RATIONALE FOR MY DECISION

ON

Cattermole Timber's

2001 to 2005 FOREST DEVELOPMENT PLAN (FDP)
Amendment # 29

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1. My Legal Authority as a Statutory Decision Maker

Section 41(1) of the *Forest Practices Code of British Columbia Act* (*FPC*) provides that a district manager *MUST APPROVE* an operational plan if:

a) *the plan or amendment was prepared and submitted in accordance with the FPC, the regulations and the standards, and*
b) *the district manager is satisfied that the plan or amendment will adequately manage and conserve the* ***forest resources*** *[emphasis added] of the area to which it applies.*

Forest resources are defined in the *FPC* as "resources and values associated with forests and range including, without limitation, timber, water, wildlife, fisheries, recreation, botanical forest products, forage and biological diversity".

The discretion granted to me by section 41(1)(b) is not unlimited. Statutory discretion must be exercised within the boundaries set out in the legislation and by the common law principles of administrative fairness, i.e., I cannot impose additional content requirements on licensees that are outside of the legal requirements.

I considered the ***statutory*** [emphasis added] limit of my discretion by applying the rules of statutory interpretation. This involves a consideration of the context within which the statutory power is granted. A fundamental part of the context I considered is the ***PREAMBLE to the CODE,*** which states:

WHEREAS British Columbians desire sustainable use of the forests they hold in trust for future generations; AND WHEREAS sustainable use includes

a) managing forests to meet present needs without compromising the needs of future generations,
b) providing stewardship of forests based on an ethic of respect for the land,
c) balancing economic, productive, spiritual, ecological and recreational values of forests to meet the economic, social and cultural needs of peoples and communities, including First Nations,
d) conserving biological diversity, soil, water, fish, wildlife, scenic diversity and other forest resources, and
e) restoring damaged ecologies;

As the *FPC* and the *Forest Act* comprise part of the Province's statutory forest management regime, they set the context within which statutory interpretation should be determined. For example, the contractual rights of licensees, as reflected in the terms of their *Forest Act* tenure agreements, form part of the context for decision making. This is not to say that the terms of the tenure agreement can restrict my discretion with respect to evaluating whether or not a proposed plan satisfies the "adequately manage and conserve test". However, the existence of those contractual rights is one factor to be considered as part of balancing the economic, social and environmental values. Also to be considered is the *Ministry of Forests Act*, which sets out the ministry's mandate.

The **common law** rules of administrative fairness, on the other hand, limit the discretion of statutory decision makers by requiring that decisions on whether to approve or not approve a proposed operational plan must be made in a manner that is fair, reasonable, and legally defensible. It is not defensible for statutory decision makers to base statutory decisions on irrelevant considerations, or to exceed their statutory authority. For example, the courts have recently confirmed that statutory decision makers must avoid mixing political issues with their duties as statutory decision makers, and that broad land use decisions should be made by cabinet, unless the power to make them is expressly or by necessary implication, granted to the statutory decision maker in the enabling statute.

Administrative fairness also requires that decisions must not be made arbitrarily. Having an adequate evidentiary basis is a fundamental test for the reasonableness of any statutory decision. Unlike determinations made by the courts with respect to criminal matters, which have to be proved "beyond a reasonable doubt", the standard of proof for FDP approval is the "balance of probabilities". *This means that prior to approving a proposed plan, I must be satisfied that it is more likely than not that the plan satisfies both the 41(1)(a) and 41(1)(b) tests that were explained previously*. The consequence is that prior to not approving a proposed plan, I must be satisfied that it is more likely than not that the plan fails to satisfy one or both of those tests. An adequate evidentiary basis, therefore, is one that has enough weight to tip the balance one way or the other – either toward plan approval or plan non-approval. In weighing the evidence, the statutory decision maker must be unbiased, and must not start with a preconceived presumption either against or in favour of approval of the plan. I must balance what may appear to be conflicting statutory requirements. I did this by weighing the evidence and information related to mandatory content, along with information concerning "other" forest resources.

2. REVIEW AND COMMENT

The 2001-2005 Forest Development Plan Amendment # 29, dated January 16, 2004, was submitted by Cattermole Timber ("proponent") to the Chilliwack Forest District Office.

The plan was advertised and available for review and comment from January 22 to March 22, 2004.

The proposed development is located approximately 23 km southeast of Boston Bar in the Anderson Creek drainage. The Forest Development Plan Amendment ("FDP") is comprised of two blocks:

Block 38-1and 38-2 (partial harvesting with small dispersed openings totalling about 75 ha),

After the review and comment period, the proponent submitted further information, including a copy of written comments received, responses to comments, and a summary of revisions made to the proposed plan. Note the initial submission blocks size was 177 ha and the final submission is 75 ha.

The Chilliwack Forest District Office received some input regarding this plan. Comments on the forest resources applicable to this area are discussed in more detail in subsequent sections of this rationale.

In making this determination, I have considered and taken into account the impact of the FDP on First Nations, and the comments, concerns and recommendations received from individuals, agencies, and stakeholders.

~~1.~~3. FIRST NATIONS

I have considered the following in terms of First Nation's consultation:

The licensee sent a copy of the FDP to the Spuzzum Band , Boothroyd Band, and Boston Bar First Nation and the Nlaka'pamux Nation Tribal Council. The Ministry of Forests sent a referral letters, dated January 28, 2004 to the above. A meeting was held on Feb 18, 2004 with the above Bands, Nation, and Tribal Council. Discussions on revenue sharing in regards to access through the Reserve were mentioned by the Boothroyd First Nation. However access will not be passing through any of the Boothroyd First Nation's Reserves.

During the Feb. 18 meeting, the Spuzzum Band requested a field trip to Block 38-1. A field trip was conducted on June 30, 2004. A number of band members were flown to Blocks 38-1, and 37-1. The licensee explained that the proposed harvesting in Block 38-1 would be similar to Block 37-1. The licensee stated that the band members have no concerns if 38-1 was logged in a similar fashion. No comments were stated by the band members to my staff.

