

File: 19500-20/FDP

January 23, 2004

«Name»

«Address»

Dear «Name»:

The attached information constitutes my guidance regarding the preparation of Forest Development Plans (FDP) and amendments in the Arrow Boundary Forest District (ABFD). The following information and guidance papers have been revised to reflect the amalgamation of the Arrow and Boundary Forest Districts. While the following will be new to some licensees, it will provide clarity and ensure consistency for all licensees in the Arrow Boundary Forest District.

These instructions do not replace or add to the legislated requirements established by government, but provide structured guidance to efficiently navigate the process.

Since the revised Kootenay Boundary Higher Level Plan (HLP) has been approved, those portions of the Kootenay Boundary Land Use Plan implementation strategy (KBLUP-IS) which were not carried forward to the HLP remain as ministry policy. The attached guidance papers provide policy clarification.



Referrals

The following list provides written notice of referrals required under Section 7 of the *Operational and Site Planning Regulation* (OSPR).

Licensees must submit a total plan (maps and text) to the ABFD. On the Arrow side, a referral letter must be sent to Mike Knapik at the Ministry of Water, Lands and Air Protection (WLAP). Licensees on the Boundary side are not required to refer to WLAP. The ABFD will contact WLAP for review and comment as required.

Licensees must submit a key map (1:250,000 scale or larger) showing proposed permanent deactivation to the Ministry of Energy and Mines in Cranbrook, Attention: David Terry, Regional Geologist.

Licensees must submit copies of their applicable FDP map(s) to the Ministry of Transportation, Snow Avalanche Program which contain proposed Category 'A' cutblocks on slopes greater than 47% that have a direct pathway to any public highway.

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• THE GOVERNMENT OF BRITISH COLUMBIA IS AN "EMPLOYMENT EQUITY EMPLOYER" •

**Ministry of
Forests**

Arrow Boundary Forest District

Location:
845 Columbia Avenue, Castlegar

Mailing Address:
845 Columbia Avenue
Castlegar, BC V1N 1H3

Tel: (250) 365-8600
Fax: (250) 365-8568

The ABFD requires a referral letter be sent to:

- All trapline licensees and guide outfitters that may be affected by the licensee's operations (best effort to notify these licensed users is expected). Licensees with questions regarding trapline information may contact Louise Dunn in the WLAP Kootenay Region or Greg Burdock in the Okanagan Region. WLAP asks that a confidentiality agreement accompany information requests. A copy of the agreement may be found on the ABFD FTP site, at http://www.for.gov.bc.ca/ftp/DAB/external/!publish/District_Guidance_2004/.
- All holders of commercial recreation licenses, backcountry lodges and resorts that may be affected by the licensee's operations. Information regarding Land Act tenures may be found at the Land and Water BC Inc. (LWBC) website at www.lwbc.bc.ca. Licensees may contact Robin Fawcett at the LWBC Cranbrook office or Dave Bacon at the Kamloops office for more information.
- All established individual consumptive water licence holders or licensed consumptive water user groups who may be affected by the licensee's operations. Water licences held by the Ministry of Forests do not require a referral letter: the FDP notification letter to the district manager is sufficient. Where there is a known domestic or community water-user group covering an area, a referral letter to the committee is sufficient. Information is available at <ftp://nelftp.env.gov.bc.ca/pub/outgoing/data/water>.
- All established technical committees - use the terms of reference of the committee to determine consultation requirements.
- Range tenure holders that may be affected by the licensee's operations. A list of range tenure holders is available at the ABFD FTP site listed above.
- Other individuals who have continually shown an interest in your FDP or operations including local environmental groups and recreation groups.
- **First Nations referrals:**

Send the referral letter to the Tribal and Bands Council contacts listed below.

TRIBAL COUNCILS

Tribal Council and Address	Phone Facsimile	Administrator/ Chairperson	FDP Referrals
Ktunaxa/Kinbasket Tribal Council ** #7468 Mission Road Cranbrook, B.C. V1C 7E5	Phone (250) 489-2464 Facsimile (250) 489-5760	Sophie Pierre Administrator	Ray Warden Manager Treaty, Land and Resource Phone (250) 417-4022 Facsimile (250) 489-2438 rwarden@kktc.bc.ca treatylands@cyberlink.bc.ca
Okanagan Nation Alliance 3255-C Shannon Lake Road Westbank, B.C. V4T 1V4	Phone (250) 707-0095 Facsimile (250) 707-0166	Pauline Terbasket Administrative Director director@syilx.org Chief Dan Wilson Chair	Pauline Terbasket Administrative Director Mickey Werstiuk Manager, Natural Resources Cell phone (250) 869-9633 Paul Birizins Technical Advisor

BAND COUNCILS

Band Council and Address	Phone Facsimile	Chief	FDP Referrals
Lower Similkameen Indian Band P.O. Box 100 Keremeos, B.C. V0X 1N0	Phone (250) 499-5528 Facsimile (250) 499-5538 Nat.res.dept@lsib.net	Barbara Allison (ONA)	Wayne Terbasket Natural Resource Coordinator lsibresources@hotmail.com
Okanagan Indian Band RR#7 Vernon, BC V1T 7Z3	Phone (250) 542-4328 Facsimile (250) 542-4990	Lyle Brewer (ONA)	Kristy Craske Executive Assistant Natural Resource Department Phone 250-542-7132 Pamela Louie Band Manager
Osoyoos Indian Band RR#3, Site 25, Comp 1 Oliver, B.C. V0H 1T0	Phone (250) 498-3444 Facsimile (250) 498-6577	Clarence Louie (ONA)	Joe McInnis Forestry Manager Phone (250) 498-4906
Penticton Indian Band RR#2, Site 80, Comp 19 Penticton, B.C. V2A 6J7	Phone (250) 493-0048 Facsimile (250) 493-2882	Stewart Phillip (ONA)	Greg Gabriel gggabriel@pib.ca
Upper Similkameen Indian Band P.O. Box 310 Keremeos, B.C. V0X 1N0	Phone (250) 499-2221 Facsimile (250) 499-5117 usib@keremeos.com	Richard Holmes (ONA)	Philippe Batini Band Manager
Westbank First Nation #301 - 515 Highway 97 South Kelowna, B.C. V1Z 3J2	Phone (250) 769-4999 Facsimile (250) 769-4377	Robert Louie (ONA)	Mickey Werstiuk Forestry Tim Raybould Intergovernmental Affairs
Spallumcheen Indian Band ** P.O. Box 460 Enderby, B.C. V0E 1V0	Phone (250) 838-6496 Facsimile (250) 838-2131	Gloria Morgan (SNTC)	Loretta Eustache Natural Resource Coordinator loretta@spallumcheen.ca

