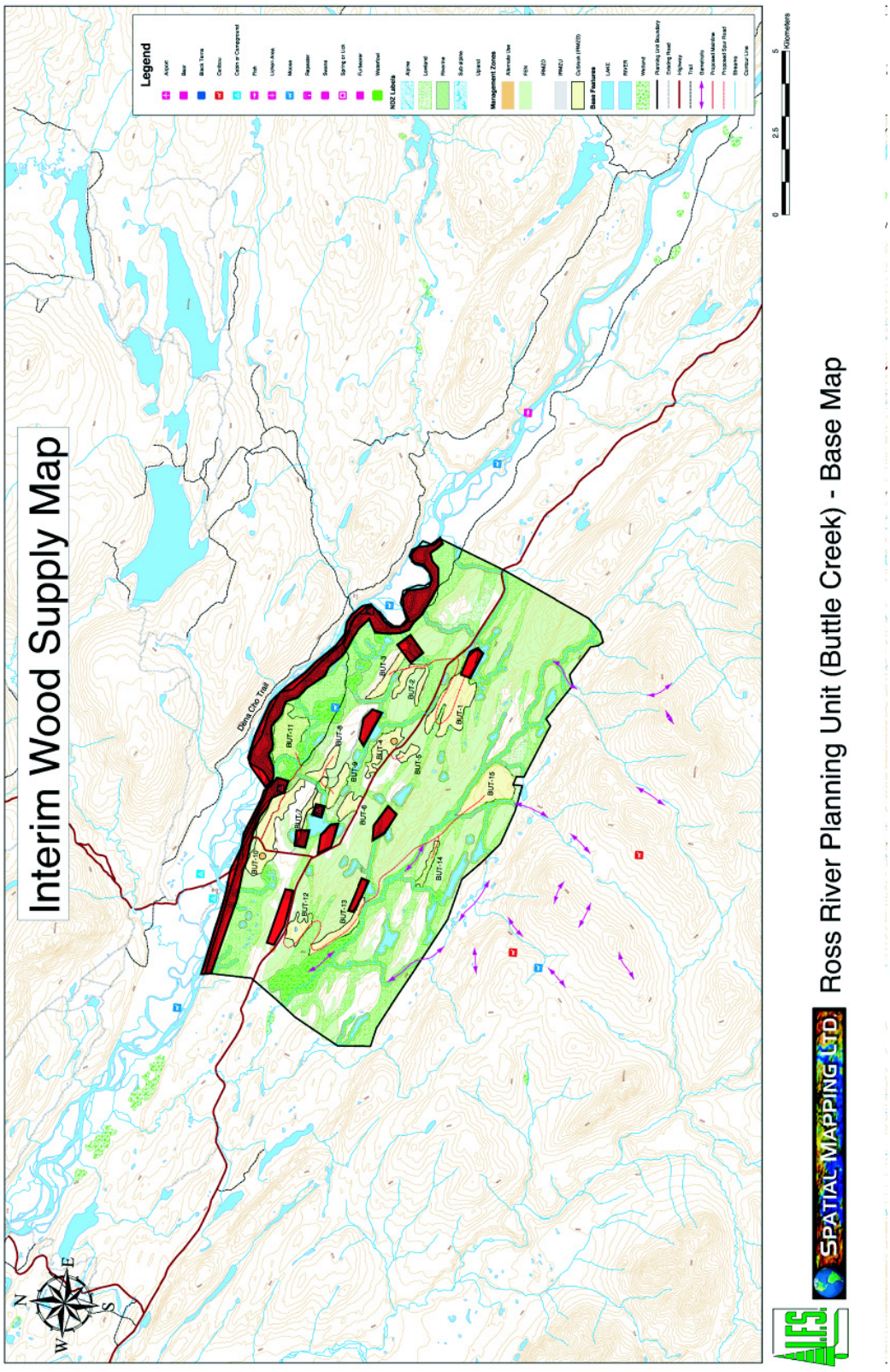


Figure 6: Buttle Creek. Areas with high potential for heritage sites are highlighted in red.

8.0 Recommendations and Conclusions

In all of the above cases the mitigation of negative impacts can be accomplished through two strategies. The consultant, here, recommends that certain strategies be implemented in order to minimize the need for preharvest impact assessment work. The proponent can identify and avoid sites that are susceptible to level 1 forestry impacts through community consultations and by including, in existing field crews, people trained to identify sensitive cultural features. In situations where there is potential for disturbing subsurface archaeological remains it has been recommended that sensitive features be avoided or be subject to post harvest impact assessments.

The limits of this study should be noted. There have been few regional heritage site inventories, and those that have been completed have surveyed limited areas within the southeast Yukon. Hence, the base line data used to predict site location is not, as of yet, adequate for predictive modeling. Secondly, while the use of techniques such as orthographic photo and topographic map interpretation are useful for identifying heritage potential in a larger area, these types of studies are limited in their ability to accurately identify site-specific potential. A systematic documentation of traditional sites and resource areas would assist in the development of a regional of heritage potential model. If a program of post-impact assessment were to be included within the schema of silvicultural field inspections, already being carried out by Forest Management Branch, it would likely improve the baseline data needed to predict site distributions.

References

Government of Yukon
1991 Historic Resources Act.

Olson and Olson and EcoNorth
2001 *Environmental assessment report Vol. 1 and 2*. prepared by: Olson and Olson Planning and Design Consultants Inc., and EcoNorth Forest Management Services Inc., for Kaska Forest Resources LTD., proposed Timber harvest Agreement Project 2001-2011.

Gibson, T. H. and J. T. Finnigan
1998 Addressing international standards for heritage management in the forest industry. Paper presented at the Indo-Pacific Prehistoric Association (IPPA) 16th Congress, Melaka, Malaysia.

Gotthardt, R.
1987 *Archaeological resource inventory: Liard and Frances Rivers, southeast Yukon*. Report prepared for the Northern Land Use Planning Directorate, Yukon Region, Department of Indian Affairs and Northern Development.

1993 *Frances Lake: Traditional and archaeological sites*. report on file with Cutlural Services Branch, Government of Yukon.

Government of Yukon, C. S. B.
2003 Guidelines for the Management and Protection of Historic Resources for Timber Harvest Planning, edited by R. Gotthardt.

Greer, S. C.
1984 *Archaeological survey of the proposed Coal River Springs Territorial Park: Field Report*. prepared for Parks Planning, Department of Renewable Resources, Government of Yukon.

1985 *Archaeology of the proposed Coal River Springs Territorial Park, Southeast Yukon*. prepared for Parks Planning, Department of Renewable Resources, Government of Yukon.

1996 *Wolverine Lake Mine development, 1996 archaeological and historic sites impact assessment*. Report prepared for Access Mining Consultants.

Hare, G.
1998 *Archaeological assessment of the southern portion of the Campbell Highway, southeast Yukon*. Cultural Services Branch, Government of Yukon.

Honigmann, J. J.

1949 Culture and ethos of Kaska Society. *Yale University Publications in Anthropology* 40.

1964 *The Kaska Indians: An ethnographic reconstruction*. Yale University Publications in Anthropology.

Moore(Ed.), P.

1997 *Guzagi Kuge - Our Language Book: Kaska, Mountain Slavey and Sekani* 2. The Kaska Tribal Council, Whitehorse.

Wright, J. V.

1995 A history of the native people of Canada: Volume I (10,000-1,000 B.C.). *Archaeological survey of Canada, Mercury Series Paper* No. 152.

1999 A history of the native people of Canada: Volume II (1,000 B.C.-A.D. 500). *Archaeological survey of Canada, Mercury Series Paper* No. 152.

Yukon Conservation Society INC. 1968
302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 fax: (867)668-6637 ycs@ycs.yk.ca

March 1, 2004

Mr. Ian Church
Manager, Environmental Assessment
Executive Council Office
Box 2703 (A310)
Whitehorse, Yukon
Y1A 2C6

Ms. Robin Sharples
Environmental Assessment Coordinator
Box 2703 (K-918)
Whitehorse, Yukon
Y1A 2C6

Dear Mr. Church and Ms. Sharples,

Thank you for the opportunity to review the Project Description phase of the Environmental Assessment of the Interim Wood Supply Plan for the Yukon Kaska Traditional Territory. The cover letter that accompanied the Summary Report of the Kaska Forest Resources Stewardship Council Interim Wood Supply Recommendations does not explain that this is the Project Description phase, nor how this stage fits into the EA process for the Interim Wood Supply, nor what the next steps will be. We appreciate the information from you, Mr. Church, that this we have now reviewed the Project Description, that the information and comments collected in this phase will lead to the development of a Screening Report, and that the Screening Report will undergo two more weeks of consultation.

The project is large and there has been considerable disagreement on key issues both within the Interim Wood Supply Technical Committee and between YTG Forest Management Branch representatives and public interest organizations. Therefore it certainly has made sense to solicit input at this early stage of the Environmental Assessment process.

Over the months leading to the development of the current Project Description, Forest Management Branch (FMB) staff have shown a clear bias toward certain approaches to forest management:

- Forest Management Branch staff have taken a strong stand in favour of greatly exceeding the cutblock sizes prescribed by the Timber Harvest Planning and Operating Guidebook.
- They have argued that the Cosh Creek watershed is Simple Upland forest when it is clearly Complex Upland.
- Forest Management Branch staff tried to prevent the public from obtaining a copy of the report by YTG Environment and Environment Canada staff, titled *Interim Wood Supply for Southeast Yukon, Proposed Amendments and Additions Draft November 30, 2003.*

- Forest Management Branch commissioned a report by Industrial Forest Service, which FMB erroneously and misleadingly labelled the "*Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09 in the Kaska Traditional Territory*." The IFS report identifies over 2 million cubic meters of wood, and contains contentious statements such as that the effects of logging are similar to fire. The Kaska Forest Resources Stewardship Council did not direct FMB or IFS to produce an "Interim Wood Supply Plan", but rather to identify potential merchantable wood. The IFS report is clearly not the Interim Wood Supply Plan, and should not be labelled as such.
- Forest Management Branch issued the IFS report and a number of site plans for Environmental Assessment in December, before the KFRSC had made its recommendations regarding which blocks were to be included in the EA, and what their size and configurations would be. By doing this Forest Management Branch created needless concern, confusion and extra work for reviewers.
- The Site and Harvest Plan information provided by Forest Management Branch to YCS, CPAWS and PLUS was not readable at first. By the time YCS received legible copies, we had only seven working days to review the Project Description. CPAWS did not receive the Summary Report and maps until Feb. 19, resulting in only six working days for review. PLUS received part of the package on Feb. 17, but did not receive the appendices until Feb. 20, resulting in five working days for review. Fortunately we are able to submit our comments a few days late because FMB's Environmental Assessment Coordinator will not be able to begin dealing with the comments until next week. However, Forest Management Branch's Director has informed us that this is the reason our comments will still be accepted, and that an extension has not been granted to us. This would seem to imply that Forest Management Branch is not willing to take responsibility for its own delays, and that the department does not have a strong interest in considering detailed comments from public interest organizations. It is especially odd that an extension was not granted, considering that it is now too late for winter wood and too early for summer wood, so the four days we requested would not make any difference at all.

In view of the behaviour of Forest Management Branch staff over the past months, we do not have confidence that Forest Management Branch has the ability to conduct an Environmental Assessment in an unbiased manner. Therefore we request that the Environmental Assessment Branch (ECO) take over this assessment and all future Environmental Assessments of Forest Management Plans in the Kaska Traditional Territory.