A letter dated January 4, 2005 was sent to Honourable Minister of Forests, Mike de Jong from the Boston Bar First Nation (BB). The BB stated that they are opposed to all logging activity until adequate accommodation is completed. The BB were offered a Forest and Range Agreement in 2004 and are still considering the offer. The BB not provided any site specific aboriginal interests in regards to this amendment.

I believe we have taken adequate steps to consult with first nations. The licensee has addressed all FN comments appropriately. We are now well outside the recommended time period for consultation. I have not been able to attain that specific aboriginal interest exists for the FDP amendment. I can state that any impacts, if any are minor in nature. Since the infringement, if any would be minor in nature, the infringement is justifiable.

~~2.~~4. PLAN REFERRALS

a) Agencies

The licensee referred relevant portions of the FDP to the following agencies:

i) Fraser Valley Regional District (FVRD)
ii) Ministry of Sustainable Resource Management (MSRM)

iii) Department of Fisheries and Oceans (DFO)
iv) Ministry of Forests (MOF)
v) Ministry of Water, Land & Air Protection – Fish, Wildlife, and Habitat (MOE)

Note that for each of the agency's comments, I have summarized the comment, the licensee's response, possibly some clarification of the comment/response, and my conclusion.

i) Fraser Valley Regional District (FVRD)

The FVRD commented that the licensee should contact the Boston Bar First Nation and minimize sediment transport from the cutblocks. The licensee has already contacted the Boston Bar First Nation. In addition the proposed blocks are 60 metres away from the Anderson River at their nearest points and will be harvested using helicopter selection methods. I find that these comments has been adequately address.

ii) Ministry of Forests- Chilliwack Forest District – Tenures Section (MoF),

The Ministry of Forests Tenures Section commented on the amendment in a letter dated March 11, 2004. MoF staff requested clarification on a number of points regarding the amendment. The licensee has provided clarification to most of these points. Further discussions in regards to spotted owl are found below in the Spotted Owl Section.

iii) Ministry of Environment – (MoE)

MOE (Bill Jex) sent an email on January 22, 2004 to the licensee regarding this amendment. MOE comments were mostly in regards to spotted owl. These comments will be discussed below within the Section 5.1 Spotted Owl. One exception was MOE did question if the blocks were outside of the Timber Harvesting Land Base (THLB) then the blocks should not be available for harvesting. However legislation does not restrict blocks to the THLB. Therefore I find MoE's suggestion that blocks are not available for harvest as incorrect.

5. Key Forest Resources and Values

Spotted Owl

The spotted owl was designated as an endangered species in Canada in 1986 by the Committee on the Status of Endangered Wildlife in Canada. In 1995 the British Columbia government announced a broad strategy to develop a plan to manage spotted owls in the province using the Protected Area Strategy, the Forest Practices Code and other land-use and resource management initiatives. In 1997 the provincial government cabinet accepted the Spotted Owl Management Plan (SOMP) after considering several options provided in reports from the Spotted Owl Recovery Team, community leaders, industry and environmental organizations. The goal of the strategy has been stated as "to

achieve a reasonable level of probability that owl populations will stabilize, and possibly improve, over the long term without significant short-term impacts on timber supply and forestry employment." The MoF Chief Forester in his AAC determination for the Fraser Timber Supply Area recognized the importance of the management of the spotted owl as outlined in his AAC determination rationale. MoF, MOE and licensees developed a Resource Management Plan (RMP) under the SOMP for the Anderson Creek Special Resource Management Zone (SRMZ) that received joint acceptance by MoF and MOE in July 1999. The SOMP is a balance between recovering the spotted owl population, social and economic concerns. I consider that government, public and forest industry have recognized and undertaken appropriate management strategies for the spotted owl within the Chilliwack Forest District. Below are my considerations related to spotted owl.

Spotted Owl Detection Information

I have considered the spotted owl detection map information *Spotted Owl Detection Sites*, 1:20,000, Draft, (update of 2002 survey data) maps printed by MOF, April 9, 2003. As well, I have considered the latest detection information from MOE's Jared Hobbs (Refer to MOE's email to my staff). I have also considered the information provided by Conservation Data Center (CDC) and Keystone Wildlife Research Ltd (Keystone). In addition, Ian Blackburn, MOE, also provided a 2003 detection location in his February 24, 2004 email. These detection maps and recent detections provide information on known spotted owl presence in an area.

Block 38-2 final submission is nearby to the detections in 1992 and 1996. Recently Barred Owls have been detected by both MOE (1992, 1998, and 2000) and Keystone (2004) according to Keystone's report. Note there is some opinion that the present of Barred Owls may indicate a lack of Spotted Owl in the area.

No detection overlapped with Block 38-1. The nearest spotted owl detections (1998) are approximately 1 km away in a southeast direction from Block 38-1 on the east side of the drainage.

Spotted Owl Management Plan (SOMP)

Blocks 38-1 and 38-2 are located in a Special Resource Management Zone (SRMZ) for spotted owl. The guiding principles in the management plans for spotted owl and background for the spotted owl management plans are noted briefly below:

The events leading up to the completion of the Spotted Owl Management Plan is quoted from page 2 of the SOMP-Strategic Component, as follows:

> In June of 1995 the B.C. government announced a broad strategy to develop a management plan for spotted owls in the province utilizing the Protected Area Strategy, Forest Practices Code and other land use and resource management initiatives. In arriving at this decision, Cabinet considered the many management options provided in reports by the Spotted Owl Recovery Team, community leaders, industry and environmental organizations. The goal of the strategy was to achieve "a reasonable level of probability that owl populations will stabilise, and possibly improve, over the long term without significant short term impacts on timber supply and forestry employment." The strategy was developed in hopes of bringing stability and long term viability to the spotted owl

population and also removes much of the uncertainty facing the industry over the future of forestry within the range of the owl.