ONA- Okanagan Nation Alliance

SNTC- Shuswap Nation Tribal Council

** Does not apply to licensees on the Boundary side

OTHER GOVERNMENT AGENCIES

Ministry / Branch	Contacts	Address	Phone	Fax
<u>Ministry of Transportation</u> West Kootenay District	Dave Smith Regional Avalanche Tech	4 th Floor 820 Nelson Ave Nelson, B.C. V1L 5S4	354-6455	354-6547
Grand Forks Area	Duane Neufeld District Technician	7290 – 2 nd St. Grand Forks, B.C. V0H 1H0	442-4397	
<u>Land and Water BC</u> Cranbrook Field Office	Robin Fawcett Manager, Commercial Rec.	1902 Theatre Road Cranbrook, B.C. V1C 7G1	426-1764	426-1767
Kamloops Region	Dave Bacon A/ Project Manager	3 rd Floor, 145-3 rd Ave Kamloops, BC V2C 3M1	377-7023	377-7036
<u>WLAP</u> Okanagan Region	Ken Cunningham, Ecosystem Section Head	102 Industrial Place, Penticton, BC V2A 7C8	490-8232	490-2231
Kootenay Region	Greg Burdock, Processing Clerk	102 Industrial Place, Penticton, BC V2A 7C8	490-8256	490-2231
	Louise Dunn, Processing Clerk	205 Industrial Rd G Cranbrook, BC, V1C 7G5	489-8507	489-8506
	Mike Knapik, Ecosystem Specialist	401-333 Victoria St Nelson, B.C. V1N 4K3	354-6929	354-6332
<u>Ministry of Energy and Mines</u>	David Terry, Regional Geologist	2 nd Floor 42 8th Ave South Cranbrook BC V1C 2K3	426-1658	426-1652

The referral letter will specify the dates, location and time that the public viewing will take place. The licensee will provide the opportunity for agencies or the public to meet with them to review the plan in the event that the agency staff or individuals cannot attend the public viewing. Generally, 60 days from the date of the letter must be provided for comments. The letters must be sent out at the time the first advertisement is published in the local newspaper(s).

In order to cut down on the bulk of the FDP please submit only one copy of the referral letter and a list of the groups or people to whom the letter was sent.

Notice

To meet the requirements of Section 25 of the OSPR, a notice that follows this format must be printed in a minimum of one local newspaper. However, broader advertising is encouraged as it likely will encourage more public participation.

Proposed Forest Development Plans – Arrow Boundary Forest District

Notice is hereby given that the **(state name of company)** who have harvesting rights in the Arrow Boundary Forest District will hold a public viewing of our proposed Forest Development Plan for **(Licence number)**. This plan will cover the following geographic area(s):

The Forest Development Plan shows the location and orderly development of proposed harvesting; road development, maintenance and deactivation. The plan also includes information on the maintenance and protection of other resource values in the area. It is available for review by resource agencies and the public before approval is considered by the Ministry of Forests.

The Forest Development Plan will be available for review and comment from _____(date) to _____ (date).

The Forest Development Plans will be available for review at the following location(s) ____ on ____ (date), from ____ a.m. to ____ p.m. each day.

The representative from **(Licensee name)** will be available to discuss the proposed plans and receive comments.

If any interested parties are unable to review the proposed plans during these times, arrangements can be made to view the plan at a convenient time for them.

Please contact **(Licensee name)** at **(phone number)** or in writing at **(Licensee's address)**. Concerns and comments must be provided to the appropriate Licensee in writing **(State a date that is 60 days past the date of the first advertisement.)**.

Guidance papers

Attached to this letter are guidance papers, which the ABFD staff has developed to advise licensees of the matters that I will take into account when considering FDPs for approval. Copies of these papers can also be found on the ABFD FTP site:

http://www.for.gov.bc.ca/ftp/DAB/external/!publish/District_Guidance_2004/

I trust you will use the information presented to develop your Forest Development Plans. If you have any questions concerning the FTP site or the information, please contact Tara DeCourcy, Tenures Forester.

Yours truly,

Brian Simpson
District Manager
Arrow Boundary Forest District

Attachment

cc: Mike Knapik, Ministry Water Land and Air Protection, Nelson.
Ken Cunningham, Ministry Water Land and Air Protection, Penticton

Guidance for Avalanche Issues

January 23, 2004

Several incidents have occurred in the Arrow Boundary Forest District (ABFD) where snow avalanches, originating in clearcuts, have significantly impacted downslope values such as timber, soil, water quality and public works.

Forest Development Plans (FDP) in the ABFD should consider the potential for creating new avalanche initiation zones in clearcuts or, more commonly, contributing to avalanches when they initiate above or adjacent to cutblocks. Additionally, public safety must be considered where winter road use is known to occur.

There is also a protocol agreement between the MOF and the Ministry of Transportation (MOT) that requires FDP on avalanche prone slopes adjacent to or above highways to be referred to the District Highways Manager for review. Attached is diagram 1.0: Guidelines for Avalanche Slope Assessment and Referral. As noted in the diagram, those blocks where the angle from the highway to the top of the cutblock is greater than 25° (47%) slope, require referral when proposed above a highway. The contact people for MOT referrals can be found in the cover letter for this package.

Currently there is no widely accepted methodology for carrying out snow avalanche assessments and, there are few guidelines for prescribing harvest practices to reduce avalanche hazards. The recommended approach is for avalanche experts and foresters to do assessments together, using local experience and judgement to prescribe the most suitable block configurations, harvest patterns and leave tree retention to address hazards. The professional forester signing and sealing the FDP must incorporate the current knowledge concerning harvest practices in avalanche areas into proposed harvest plans.