We have made very detailed comments in the hope that they will contribute to a high quality draft Screening Report. However, since we have been working under extreme time pressure, there may be areas that require clarification. Please feel free to contact us if you have any questions. We are attaching the following documents:

- YCS Comments and Recommendations: Project Description for Year 1 of the Interim Wood Supply Plan for the Yukon Kaska Traditional Territory
- Appendix 1: Proposed Block Amendments:
    - Option 1
    - Option 2
    - Deferred Blocks
- Appendix 2: Opening Sizes: Existing and Proposed
- Appendix 3: Interim Wood Supply Old Growth Tally
- Appendix 4: Comparison of Interim Wood Supply Area with Proposed Set-Aside
- Appendix 5: Fire versus Logging

In conclusion, w would like to express our agreement with the recommendations that have been provided by CPAWS Yukon.

Sincerely,

Karen Baltgailis

YCS Appendix 1
Proposed Block Amendments: Option 1

* All of our proposed changes bring block sizes of proposed + existing blocks down to approximately 40 ha, or selection harvesting maximum 30% removal.

Block	Ages	Opening Size as proposed in Summary Report (proposed + existing blocks)	YCS Recommended Harvesting Method and layout	Volume as Proposed in Summary Report	Approximate Volume after Changes
C4	151 and 160 years (very old)	52.5 ha	Selection log, due to old growth values. Maximum 30% removal.	9,512 m3	3,170 m3
C6	Mostly 107 and 132 years, a little 196 years old on east side of block. Volumes per hectare of all these age classes about the same.	Larger than 106 ha. (map with sizes does not have accurate configuration for existing block.)	Selection log within boundaries proposed in Summary Report. Maximum 30% removal.	22,325	7,442 m3
C8	Mostly 187 years old (very old). A significant % of this block is in the RMZ. The portion in the RMZ is 131 years old.	28.1 ha	Selection log due to riparian and old growth values. Maximum 30% removal.	2,770 m3	923 m3
C10	All 120 and 129 years old	93.5 ha	Selection log within boundaries proposed in Summary Report. Maximum 30% removal.	23,982 (total east and west blocks)	7,994 m3
C11	121 years and 128 years	42.5 ha.	No changes	5,974 ha	5,974 ha

Total Volume on Summary Report: 64,562 m3
Total Approximate Volume With YCS' Option 1 Changes: 25,503 m3

Proposed Block Amendments: Option 2

* All of our proposed changes bring block sizes of proposed + existing blocks down to approximately 40 ha, or selection harvesting maximum 30% removal.

Block	Ages	Opening Size as proposed in Summary Report (proposed + existing blocks)	YCS Recommended Harvesting Method and layout	Volume as Proposed in Summary Report	Approximate Volume after Changes
C4	151 and 160 years (very old)	52.5 ha	Selection log, due to old growth values. Maximum 30% removal.	9,512 m3	3,170 m3
C6	Mostly 107 and 132 years, a little 196 years old on east side of block. Volumes per hectare of all these age classes about the same.	Larger than 106 ha. (map with sizes does not have accurate configuration for existing block.)	Delete east blocks (6A and 6B) and reduce west block (6C) to 40 ha. that are not contiguous with existing opening between blocks 6A and 6C. This deletes the 196 year age class.	22,325	10,000 m3
C8	Mostly 187 years old (very old). A significant % of this block is in the RMZ. The portion in the RMZ is 131 years old.	28.1 ha	Selection log due to riparian and old growth values. Maximum 30% removal.	2,770 m3	923 m3
C10	All 120 and 129 years old	93.5 ha	To bring block size down to 40 ha: West block: delete the Fir leading (70% Fir) from the SW corner. Delete another 20 ha somewhere in this block =	23,982 (total east and west blocks)	4,370 (west block) 4,750 (east block) total: 9,120

			43 ha reduction. East block: Remove bottom 20 ha (may need to use old road access then)		
C11	121 years and 128 years	42.5 ha.	No changes	5,974 ha	5,974 ha

Total Volume on Summary Report: 64,562 m3

Total Approximate Volume With YCS' Option 2 Changes: 29,187 m3

Proposed Block Amendments: Deferred Blocks

* All of our proposed changes bring block sizes of proposed + existing blocks down to approximately 40 ha., or selection harvesting maximum 30% removal.

Block	Average Ages	Opening Size as proposed in current Site Plans (proposed + existing blocks)	YCS Recommended Harvesting Method and layout	Volume as Proposed in Site Plans	Approximate Volume after Changes
C5	¼ of this block is 120 years, the rest is 168, 171, 213 years (very old)	173 ha This block is also connected by an old block to C4, creating a total opening of 226 ha	Due to old growth values selection log (maximum 30% removal) for most of the block. Patch cut the west half of 5A (approximately 10 ha.) since this is 120 years old. Patch cutting the east side of 5A would create an opening of more than 40 ha, taking into account contiguous existing blocks. Therefore the east side of 5A should be selection logged.	23,727 m3	Approx. 8,834 m3
C12	North block (12 B): 145 years South block (12A, 12C): 139 and 145 years	57 ha and 88 ha divided by a riparian area (100 – 200 m wide)	To preserve old growth characteristics selection log maximum 30% removal.	23,862 m3	7,954 m3
C9	126, 129 and 131 years old. (Pretty much old growth)	118 ha 28 ha is 80% Fir 45 ha is 60% Fir 8.3 ha is pine leading (60%) and 30% Fir	Partial cutting maximum 30% removal. (Due to the high volume of fir this block is probably not very economically desirable.	17,258 m3	5,756 m3

			Partial cutting might enable the operator to concentrate on economically desirable species.)		

Total Volume of proposed blocks in Site Plans: 64,857 m3

Total Approximate Volume of Deferred Blocks With YCS' Recommended Changes: 22,544 m3

YCS Appendix 2
Opening Sizes: Existing and Proposed (hectares)

Proposed New	Existing Contiguous Blocks	Proposed + Existing
C4: 20.49 ha + 11.929 = 32.419 ha (Very small .889 internal retention, so essentially one block)	20.1 ha	52.523 ha
C6: 48.060 + 13.622 + 10.622 + 1.71 = 73.623 ha (If the Site Plan map is accurate an existing opening connects all of these.)	13.8 + 19.2 (but bigger on Site map) = 33 ha The map with the opening sizes shows the existing opening as being much smaller than the Site Plan map. We are told the Site Plan map is probably the accurate one. The west side of C6 almost touches a 14.4 ha existing opening.	73.623 + 33 = 106.623 ha BUT it is actually bigger – see previous column.
C8: 11.836 ha	16.2 ha	11.8 + 16.2 = 28.036 ha
C10: 63.97 ha 45.877 ha	19.7 + 4.1 = 23.8 ha 6.8 + 5 + 35.8 = 47.6 ha	63.97 + 23.8 = 87.77 ha 45.877 + 47.6= 93.48 ha
C11: 14.1 ha	28.4 ha	14.1 + 28.4 = 42.5 ha

Deferred Blocks (hectares)

Proposed New	Existing Contiguous	New + Existing
C5: 4.698 + 19.631 + 8.5 + 28.389 + 11.431 = 73.623 ha (Except for a 1.9 ha internal retention patch they are all made contiguous by existing blocks.)	12.4 + 5 + 20.1 + 9.3 + 14.4 + 10.2 + 9.6 = 101 ha	73.623 + 101 = 173.649 ha If C4 is harvested as proposed, an existing block in C5 would touch C4. The total opening size would then be 226.172 ha
C12: 33.007 7.669 + 31.692 = 39.36 ha	24 24.2 + 12.4 + 12.1 = 48.7 ha	33.007 + 24 = 57 39.36 + 48.7 = 88 ha
C9: 76.779 ha	8.7 + 32 = 41.5 ha	76.779 + 41.5 = 118.279 ha

YCS Appendix 3

Interim Wood Supply Plan Old Growth Tally

Current Blocks C4, 6, 8, 10, and 11: total area of 131+ years: 75.5 ha
Deferred Blocks C5, 9, and 12: total area of 131+ years: 164 ha

Current + deferred blocks: 240 ha total

******* The Summary Report says there are only 238.4 ha of 131+ years in the whole Interim Wood Supply area, so it looks like all the upland old growth in the Interim Wood Supply area is proposed for logging.** The inventory is probably not as good for the area where cutblocks are not proposed as it is for the cutblocks, but this still gives an indication that old growth age classes are being hit too hard.

(Also it is strange that the Summary Report says there is no 131+ years fir, but according to the block summaries there would appear to be.)

Current Blocks	**Deferred Blocks**
C4 160 years: 13.1 ha 151 years: 20.2 ha C6 196 years: 11.4 ha 132 years: 20.3 ha C8 187 years: 10.5 ha C10 (129 years: 51.6 ha) C11 Nothing older than 130	C5 168 years 24.9 ha 171 years: 11.2 ha 213 years: 26.1 ha C9 131 years: 28.4 ha (129 years: 8.3 ha) (126 years: 45.9 ha) C12 139 years: 20 ha 145 years 53.9 ha

YCS Appendix 4
Comparison of Interim Wood Supply Are and Proposed Set-Aside

Important information needed:

- **Area of non-forested land in each**
- **Need the total area previously harvested in IWS area. We know that all the wood harvested would almost certainly have been at least 80 – 130 years old, and mostly pine and spruce. The set-aside should reflect the original composition of the IWS area.**

Interim Wood Supply Area	**Proposed Set-Aside**
17,670 ha	12,002 ha (5,668 ha difference.)
25% black spruce and burn	40% black spruce and burn
238 ha of pine/spruce, spruce/pine, and white spruce older than 130 years	6.99 ha of these same commercially desirable species
Area of 80 – 130 year old: Pine: 1001 ha Pine/Spruce: 2027 ha Spruce/Pine: 2489 ha White Spruce: 737 ha 6,254 ha	Area of 80 – 130 year old: Pine: 338 ha Pine/Spruce: 725 ha Spruce/Pine: 925 ha White Spruce: 499 ha 2,487 ha
Fir: 122 ha	Fir: 0 ha

YCS Appendix 5
Fire Versus Logging

The Industrial Services Report argues that logging emulates fire, and therefore openings from logging should be similar to the average size of burned areas. But logging can only emulate fire to a very limited extent. First of all, no matter how hard we might try and how much money government might spend on fire fighting, fire experts across the country agree that it is impossible to eliminate fire from the landscape. There is no need to create openings that are the same size as fires, because nature will keep doing that whether we like it or not. Any logging that occurs will be in addition to fire, not instead of it.

Secondly, the effects of logging are very different from fire:

- Fire removes the fine material like branches and needles, and leaves the tree trunks. Logging does the opposite.
- Fire does not create road access.
- Fire creates a nutrient flush from the ash.
- Fire sterilizes against insects and disease. Logging can spread insects and disease.
- Fire has tended to skip the older stands – that is how they got to be old. Logging targets the older stands because the trees are big enough to be economically viable.
- Fire doesn't cause soil compaction whereas summer logging can.
- Fire doesn't usually cause soil disturbance. Summer logging is likely to cause soil disturbance.
- Fire tends to skip certain kinds of stands, resulting in pockets of larger, older trees. Logging targets the larger, older trees.

The 20 - 30 large trees per hectare retention proposed in the Site and Harvest Plans will contribute some coarse woody material. However, they do not mitigate the impacts of large openings on wildlife or fisheries. They also will not mitigate the effects of forest removal on soil moisture. Clear cutting can result in drying or flooding, depending on the site.

In the end, the claim that clearcuts resemble fires is actually irrelevant. The point of ecosystem-based forestry is to minimize impacts to the environment and the traditional values that depend on it. Any logging creates impacts. The more trees that are removed, the more impacts are created. In designing a Forest Management Plan for the Kaska Traditional Territory we are dealing with a different situation than in southern jurisdictions. We don't have to create enormous clearcuts to compensate for areas that are set aside for cultural or ecological reasons. The appropriate set-asides can be chosen, and then logging can be planned in the 'working forest' in a way that is truly ecosystem-based.