The BC government in 1997 approved the Spotted Owl Management Plan which consists of the Strategic Component and Managing Spotted Owl Habitat – Operational Guidelines Component.

The approval of the SOMP by government is an attempt to balance spotted owl requirements with social and economic concerns. Despite the stabilization of habitat within these conservation areas, the spotted owl population is predicted to decline and has declined over the short term (20 to 30 years) as suitable habitats outside of these areas are harvested. Over the long term, the probability of owl population stabilization and possible improvement under the SOMP is about 60%.

The SOMP outlines key spotted owl management and forest management objectives (SOMP, Strategic Component). I note that the SOMP allows for an opportunity to apply alternative silvicultural systems (i.e. partial harvesting) to create, enhance, or maintain suitable owl habitat in the Long Term Owl Habitat (LTOH) area. This is further outlined in the Resource Management Plan.

The SOMP is not a higher level plan under the FPC, and I am not bound by it. It is a guide for managing the spotted owl in the Chilliwack and Squamish Forest Districts, and provides one important measure against which I can determine whether the FDP adequately manages and conserves the spotted owl.

Resource Management Plan

Resource Management Plans were developed for each Special Resource Management Zone and approved in a letter dated July 23, 1999

Spotted owl management of habitat requirements outline several key resource management plan strategies. Excerpts from these strategies are as outlined below:

> *Strategy # 1* - Maintain a minimum 67% of the gross forested area as suitable owl habitat in each Long-Term Activity Center
>
> *Strategy # 2* - Over the long-term, distribute the 67% suitable owl habitat requirement in large unfragmented patches greater than 500 ha that are connected by movement corridors that are a minimum of 1 km wide.
>
> *Strategy # 3* - Protecting identified nesting and critical roosting sites within each Long-Term Activity Center in each SRMZ by maintaining a minimum 80 ha reserve zone suitable owl habitat around these sites.
>
> *Strategy # 4* - Outside of the Long-term Owl Habitat Area (LTOHA), manage a maximum 33% of the gross forested area in each Long-Term Activity Centre within the SRMZ as Forest Management Area (FMA), unless the area is identified as a Replacement Area.
>
> *Strategy # 5* – Partial Harvest is permitted in all management areas within the Long-Term Activity Centre for the purposes of creating, enhancing or maintaining suitable owl habitat attributes. Additional detail is provided

on patch size, stand structure, corridor widths, basal area removal, snag retention, and coarse woody debris.

Strategy #6 – Salvage is permitted within all management areas where removal of the damaged forests would reduce the risk of further damage to the remaining stand and maintain or improve the habitat suitability for owls.

Strategy # 7 - Road and landing construction is permitted in all management areas for the purposes of timber extraction, unless within a nest and/or roost reserve.

Under the RMP's Table 2 (p 13), Partial Harvest is permitted in all four management areas (LTOHA, RCA, RPA, and FMA). Further details of the partial harvesting objectives are described in the RMP. Proposed blocks are situated in SRMZ 11 – Anderson within the LTOHA as shown on the FDP map.

Again, I note that the RMP provides important guidance for operational development in SRMZs, although I am not bound it. The RMP is a guide for managing spotted owl in the Chilliwack and Squamish Districts, and it provides one important measure against which I can determine whether the FDP adequately manages and conserves the spotted owl.

Spotted Owl Resource Management Plan for Anderson – SRMZ 11, May 31, 1999

From the Resource Management Plan, Anderson SRMZ # 11 is approximately 23,000 ha of gross forested area. Eight long-term activity centres (11A to 1H) were established varying in size from 2,100 to 3,100 ha of gross forested area. Proposed Blocks 38-1 and 38-2 are within the activity centre 1D, this activity centre is 3,034 ha in size.

The RMP for SRMZ #11 states that the activity centre 1D contains about 70% suitable owl habitat based on the minimum forest age criteria of 100 years old (RMP-Anderson SRMZ 11, p4). This figure does not factor in the past logging in the Anderson area or updates to the Forest Cover. Previous harvested Blocks 39-1 and 36-1 are 72.9 ha in size and have been harvested under the Heavy Volume Removal criteria. These additions would reduce the suitable habitat to 67.6 % (Suitable habitat % are discuss in further detail in later sections). The LTOHA contributes about 53% of total suitable owl habitat available within the activity centre. This document indicates that there has been many spotted owl detections within this activity centre and that a male and female spotted owl were in the area in 1999.

Blocks 38-1, 38-2 Timber characteristics

- Blocks 38-1 and 38-2 together are 75 ha in size and proposed for partial harvest as per the partial harvest objectives outlined in (Strategy #5).
- The proposed blocks are north of the recently harvested (2003/04) Block 37-1.
- My staff have field checked blocks 37-1, 38-1 and 38-2 and surrounding area in April 22, April 29, and June 30, 2004. My staff observed that a significant part of the blocks are between type A and type B habitat. Forest types for Blocks

38-1 and 38-2 are generally F H(Cw) 841 (measured age at 220-250yrs) and some FH 941(250 to 350 yrs). The proposed block is situated on an east aspect at an elevation range of approximately 850 to 1300 meters.

Population Trend Assessments

I have considered the following three reports:

- *Population Assessment of the Northern Spotted Owl in British Columbia 1992-2000* (draft), dated July 27, 2001 ("draft trend report");
- *Population Assessment of the Northern Spotted Owl in British Columbia 1992-2001(final),* released July 2002 ("final trend report"); and
- *Supplement to the Population Assessment of the Northern Spotted Owl in British Columbia 1992-2001*, released July 2002.

1992 –2000 draft trend report (as noted above)

In considering the draft report entitled Population Assessment of the Northern Spotted Owl in British Columbia 1992-2000, dated July 27, 2001, I note MOE's statements regarding the overall decline in Spotted Owl population as described in this draft report. I note that the survey work completed in the draft report occurred over a period of 9 years from 1992 to 2000. The report states that "spotted owl numbers declined slowly between 1992 and 1995, quickly between 1995 and 1997, and remained relatively stable between 1997 and 2000." I note that over the period between 1995 and 1997 (which has apparently had the greatest decline in spotted owl numbers), was largely before the Spotted Owl Management Plan (SOMP) came in to effect.