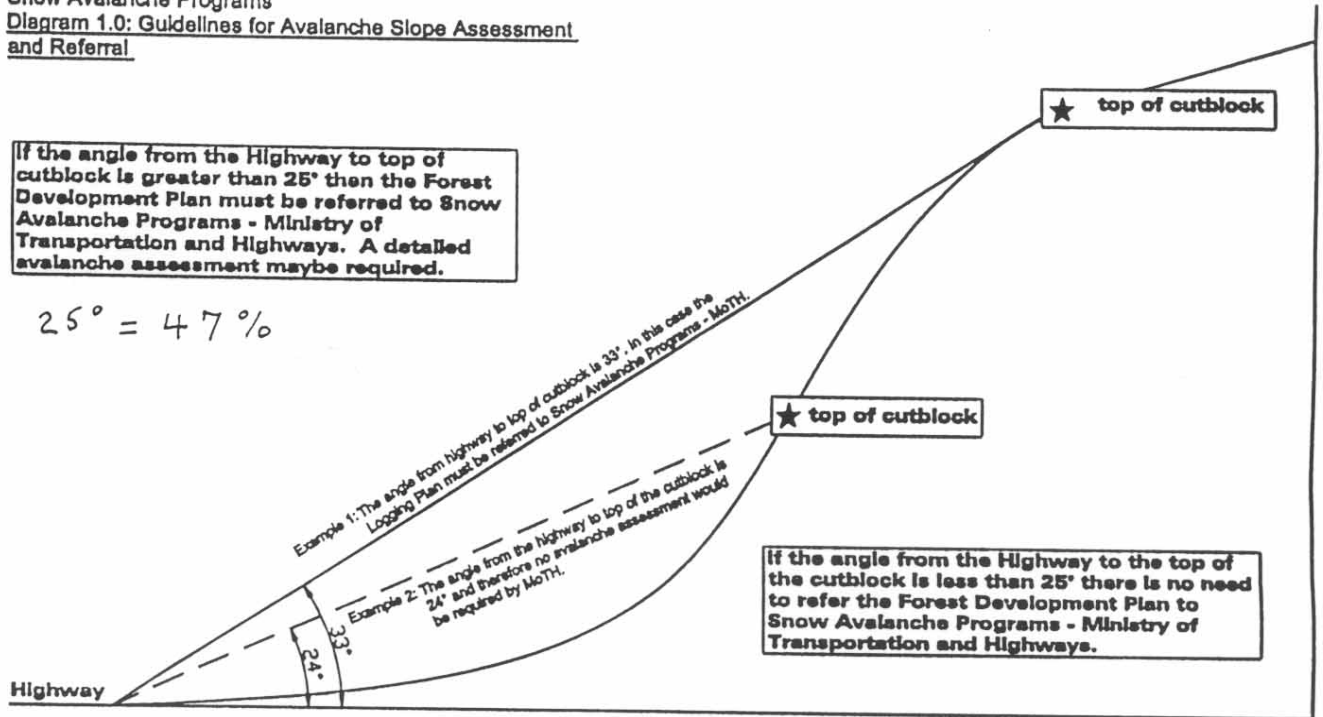
The Canadian Avalanche Association is a source of information concerning prescriptions for harvest practices in avalanche prone terrain. The Division of Engineers and Geoscientists Working in the Forest Sector also has information on their website concerning avalanche assessments and the skill set for a qualified registered professional completing snow avalanche assessments at <http://www.degifs.com>



Ministry of Transportation and Highways
Snow Avalanche Programs
Diagram 1.0: Guidelines for Avalanche Slope Assessment
and Referral

If the angle from the Highway to top of cutblock is greater than 25° then the Forest Development Plan must be referred to Snow Avalanche Programs - Ministry of Transportation and Highways. A detailed avalanche assessment may be required.

$$25^{\circ} = 47\%$$



Guidance for Domestic Watersheds

January 23, 2004

The following provides guidance beyond Objective 6 of the Kootenay-Boundary Higher Level Plan Order (HLP) for the implementation of the Domestic Watershed Guidelines (DWG) in Arrow Boundary Forest District (ABFD) for the submission of Forest Development Plans (FDP) and amendments. The direction outlined in this information package expands on sections pertaining to domestic watersheds within Kootenay-Boundary Land-Use Plan Implementation Strategy (KBLUP-IS, June 1997).

The DWG define a level of management for forest activities in domestic watersheds, which lies between standard Forest Practices Code and management in community watersheds. The KBULP-IS definition of a domestic watershed includes only those non-community watersheds licensed under the Water Act for human consumption. References in this document pertaining to referrals and field treatments apply only to those intakes licensed for human consumption. Mapping should be done for all intakes and boundaries unless otherwise specifically stated in the FDP. This information package focuses on the procedural issues of implementing the guidelines.

Key Points:

- Where new development is planned in Class 2 & 3 watersheds, ECA calculations must be submitted with FDP.
- Domestic Watershed Report Card does not need to be submitted with the FDP.
- ECA calculations should be based on the entire watershed area, including private land. If private land is not included, a rationale should be provided.
- Field verification and mapping of domestic stream channels is required for road and cutting permit application

Watershed Assessments - Domestic Watershed Report Card

Class 1 Watersheds

Reports cards are not required. Forest licensees are reminded that knowledge of actual water intake locations, mapping of streams above water intakes and determining a surface connection between the intake and any proposed roads or harvesting, is critical in managing for water quality and quantity in these small domestic water supply areas.

Some areas are mapped as Class 1 watersheds, but on closer inspection it is clear that there is a definable drainage area. In this situation, the licensee should treat the watershed as Class 2, calculate an ECA and show the drainage area on the FDP or permit application.

Class 2 & 3 Watersheds

The DWG in the KBLUP-IS require a report card to be completed for class 2 and 3 domestic watersheds. At a minimum, the ECA Assessment Table (see Figure 1.) must be

completed for class 2 and 3 watersheds, including each mapped sub-basin for larger Class 3 watersheds. Summaries are to include any development planned in a watershed. Forest licensees are asked to complete the watershed report card wherever possible. This should be kept on the licensees file as proof of due diligence.

The ECA assessment table must be submitted with the FDP. The report card does not need to be submitted with the FDP, unless requested by government agencies or as identified below. However, if a report card is required (class 2 and 3 domestic watersheds), the FDP must be consistent with the results of the watershed report card or a rationale provided as to why the proposed development should proceed.

Figure 1. Equivalent Clearcut Assessment Table for Domestic Watersheds

<i>Map Reference</i>	<i>Watershed Name</i>	<i>Watershed Area</i>	<i>Existing ECA* %</i>	<i>Proposed Harvesting Area</i>	<i>Proposed ECA* %</i>	<i>Report Card submission date - if required</i>	<i>IWAP submission date - if required</i>
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*ECA to be calculated using the procedures outlined in the Interior Watershed Assessment Procedure (IWAP) Guidebook -(i.e. H60, hydrological recovery curves).

Map Reference - NTS or Map name.

Watershed Name - Watershed or sub-basin names as per domestic watershed mapping issued fall of **2001**.

Watershed Area - gross area of the watershed as defined in the IWAP guidebook.

Existing ECA % - calculated per IWAP guidebook; includes all approved but not yet logged permits.

Proposed Harvesting Area - involves all proposed permits not yet issued.

Proposed ECA % - cumulative total of the existing ECA and the proposed harvesting area.

If the proposed ECA is higher than 15%, forest licensees should submit a complete report card or a schedule for completing the report card. Also, the District Manager may require a full Interior Watershed Assessment Procedure (IWAP) per the FPC in some areas.

The Road Permit (RP) should address site-specific mitigation measures. When hazard ratings are high, the RP should state how the potential hazard will be mitigated in light of proposed development.