Forest Fragmentation

The other justification that is used for large clear cuts is that many small openings cause fragmentation of the forest. This results in degraded habitat for wildlife and bird species that require large areas of interior forest habitat. Therefore the Industrial Forest Services report proposes to amalgamate the existing small clear cuts in the East Hyland area into big ones by removing the patches of forest in between and around them. IFS claims that this will reduce fragmentation.

It is certainly true that the habitat in an area with many small clear cuts is degraded. But logging the forest between existing cut blocks doesn't *improve* the forest habitat – *it completely removes it*. We do not have to amalgamate cut blocks into huge openings in order to make it possible to leave some areas unlogged, because we do not have to fulfill commitments for large volumes of wood. Real ecosystem based forestry minimizes impacts at all levels, from landscape to stand. Where logging occurs it must be done in ways that minimize disturbance.

Yukon Conservation Society INC. 1968
302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 fax: (867)668-6637 ycs@ycs.yk.ca

YCS Comments and Recommendations: Project Description for Year 1 of the Interim Wood Supply (IWS) Plan for the Yukon Kaska Traditional Territory

March 1, 2004

Abbreviations we have used:

KFRSC: Kaska Forest Resources Stewardship Council
Summary Report: Summary Report of the Kaska Forest Resources Stewardship Council Interim Wood Supply Recommendations.
IWS Plan: Interim Wood Supply Plan
Guidebook: Timber Harvest Planning and Operating Guidebook, May 1999.
IFS Report: total chance analysis by Industrial Forest Service misleadingly labelled "Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09 in the Kaska Yukon Traditional Territory"
Proposed Amendments and Additions Draft: Interim Wood Supply for Southeast Yukon, Proposed Amendments and Additions Draft November 30, 2003

Overview

Positive Points in the Project Description:

YCS would like to congratulate the Kaska Forest Stewardship Resources Council (KFRSC) on its many well-considered recommendations regarding the Interim Wood Supply Plan Plan. The Cosh Creek watershed contains upland old growth with tree sizes and ages that appear to be unique in the Yukon. This small watershed was heavily logged a few years ago, and therefore logging under the IWS Plan will create cumulative impacts that greatly exceed the impacts of currently proposed blocks.

It is a grave responsibility to make recommendations that attempt to balance the economic benefits of logging against the danger of rendering this watershed largely unusable for marten and other old growth dependent species like woodpeckers, goshawks and boreal owls. A number of the KFRSC's recommendations go a long way toward mitigating potential cumulative impacts to the watershed. We strongly support the following recommendations:

- Recommendations 10 and 11a: withdrawing Blocks C1, 2, 3 and 7 and the year 2 and 3 blocks. For the purposes of the upcoming draft Screening Report we would urge the KFRSC to clarify that the intent is that these blocks be permanently withdrawn.

- Recommendation 13: that a set-aside area be established to help counterbalance the impacts in the Interim Wood Supply area, although we are proposing changes to its duration and boundaries. (Please see below.)

- Recommendation 15: deferring Blocks C5, 9, and 12 for further technical review. These blocks have some of the oldest age classes in the IWS Plan area. Much of the area of these blocks is between 145 and 213 years old. In addition, these are some of the largest combinations of proposed and existing blocks, with opening sizes of 173 ha, 118 ha, 88 ha and 57 ha. We feel that this recommendation acknowledges that as proposed, these blocks are problematical, and we agree that they require further review. However, we have commented on these blocks in our response to the Project Description and Summary of Recommendations because the level of environmental impact from C4, 6, 8, 10 and 11 is contingent upon what happens with Blocks C5, 9 and 12.
- Recommendation 3: it is crucial that this recommendation be agreed to in the final Environmental Assessment report, since Traditional Knowledge may call for changes to harvest levels and/or techniques.
- Recommendation 12: This is completely relevant to the Environmental Assessment of Blocks C4, 6, 8, 10 and 12, since Complex Upland calls for different harvesting techniques than Simple Upland. As you will note in our detailed comments, the Cosh Creek watershed qualifies as Complex Upland.

The Project Description also contains a number of other positive proposals. The block sizes have been reduced from earlier Forest Management Branch proposals. Most of the Fir leading stands are no longer being considered for harvesting. Some wildlife tree patches have been linked to the surrounding forest. Tops and limbs are being left on the block to provide nutrients, seed and small mammal cover. We strongly support the establishment of a Forest Ecosystem Network (FEN) to protect the ecologically important riparian areas.

Major Concerns about the Project Description:

We cannot agree with KFRSC recommendation number 2: that stand practices agreed to by the Interim Wood Supply Committee and included in the Site and Harvest Plans be applied for harvesting interim wood. It is our understanding that consensus has not been reached among the IWS Technical Committee members. (See Executive Summary: Interim Wood Supply for SE Yukon Proposed Amendments and Additions Draft Nov. 30, 2003 by K. Kiemele, J. Adamczewski, and M. Gill. (Proposed Amendments Draft))

We have serious concerns the practices proposed do not adequately maintain values like wildlife habitat, ecological sustainability, biological diversity (as outlined on page 13 of the Interim Wood Supply Plan Summary Report of the KFRSC (the Summary Report), as well as representative seral stages (especially older age classes), and interior forest habitat.

Opening Sizes:
We are very concerned that opening sizes are being proposed that are much larger than allowed under the Timber Harvest Planning and Operating Guidebook (the Guidebook). The sizes of the proposed new blocks combined with existing contiguous openings create even larger openings of up to 106 ha. (Please see our Appendix 2 for a table showing opening sizes of proposed and existing contiguous blocks.)

The Interim Wood Supply Plan is supposed to identify relatively non-contentious wood. In the process leading up to this Project Description it has been very clear that exceeding the opening sizes in the Guidebook is a highly contentious issue. Furthermore, according to the Kaska MOU on Forest Stewardship, the KFRSC is supposed to be involved in the development of major policies. Exceeding the current Guidelines would be a major new policy. Therefore proposing clear cuts of 100 hectares and larger in complex upland areas where current policy stipulates a maximum size of 40 hectares, goes against the spirit and intent of the Kaska MOU on Forest Stewardship. The Interim Wood Supply is not the time to propose major forest policy changes – the current operating guidelines should be followed.

It is also misleading for the Industrial Forest Services (IFS) report to claim that the Cosh Creek watershed is Simple Upland. The Block Summaries and Site and Harvest Plan tables make frequent references to “broken”, “hummocky” terrain – a characteristic of Complex Upland. Another indication that this is Complex Upland is that 69% of the patches in the Cosh Creek watershed are less than 50 hectares in size. The patch sizes and the old age of the stands being targeted for harvesting make it clear that this area has not been subject to frequent, large, stand replacing fires. Therefore, according to the Guidebook, this cannot be classified as Simple Upland.

The IFS report is also extremely misleading in attempting to justify large openings by claiming that logging mimics fire in any relevant ways. Please see Appendix 5 of our comments for an analysis of this faulty argument.

The IFS report is also misleading in its claim that large cutblocks reduce fragmentation. Please see our discussion of this issue in Appendix 5 of our comments.

Elimination of Old Growth from the IWS Area:
We are very concerned that, according to the tables in the Summary Report, the proposed harvesting in Blocks C4, 6, 8, 10 and 11 would remove 75.5 ha. (31%) of the total 240 ha of 131 years and older forest from the IWS area. If the deferred blocks were harvested as proposed in the Site Plans, all of the 131 + age class would be eliminated from the Interim Wood Supply area. (Please see our Appendix 3 for a summary of the area of old growth in the blocks proposed for logging.)

Old forests play an important and unique role in a forested landscape. Globally, old boreal forests are immense reservoirs of carbon; while they may not fix nitrogen as rapidly as young forests, the absolute amount of carbon that is stored in old trees in the boreal forest (above and below-ground) is much greater than in early seral forests.

At the scale of the East Hyland region, old forests provide habitat for many species of invertebrates, mammals and birds that depend on the structures present in older forests for some or all of their life-cycle. There is no lack of early and mid-seral stage forests in a carefully managed forest landscape, however we cannot create older forests any faster than it takes them to develop. In the Cosh Creek area, tree ages range up to 217 years. It is critical that an ecologically appropriate amount of older forests remain in the Cosh Creek/Hyland River watersheds. Protection of these forests will assist in achieving the forest values related to biological diversity, ecological sustainability, maintenance of habitat for a variety of fish, birds, amphibians and mammals (page 13 of the Proposed Interim Wood Supply Plan).

YCS is proposing a range of options to help maintain some old growth in the IWS area, including various levels of selection harvesting. (See below.)

Size and Duration of the Proposed Set-Aside:
We realize that the boundaries for the set-aside area that are proposed in Summary Report were drawn up under considerable time pressure. However, the proposed set-aside is not similar in size, species or age class distribution to the Interim Wood Supply area. For example it is 5,668 hectares smaller, it is composed of 40% black spruce and burn versus 25% in the IWS area, and it contains considerably less mature and old white spruce and pine forest. Please see Appendix 4 of our comments for a table comparing the Interim Wood Supply area and the proposed set-aside.

Forty years is not a long enough period of time for a landscape set-aside to compensate for the cumulative impacts that will occur in the Cosh Creek area. The Interim Wood Supply Plan is proposing a rotation of 80-100 years. The set-aside area should be in place for at least the same length of time as one rotation. In fact, given that the average age of the trees in Blocks C4, 6, 8, 10 and 11 is 140 years, the life of the set-aside should extend at least 140 years

The objectives of the set-aside (page 14 of the Summary Report) for maintaining forest values such as trapping, wilderness values and wildlife habitat and as a control area for monitoring regeneration and wildlife use cannot be achieved if the set-aside area is deferred from logging for only 40 years. We are assuming that regeneration is not only the re-growth of trees, but includes the other components of the forest. The set-aside is being compared to a forest that is up to 220 years old – there are many processes of regeneration and wildlife use that occur between year 40 and year 220.

Impacts on wildlife habitat and watershed and fisheries:
The marten modelling in the Proposed Amendments and Additions draft report makes it clear that marten habitat will be significantly impacted even under the modified blocks proposed by YTG Environment and Environment Canada staff. The literature on marten clearly indicates that clear-cutting has negative impacts on marten, especially when clear cuts compose more than 30% of a marten home range. The literature also indicates that partial cutting systems have far less severe impacts on marten than patch cutting. (Please see our Detailed Comments.)

The Fisheries and Watershed Information (Appendix 3 of the Project Description information) states that forest cover removal should be kept below 15-18% of a watershed. The cutblocks that were proposed at the time that the Proposed Amendments and Additions Draft report was written add up to a total of 23%. It is not clear how the deletion of Blocks 1, 2, 3 and 7 would now improve this situation. However, one would assume that it is far from ideal to allow impacts up to the absolute maximum that may be acceptable – the precautionary principle should be employed. Furthermore, it is also not clear what the impact is of harvesting five of the 14 Cosh Creek sub-watersheds with at least 40% removal, especially since four of these five sub-watersheds are adjacent to each other.

The Watershed and Fish Habitat Technical information prepared by Yukon Department of Environment states that "selective logging is better than patch cutting from a water quality perspective, and large patch cuts are less desirable than small patch cuts because spring runoff increases as land heats up faster due to less forest cover."

Unfortunately, all of the logging in the Project Description is patch cutting. (The 2-3% dispersed retention in the cutblocks does not constitute partial cutting.) Partial cutting systems need to be considered in the Interim Wood Supply plan.

Duration of Forest Ecosystem Network (FEN):
The Forest Ecosystem Network will play an important role in maintaining lowland biodiversity. The Yukon Government Forest Management Branch, the Interim Wood Supply Technical Committee and the KFRSC are to be commended for recommending a FEN where logging will not occur.

The Project Description does not state the life-span of the Forest Ecosystem Network. To meet the objectives of the Forest Ecosystem Network, including connecting lower elevation ecosystems to alpine ecosystems (page 14 of the Summary Report) it is clear that the Forest Ecosystem Network must be a permanent deferral.