The draft report notes the factors that have lead to this decline are unknown and that there is uncertainty on future spotted owl population dynamics. The report states that:

> "Populations of spotted owls may change solely due to effects of climate on reproductive output … Between the fall of 1996 and fall 1997, annual precipitation was on average 60% higher than normal. Perhaps, weather influenced prey or predator populations and increased adult owl mortality…."

I have also considered comments on the draft report in an October 31, 2001, memorandum by Denis Collins Ph. D, Research Manager, Vancouver Forest Region. These review comments were compiled by the Vancouver Forest Region, Research Section and the comments were provided by two research wildlife habitat ecologists, a research branch biometrician, a regional research hydrologist, regional timber supply staff and district staff.

The Denis Collins' memorandum outlines two general issues with the draft report on the spotted owl population assessment. These are:

- Model assumptions and sensitivity of the modelling to missing data
- Decline of spotted owl population, which coincides with decreased harvest levels, a natural record stochastic weather event, and other factors such as predation and barred owl population trends, and the decline of the spotted owl population in the US.

The memorandum notes that MOF research staff reviewed Environment Canada climatic data, and as a result, the staff had the following comments:

> We reviewed Environment Canada climatic data for the period 1992 to 2000 and it is apparent that there is a very distinct and record snowfall event centred around December 1996 to March 1997. There were also above average snowfalls in the winters of 1995 and January 1998 in both the Chilliwack and Princeton areas. As noted in the draft report, there is published documentation of changes in owl populations solely due to effects of climate on reproductive output. Severe weather may also have influenced prey or predator populations and increased adult owl mortality, decreased nesting attempts and fecundity, or both, as recognized in the draft report.

The memorandum concludes that:

> Overall, further analysis would clarify and validate the interpretations in the draft report and the need for ongoing monitoring that addresses data gaps should be stressed. Dependent upon the assumptions made about the missing data, it may be inferred that the number of spotted owls was stable from 1992 to 1994, that there was a precipitous decline from 1995 to 1997, but that the number was stable but at a lower level since then. If so, the Spotted Owl Management Plan strategy may be working.

1992 –2001 final trend report (as noted above)

I have considered the information in the final report entitled Population Assessment of the Northern Spotted Owl in British Columbia 1992-2001, released in 2002. I note the report's comments in the discussion on the possible explanations for the population decline. The report states (p. 18) that:

> Populations of Spotted Owls have declined substantially in Canada and the United States over the last decade. The contributions of various known factors that have lead to this decline are unknown, but habitat loss is likely foremost among these factors. Although the habitat provision of the Spotted Owl Management Plan may have slowed the population decline in recent years, our results suggest that these provisions are inadequate to stabilize the population…Unfortunately, many factors influencing Spotted Owl numbers cannot be controlled (such as natural disturbances and environmental conditions) or efforts to control them may be futile and may lead to greater environmental problems (such as removal of predators and competitors).

Supplement to the Population Assessment

As well, I have considered the report titled Supplement to the Population Assessment of the Northern Spotted Owl in British Columbia 1992-2001, released 2002. I note the findings in the Recovery Action section (p. 31) that:

> The Spotted Owl population in B.C has declined but the causes of the decline are unknown. Identifying the cause(s) will require additional research with considerable funding, resources and time to collect and analyze data, and to develop and implement solutions.

Furthermore, this report outlines (p. 26):

> As a result of the minimal timber harvest activity within the 40 survey areas and the mitigation strategies applied to minimize direct impacts on critical owl habitats, we do not suspect a direct correlation between the observed population decline and the harvest activities within survey areas… The mitigation strategy to "log around" these owl areas to maintain forestry jobs and timber volume requirements may be correlated to the population decline…is unlikely that the "log around" alone caused the population decline, but it is highly likely that it made habitat conditions outside of owl areas worse than had the AAC been reduced to accommodate Spotted Owls.

An update from Denis Collin's Ph. D., Research Team, on the above final report and related supplement (Population Assessment of Northern Spotted Owl in British Columbia 1992-2001), states that generally their comments were adequately addressed in the revised document. I note comments from one of the researcher's, Dale Seip, that:

> There are problems with missing and inadequate data throughout the years, but I think they have done the best they can with the data that are available…[report] conclusions recognize the uncertainty that remains around the reasons for decline, but the essential conclusion of a significant population decline is fairly clear.
>
> I am still struck with the fact that the **major decline appeared to occur in one year 1996-97**, and that year corresponded to an abnormally cold summer and fall. [Emphasis added]

I have also considered comments from a presentation by Keith Simpson at a Fraser Timber Supply Area Co-operative Association meeting on November 25, 2003, attended by Chilliwack Forest District Staff. Keith Simpson's comments outlined several limitations to the trend report's findings. Some of these are:

- No multi year study plan and few replicates – basic survey design principles outline that surveys should be repeatable to reduce variability in samples (must have consistent survey methodology).
- Study (survey) areas poorly defined and survey effort concentrated along roads (developed areas are fragmented and thus less desirable spotted owl habitat) – thus the coverage on the largest pool of habitat, the protected land base, is unknown.
- Assumption that all birds were resident adults not supported by data – standard data should be consistently recorded on each survey – if you find an owl at night need to do a daytime survey to confirm if owl is resident or transient.
- Standards to confirm spotted owl absence not followed.
- Occupied study area classified as vacant – two years is standard for vacancy but MOE used one year.

I note from Western Canada Wilderness Committee's (WCWC) submission (tab 8), a letter, dated December 22, 2003, from Michael Chutter, Spotted Owl Recovery Team (SORT) Chair, MOE, to the Assistant Deputy Minister for MOE's Environmental Stewardship Division and Chief Forester, MOF. I

reference from this letter that "SORT members were in total agreement with Keystone and the industry representatives' overall conclusion that inventory and population monitoring is sorely needed, and that this inventory and population monitoring need to have a strong study design at the appropriate scale to properly assess the species' distribution, and population trend."