Updating report cards

The report card should be updated when new development is proposed within a domestic watershed. Field confirmation of stream channels must be conducted as required to incorporate new development.

Intake Mapping and Field Confirmation of Stream Channels

Requirements for FDP submission

Domestic watershed intakes (distinct from community watershed intakes) and streams must be mapped on the FDP. Field verification of stream channels is not required prior to FDP submission, but must be completed before cutting permit submission.

Detailed drainage mapping is required for Class 1 watersheds, and may be required in portions of Class 2 & 3 watersheds if proposed development is upslope of licensed springs.

Mapping Procedure

The mapping procedure outlined in KBLUP-IS is an example of how mapping might proceed. Developers may utilise different procedures, particularly if entry onto private land is problematic. Deviations from the procedure need to be discussed with the Tenures Staff, MoF for approval prior to commencement of work. However, all mapping must somehow identify the location of the water intake relative to the proposed development as the first step in protecting the water resource. Without knowing the location of the intake on the ground and its connection to the upslope development, it is impossible to apply the appropriate reserve and riparian management practices upstream of the affected water intake.

The detail of drainage mapping is dictated by connectedness and proximity of activities to water intakes. Activities that are remote and/or not directly connected to the water source (i.e. not drained by surface water) which supplies the intake will obviously not require the same level of drainage mapping as those directly adjacent to development.

Challenges with Implementing the Mapping Exercise

We recognise there may be some difficulty associated with mapping the Class 1 watersheds. It is important to keep in mind this is not meant to be an onerous task. Forest licensees are not expected to spend unreasonable amounts of time searching for structures that are not in the licensed location. It is strongly recommended that the licensee conduct a quick interview with the water-user prior to carrying out the mapping exercise. Document where the mapping is incomplete due to logistical reasons (i.e. not in licensed location, no access to private land, etc.).

Non-licensed domestic water intakes are defined as resource features. If a non-licensed intake is discovered that was not previously identified in an operational plan, the forest licensee should take appropriate measures to protect it and capture with SP/RP maps. This information should also be reported to Land and Water BC.

Access to Private Land

Access to private land may be required during the intake mapping and field confirmation of streams. Permission should always be obtained before entering private land. Where permission is not granted the licensee should document how this limits the scope of the assessment.

Non-use of Water Licence

Forward information regarding unused licensed water source mapping to the Land and Water BC. A cancellation process of the water licence may be initiated if deemed appropriate. Requirements for completing DWG may be waived in these instances.

Application of the Guidelines on Private Land

Private Land Impact on ECAs

Private land harvesting should be incorporated into the domestic watershed report card and ECA summaries. The DWG were developed to assess the impacts of forest development activities on Crown land, however, many of our domestic watersheds contain some portion of private land in the lower reaches. Including private land in the assessment will allow some level of sensitivity testing for the entire watershed.

The District Manager may consider the private land situation in his determination of future assessments and cutting approvals.

ECA Limits in Watersheds with >15% Private land in watershed.

If under present conditions total ECA (private and crown) exceeds 20% then a field review and detailed watershed analysis must be conducted to assess the feasibility of additional harvesting with the constraints of maintaining water management objectives.

If under present conditions total ECA (private and Crown) is less than 20%, harvesting can proceed to a limit of 15% ECA on the Crown land portion. Assessments on the suitability of the private land for timber harvesting should be conducted to determine if higher ECA limits could be set on the Crown land portion.

Notification of Water Licensees

Notification of affected domestic water-users is required where proposed activities are new to the FDP. New to the plan is defined as a proposed category A cutblock or a road that is not on an approved FDP or for which a major amendment is proposed. The objectives of notification are:

1. to inform water licensees of proposed development activities within their watershed and therefore provide the opportunity for them to review and comment upon the plan;
2. to provide opportunity for water licensee to confirm location of POD, and request contingency planning where necessary.

Management Practices

Licensees must follow objective (6) of the Kootenay Boundary Higher Level Plan. It is also expected that the forest practices will be carried out per KBLUP-IS guidelines. To recap some of the more important strategies:

- Establish 50m-reserve zone upslope of intake.

- Implement S4 best management practices for 500 m upstream of the intake. If there are multiple licensees on a system, ensure riparian reserve extends from most downstream intake to 500 m above most upstream intake.
- Should not propose harvesting of an area if subject to high likelihood of landslides following timber harvesting.
- Limit ECA to 30%.
- Limit ECAs to 20% of the area draining onto sensitive or unstable areas.
- Provide at least 48-hour notification to water-users prior to road construction or deactivation if it is anticipated that sediment could reach a water intake.

Contingency Plans

Continue with informal contingency measures. If a domestic water supply or the water works are damaged or made unusable by forest development activity, the forest licensee (or MoF if applicable) will immediately take steps to correct the damage and restore the water supply. The responsible party will provide the water licensee with potable water until the water supply is restored. Normally these situations will be resolved between the forest licensee and water licensees, however, when that is not possible, MoF will determine a solution.

Formal contingency measures specific to a particular water licensee or watershed need to be negotiated between the parties and recorded in a contingency plan. Contingency plans will not be generated for all areas and will usually be initiated by the water licensee. Forest licensees should be reminded that this issue is very important to water users and it may be desirable for the company to state their intended approach to facilitate completion of the contingency plans. Forest licensees should take advantage of the referral process to initiate discussions with water licensees regarding contingency measures. A commitment to the licensees responsibilities under the general contingency planning and a licensee contact list will normally be adequate.

Domestic Watershed Intakes & Boundaries

Map all domestic watershed intakes and boundaries on 1:20,000 FDP maps. These features must be discernible from those of community watersheds. Include the name on either the 1:20,000 maps or key map.

Digital watershed boundaries of domestic watersheds and points of diversion can be found on the following FTP site:

Intakes: <ftp://nelftp.env.gov.bc.ca/pub/outgoing/hlp/data/> file: tcoin_r4.e00.gz

Boundaries: <ftp://nelftp.env.gov.bc.ca/pub/outgoing/data/water/> file: ldws_r4.e00.gz

Refinement of boundaries may occur based on more detailed information obtained during intake mapping and field confirmation of stream channels. Problems with the domestic watershed mapping should be directed to Ken Gorsline, Regional Manager, Planning, Ministry of Sustainable Resource Management, Nelson.

Updating Water Licensing Information

The domestic watershed mapping identifies only the most downstream water intake. Digital files showing points of diversion (POD) are available from the Water and Land MSRM FTP site listed above.