Upland Connectivity:
While the Project Description acknowledges the importance of lowland connectivity, it neglects the importance of maintaining a connected upland network, which provides linkages between riparian areas and between watersheds.

Summary of YCS Recommendations to Mitigate impacts from the Interim Wood Supply:

The following are our major recommendations. Please see our Detailed Comments on the Project Description for the Interim Wood Supply Plan in the Kaska Traditional Territory for a complete list of recommendations.

1) Commit to ensuring that the proposed set-aside has a similar forest composition including species and age classes as the IWS area. Ensure that the set-aside is for the length of a full rotation. The final boundaries of the set-aside can be established after interim wood has been issued.

2) Commit to opening sizes that are consistent with the Guidebook. In the case of the Complex Upland Cosh Creek watershed, the maximum opening size of contiguous existing and new openings would be 40 ha. The Guidebook also calls for partial cutting systems in Complex Upland. YCS has developed two options that would keep opening sizes below 40 ha, and would help to maintain the values listed on page 13 of the Summary Report. These options are summarized below in order of least impacts to more impacts. In order to address potential cumulative impacts from the current blocks combined with the deferred blocks, we have also provided recommendations for the deferred blocks. If the deferred blocks were to be harvested in any way similar to the current Site Plans, the cumulative impacts would be unacceptable. Please see Appendix 1 for details.

   Option 1: Selection logging with maximum 30% removal for all of the currently proposed blocks except C11. C11 to be harvested as proposed in the project description. Selection logging for all of the deferred blocks except 10 ha of C5.

Total estimated volume from current blocks: 25,503 m3
Total estimated volume from deferred blocks: 22, 544 m3
Total from Option 1 with deferred blocks: 48,047 m3

Option 2: Selection log C4 and C8 due to old growth and riparian values. Patch cut the remaining blocks, with reductions in size to 40 ha. Selection logging for all of the deferred blocks except 10 ha of C5.

Total estimated volume from current blocks: 29, 187 m3
Total estimated volume from deferred blocks: 22, 544 m3
Total from Option 2 with deferred blocks: 51,731 m3

3) Establish the Forest Ecosystem Network permanently.

4) Ensure upland connectivity by designating the areas called "external reserves" in the Site Plan Maps as part of an upland FEN for the length of a full rotation. Add additional upland connectivity as needed.

5) Extend the rotation length to at least 140 years to reflect the average age of the trees being harvested.

Detailed Comments on the Project Description for the Interim Wood Supply Plan in the Kaska Traditional Territory

General Points:

In reviewing the Kaska Forest Stewardship Council's recommendations for the draft Interim Wood Supply Plan (IWSP) plan, we are not comfortable that (m)any of the highlighted values identified in the Site and Harvest plans have been maintained (e.g. visual values, wildlife habitat, interior forest conditions, and representative age class distributions.)

The Cosh Creek watershed has unique characteristics. It has older age classes, larger trees and higher volumes than most Yukon Upland sites. It is also one of the smallest watersheds in the Yukon. As such, the effects of the proposed logging on the Cosh Creek watershed will have more impact than a similar volume would have on a larger watershed like Contact Creek.

Appendix 3: Watershed and Fish Habitat Technical Information, prepared by Yukon Department of the Environment, contains some very important information about impacts to fish ecosystems from forest cover removal. However the section in Appendix 3 that refers to mitigation measures that are in place indicates that there may be some misunderstanding about what is being

proposed in terms of harvesting methods for the IWSP. This section of Appendix 3 states "Harvesting is partial cut as opposed to a clear cut scenario." There has been NO partial cutting proposed to date in the IWSP recommendations. The 2-3% dispersed retention on the proposed blocks in addition to small islands of reserves cannot be considered a partial harvesting system. We do, however, support partial cutting systems being used in the Interim Wood Supply Plan. Please see Appendix 1.

Consistency with the Timber Harvest Planning and Operations Guidelines:
This is a rushed interim plan with the express goal of identifying up to a specified volume of wood for the next 3 years. There are no upper level plans to provide a context for the IWSP, and it is our understanding that the Interim Wood Supply Plan is meant to be as non-contentious as possible. Therefore we strongly recommend that the current guidelines in the Timber Harvest Planning and Operating Guidebook be followed. Changes to the Guidebook would require a full technical review and the opportunity for full and informed public discussion. Our recommendations below are based on the Guidebook.

Good Features of the Proposed Plan So Far:

- It is appropriate that the West Rancheria blocks are no longer being considered for Interim Wood, since they are within the winter range of the Little Rancheria Caribou Herd.
- We agree that a Forest Ecosystem Network is necessary to protect the high ecological values of lowland/riparian forests.
- The concept of a set-aside that is similar to the area being logged is an excellent one.
- We appreciate the KFRSC acknowledging that there are potential problems/conflicts associated with blocks C5, 9 and 12, and therefore deferring these blocks for more technical review. In our response we are nonetheless making comments on the deferred blocks, to help speed the future review process, and to deal with potential cumulative impacts.
- The KFRSC recommendation to permanently withdraw all of the proposed Year 2 and 3 blocks from the west and north sides of the Cosh Creek watershed acknowledges the impacts to marten and fisheries that have and will occur, and goes a long way to mitigate these impacts. We request clarification in the Screening Report that this would be a permanent withdrawal.
- The Cosh Creek Cruise Summary provides useful information in a concise format.
- We appreciate the effort that Forest Management Branch made to ensure that KFRSC members and stakeholders could fly and walk the Cosh Creek area. This kind of transparency is very helpful.

Major Concerns about the Proposed Plan:

Problems with the Draft Plan	Why this is a Problem	Recommendations for the Draft Screening Report
Technical Content		
The Site and Harvest Plan tables refer to the Industrial Forest Services (IFS) Report, misnamed the "Interim Wood Supply Plan for FMU's Y02, Y03 and Y09" as a "higher level and other plan".	The IFS Report is NOT a plan. It is a Total Chance Analysis, and as such is simply technical information that contributes to the Interim Wood Supply Plan.	In the absence of a higher-level plan, the forest practices proposed within this interim plan need to follow the practices outlined in the Timber Harvest Planning & Operating Guidebook. (Specific examples will follow.) We understand that the Site and Harvest Plan tables have been provided as background technical information, but erroneous and misleading information needs to be removed in the draft Screening Report.
Timber Harvest Planning and Operating Guidebook (the Guidebook) is not being followed.	Given that: 1) there is no higher level land management plan in the Kaska Traditional Territory, 2) this EA is for short term interim wood, 3) the Cosh Creek watershed seems to be unique in the amount of older upland, high volume forests and 4) the proposed harvest area is not supposed to be contentious, this is not the time to bring in forest management and silvicultural practices that are different from what the existing and recently updated (1999) Guidebook recommends.	Follow the Guidebook. Exceptions are expected in cases when the Interim Wood Supply Committee completes additional research to augment the Guidebook, i.e. protection and maintenance of marten habitat.
The blocks currently proposed for Environmental Review add up to 64,562 cubic metres considerably lower than the high end of the range that the summary report presents (60-80,000 cubic metres).	At this level of review, the proposed volumes should be presented as a single value. Otherwise it is difficult to evaluate the specific impacts to forest values. It is also difficult to propose modifications. As important as the above, a range of volumes may fuel false expectation within the timber industry.	The draft EA Report must clarify the proposed volume of wood to be logged. The volume to be logged cannot be presented as a range, especially when the range is considerably higher than the actual proposed volume.
Only patch cutting is proposed (we do not consider the proposed dispersed retention of 2% to be a significant deviation from the proposed patch-cutting.)	The marten modeling in the Proposed Amendments and Additions Draft paper makes it clear that significant impacts on marten habitat would result even from YTG Environment/Environment Canada's proposed changes to the cutblocks. Marten is an indicator	Selection logging should make up at least part of the harvesting. We recommend maximum 30% removal using uniform and small group selection harvesting with maximum 1 ha openings.

	species for other old forest associated wildlife such as woodpeckers, goshawks and boreal owls, so impacts from the proposed harvesting can be anticipated to affect other species as well. Clearly a more innovative approach is called for. A number of studies indicate that partial cutting systems have far less impacts on marten than patch cutting. "Diameter limit cuts in Maine that left 40 % of the original spruce-fir basal area did not reduce marten densities" (Soutiere 1979). Campbell (1979) reported that harvesting up to 57% of the harvestable trees had little impact on (marten) habitat quality. "Partial harvests that leave 40-50 % of the canopy or 50% of the basal area of forest stands should continue to provide suitable marten habitat" (Spencer et al. 1983, Lofroth and Steventon 1990). However, other studies indicate reduced use of partially harvested areas in winter at 52 – 59% removal. (Fuller and Harrison 2000). One study found that partial harvesting removing 33% of the volume reduced marten numbers by 60%. (Huggard 1991). This indicates that even partial cutting systems may have some impacts. Furthermore, most of the marten studies have been done in different forest types and geographic locations than the southeast Yukon. For these reasons a precautionary approach is required.	
It's not clear that the Kaska First Nation has been formally involved in the identification and observation of cultural sites or issues. The Block Reports state that "To assist with identification of potential cultural sites, crewmembers from the local First Nation community were consulted to assist in all operational field stages of this project."	1) Observations for cultural sites and issues occurred only in the block. 2) If the individuals who were asked to identify cultural sites and issues did not have experience doing this, they may have missed cultural sites and issues. 3) It is not clear what the First Nation crew members' job description was. Were they hired by IFS only to look for cultural sites, or were they busy doing other jobs?	1) Before logging begins, the forest around the blocks should be checked for cultural sites and issues. 2) As part of the Interim Wood Supply Plan, develop a protocol for the situation where a cultural site or issue is discovered during any of the stand activities, i.e. logging, planting etc. 3) Consult with the Traditional Land Stewards to obtain information about cultural sites and concerns.

	4) Were the First Nation crew members mandated by the Kaska First Nation to collect this cultural information, and sign off on it?	
The Block Reports state that: "Marten boxes were found at various points along the Cosh Creek mainline road. While these boxes are old and dilapidated, consultation with the trapper before harvesting will allow him/her to relocate these sets."	This is an absolutely unacceptable statement, which completely contradicts the spirit and intent of the Kaska MOU on Forest Stewardship. Land Stewards are meant to be meaningfully consulted and logging is supposed to occur in a way that enables traditional lifestyles to continue.	Delete this statement from all materials in the draft Screening Report. The absence of a Traditional Knowledge Protocol should not prevent the local Land Steward from being consulted by the KFRSC. His needs and views can be incorporated into the Interim Wood Supply Plan through the KFRSC's recommendations without disclosing proprietary of confidential information. This needs to happen immediately, if it has not occurred already.
The proposed rotation is 80-100 years.	The data shows that the average age of the trees in the blocks that are proposed for logging is 140 years plan (Blocks C4, C6, C8, C10 and C11). Given that Cosh Creek is a small watershed and that it consists of a large area of older forests, a rotation age of 80-100 years will liquidate the current older forest age classes. Furthermore the plan to manage the trees in future forests to be less than 100 years old contradicts the: 1) principles of the MOU (that plans must be ecosystem-based), 2) goals of the plan (maintain biodiversity) and 3) Forest Values that were chosen (biological diversity, system health, keystone species etc).	1) Increase the rotation length to at least the same age as the oldest trees that are being logged: 196 years (or round up to 200). 2) Recognize that it takes much longer to regenerate the forest than to regenerate the trees. Therefore rotations need to be longer than average tree ages.
That the set-aside is only in place for at least ½ the rotation (40 years).	The set-aside is very important to maintain upland old growth values on the landscape, especially considering that the Cosh Creek watershed is being very hard hit between previous and proposed logging. However, 40 years is not even 1/3 the length of an adequate rotation. The Summary outlines the purposes of the set-aside area: 1) maintain forest values such as marten, moose, trapping, and wilderness, 2) compare and monitor how the forest regenerates after timber harvesting and 3) compare and monitor how wildlife	To be able to compare and monitor the set-aside area with the harvest area, the characteristics of the set-aside area need to be as similar to the harvest area as possible. Duplication will not be possible, but the two areas should be similar in the following ways: 1) size (ha), 2) forest composition, i.e. the area of white spruce, black spruce, pine, fir, mixed forests should be similar between the two areas, 3) the age of the forest, i.e. there should be similar amounts of young, mature, old and very old forests for each of the forest types between the two areas, and 4) relative amount of areas with trees and without trees