However, I also note that "SORT members disagreed often with Keystone's interpretation of the PA [Population Assessment] and its methods, and strongly disagreed with the assertion that existing and recommended conservation measures should be put on hold until after such studies were completed."

In addition, I have considered the comments by Doug Ransome, Ph.D. Research Scientist, at the same meeting on November 25, 2003, which indicate several potential problems with the spotted owl population assessment and the survey methodology. He mentions that:

- Survey objectives have not been applied uniformly, but varied from year to year – 1st part of surveys (1992 to 1995) may have overestimated occupancy and later part of surveys (1996-2000) may have overestimated vacancy, therefore, the trend of decline may be less.
- Estimated change in occupancy rates could be, in part, an artifact of varying survey objectives, gaps in data (large amounts of missing or incomplete data), overestimates of vacancies in the later part of the study (relaxed definition of 'vacancy', potentially resulting in an overestimate of vacancy rates).
- Uncertainty in why there are clear differences between owl populations represented by the 84 areas (population stable) versus the 40 areas (population in decline).
- Analyses used are very sensitive to these limitations and inconsistencies.
- Study- site selection and survey methodology must be based on sound defensible science and peer reviewed.

Mr. Ransome Ph.D. stated several recommendations should be adopted, including that:

- a thorough and extensive long term monitoring program be established to gather accurate baseline data;
- site selection and survey methodology must be based on sound defensible science and peer review;
- acoustic-lure surveys be combined with radio telemetry to provide an accurate estimate of occupancy rates corrected for false vacancies, and
- peer review reports before releasing information to the public.

Parameters affecting population dynamics

I note that species population levels are affected by many factors, including but not limited to, matters of food supply, climate, predatory prey relationships, habitat etc.

I have considered a local research study of a thinning of stand of second growth hemlock in Chehalis River area within the BEC subzone CWHdm. The published research report entitled *Short-term population dynamics of Glaucomys sabrinus and Tamiasciurus douglasii in commercially thinned and unthinned stands of coastal coniferous forest* had no negative short-term effects on the population dynamics of the food supply for these squirrel species (northern flying squirrel and douglas squirrel, respectively) (Ransome and Sullivan, 2002). Although this 2-year study is not over a long enough period to draw any long term conclusions, it suggests that food supply may be a primary factor in the health of spotted owls and that flight path options to food supply in second growth (2^{nd} growth generally have a higher tree density than older growth) may be a very important factor with spotted owls and not necessarily tied to cavity abundance.

As well, a 10 year research study in Northern California on spotted owl found that climate may play a key role in spotted owl population dynamics (Franklin et al, 1999). This report suggests "that Northern Spotted Owl populations may change solely due to climatic influences, even with unchanging habitat conditions." The report (Ecological Monographs. 2000. P583) states that:

> The argument as to whether a single general factor, such as habitat quality or climate, regulates or limits populations becomes moot when interactions are considered (Holmes 1995). These two factors can increase or decrease in importance, depending on changes in the other factor. We believe that understanding the magnitude, strength, and relative importance of different factors under varying conditions provides a deeper understanding of population dynamics.

I have considered that there are many factors that come in to play in analysing the population trends of this species. Survey information gaps, survey effort to declare a owl site vacant, significant climatic changes over the last decade (e.g. the 1996/97 extended cold weather snap and deep snow pack), cycles in predatory prey relationships, changes in the level of natural and unnatural forest land disturbance, food supply fluctuations, and a host of other parameters may have a part in critically impacting the population numbers for this species.

Consequently, I consider this evidence of spotted owl population trends and population dynamics is not well understood and inconclusive and does not support the argument that the SOMP is ineffective. I have considered these population reports and research information in making my determination by taking a cautious approach to managing habitat that may be suitable for spotted owl.

Other information

I have considered the pertinent information from the court proceedings in the Western Canada Wilderness Committee v. British Columbia (Ministry of Forests, South Island Forest District), 2003 BCCA 403 – Decision released July 8, 2003.

As well, I have referenced the findings of the Western Canada Wilderness Committee v. Cindy Stern et al, 2002 BCSC 1260. In addition, as stated previously, I have considered the information in WCWC's submission to me for this FDP Amendment #29, Volumes 1 and 2, March 22, 2004. Further information has been referenced in the rationale's backgrounder.

Comments from Sierra Legal Defence Fund

I have considered the information and comments submitted regarding spotted owl. I reference the submission addressed to me by Sierra Legal Defence Fund (SLDF) on behalf of the Western Canada Wilderness Committee (WCWC), received March 22, 2004, letter and document entitled *Submission regarding Major Amendment #29 to Cattermole Timber's 2001-2005 Forest Development Plan, Volume 1 and Volume 2*.

I reference from SLDF's March 22, 2004 cover letter the following statement:

> Given the current status of the Spotted Owl, the decline since Stern's determination in 2001 and the absence of monitoring to confirm that Cattermole Timber's logging has not been detrimental to the Spotted Owl or its habitat, there is absolutely no basis upon which the District Manager can be satisfied that Amendment 29 meets section s.41(1) of the *Forest Practices Code of British Columbia Act.*

I have summarized a number of excerpts comments from their submission as follows:

- Fragmentation of habitat (*Fragmentation)*
- Limited opportunities for thermoregulation *(Thermoregulation)*
- Reduced protection from predators *(Predators)*
- Harvesting of the 1991 nest detection *(1991 Nest Site)*
- Damage to the 'Coast-Cascade Connector' *(Connector)*
- Suitable habitat below 67% *(Habitat Loss)*
- One kilometre wide corridors *(Corridors)*
- Type A habitat *(Habitat Quality)*
- No logging within this suitable habitat *(No logging)*
- Corridor widths of 7 metres *(Strip Clear-Cuts)*
- Sixty percent crown closure *(Crown Closure)*
- Cindy Stern's past determination *(Determination)*

My considerations in regards to the above comments are as follows:

Fragmentation The Partial Harvesting Section of the RMP document has limits on patch cuts size and location, corridors widths and basal area retention. These limits reduce the impacts on spotted owl due to habitat fragmentation. This provides some guidance to forest manager to address an adequate level of fragmentation. As a consequence I conclude that the potential increase risk to spotted owl is minimal.