Water licence information can be obtained on the Water and Land BC homepage at <http://www.lwbc.bc.ca/water/surface.html>

Guidance for Flat over Steep Situations

January 23, 2004

A significant number of landslides that have occurred within the Arrow Boundary Forest District (ABFD) are categorised as “flat over steep” landslides. These landslides typically occur on steep or potentially unstable slopes that are located downslope of gentle terrain where forest development has occurred. Most often the cause of the gentle over steep landslides is related to road construction on gentle terrain that creates a drainage diversion onto the potentially unstable slopes below. Peter Jordan’s report “Regional Incidence of Landslides” provides further, more detailed information on the causes and results of gentle over steep landslides in ABFD.

Forest Development Plans

Licensees must ensure they address the issue of harvest and road building on flat terrain over steep terrain (terrain class 5 and terrain class 4 and 5 in community watersheds) in their Forest Development Plans (FDP). Tools for assessing flat over steep situations and mitigating risks include:

- Equivalent Clearcut Area (ECA) analysis – calculate ECA draining onto sensitive sites. This is an office exercise that must be completed even if a field assessment is undertaken.
- Flat over steep field assessment – ensure sensitive sites located downslope of proposed development are field reviewed by a qualified registered professional to assess the risk of increased drainage onto the sensitive site.
- Drainage plan – carry out detailed stream mapping and drainage control planning to minimise potential diversions or the poor placement of water. Road designs should consider the increased ECA due to future harvesting, and determine whether existing structures are adequately sized for corresponding potential increases in runoff.
- Partial cutting – to limit ECA over sensitive terrain.

At the FDP stage of planning, the level of information required for approval will vary based on the amount of development proposed above sensitive sites and the potential risks to downslope life, limb, property and water (in particular consumptive water) values. A flat over steep assessment may be requested depending upon the potential level of risk associated with the proposed development.

The community watershed guidebook and the Kootenay Boundary Land Use Plan implementation strategy for domestic watersheds recommend a 20% maximum ECA draining onto class IV and V terrain. Where greater than 20% ECA is proposed on gentle over potentially unstable terrain within a consumptive watershed, or with potential risks to life, limb and property located directly downslope, the gentle over steep assessment will be requested under Section 16 of the Operational and Site Planning Regulation. In other areas where greater than 20% ECA is

proposed on gentle over potentially unstable terrain, an assessment may be requested under section 37.

There may also be cases where the proposed ECA over a sensitive site is less than 20% or where only road building is proposed, but because of identified downslope risks, a drainage plan will be recommended.

Gentle over Steep Assessments

The intent of these assessments is to:

- Determine the area draining onto the potentially unstable terrain (% change in ECA),
- Examine the downslope area, and
- Assess drainage structures on any road above the potentially unstable terrain.

Content of gentle over steep reports continues to be problematic across the district. At a minimum the reports must contain:

- ECA assessment,
- Mitigating factors or rationale for exceeding 20% above potentially unstable terrain, and
- Large scale (1:5,000 or 1:10,000) map showing foot traverse.

Kootenay-Boundary Higher Level Plan Order Implementation Guidelines

January 23, 2004

All Kootenay Boundary Higher Level Plan (HLP) maps can be found at the following website:

<ftp://nelftp.env.gov.bc.ca/pub/outgoing/hlp/maps/>

Resource management zones are not established, per Section 3(1) of the *Forest Practices Act of British Columbia* (the Act). FDP submissions will be reviewed for consistency with Map 1.0, Resource Management Zones and the HLP objectives. Some of the guidance for meeting HLP objectives is included with respective district guidance rather than duplicated in this document (for example, sections referring to caribou or grizzly bear are included in the “Guidance for Wildlife Management”).

1) Biodiversity Emphasis:

To contribute to the conservation of biodiversity, emphasis is assigned as outlined on Map 1.1.

2) Old and mature forest:

Maintain “mature” and “old” forests consistent with the HLP Resource Management Zone objectives and Strategies.

Seral tables can be found at the Arrow Boundary Forest District (ABFD) FTP site:
http://www.for.gov.bc.ca/ftp/DAB/external!/publish/District_Guidance_2004/

4) Green-up/ Patch size:

Green-up

Development proposals will be reviewed for consistency with the HLP Strategies. Adequate green-up must be consistent with Objective 4(a). Where there are exceptions noted, the following apply;

- i) Community watersheds: where a watershed assessment shows that the above noted green-up requirements cannot address hydrologic concerns, an alternate height may be recommended
- ii) Visually Sensitive Areas are considered the same as known scenic areas identified in objective 9 and as per map 9.1. Within these areas, visual green-up will be based on meeting the HLP strategies.
- iii) Enhanced Resource Development Zones: as identified in Objective 7, “successful regeneration” will be the same as “adequately stocked” (this is defined in FPC General Bulletin number 42).

Patch size

Development proposals will be reviewed for consistency with the HLP Strategies. See Landscape Level Biodiversity guidance for further guidance.

5) Connectivity Corridors:

Development proposals will be reviewed for consistency with the HLP Strategies. Mature and/ or old forests must be maintained within connectivity corridors consistent with map 5.1

6) Consumptive Use Streams

Apply the HLP Resource Management Zone objectives and Strategies.

7) Enhanced Resource Development Zones – Timber

Apply the HLP Resource Management Zone objectives and Strategies as per map 7.1.

8) Fire-Maintained Ecosystems

At this time the DM and DEO have not identified areas as shrubland, open range, open forest, and managed forest ecosystem components in NDT 4. In the interim, the DM and DEO may entertain restoration proposals where the licensee has identified the above ecosystem components.

Development proposals will be reviewed for consistency with the HLP strategies.

9) Visuals

Development proposals will be reviewed for consistency with the HLP strategies. Areas identified on Map 9.1 are considered known scenic areas consistent with Section 1 of the OSPR.

Guidance for Landscape Biodiversity

January 23, 2004

Old and Mature Forest Retention and Connectivity

- Objective 1 of the Kootenay Boundary Higher Level Plan order (HLP), signed October 26, 2002, establishes landscape unit boundaries and biodiversity emphasis options for the Arrow Boundary Forest District.
- Objective 2 provides the targets for old and mature forest retention for each NDT and BEC, based on the biodiversity emphasis assignments.
- Objective 5 requires that the old and mature forest targets identified in objective 2 be preferentially retained within connectivity corridors and identified grizzly bear habitat.

Old Forest Retention

In Low Emphasis Landscape Units (LU), the old forest targets in the HLP order are drawn down to 1/3 of the original old targets for the first rotation. If old seral forest is in deficit in any BEC/LU, harvesting in old may only be proposed if a sound rationale is provided, in accordance with objective 2(5) of the HLP.

Draft Old Growth Management Areas (OGMA) exist in a variety of stages in the district. Where they exist and are approved for use by the DM, draft OGMA's must be respected in a FDP submission. Minor rationalisation and amendment to these boundaries are permitted on a site-specific basis when done in consultation with MOF and MSRM staff.