	uses the area over time. Comparison of the proposed set-aside and the IWS area show that there are significant differences in size of the area, tree species, age class, etc. (Please see attached Appendix 4.)	(alpine, natural openings, burned areas). Meaningful monitoring of harvest impacts requires that the set-aside area be set aside for at least the length of the rotation; otherwise it is impossible to monitor what the Summary Report has suggested. Furthermore, the area must be set aside a full rotation to maintain old growth upland forest habitats to help compensate for the impacts in the IWS area. The set-aside area should be set aside as a permanent benchmark for assessing the short and long-term differences between natural forest succession and impacts of logging.
The set-aside area is not representative of the area proposed for harvesting	The comments in the third column above explain why the set-aside needs to be representative of the harvest area.	In order to ensure that the set-aside area is representative of the undisturbed forest landscape, and not the current forest landscape, there needs to be a protocol developed to provide a map of the Cosh Creek forests pre-1995. We would be happy to discuss how this could be done.
The map that compares the set-aside area and the proposed harvest area on page 15 of the IWS Plan is not at an appropriate scale. Forest inventory information is not included for the proposed set aside area.	The tables show that the set-aside area is not representative of the proposed harvest area. Without the forest inventory information, it is difficult to propose modifications.	In order to propose modifications to ensure similarity between the set-aside area and the proposed harvest area, we need to have a map that shows the boundaries of the set-aside area and proposed harvest area with forest inventory as a data layer. This map needs to be included in the draft Screening Report.
The marten information provided by YTG Environment and Environment Canada in Appendix 2 and especially in the full Proposed Amendments and Additions draft report is excellent. However, the proposed logging does not take into account the thresholds for removal that are indicated by the report.	The marten modeling clearly indicates that even with modifications to the proposed blocks, impacts on marten will be high.	Thresholds for removal of forest cover in watersheds with marten habitat need to be explicitly acknowledged and followed in the draft Screening Report.

The marten simulations consider only patch cuts.	For a variety of reasons, we have recommended use of a partial harvest system. We can evaluate the effect of partial harvest on timber supply, but it isn't possible to determine the effect on the quality of female marten home ranges.	For the Environmental Assessment report - the marten information needs to be updated to include modeling of impacts on marten if all or part of the blocks were partially harvested with a maximum 30% removal. . The added benefit of selection systems is a significant reduction in reforestation costs.
The marten report states that concentrating cutblocks is better than dispersing them across the landscape.	This may be true, but there is a threshold beyond which grouped cutblocks have unacceptable impacts on marten.	The Draft Screening Report needs to clarify the acceptable threshold for impacts on female marten home ranges in a watershed. This threshold should be based on the information in the marten report, and discussions with YTG Environment and Environment Canada staff. To be safe, maximum 30 % removal selection logging should be the preferred harvesting method. At minimum no openings should exceed 40 hectares.
There is no map that shows forest inventory data for the blocks within the proposed harvest area.	It is difficult to evaluate the characteristics of the internal and external retention without this data.	Inventory data for the proposed blocks needs to be included in the draft Screening Report.
Judging from the Block Reports the "external retention" is almost all non-merchantable or inoperable.	Inoperable and non-merchantable forest around the outside of cutblocks should not be misnamed "retention". Calling it retention gives a misleading impression of how much of the merchantable forest types are actually being retained.	The term "external retention" should be removed from the site plans, maps and Block Reports unless it is actually merchantable area that has been removed for ecological purposes.
The S4 soil types in blocks C4, C5, C9, C12 are not rated as they are - as high for potential for frost heaving.	Frost heave hazards should be considered, along with potential for compaction and erosion, during the development of the most appropriate silviculture system.	Describe how the potential for frost heave will be mitigated.
The only mitigations for impacts from summer logging are in the Block Reports, and these mitigations are inadequate.	It now appears likely that summer logging will occur, since the season for winter logging this year is almost over. The Site and Harvest Plan tables show that all blocks except C8 have a high risk of soil compaction and erosion. Since Section 2 of the Site and Harvest Plan (Ecology and Site Condition) lumps the v-types together for the block, it will take	Before we can make specific recommendations to mitigate the impacts of summer logging, we need more time to identify those areas most at risk. **It would help if the Draft EA Report reported on Section 2 of the Site and Harvest Plans per v-type (as is done in Section 4)**

	more time to separate out and identify blocks or parts of blocks that may be more at risk for erosion and/or compaction. We simply ran out of time and will make more comments at the draft Screening Report phase.	If summer harvesting occurs, soils should be monitored pre and post harvest, and over the next few years. Selection logging would be preferable for summer harvest.
The Site and Harvest Plans call for site preparation with chain drag or excavator rake if slash levels are excessive.	Soil disturbance should be minimized, as stated in the same section of the Site and Harvest Plan.	Monitor slash levels during harvesting and pile and burn excess. This should not be overdone, as leaving the slash on the block provides important nutrients, shelter for small mammals, and, in the case of pine, potentially a local seed source.
The Site and Harvest Plan calls for "remedial action" if brush or aspen prevent achievement of free growing status. What this remedial action would be is not stated.	Our observations at the site indicate that there is not excessive competition from shrubs and aspen on the previously harvested blocks. Pioneer plants and deciduous trees and shrubs provide important nutrients and shelter for seedlings. Manual brush control is expensive. Chemical brush control has unacceptable environmental impacts, and has never been used commercially in the Yukon. There is no reason to set a precedent now.	If the draft Screening Report contains references to brush control it should explicitly state that it would be manual. The draft Screening Report should also state the conditions under which brush and aspen would be considered 'excessive.'
The Site Plan Maps do not include forest inventory as a layer.	It is difficult to evaluate the representativeness of the internal and external reserves without seeing forest inventory as a layer in the block information.	Provide a forest inventory layer on the site plan maps or, less preferably, extend the v-type boundaries over the top of the proposed external and internal retention.
There is no summary table showing how the seral stage distribution will be changed or has been maintained with the proposed harvest.	Ecosystem-based management requires, among other things, a discussion of how the original seral stage distribution has been maintained or changed with the proposed plan, i.e. we need to ensure that age classes have not changed unacceptably (from an ecological and social perspective). Judging from the table on page 12 of the Summary Report, there are 238 ha. of 130+ year old forest in the IWS area. Judging from the Cruise Summary Report, Blocks C4, 6, 8, 10 and 11 will together harvest 75.5 hectares of the 130+ age class. With the current configuration of the deferred blocks, the total area of 130+ age	Include a summary table that shows: 1) original age class distribution by species. This needs to include the original age-class distribution of the previously harvested blocks. A significant proportion of the previously harvested blocks can be anticipated to have been 130+ years old. a 2) post-harvest age class distribution by species. We understand that the inventory data for the area of the IWS area that is not being proposed for logging may not be as accurate as the ground-truthed area of the proposed blocks. Nonetheless, the fact that it appears that ALL of the oldest age class will be eliminated

	class that would be logged is 240 ha. In other words, if the deferred and current blocks are all harvested as proposed, all of the 130+ age class in the IWS area would be eliminated.	in the IWS area is of great concern. The proposed blocks need to be modified so that the oldest age classes are not logged. Modifications are necessary to reduce the blocks to 40 ha or less – in this process the older age classes should have priority for not being logged. The 130+ age classes are not the highest volume stands, so this should not have undue impacts on harvest volumes.
The ecological and site information data lumps the v-types together.	It is difficult to assess the proposed forestry practices because the ecological limitations of an open pine forest can be quite different from an open white spruce forest. The way that Section 2 of the Site and Harvest Plan presents the information doesn't allow a separation of v-types within a block.	Present the information in Section 2 of the Site and Harvest Plans in the same way as the information is presented in Section 4 of the Site and Harvest plans – with a breakdown of the various v-types in the proposed block.
There is no analysis or description of the original or post-harvest seral stage distribution.	Logging typically targets older stands, and this is certainly the case in the proposed cutblocks. There needs to be a process in place to ensure that the natural distribution of young, mature and old forests is maintained on the landscape and/or that the socially desired forest has been maintained. Both of these goals require that we know the post-harvest distribution of species composition and age class. The benchmark for age class distribution is not the logged landscape (as seems to be the case in this plan - although the table showing the age-class distribution of the proposed wood supply area is not titled).	Show the age-class distribution for the post-harvest and original landscapes.
Fire disturbance is being being used as the template for harvest practices in the Cosh Creek watershed.	After considering the information that IFS collected as part of their site and harvest plans and block reports, the Cosh Creek watershed can be termed as a "complex-upland" ecosystem. There are frequent references to "broken" and "hummocky" terrain. Furthermore, the Proposed Amendments and Additions draft report states that 69% of the patches are less than 50 ha in size, and that "site visits show that the complex terrain and mix of tree species is typical of Complex	Follow the recommendations in the Guidebook for complex upland forest ecosystems. The maximum block size for patch-cuts is 40 ha, with a minimum retention level of 15% for blocks larger than 10 ha. Recommended partial harvest systems include: 1) a selection system with a minimum of 70% retention, and 2) group, strip and uniform shelterwood systems with retention varying from 50-85%.

	Upland, not Simple Upland forests." The Guidebook states that complex upland forests may be very important for upland biodiversity. The Guidebook includes recommendations for appropriate silviculture systems to use in areas where the surficial geology and ecosystems are complex.	Please see Appendix 1of this review for specific details of the silviculture systems we are recommending for the Cosh Creek harvesting area.
Currently none of the proposed blocks has 15% retention.	The Guidelines recommend a minimum of 15% retention in all complex upland patch-cuts larger than 10 ha. The recommended retention is important for ecological processes, i.e. nutrient cycling, small mammal habitat, future regeneration of trees and mycorrhizal fungi, to reduce line-of-sight, to reduce visual impact of the logging.	Follow Table 3 of the Timber Harvest Planning & Operating Guidebook. In implementing Table 3, opening size must include all proposed blocks that are adjacent to each other as well as blocks that are adjacent to existing blocks.
The effective size of the openings must include proposed blocks that are adjacent to each other as well as proposed blocks that are adjacent to existing blocks.	It is difficult to plan retention levels as well as opening sizes without knowing the effective size of the proposed blocks.	The table on page 26 of the Summary Report needs to be updated to include the proposed blocks that are adjacent to each other. This table also needs a column to add up columns 2 and 3 to give a total effective opening size. Please see our Appendix 2.
It is very good that in most cases, the proposed blocks do not propose harvesting in the Riparian Management Zone. However, the Riparian Management Guidelines in the Guidebook are not being followed in the cases where harvesting areas are proposed to overlap the RMZ.	The Yukon Government Fisheries Recommendations (page 2 of Appendix 3) include a reference to the Riparian Management Guidelines in the Guidebook as mitigating for point source impacts on fish. Our comments above describe why the Guidelines given in the Timber Harvest Planning & Operating Guidebook should be followed for this plan, i.e. 1) there is no higher level land management plan in the Kaska Traditional Territory, 2) this area is for short term interim wood, 3) the Cosh Creek watershed seems to be unique in the amount of older upland forests and high volumes and 4) the proposed harvest area is not supposed to be contentious. This is not the time to bring in other forest management and silvicultural practices that are different from what the already existing and recently updated	Follow the Riparian Management Guidelines in the Guidebook. The Guidelines state that if logging is to occur in the Riparian Management Zone a plan must be submitted to show how the integrity of the RMZ will be maintained, that windthrow is addressed, that wildlife attributes are identified and protected, and that visual screening is maintained. The 2-3% dispersed retention proposed for the cutblocks does not satisfy any of these criteria. To satisfy these criteria any logging in the RMZ should be partial cutting systems.