Thermoregulation Spotted owls perch at different heights in a tree in order to control their body temperature (thermoregulation). This prevents the spotted owls from suffering from mainly heat stress. There is a concern when the owls are at their

nest or roosting sites. Since the proposed blocks are outside any known nest and roosting site. I conclude that the potential increase risk to spotted owl is minimal.

Predators The Partial Harvesting Section of the RMP document includes limits on patch cuts, corridor widths and basal area removal. All three items along with limits on the size of LTOH, suitable habitat limits, and recruitment and replacement areas all limit the ability of predators to hunt spotted owl. I conclude that the potential increase risk to spotted owl is minimal.

1991 Nest Site The nest site location for the 1991 spotted owl detection is located within Old Growth Management Area (OGMA). The entire nest location and a five hundred metre area identified by MOE staff as the Owl Nest Site Reserve #1 is within the OGMA. Additional OGMAs are located nearby and within areas identified by MOE as suitable habitat. I conclude that the potential increase risk to spotted owl is minimal.

Connector WCWC noted that the proposed blocks are located in a critically important corridor the 'Coast-Cascade Connector' through which Spotted Owl movement between the coast and interior. Their submission states that "Severing this link will result in the complete isolation of northern and southern owl populations and will hasten the decline of the species." The RMP document does not have a requirement for a 'Coast-Cascade Connector'. The SOMP does not have a requirement for a 'Coast Cascade Connector'. However, even though these proposed blocks are partially harvested, the stands within the blocks will still provide suitable habitat. In addition a corridor of suitable habitat will still exist to the east of the proposed blocks. Further each AC and SRMZ are not islands surrounded by water. Existing stands are found in surrounding areas (OGMAs, Scenic, steep slopes, constrained, Parks, operable and non-operable).

Habitat Loss WCWC has concluded that any harvesting will destroy the suitable habitat and because of this the LTOH will be below 67%. Partial harvesting within all activity centres is acceptable as outlined in Table 2 (page 13) of the RMP document. The intent of Partial Harvesting Section within the RMP document is that if a licensee followed this section he would at least maintain suitable habitat (if not enhance or create better habitat). Therefore there should be no reduction of suitable habitat within the LTAC.

Corridors The RMP document outlines the need for long term patches of suitable habitat connected by corridors of one kilometre in width. A review of the AC 11D has an additional large patch on the east side of Anderson Creek. Also an additional corridor running on east side of this drainage exists.

Habitat Quality WCWC have stated the proposed blocks are located within Type A habitat. The licensee has completed a Spotted Owl Habitat Assessment for Blocks 38-1 and 38-2. It shows a mixture between Type A and Type B habitats for the two blocks. Presently the stand ages varies between 220 (Type B) to 250 years (Type A). Coarse Woody Debris levels are mostly near the 268 m3/ha (Type A). Tree species numbers, snags/ha, crown closure and canopy layers, all meet the criteria of Type A.

The stand does not meet the large tree requirements for Type A but does meet Type B. The licensee's proposal will meet the CWD levels for Type A and the proposed harvest rate will maintain Type B levels of large diameter trees. The licensee has proposed reducing the crown closure to 50%. This is consistent with the SOMP and RMP documents. The licensee proposal maintains habitat criteria within its present type except for crown closure. See Crown Closure Section below for further details.

No logging WCWC have stated that MOE employees have requested that harvesting within this specific suitable owl habitat is not appropriate based on past comments made in 2001. The MOE Regional Manager approved the RMP. Since then Block 37-1 has been harvested and four years have passed. The RMP document has not been altered to prevent partial harvesting within this specific stands. Therefore I can still consider the merits of harvest within suitable habitat.

Strip Clear-cuts WCWC has concluded that harvest areas that are 7.0 meters wide and one to two hundred metres in length should be consider clearcut logging. However both the *Forest Practices Code of British Columbia Act* (See Section 1 Definitions of the *Operational and Site planning Regulations*) and the RMP document would not consider this to be clearcut. The RMP allows for corridors. Table #3 in the RMP document outlines the required corridor widths based on the number of trees retained.

Crown Closure WCWC has commented that the proposed harvesting will reduce the crown closure to below 60% and that this is contrary to the SOMP document. The RMP document table 3 outlines corridor widths for partial harvesting. However a licensee following this table would be unable to harvest timber to the correct corridor widths without reducing the crown closure below the 60% level. I note that crown closure is not listed within the "Key Resource Management Plan Strategy #5" as stated on page 13 of the RMP document. The main concerns with crown closure is to ensure that the stand as a whole does not have 100% crown closure and no light reaching the forest floors and 0 % crown closure where no trees exist. In order to have a multi-layer multi-story stand crown closure should vary throughout the blocks. This variability is also found in natural stands.

Determination Block 37-1 was harvested in the 2003 and 2004. This block was approved in 2001 by then South Island District Manager Cindy Stern. Part of Ms. Stern's Rationale includes a number of considerations for the approval of Block 37-1 as well as reasons for not approving previous Blocks 38-1. Some of these considerations have not been discussed by myself and include the following:

- Size of the proposed blocks
- Lack of experience in partial harvesting by the licensee
- Monitoring of the harvesting.

I note that Ms. Cindy Stern determination does provide guidance for operational development in SRMZs, although I am not bound by it. However I will consider these items in regards to the proposed blocks and offer the following:

Size of the proposed blocks

Block 37-1 proposed size was 88 ha whereas Block 38-1 (previous rejected block) was 387 ha in size. The final submission of blocks 38-1 (newly submitted block) and 38-2 totals 75.0 ha in size. Ms. Stern considered "the risk is mitigated" for the 88 ha size block (37-1). I also conclude that the risk to the spotted owl resource of partial harvesting these two blocks is minimal.