Mature plus Old Forest Retention

Where mature plus old is in deficit, harvesting in mature forest areas may be proposed consistent with:

- 1) HLP objective 2(5) or
- 2) Strategy 2(6), which provides for partial cutting up to 30% while maintaining mature characteristics. See guidance on 30% removal for more information.

HLP Reports and Reporting Tool:

MSRM has prepared HLP reports for each landscape unit, which detail areas of old and mature forest within different resource emphasis areas in each landscape unit. These reports are also found at the following FTP site.

http://www.for.gov.bc.ca/ftp/DAB/external/!publish/District_Guidance_2004/

These reports will be used to determine whether proposed FDP are consistent with the HLP requirements for biodiversity, connectivity and caribou. The tables have been depleted by the areas of all FDP approved blocks to September 1, 2003.

The licensee can create the tables using the HLP reporting tool created by Ron Fretwell. The same data can be used to produce Options Maps showing the oldest available age class. The data and reporting tool can be downloaded from the MSRM ftp site. This is a protected site, those needing a password should contact Per Wallenius at MSRM. Using WSFTP enter Host 142.36.245.136, and follow the path pri/outgoing/SFM_HLPO. The data is in the Data folder, whereas the interface Tool and FAQs are in HLPO_Docs.

FDP Submissions

When preparing a FDP amendment, licensees must supply a summary table showing harvest by LU and BEC to indicate compliance with HLP targets for old and mature forest retention. Any changes to the data or tables must be clearly explained in the submission.

Patch Size:

The following criteria will be used to evaluate proposals for cutblocks, or aggregates of cutblocks, greater than 40 hectares:

- When requested by the district manager, the licensee must show that the proposed opening is consistent with the temporal and spatial distribution of natural openings by providing a patch size analysis (PSA) for the LU/NDT as described below.
- In LU where a PSA indicates opportunities to create cutblocks larger than 40 hectares, it is preferable to aggregate cutblocks to create larger openings before proposing larger openings in undeveloped areas.
- General objectives for WTP, structural attributes and general retention, including comments on how these objectives will be incorporated into block design.
- Specific commitments and/or description of opportunities for each large block or aggregate proposed in a FDP, such as what structural attributes exist in the stand pre-harvest and what actions will be taken to “be consistent with structural characteristics of natural openings”.
- Joint agency/licensee field reviews (prior to development plan submission) are beneficial but are not a requirement to obtain Category “A” approval.
- Supporting documentation (as described below) to support discussion at the external round table meetings.
- Temporal and spatial distribution of cutblocks (patch size) should not take precedence over the other resource objectives of old growth, visual, ungulate winter range, caribou, grizzly or community and domestic watersheds.

Supporting Documentation

While it does not form part of the FDP, supporting documentation clarifies the intent of the proposed large patch. It is recognised that detailed fieldwork will not usually be completed at this stage. It may include, but is not limited to:

- A detailed large-scale map (1:5,000 or 1:10,000), orthophoto or aerial photographs clearly outlining the proposed block and important attributes within the patch.

- A brief but detailed report (conceptual design) outlining the structural characteristics that are being retained and how the temporal and spatial distribution of the block is considered consistent with natural openings. The report should clearly specify what natural disturbance agent the design is intending to emulate.
- Reconnaissance notes.
- Input from a biologist.

Patch Size Analysis

The licensee may use air photos, satellite imagery, geographic information systems or another method to roughly determine the existing distribution of early seral patches. Consistent with the Landscape Unit Planning Guidebook, the PSA should use harvested or disturbed areas 20 years or younger.

The person completing the PSA must make assumptions on what constitutes a patch; specifically, on what separates two early seral patches. In general, two areas of early seral separated by a small unit of differing vegetative composition, such as an avalanche track, a riparian area, or a small forested area that would normally be considered an island or skip in the adjacent disturbed units, are assessed as a single patch. Analysis is done at the landscape level so separation of patches should be done at that level. In general a forested leave area which is available for a future harvest opportunity or a significant leave area of inoperable forest will create a separation into two patches. If, in the opinion of the assessor, the unit of differing vegetative composition separates the adjacent early seral into two patches, a rationale is expected. It should also be recognised that natural disturbances did not follow operability lines so it may not be possible within the land base we manage to create patches of the orientation and size of nature.

Discuss proposed PSA assumptions with MoF staff to ensure agency agreement before proceeding with the PSA. In multiple licensee LU, the licensees in the LU will jointly determine responsibility for completion of the analysis. This choice will be made on the basis of proportion of area in each chart and which licensee has large blocks proposed.

In LU with no targets for >250 ha patches (NDT 1 and 2) and where these patches exist they should be tallied in the table which reflects their size and the objective of moving toward the guidebook targets should be maintained. Patches which overlap LU or district boundaries or NDT lines should be recorded in the category of the overall patch size but only have the actual area within the administrative area tallied in that category. When the inventory data file is used for the GIS exercise be cautious with very light partial cut blocks which may be recorded as clear cut but are not in fact an early seral patch.

Rationale for Blocks Greater than 40 Hectares

The Operational and Site Planning Regulation (OSPR) provides the following three avenues for the district manager to approve blocks greater than 40 hectares:

1. OSPR 11(3)(b)(i)(A) – Forest Health

Although this section specifies that the harvest is planned to recover timber that is damaged, it is usual to have some percentage of timber that is undamaged. Ensure that the block does not contain an undamaged area that would represent a future harvest opportunity. Where possible the cutblock must incorporate the structural characteristics of natural openings (see number 3 below for examples). Detail regarding what structural characteristic will be retained is not required to be submitted with the FDP.

2. OSPR 11(3)(b)(i)(B) – Greater than 40% Retention

The proposed silvicultural system must be other than clearcut or seedtree, and the silvicultural system must retain 40% or more of the basal area of the stand. Clearcut with reserves may be used as a silviculture system, provided harvesting will result in a reasonably uniform distribution of small patches or individual retention across the patch. Proposals to include clearcut openings in a patch should include a rationale in the FDP.

3. OSPR Section 11(3)(b)(ii) – Structural Characteristics of Natural Openings

Licensees must provide sufficient detail, using maps and written descriptions, at the time of the FDP to show that the cutblock incorporates elements left by natural disturbance. For the Arrow Boundary District, these leave elements include, but are not limited to:

- High quality Wildlife Tree Patches.
- Retention areas designed as islands, skips, or clumps within the perimeter of the disturbed area.
- Dead trees within the perimeter of the disturbed area.
- Individual trees including trees from the largest diameter classes. Low economic value stems often provide the best wildlife tree attributes.
- Retention of a variety of tree species where opportunities exist.
- Large downed material distributed across the block in varying volumes and concentrations.
- Irregular block boundaries to create a greater forest edge.