	(1999) Timber Harvest & Operating Ground Rules recommend.	
The target for dispersed retention is 2 - 3%.	Much of this dispersed retention is likely to fall down. There is an ecological benefit to fallen trees, however, since the dispersed retention was to mitigate for visual impacts, fallen trees do not provide a reduction in visual impact.	Develop a long-term mitigation to lessen the visual impact of the proposed logging, e.g., incorporating more partial cutting systems.
Not clear whether the 2-3% merchantable dispersed retention "*must*" be dominants/co-dominants, largest diameter, mostly of good form and vigor (as stated in Site and Harvest Plan) or whether "*preferably"* large, mature, windfirm trees" will be left as stated in the Block Reports.	If leaving large, healthy trees and some of the largest diameters is not a definite requirement it may not happen.	State that the qualities of the leave trees are a requirement, not a preference.
The east side of the Cosh Creek watershed has minimal landscape connectivity.	One of the principles that the Kaska Forest Resources Stewardship Council operates from is an ecosystem-based approach to planning. This principle is reflected in the goals and values of the Summary Report (page 4). Connectivity through and within the Cosh Creek watershed is key to meeting the goals of the plan.	Add the proposed external reserves (very little of which appear to be operable and merchantable as per the Block Reports) to the Forest Ecosystem Network. Add additional landscape connectivity where necessary.
Wildlife habitat is not adequately protected and maintained in the Plan.	The maintenance of biological diversity is a stated goal of the plan, but this goal has not been addressed in the proposed silvicultural practices from an ecosystem-based perspective. For example, Section 8 of the Site and Harvest Plan (Stand Management Objectives) states that the Forest Ecosystem Network and external reserves will provide interior forest habitats for late seral species and that internal retention will provide for early seral stages. This simple accounting of the habitat needs of early and late seral species does not account for the real habitat needs of early and late seral species. For example – yes, marten need forests with lots of structure (typically older forests), but they also have thresholds for the amount of openings and forest cover over the rest of the managed landscape.	Define the habitat needs of the relevant species. Incorporate these needs into the proposed landscape and stand level management

The duration and details of the Forest Ecosystem Network are not stated.	The Forest Ecosystem Network (along with the "external reserves") is expected to provide interior forest habitat habitats for species dependent on late seral stages e.g. see page 3 of the Site and Harvest Plan for Block C4.	The Timber Harvest Planning & Operating Guidebook (page 15) details that a minimum stand width of 600 metres is required for providing forest interior attributes. This should be considered and the Forest Ecosystem Network (with the inclusion of the "external reserves") augmented to improve landscape connectivity that includes interior forest conditions. We have considered landscape connectivity in our recommendations of which parts of the proposed blocks should be deleted due to maximum recommended opening sized being exceeded (Appendix 1of our review). To fulfill it's role in this Plan, the Forest Ecosystem Network must be in place for at least the length of the ecological rotation of the Cosh Creek watershed. (190 years.)
Fragmentation has been increased by proposing blocks that are adjacent to existing cutblocks.	Fragmentation reduces landscape connectivity. This connectivity is critical to maintaining wildlife habitat and ecological processes	To maintain landscape connectivity, the planning process must begin with the identification of which areas within the planning area, and within the logging area, that will be protected from logging or other development. Please see our attached comments on fragmentation. (Our Appendix 5.) The IFS report drastically misrepresents the causes and solutions to fragmentation.
There are very few landscape considerations in the plan.	Ecosystem-based management occurs at all scales. Ecosystem-based Stand level practices should be nested within landscape level practices.	Use the external reserves and additional reserves to build on the landscape benefits of the Forest Ecosystem Network
Process Related Issues		
The simulated effects of the existing and proposed logging on female marten home ranges are not presented in a clear way (Columns 3 and 4 of Table	It is unclear which of the terms used (proposed modified? option 1? option 2?) refers to the blocks proposed in the Summary Report of the KFRSC Interim Wood Supply Recommendations. We think that	Tables and maps are required showing: - Modeling of impacts on marten from the existing blocks. - Modeling of impacts on

2a, 2b and Maps 2 and 3).	none of the columns and maps reflects the currently proposed blocks, since the proposed blocks at the time this report was written still included the blocks that are now deferred, and they were larger and had different configurations. We need this clarified in order to evaluate the effects of the proposed logging on marten home ranges.	marten from the existing and currently proposed blocks. - Modeling of impacts to marten from modifications to the currently proposed blocks that are suggested as input to the EA process, including recommendations from YTG Environment and Environment Canada and YCS. (e.g. selection logging with maximum 30% removal instead of clear cutting within the boundaries of the currently proposed blocks.) - A map of the impacts of currently proposed and deferred cutblocks should also be included to give an indication of potential cumulative impacts of the deferred blocks.
The tables and diagrams in the Summary Report need to be titled and numbered.	It is very difficult to refer back to the plan when the tables aren't titled.	Ensure that tables and diagrams are clearly presented with a title and a number.
Block and Landing information is not included in Section 8 of the Site and Harvest Plan.	The Block Report references roads and landings that don't have an area (ha) associated with them in Section 8 of the Site and Harvest Plan.	Include the area of blocks and landings in Section 8 of the Site and Harvest Plan.
There are a number of inaccuracies in maps provided for the Project Description.	We have been told that the Site Plan maps are accurate for all information except the block configurations, internal retention and block and retention sizes. However, this was only clarified to us because we asked.	The maps need to be consistent and accurate.
The map of C8 provided with the summary report shows a 4.067 brown area labeled "riparian". The Site Map does not. Part of this section of the block is in the RMZ.	Because this block has riparian areas almost all around it, the RMZ should receive special consideration.	At least half of the 4.067 ha area should be excluded from logging because it is in the RMZ.
The Block Summary for C11states that the RMZ has been excluded, but the map doesn't show this.	It is not possible to assess the project if we don't know what is actually being proposed.	Maps and text must be consistent. The RMZ in C11 should be excluded on the map as well as in the text.
We were not provided with all of the information required when we received the Summary Report and supporting documents. We	Our review of the package was delayed and hampered several times while we requested and waited for information.	The Draft Screening Report needs to provide all necessary information, including: - hard copies of maps which

were not provided with hard copies of the site plan maps, although we had specifically requested that all maps be provided in hard copy since many organizations and individuals do not have the capacity to print out maps. Forest Management Branch has still not been able to provide us with some information – i.e. a map of the set-aside and proposed harvest area showing forest inventory. The Site Plan maps that we eventually received are inconsistent with the maps provided by the KFRSC. We understand that the KFRSC maps are the most current, but we had to use the outdated Site Plan maps to review information like "External Reserves", roads and landings.		accurately show all the site plan information, block sizes, retention patch sizes, forest cover types, the FEN, roads, landings, riparian buffers and riparian management zones and merchantable forests both within and around proposed cutblocks. - Accurate and up to date Site and Harvest Plan tables and Block reports, or summaries that provide the same information for the currently proposed blocks. This information must not include references to the IFS report as a 'higher level plan", and the mandate and direction given to First Nation crew members must be clearly stated. - Maps and tables showing the total size of proposed and existing blocks that are contiguous. - Tables comparing age class distribution in hectares and percentages, before and after proposed logging. - Modeling of impacts on marten from the existing and currently proposed blocks. - Modeling of impacts to marten from modifications to the blocks that are suggested as input to the EA process (e.g. selection logging with maximum 30% removal instead of clear cutting within the boundaries of the currently proposed blocks. - A copy of the report: Interim Wood Supply for the SE Yukon, Proposed Amendments and Additions Draft Nov. 30, 2003, with clarification of which blocks the modeling in that report is based

		upon. - All tables and maps need to be labeled and numbered. - Tables must be provided that show the impacts of various scenarios suggested as part of the review, on the wood supply volume.
The Industrial Forest Services Report is still being circulated under the title " The Interim Wood Supply Plan For FMU's Y02, Y03, and Y09 in the Kaska Traditional Territory."	The IFS report is NOT the Interim Wood Supply Plan. The IFS report identifies more than 2 million cubic meters of wood, with many proposed clear cuts exceeding 400 ha. It is erroneous and misleading to continue to circulate this document with the current cover page.	If the IFS report is used for anything in the future, and particularly if it is referred to or circulated as part of the draft Screening Report, it must be clearly labeled as a Total Chance Analysis not a plan that has the consensus of the Technical Team or the KFRSC.
The cover letter that accompanies the Project Description and Summary Report contains a number of inaccuracies. The grammar in the first paragraph makes it almost impossible to decipher, however, in this paragraph Mr. Miltenberger calls the IFS report the "Interim Wood Supply Plan". He also states that the interagency technical committee developed consensus recommendations under a contract administered by YTG – namely the IFS report. Any consensus that the technical committee reached was not about the IFS report, which caused a great deal of disagreement within the committee. Within the technical committee there is strong disagreement over IFS' claim that logging emulates fire, and that large clear cuts reduce fragmentation. There was also considerable disagreement within the Technical Committee whether block sizes should exceed the Guidebook. We were explicitly told this by representatives of the	It is inaccurate and misleading to claim that there is consensus within the technical committee regarding the value and accuracy of the IFS report. The IFS report was commissioned by Forest Management Branch and contains many controversial claims and proposals.	In the draft Screening report, clarify that there is disagreement about the IFS report, that it was not commissioned by the KFRSC, and that it is NOT and has never been the Interim Wood Supply plan. Clarify also that the KFRSC's recommendations are NOT in response to the IFS report. They are in response to the recommendations of the technical committee.

committee at a meeting attended by Myles Thorp and Mike Connor.		
Mr. Miltenberger's cover letter to the Project Description directs reviewers not to consider any of the KFRSC's recommendations except 2, 11, 13 and 14, and states that for the purposes of this EA Forest Management Branch will only consider these four recommendations. This is inappropriate.	In order to determine cumulative impacts, issues outside of the current blocks need to be considered. For example, since there will be economic arguments to keep block sizes large and volumes high. Therefore issues like other areas where wood will be available for harvest and making the same blocks available next fiscal year rather than laying out new ones are relevant.	In the draft Screening Report do not direct reviewers to only consider the proposed blocks in isolation.
The cover letter to the Project Description does not call the current package the Project Description, does not describe how our review of the Project Description fits into the EA process, nor inform reviewers about the steps that will follow.	The steps need to be clear to reviewers so that we know how our comments will be used, and what future options for input will be.	In the cover letter to the draft Screening Report outline what has happened to date, and next steps, e.g.: - Project Description circulated - Input about Project incorporated into draft Screening Report. - Draft Screening report circulated for 2 weeks. - Final Screening Report.
The Forest Management Branch staff on the technical committee have made very clear their bias toward large clear cuts and maximum volumes.	YCS does not have confidence that Forest Management Branch staff has the ability to conduct this Environmental Assessment in an unbiased manner.	We recommend that Environmental Assessment Branch (ECO) take over this Environmental Assessment at this time.

Yukon
Community Services
Protective Services
Wildland Fire Management
Box 2703
Whitehorse, YT Y1A 2C6

2004-01-12

Robin Sharples
Environmental Assessment Coordinator
Forest Management Branch
Energy, Mines and Resources

Re: Interim Wood Supply Plan – Kaska Yukon Traditional Territory

Thank you for the opportunity to provide comments to the wildland fire management component of the Interim Wood Supply Plan. We appreciate the chance to partner with you by providing input to this plan and establishing the linkage between forest harvesting and wild fire management. Hopefully our comments further substantiate the need for forest management overall while at the same time ensuring a mechanism for incorporating the Protective Services, fire management expertise at the earliest planning stages. We also welcome the opportunity to work with you in developing a more comprehensive fire management plan as indicated in the document.