Lack of experience in partial harvesting by the licensee

Since September 2001 the licensee has harvested a number of partial helicopter blocks (Blocks 201, 101a, 37-1, as well as a number of other blocks). These blocks have been viewed by a number of my staff and myself. I can state that the licensee has gained a significant experience in partial harvesting using helicopter since 2001. That said I have assessed the FDP itself and what it is proposing, and have considered the proposal on it's own merits and not by who may be implementing the plan.

Monitoring of block 37-1

The licensee has submitted the Pre and Post Spotted Owl Habitat Attribute Inventory for Block 37-1. A review of the stand information shows that the owl habitat characteristics types remain similar between pre and post harvesting. Based on Table 4. *Management guidelines for dryer submaritime ecosystems* found on page 29 of the *Management of Spotted Owl Habitat – Operational Guidelines Component* the following table outlines the harvest results as compared to the owl habitat characteristics.

Table 1. Comparison of Owl Habitat Characteristics for Block 37-1 Pre and Post Harvest.

Owl Habitat Characteristics	Type B	Type A	Pre Harvest			Post Harvest		
Stand Type #			3J	4K	5L	3J	4K	5L
Crown Closure %	50%	60%+	Type B	Type A	Type A	Type B	Type A	Type A
Canopy Layers	>=2	>=3	Type A	Type A	Type A	Type A	Type A	Type A
Tree Species	>=2	>=2	Type A	Type A	Type A	Type A	Type A	Type A
Large Trees	>30 cm dbh	>50 cm 173 sph	Type B	Type B	Type B	Type B	Type B	Type B
Snags	>4/ha >30 cm	.>6/ha >51 cm	Type A	Type B	Type A	Type A	Type B	Type C
CWD	>99 m3/ha	>267 m3/ha	Type B	Type B	Type B	Type B	Type B	Type B

The one exception is for Snags in that Stand Type 5L which changed from Type A to Type C habitat. The Pre Harvest level was 9.7/ha >51 cm dbh of which

approximately 6 are Ba. However the overall block still maintains a Type B level for snags with pockets of Type A. Generally, Ba snags are short lived. This stand type has approximately 24 stems /ha of Wildlife Tree Potential with additional snags located in adjacent stands. In addition retention of snags are a safety concern to the logging crews.

Comments from MOE

I have considered the information and comments submitted by MOE. Bill Jex sent an email (January 22, 2004) to Len Blackstock of Cattermole Timber requesting answers to a number of questions. I have summarized the main points as follows:

- How will proposal maintain spotted owl habitat given the population trend and habitat currently available? (*Habitat maintenance*)
- How will impacts to owl nest site be avoided? (*Nest Protection*)
- Why is superior habitat being proposed for harvest when less suitable habitat is available? (*Superior Habitat*)
- What adaptive management practices will be employed? (*Adaptive Management*)
- How will increasing the basal area removed to 40% maintain or enhance habitat? (*40% Basal Area*)
- Shouldn't the SOMP requirements for enhancing or maintaining habitat be used to that of adequately managing habitat? (*Approval standard*)

In addition Jared Hobbs expressed a number of comments regarding this amendment. I have also summarized the main points as follows:

- Concern for the removal of greater than 33% of the suitable habitat. (*33% removal*)
- Concern for population connectivity and natal dispersal. (*Population*)
- Concerns related to limiting or reducing recovery options. (*Options*)

The licensee has stated that they will be guided by the SOMP. This is consistent with the requirements of Section 29 of the Operational and Site Planning Regulation. However I have considered both Bill Jex and Jared Hobbs' comments as follows:

Habitat Maintenance The licensee proposal is consistent with the RMP document. At present the RMP document is a well established indication of policy direction that has provided guidance to current practices respecting the management of owl habitat in BC. The population trend reports are discussed in the above section titled "Population Trend Assessment".

Nest Protection The licensee has hired Keystone to conduct the Spotted Owl Field Survey for parts of the Anderson Creek area. This survey was completed in 2004 and did not find a spotted owl within the proposed blocks. The assessment however detected a Barred Owl within the area. MOE inventory assessments have not recorded any spotted owl from the proposed blocks. As mentioned above the nest site reserve is presently protected by an OGMA with additional OGMAs nearby. At this time there is no known nest within the proposed blocks.

Superior Habitat Both the SOMP and the RMP documents attempt to balance the environmental, social, and economical values. Both documents suggest that the licensee harvest younger stands first before older stands. I consider this to be guidance to the licensee. However, I do not believe that the intent was to restrict activities to only the youngest age classes. Both documents are a balance among social, environment and economic considerations. For example for a licensee to partial harvest using a helicopter the proposed blocks must also have economic value to warrant such activities.

Adaptive Management The licensee has not stated any adaptive management that will be employed in their final submission.

40% Basal Area The licensee has retracted their request for a variance to allow for up to 40% basal area to be removed.

Approval standard Section 41 of the Forest Practices Code of British Columbia Act outlines the approval test for this FDP amendment. Neither the SOMP or the RMP grant me the powers to approve a FDP amendment.

33% removal Partial harvesting within all activity centres is acceptable as outlined in Table 2 (page 13) of the RMP document. A licensee following this section would not be impacting suitable habitat. Therefore there should be no reduction of suitable habitat.

Population The SOMP and RMP document does not limit the harvesting operation due to population connectivity or natal dispersal. Some documentation suggests that increasing the numbers of activity centres within each SRMZ or the number of SRMZ which may improve the chances for increase population connectivity and natal dispersal. However these suggestions have social and economical impacts which should be approved by government.

Options Government has not stated that harvesting is not permitted within the SRMZ. In addition government has not approved any different options for the spotted owl.