As block size is increased, stand structure becomes increasingly important. While WTP targets are set for the LU and do not change with cutblock size, it is recognised that designing the block consistent with structural characteristics of natural openings dictates that a larger percentage of retention may be required in addition to WTP. When cutblock size exceeds 40 hectares, it is expected that the majority of the WTP will be internal to the cutblock/patch boundary. No specific targets or range has been established for increased structural retention.

Guidance for Stand Level Biodiversity

January 23, 2004

Wildlife Tree Patches

The Ministry of Forests and Water, Land and Air Protection (WLAP) approved and released “Provincial Wildlife Tree Policy and Management Recommendations” (February 2000). This policy paper provides clear direction regarding wildlife tree retention, and should be used as guidance by Arrow Boundary Forest District Licensees.

There are a few points that merit restating or interpreting here to ensure that there is clear communication and understanding by all parties.

Guiding Principles for Wildlife Tree Retention:

- The most important consideration for wildlife tree retention is QUALITY. We can achieve wildlife tree / stand structure objectives with minimal impact to timber supply if we do a good job of selecting high value wildlife trees for retention.
- Stand structure elements that are important for maintaining biodiversity include dead wood, standing dead trees, coarse woody debris, large living trees, tree species diversity and structural diversity. These elements are well described in Appendix 5 of the Biodiversity Guidebook. Specific valuable wildlife tree attributes are well described within the February policy paper.
- Most, if not all, cutblocks have some valuable wildlife tree attributes which should be retained.
- Wildlife tree patches (WTP) are to be retained for a minimum of one rotation. This does not necessarily apply to additional reserves that have been retained for purposes other than wildlife trees (i.e.: visuals), but reserves that have specifically been selected and identified for wildlife tree attributes must be kept a minimum of one rotation.
- The distribution of wildlife tree reserves is important. 500 metres should still be considered a guideline for maximum distance between reserves. However, there are often opportunities for individual or patch retention of wildlife trees at closer spacing.
- In accordance with Section 19 of the Timber Harvesting and Silviculture Practices Regulation, no salvage may occur within WTP without written notification. Licensees received written notification per section 19 on July 24, 2003. This notification specifies the conditions that must be followed when salvaging in WTP.
- Forest planners and operators who are making decisions regarding wildlife tree retention should have training through the “Wildlife Tree Danger Assessors Course” and all efforts should be made to avoid harvesting valuable wildlife trees.

Impact Management and Administration Issues:

- To be consistent with provincial timber impact estimates for wildlife tree retention, the timber harvesting land base (THLB) impact has been capped at 50% (this assumes that at least 50% of the wildlife tree targets will be achieved outside the THLB).
- Therefore, the targets for wildlife tree retention within cutblocks will stay the same, but a maximum of 50% should be located on the THLB.

- Non-contributing landbase that is located within the Total Area Under Prescription (TAUP) can be used to meet up to 100% of the wildlife tree retention target – if it contains suitable wildlife tree attributes and meets the ecological guiding principles for wildlife tree selection outlined within the February policy paper. However, if there is less than 50% of the target available in non-contributing, wildlife tree retention will be less than the target.
- The target percentages for wildlife tree retention should be considered soft targets at the cutblock level and hard targets at the cutting permit level. (Note that the policy suggests targets to be achieved at the sub-zone level, but this would entail a broader scale tracking system to monitor this. For the time being, targets should be achieved and tracked at the cutting permit scale)
- All wildlife tree reserves must be included within the TAUP.
- There are provisions within this wildlife tree policy for varying the amount of non-contributing landbase that will be assumed to meet targets (the 50%) by sub-zone within a landscape unit, while still averaging 50% over the whole landscape unit. This may be a desirable approach, and could be pursued in the development of landscape unit objectives for stand structure. In the interim however, continue to use the 50% as a guideline.

L.U.	BEO	NDT	VARIANT	WTP %	L.U.	BEO	NDT	VARIANT	WTP %
ROCK B01	H	4	IDF-dm1	7	KETTLE B06	L	3	ESSFdc1	6
		4	IDF-xh1	5			3	ICH-mk1	6
	I	3	ESSFdc1	6			3	MS--dm1	8
		3	ICH-mk1	8			4	IDF-dm1	6
		3	MS--dm1	7			5	AT-----	
		4	PP--dh1	5	BOUNDARY B07	L	2	ICH-mw2	10
GILPIN B02	I	5	ESSFdc1				3	ESSFdc1	6
		2	ESSFwc4	7			3	ICH-mk1	8
		2	ICH-mw2	7			3	MS--dm1	7
		3	ICH-dw-	7			4	IDF-dm1	7
		3	ICH-mk1	7			5	AT-----	
		4	IDF-dm1	6	TRAPPING B08	L	3	ESSFdc1	8
LYNCH B03	I	4	IDF-xh1	5			3	ICH-mk1	8
		4	PP--dh1	4			3	MS--dm1	8
		2	ESSFwc4	1			4	IDF-dm1	12
		2	ICH-mw2	4	GABLE B09	I	2	ESSFwc4	1
		3	ESSFdc1	4			2	ICH-mw2	4
CHRISTINA B04	I	3	ICH-dw-	5			3	ESSFdc1	4
		3	ICH-mk1	2			3	ICH-dw-	6
		4	IDF-dm1	4			3	ICH-mk1	6
		5	AT-----				5	AT-----	0
		2	ESSFwc4	4	BURRELL B10	H	2	ESSFwc4	5
		2	ICH-mw2	4			2	ICH-mw2	6
KELLY B05	L	3	ICH-dw-	2			3	ICH-dw-	5
		3	ICH-mk1	8			3	ICH-mk1	6
		4	IDF-dm1	5			4	IDF-dm1	0
		4	IDF-xh1	5			5	AT-----	
		5	AT-----		RENDELL B11	H	3	ESSFdc1	6
		5	ESSFdc1	6			2	ESSFwc4	5
KELLY B05	L	3	ICH-mk1	6			3	ICH-mk1	7
		3	MS--dm1	6			3	MS--dm1	7
		4	IDF-dm1	5			5	AT-----	0
		5	ESSFdc1						