From an overview perspective, harvesting complimented by silviculture and/or fuel abatement post harvest treatments, is a legitimate management tool to reduce fire hazard. This is particularly important and beneficial in areas where wildland fire would threaten communities, infrastructure, or other values. Most timber harvesting interests target mature or over-mature forests where the risk of major fires are usually elevated and processes to reduce the risk, such as harvesting are beneficial. Age class profiles show most of the forest under consideration for harvesting is in the 80-130 year age class, likely the result of major, stand renewing fire activity of the period. It would be presumptuous to believe that the fire environment conditions that produced the current age class distribution could not occur again. A general principle of fire disturbance in the boreal forest is that the longer it has been since the last disturbance the closer it is to the next. This would suggest that this forested area is in a fuel state of extreme risk for large, stand renewing fires as described in the Fire Management Issue Analysis - Southeast Yukon (Ember 2003).

With the exception of the Watson Lake Planning Unit all other planning units fall outside of the Critical Fire Management Zone. In accordance with the Fire Management Zone Directive (attached) this places these units in locations of diminished fire suppression priority as well as diminishing fire suppression effectiveness (Ember 2003). This effectively increases the risk of large-scale wildland fires in these areas unless there is a change of policy complimented with additional resources and effective fuel management programmes (Ember 2003). Even then, uncontrollable wildfires are a distinct probability. A full fire exclusion policy for commercial forest areas would be problematic and expensive. Such a consideration needs to be addressed

upfront in any long term harvesting strategy as recommended in the Yukon Forest Fire Policy Study (Smith *et al* 1997).

A strategic perspective should be provided incorporating harvest strategies that reflect consideration for short-term and long-term fire management objectives. Such a plan should provide detail on all components from the pre-harvest assessment, detailed planning, fuel management strategy including mitigating measures, preparedness to monitoring and follow-up.

The section on pre-harvest assessment (5.4.1) makes some mention of this but does not provide sufficient detail for planning or developing detailed cost projections. In this respect, the Harvest Economics (Appendix 2) does not appear to include any associated costs for the Fire Control Section 5.4.1.

Regarding the issues under Fire Control (section 5.4.1, pg 29) some further comments include:

- **Prescribed burning**
  Wildland fire management does not have the capacity, at present, to undertake this component of the plan. The statement needs to be supported with specifics on how this will be accomplished with special attention to how and who pays.

- **Distribute slash**
  Insufficient detail upon which to base an informed comment.

- **High risk stands for "fire-proofing"**
  Good suggestion and should certainly be considered when planning but again recognizing practical and economic limitations.

- **Planting**
  No advantage if we stick with the traditional conifer species....preferably mechanisms to encourage deciduous species including ground disturbance may be a viable option.

- **Fire Preparedness plan for all active operating areas**
  This recommendation is a necessity first at the landscape level and then at the operating level but, as indicated above, should be developed prior to finalizing harvest blocks to ensure a fire management strategy is considered right from the beginning. Procedures and policy on resources and costs to implement need to be considered.

Additional specific points:

- Lack of temporal and spatial information supporting declining burn rate over the last 100 years (pg.6). It may not be declining as much as low but ready to burn again...."Declining" should be supported if this is correct.

- Fire risk cannot be stated as completely positive through harvesting (pg.7). In fact, at least in the short term, there is concern that fire hazard conditions have generally increased and in the

long term concern of increased fire incidence through improved access with more human caused starts (Ember 2003).

- Plans for no harvest in Riparian or Lowland may not support a comprehensive fire management plan and also cause some fuel loading concerns in the absence of other proposed treatments. Eventually, as forests are dynamic, there will be disturbance and change. This natural process has the potential to be more dangerous than if the forest is properly managed considering all values and risks including wildfire.

- Pg. 21 actually suggests fire management for the FEN network which supports our concern. Perhaps through proper planning some stats could be developed as opposed to simply leaving this unresolved.

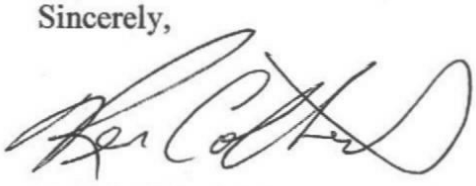
- Landscape strategies to reduce fire hazard to communities and other values certainly tie in with variable patch size and we view this strategy, provided it is tied to a comprehensive fire management plan, as superior to past isolated small patch cuts (Hirsch *et al* 2001).

- Pg. 19 states the potential for catastrophic events must not be allowed to occur from forest management itself yet there is little evidence showing a strategy or plan to reduce this possibility....again some comprehensive plan. In fairness the plan to leave deciduous species and stands is a good step in this direction.

- Pg.23 indicates no harvest of old growth forest. This is not supported as a generalization but suggest these stands should be systematically reviewed with fire hazard reduction as a principal consideration. Old growth in the Yukon has certain physiological limitations and should not be confused with old-growth forest in coastal BC or other similar areas.

In summary, fire management planning and forest management planning are inseparably linked. One cannot take place or achieve success in the absence of the other and the need to collaborate could not be more evident. In effect it is obvious we need to continue to work together to rationalize forest management planning tied to natural processes while reducing fire hazard at both the landscape and stand level. This is a good step in this direction and much appreciated.

Sincerely,



Ken Colbert, RPF
Head, wildfire Management

c Dan Boyd, Director Protective Services

References:

A Guide on Biodiversity and Environmental Assessment. 1996. Minister of Supply and Services Canada. ISBN: 0-662-24598-9. Cat. No.: EN106-33/1996E

Ember Research Services Ltd. 2003. Fire management issue analysis southeast Yukon. Final report prepared for YTG. Protective Services.

Heinselman, M. L. 1971. The natural role of fire in northern conifer forests. Proceedings – Fire in the Northern Environment – A Symposium. Fairbanks, Alaska.

Hirsch, K. G., V. Kafka, C. Tymstra, R. McAlpine, B. Hawkes, H. Stegehuis, S. Quintillio, S. Gauthier, K. Peck. 2001. Fire-smart forest management: a pragmatic approach to sustainable forest management in fire-dominated ecosystems. For Chron. 77(2): 357-363.

Johnson, E. A. 1992. Fire and vegetation dynamics: Studies from the North American boreal forest, Cambridge Univ. Press, New York.

Smith, C.B and J.F Goodman, J.E. Benson, D. Loeks. 1997. Yukon forest fire policy study. Prepared for the federal Department of Indian Affairs and Northern Development.
Taylor, N.W. 1999. Senate subcommittee on the boreal forest . Competing realities: the boreal forest at risk. http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/bore-e/rep-e/rep09jun99-e.htm

Viereck, L. A. 1983. The effects of fire in black spruce ecosystems of Alaska and northern Canada. The role of fire in northern circumpolar ecosystems. John Wiley and Sons Ltd. pp 201-220.

Yukon
Environment
Box 2703, Whitehorse, Yukon Y1A 2C6

23 January, 2004

Robin Sharples
Environmental Assessment Coordinator
Forest Management Branch
Whitehorse, Yukon

RE: Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09

Thank you for providing the environmental assessment information on the Interim Wood Supply Plan (IWSP).

Our department has been working on the wood supply project through the technical committee and, most recently, the Kaska Forest Resources Stewardship Council.

On January 21 and 22, 2004, the Kaska Forest Resources Stewardship Council considered the above wood supply plans. It is our understanding that they will be forwarding a revised IWS Plan with supporting recommendations to you.

Our department supports Council's IWSP and recommendation. We remain optimistic that the Council's recommendations will address the potential environmental impacts.

If you require additional information or clarification on any aspect of the above, please do not hesitate to call me at 667-5409.

Yours truly,

Jon Bowen
Manager, Environmental Affairs

cc. Kent Jingfors - Director Fish and Wildlife
Joe Ballantyne - Director Environmental Programs
Jan Adamczewski - Regional Biologist

\\cricket\corp\EPA\Env. Affairs\Ken\Projects - timber\InterimWoodSupply-EA.doc

EAU comments on the IWS Draft Report January 9th, 2004

The following comments are provided by the Environmental Assessment Unit (ECO) in review of the document entitled "Interim Wood Supply Plan for Forest Management Units Y02, Y03, and Y09 in the Kaska Yukon Traditional Territory". Forest Management Branch should be commended for their efforts towards ensuring effective integrated resource management in the South-East Yukon. This review has been carried out with the understanding that the document is a potential draft of the plan the Forest Stewardship Council will modify or sign-off on, and upon which an environmental assessment will have to be completed prior to finalization.

- Page 6/7 - Natural Disturbance Mimicry

Substituting harvesting for fire is a bit simplistic. The suggestion made indirectly is that we manage the forest by harvesting where wildfire is not managed thereby maximizing benefits from harvesting. Obviously there is some truth in this but natural ignition and uncontrolled burns can occur even if areas are harvested and fuel loading is reduced.

- Page 7/8 - Adaptive Management

The basis for accepting adaptive management in EA is that the outcome of the project will not have adverse environmental effects at the end of the day, and that although the exact path to get there isn't 100% certain, through an adaptive program of activity, mitigation, monitoring, and resultant adaptive actions there is confidence it can be achieved. The 3 principles are a good start but the desired outcome is not mentioned though they are eluded to elsewhere (ie page 2 in the CCFM's 6 broad criteria for Sustainable Forest Management, Natural Disturbance Mimicry page 6, etc). How will phases of adaptive management for the interim wood supply be timed such that irreversible changes will not already have occurred once the blocks and associated infrastructure have been allocated and cut?

- Page 9 - NDZ 2

There is a suggestion in this paragraph that there are exceptions that would allow harvesting if large river valleys with extensive operable forests. Do areas as described occur in the operating areas and if so, to what extent will they be harvested?

- Page 13/14 - certain focal species can benefit...from timber harvesting (such as)....potentially caribou (responding to increasing lichen cover when a dense tree canopy is opened up).

It is largely an over-simplified assumption that the removal of dense vegetation will promote lichen growth. Terrestrial lichen is associated almost exclusively with well-drained low-nutrient glaciofluvial sites where little vegetation exists in the understorey to compete for resources. If a dense canopy is opened, there will in all likelihood occur a vegetative flush on-site within the first few years. Unless evidence of previous existance or lichen on site (indicating favourable growth conditions), the lichen, which can take decades to become established on-site, would be neither well-suited nor adequately competitive to grow under resultant conditions.

- Page 16 - High-value caribou habitat

High-value caribou habitat is extensive on both sides of the Liard River immediately south of the town of Watson Lake (footnote: These areas have since been included in the Watson Lake Planning unit).

If LR caribou winter range habitat has been included into a planning unit with the intention to harvest within the range, harvesting should follow the criteria and established thresholds as developed in the Little Rancheria Caribou Management Plan.

- Page 14-17 - Wildlife

Wildlife occurrences in respective planning units should be based upon expert knowledge and input from regional biologists. Section 4.3.1 identifies these values and occurrences at a coarse level but should be refined and/or back-checked by a regional biologist at the site level. Anecdotal sightings (or lack thereof) based upon a sampling characterization of limited depth has a place but should be accepted as being limited in nature and should therefore be used appropriately ie. not as a planning tool but rather as support to such a process. Since species use of habitat is often seasonally and even weather dependent I have trouble interpreting this.

- Page 17/18 - Visual Resource Values

There are references to accompanying maps but we haven't received them (even on the cd).

- Page 19 - Cultural Resources

Cultural resources are more than those valued by one sector of the population as suggested in the first sentence, although resources valued by First Nation people are of obvious concern. The specific expertise required probably depends on the nature of the resource but if the resource is of a concern to the FN the expert team should consist of a FN representative at least.