Protective measures for spotted owl resource

With the exception of some dated detection information (1991, 1992, and 1998), the proposed Blocks are well removed from the balance of detections in the southern portion of the Activity Center (about 1 to 2 km southeast of the Block 38-1).

Three owl nest sites and reserves were identified by MOE. One of these nest sites reserves was centred over a 1991 spotted owl daytime observation. No further spotted owl detections have been noted in this area since 1991. This nest site reserve is located between blocks 38-1 and 38-2. The nest site reserve is outside of the proposed blocks and is further protected by an Old Growth Management Area (OGMA).

In comparing this block with the RMP key resource management plan strategies, I reference the following:

Strategy #1 – Taking into account blocks 36-1, and 39-1, this activity centre will still be over the minimum of 67% of the gross forested area as suitable owl habitat in each Long-Term Activity Center (currently activity centre 11D contains about 67.6 % suitable owl habitat based on the minimum forest age criteria of 100 years old, less the recent logging 36-1, and 39-1 (36.1, and 36.8 respectively)).

Strategy # 2 – The proposed development including the recent logging in this activity centre still maintains large unfragmented patches greater than 500 ha that are still connected by movement corridors that are similar to the existing corridors.

Strategy # 3 – The proposal clearly exceeds the strategy to protect the nesting and roosting sites with a minimum 80 ha reserve zone around these sites (about a 500 m radius). Based on the May 2, 2001 letter to Jerry Kennah from Brian Clark I have considered the nest site locations north and south of the blocks. Both blocks are outside of the 80 ha reserve zone.

Strategy # 4 - The proposed blocks are within the Long-term Owl Habitat Area (LTOHA). Partial harvesting is permitted within the LTOHA as per Table #5 of the RMP document. See *Strategy #5* for more details.

Strategy #5 – Partial Harvest is permitted in all management areas within the Long-Term Activity Centre for the purposes of creating, enhancing or maintaining suitable owl habitat attributes. Further information on the stand structure, patch cut size and distribution, extraction corridor widths, removal rates, snag retention and coarse woody debris levels is stated within the proposed stocking standards for the blocks.

Strategy #6 pertains to salvage and does not apply here

Strategy # 7 - Road and landing construction is permitted in all management areas for the purposes of timber extraction, unless within a nest and/or roost reserve. No roads or landing are proposed within the suitable habitat.

Although I am not bound by the RMP document I conclude that the licensee amendment is in agreement with the seven strategies outlined in this document.

Additional Consideration

I have also considered that over the landscape level, the Anderson LU contains:

- One Park: Alexandra Bridge Park;
- Portions of Special Resource Management Zones (SRMZ 11)
- Old Growth Management Areas

Having outlined the above, I also note the general biodiversity provisions with the *FPC* (e.g. riparian protection, wildlife tree retention) and other management strategies (e.g. visual management, ungulate winter range management, Identified Wildlife Management) and will contribute to maintaining habitat for many plants and animals. These strategies applicable in or adjacent to, or near the blocks in question, will help to maintain habitat for many species, including spotted owl. This will also maintain some habitat connectivity between conservation areas and allow owl movement.

Supreme Court of British Columbia
Western Canada Wilderness v Cindy Stern et al

In 2002, Western Canada Wilderness Committee submitted an application to the court to set aside the determination by Cindy Stern in regards to the approval of harvesting of block 37-1. The Honourable Mr. Justice Shabbits in his reasons for judgement discuss the following items:

1. judicial review
2. admissibility of evidence
3. procedural unfairness
4. denial of natural justice
5. statutory interpretation of the code
6. fettering of discretion
7. patent unreasonableness

I have considered all of the items listed above in this rationale, although I am not bound by them.

Court of Appeal for British Columbia
Western Canada Wilderness Committee v. British Columbia (Ministry of Forests, South Island Forest District),

In 2003, Western Canada Wilderness Committee ("WCWC") appealed the dismissal of WCWC's petition for the set aside the determination by Cindy Stern in regards to the approval of harvesting of block 37-1. The Honourable Madam Justices Prowse, Ryan, and Huddart in their reasons for judgement discuss the following items:

1. nature of appeal
2. issue on appeal
3. procedural history
4. legistative framework
5. Ms. Stern's decision
6. decision of the chambers judge
7. standard of review

Within item #5 Ms. Stern's decision the Justices noted the following factors which Ms. Stern considered relevant to her determination:

1. government policy (SOMP and RMP)
2. criticisms of SOMP and government policy
3. owl population trend
4. 60% probability for the SOMP

5. owl detections
6. size of cutblock
7. other uses of the area (corridors connection)
8. harvesting techniques
9. method of harvesting
10. habitat type
11. future monitoring
12. integration of spotted owl management and forest management
13. cautious approach

Again I have considered all of the items listed above, although I am not bound by them.

Field visit to Block 37-1 by MoF Research Staff

Brian D'Anjou and Lousie Waterhouse completed a field visit to Block 37-1 (post harvest). Both work for the Research Branch of the Ministry of Forests and are members of Spotted Owl Recovery Team. Brian's comments in regards to the field visit of the block are "Overall, review of partial harvesting prescriptions applied to mature stands revealed innovative harvesting patterns and yarding systems which based on preliminary walkthrough met established guidelines."

> In considering the information before me, I find that this plan adequately manages and conserves the spotted owl resource.

This document is not an exhaustive list of all resources and issues I have considered. It includes the main information I have considered in my decision.

Conclusion

I find that this FDP Amendment was prepared and submitted in accordance with the *Forest Practices Code of British Columbia Act* and associated regulations thus fulfilling the requirement of 41(1)(a). In light of all of the evidence and submissions that I received in this matter, and upon careful examination and consideration of this material, I have determined, pursuant to section 41(1)(b) of the *FPC* that the FDP Amendment adequately manages and conserves the forest resources to which it applies.

Therefore, it is my determination that this FDP amendment is approved.

_____ _____

Kerry Grozier Date
District Manager
Chilliwack Forest District