The Department of Heritage is the expert department that should be contacted re. the potential occurrence of archaeological resources.

- Page 20-21 - Management Zonation (ie. IRMZ-U, IRMZ-D, FEN, Alternate Use Zone)

This form of delineation which recognizes the value of ecosystem components alongside timber value is a step forward for forest planning in the Yukon for which Forest Management Branch should be commended. The incorporation of a Forest Ecosystem Network Zone demonstrates a commitment to integrated resource management & ecosystem process consideration. The link between these zones and the NDZ's on page 8 is not entirely clear.

- Page 22 – The Fen (Amphibians at Landscape Scale)

Need to be careful suggesting "expansion of their species". Does this mean all species must expand? - pretty crowded landscape in time!

- Page 35 - Recommendations for Implementing this Plan

Recommendations should be replaced with clearly defined tasks in the final screening report.

General Comments:

1. There should be some mention of the overall strategic goal for the areas being targeted for the Interim Wood Supply, namely the intention with regards to promoting sustainable forestry in the area, or to harvest extensively now and then concentrate elsewhere in the future. How will activity in this area be reflected in the TSA for the rest of the Yukon ie. has the area been excluded from calculation (poor) or has it been included in the overall exercise for determining sustainable cut on the landscape (good).

2. The provided maps should avoid the extensive use of acronyms, and some explanation should be attached to certain terms (RRZ, RMZ – different from IRMZ, POC/POT Markers, SP Plots – is this PSP's?).

Thank you for the opportunity to review the document. Should you have any questions regarding these comments, please do not hesitate to contact our office.

Ryan

_____

Ryan Parry
Environmental Assessment Officer
Environmental Assessment Unit (ECO)
456-3876

I.F.S. Site and Harvest Plans: East Hyland
Silviculture Section Comments
January 8, 2004

General

1. Debris Disposal (on all blocks)
   It is our recommendation that the permit holders are required to pile and burn logging slash on all blocks. This was a common practice in the past and should be continued especially in the higher elevation blocks where slash loading was a problem in the past.

2. Regen delay.
   We have found that, except for extremely brushy areas, it is a good practice to leave the sites for between 1-2 full years prior to raw planting to allow both slash and moss to compress.

3. Regen Surveys
   I.F.S. has indicated that early stocking surveys will take place five years after harvest and late performance surveys ten years after harvest. We have found that early and late surveys should take place 5 and 10 years, respectively, following treatment. There is no point is planning a survey 2-3 years after treatment, in most cases the seedlings have not grown enough to pass the height requirement in our regeneration standards. I suggest changing the nomenclature on the site & harvest plan forms from "H+5" to "T+5".

4. Stock size
   Experience has shown us that 415 stock (i.e. root plug length of 15 cm) are too long for the cold soils that commonly occur in Yukon. The bottom few centimeters of the root plug rot in the cold soil. FMB, silviculture section has therefore gone to a 410 plug for both 1+0 and 2+0 stock. If the need arose for larger stock we would prescribe 412 stock.

5. Site Preparation
   The ability to undertake either site preparation or scarification may be limited by the amount and distribution of residual trees left on the block.

Block C4 (2 SIS blocks)

- see general comments concerning debris disposal, survey years, site preparation and stock size.
- stock type for both V-types – 410, if brush is a problem, plant 412 stock.
- concur that if brush is a problem planting should take place within two years following harvest.
- the new reserve may result in this block being given two separate SIS block numbers
- preferred species in V9 stands should be Sw and Pl; F would be acceptable. We have found that fir comes back through layering and from seed.

Block C5 (6 SIS blocks)

- see general comments concerning site preparation, debris disposal, survey years and stock size
- plan calls for planting 2+0 310 pine and spruce. This is probably a typing error, and should be 410 stock. 310 2 year old stock would have root bound plugs.
- preferred species in V9 stands should be Sw and Pl; F would be acceptable. We have found that fir comes back through layering and from seed.
- in these higher elevation blocks, we may look at adding Sb to the mixture of seedlings, especially on wetter sites.
- this block will have 6 SIS block numbers because of new reserves and spacing of old blocks

Block C6 (5 SIS blocks)

- see general comments concerning site preparation, debris disposal, survey years and stock size
- 410 stock type for all V-types, should brush present a problem, plant 412.
- preferred species in V16 stands should be Sw and Pl; move fir to acceptable column. We have found that fir comes back through layering and from seed.
- this block will have 5 SIS block numbers because of new reserves, spacing of old blocks and road location

Block C8 (1 SIS block)

- see general comments concerning site preparation, debris disposal, survey years and stock size
- stock type for both V types – 410 preferred species in V9 stands should be Sw and Pl; F would be acceptable. We have found that fir comes back through layering and from seed.
- in these higher elevation blocks, we may look at adding Sb to the mixture of seedlings, especially on wetter sites. Therefore also list Sb in acceptable column.
- because this is primarily a north facing block, it is unlikely that scarification alone will achieve stocking standards, so planting will be required

Block C9 (1 SIS block)

- see general comments concerning site preparation, debris disposal, survey years and stock size
- stock type for both V-types – 410
- because of high proportion of fir in over storey, brush disposal will be especially important. Post harvest inspection may indicate that this site is left for at least three years to allow time for moss and ground debris time to settle before planting. As well, this site may require debris disposal over and above what the permit holder is required to do as part of block clean-up.
- preferred species in V16 stands should be Sw and Pl; move fir to acceptable column. We have found that fir comes back through layering and from seed.

- In these higher elevation blocks, we may look at adding Sb to the mixture of seedlings, especially on wet or shaded areas. Therefore, also add Sb to acceptable species column.

Block C10 (2 SIS blocks)

- see general comments concerning site preparation, debris disposal, survey years and stock size
- stock type for both V-types – 410
- because of high proportion of fir in over storey, brush disposal will be especially important. Post harvest inspection may indicate that this site is left for at least three years to allow time for moss and ground debris time to settle before planting. As well, this site may require debris disposal over and above what the permit holder is required to do as part of block clean-up.
- preferred species in V16 stands should be Sw and Pl; move fir to acceptable column. We have found that fir comes back through layering and from seed.
- In these higher elevation blocks, we may look at adding Sb to the mixture of seedlings, especially on wet or shaded areas. Therefore also add Sb to acceptable species column.
- this block will have 2 SIS block numbers because of new reserves

Block C11 (1 SIS block)

- see general comments concerning site preparation, debris disposal and survey years
- planting within two years is the preferred option because of brush competition

Block C12 (3 SIS blocks)

- see general comments concerning site preparation, debris disposal and survey years
- planting within two years is the preferred option because of brush competition
- this block will have 3 SIS block numbers because of reserves

Robin.Sharples

From: Robin.Sharples
Sent: Friday, March 26, 2004 8:15 AM
To: Robin.Sharples
Subject: Marg White-Land Use response to IWS

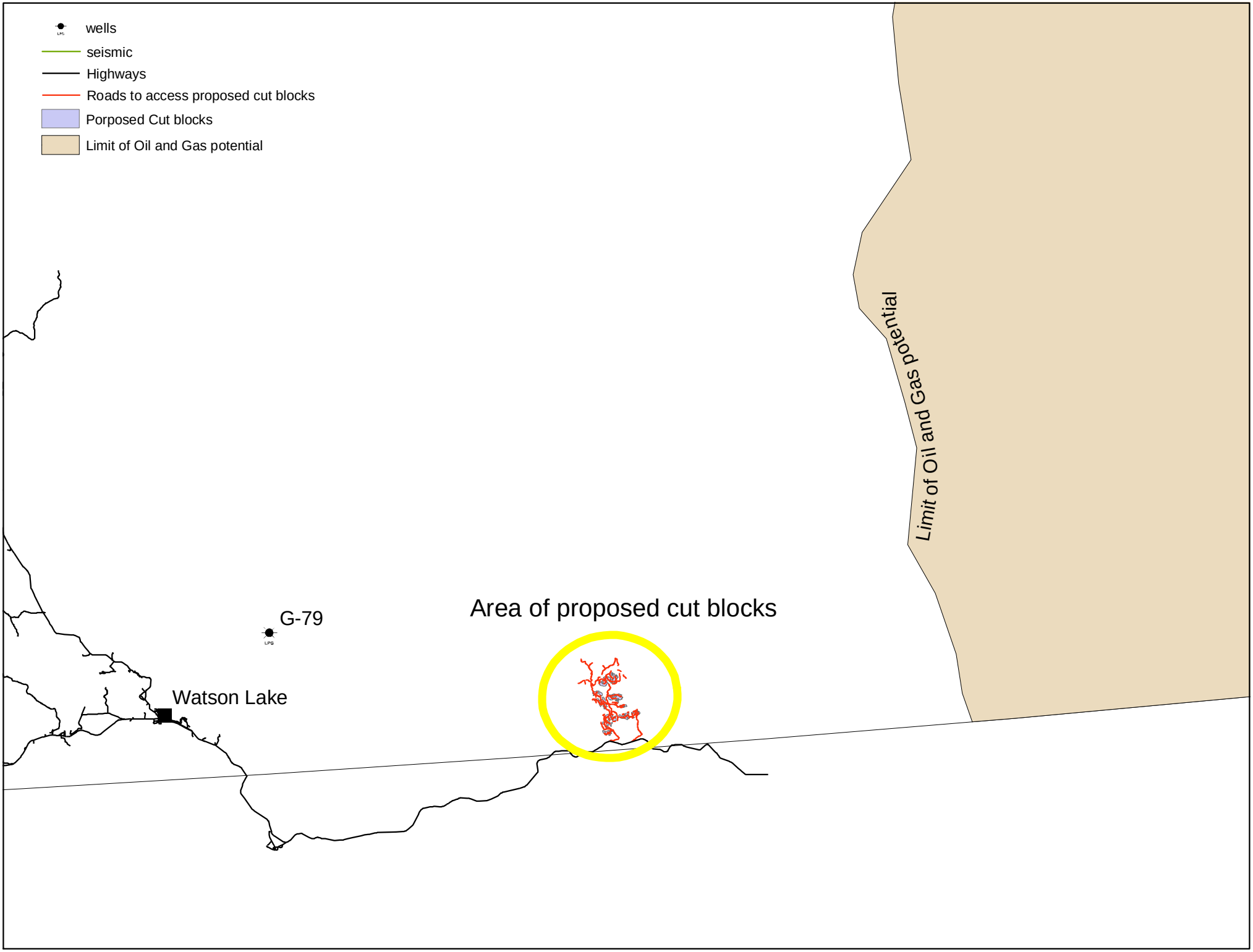
I question the need of a secondary access into block C10 the proposed access crosses a stream.

Marg

From: Kevin.McDonnell
Sent: Wednesday, March 03, 2004 4:03 PM
To: Robin.Sharples
Cc: Elise.Guillemette; Richard.Corbet; John.Masterson
Subject: Interim Wood Supply Plan.

Hi Robin. This is in response to the plan and attachments regarding the Interim Wood supply recommendations. We noted in the cover letter the reference to specific blocks being considered at this time. Our GIS person Elise Guillemette, plotted these blocks against the limit of current known O&G potential and past or current O&G in the area to identify any potential conflicts. As you can see in the attached pdf file of the plot, we did not identify any conflicts. We have noted the locations of these blocks for future reference in the event that there is oil and gas interest in this area in the future. Thanks for giving us an opportunity to comment on this. Please contact me if you have any questions with the above or attachment

Kevin McDonnell
Manager, Regulatory & Environment
Oil and Gas Management Branch.
667-3479


wells
seismic
Highways
Roads to access proposed cut blocks
Porposed Cut blocks
Limit of Oil and Gas potential
Limit of Oil and Gas potential
Area of proposed cut blocks
G-79
Watson Lake