* based on Appendix 10 Wildlife Tree Retention Targets 2001 FDP

L.U.	BEO	NDT	VARIANT	WTP %	L.U.	BEO	NDT	VARIANT	WTP %
BARNES	L	1	ESSF-wc	10	HODER	L	1	ESSF-wc	6
		2	ICH-mw	10			2	ICH-mw	8
		3	ICH-dw	8			3	ICH-dw	6
		5	AT	3			5	AT	4
BEAR	L	2	ESSF-wc	10	IDAHO	L	1	ESSF-wc	6
		2	ICH-mw	8			2	ICH-mw	6
		3	ICH-dw	6			3	ICH-dw	10
BLUEBERRY	L	2	ESSF-wc	10			5	AT	3
		2	ICH-mw	10	JOHNSTON	L	2	ESSF-wc	10
		3	ICH-dw	4			2	ICH-mw	8
		5	AT	10			3	ICH-dw	6
CARIBOU	L	1	ESSF-wc	8	KOCH	L	1	ESSF-wc	8
		2	ICH-mw	12			2	ICH-mw	10
		5	AT	4			3	ICH-dw	10
CAYUSE	L	1	ESSF-wc	8			5	AT	4
		2	ICH-mw	6	KUSKANAX	H	1	ESSF-wc	3
		3	ICH-dw	8			2	ICH-mw	7
		4	ICH-xw	6			1	ICH-wk1	***
		5	AT	4	LADYBIRD	L	1	ESSF-wc	10
DOG	L	2	ESSF-wc	8			2	ICH-mw	10
		2	ICH-mw	8			3	ICH-dw	6
		3	ICH-dw	4	LEMON	H	1	ESSF-wc	3
EAGLE	L	1	ESSF-wc	10			2	ICH-mw	7
		2	ICH-mw	10			3	ICH-dw	5
		3	ICH-dw	10			5	AT	1
		5	AT	4	PEDRO	L	1	ESSF-wc	6
ERIE	L	2	ESSF-wc	6			2	ICH-mw	8
		2	ICH-mw	8			3	ICH-dw	8
		3	ICH-dw	6	PEND O'REILLE	I	2	ICH-mw	5
FISH	L	1	ESSF-wc	3			3	ICH-dw	7
		1	ICH-wk1	8			4	ICH-xw	5
		3	ICH-mw	10	PERRY	L	1	ESSF-wc	8
		5	AT	3			2	ICH-mw	8
FOSTHALL	L	1	ESSF-wc	8			3	ICH-dw	8
		1	ICH-wk1	10	ROSSLAND	L	2	ESSF-wc	3
		2	ICH-mw	12			2	ICH-mw	6
		5	AT	3			3	ICH-dw	6
GLADE	L	2	ESSF-wc	4	SHEEP	L	2	ESSF-wc	8
		2	ICH-mw	6			2	ICH-mw	6
		3	ICH-dw	6			3	ICH-dw	6
GLADSTONE	L	1	ESSF-wc	4	TROUT	H	1	ESSF-wc	1
		2	ICH-mw	6			1	ICH-wk1	7
		3	ICH-dw	8			2	ICH-mw	7
		5	AT	3			5	AT	0
HALFWAY	H	1	ESSF-wc	0	VIPOND	L	1	ESSF-wc	6
		1	ICH-wk1	1			2	ICH-mw	12
		2	ICH-mw	7			5	AT	?
		5	AT	?	WILSON	H	1	ESSF-wc	3
HILLS	L	1	ESSF-wc	6			2	ICH-mw	5
		2	ICH-mw	6			5	AT	0
		3	ICH-dw	?	WODEN	L	1	ESSF-wc	6
		5	AT	6			2	ICH-mw	8
							3	ICH-dw	12
							5	AT	3

Guidance for Visual Management

January 23, 2004

The Kootenay-Boundary Higher Level Plan Order (HLP), Map 9.1, identifies and makes known Scenic Areas and associated Classes. The Forest Development Plan (FDP) map must include these scenic area boundaries for the area under the plan.

The Strategies for the HLP indicates the landscape design intent for foreground, midground and background within each class.

The Operational and Site Planning Regulation (OSPR) states that when a cutblock is in the known scenic area, a visual impact assessment (VIA), that demonstrates that the timber harvesting operations are consistent with the established Visual Quality Objectives (VQO) for the area, must be completed.

Establishing VQO is a high priority for the district, and will be completed in the coming months. Until VQO are established, the HLP will guide visual management for new or amended FDP. Within the Timber Supply Area (TSA), the most recent Visual Landscape Inventory information will be available to support the landscape design intent in the HLP. This most recent inventory information may be accessed on the IFPA website.

Visual management on blocks approved in previous FDP will be based on inventory polygons and recommended VQO in place at the time of FDP approval for the respective areas.

The landscape design for visual management must be supported by a visual simulation package (VSP), which replaces a VIA where VQO have not been established. The VSP for the proposed block(s) will be assessed using the following criteria:

- does the VSP achieve the basic definition for the stated landscape design intent for the class,
- does the design respond to the visual lines of force present in the landscape and
- is the proposal within the prescribed percent alteration guidelines.

Viewpoints to be used for the visual simulation package should be identified and agreed upon at the FDP stage. The decision on viewpoints should consider the worst case scenario if the viewpoints are not obvious. Discuss modifications to the viewpoints with District staff if they are necessary at the site planning stage.

References:

Visual Impact Assessment Guidebook 2001
Kootenay Boundary Higher Level plan Order
Strategies for the Kootenay Boundary Higher Level Plan Order
Visual Landscape design Training Manual
Forest Practices Code of BC Act
Operational Planning Regulation

Performance Standards Guidance for Permanent Access Structures, Soil Disturbance and Stand Level Biodiversity

January 23, 2004

PAS and Soil Disturbance

The FPC of BC Act (consolidated to Dec. 17, 2002) states in Section 46(1) and 47(1), for PAS and Soil Disturbance, that an area under a Site Plan must not exceed the prescribed maximum proportion.

The OSPR is only slightly more specific in its description of the requirements for PAS and Soil Disturbance. Under Section 36.2(1)(c) of the OSPR in the case of PAS, the regulation states that the Site Plan must identify for each cutblock, the requirements under Section 30 of the THSPR. In the case of Soil Disturbance, Section 36(1)(d) of the OSPR states that the Site Plan must identify, for each S.U., the requirements under Section 31 of the THSPR. The same is true for maximum allowable soil disturbance for roadside work areas the Site Plan must identify the requirements (for each cutblock) under Section 32 of the THSPR.

The THSPR Section 30 states PAS must not exceed the applicable performance standard or if no performance standard exists, the default proportion is 7% of the gross block area. This maximum can be temporarily exceeded as long as the additional area is rehabilitated. Sections 31 and 32 state that disturbance on the NAR must not exceed the applicable performance standard for both Soil Disturbance in the block and for roadside work areas if no performance standard exists

Note:

- PAS - As specified in Section 30(4) of the OSPR, the licensee need only amend their Site Plan if they need to revise the proportion of PAS required. This would entail specifying in the amendment the percent PAS required and rationalising why either the default 7% or applicable performance standard is inadequate. This documentation is to be kept in the licensee's files.
- Soil Disturbance – As specified in Section 31(4) of the OSPR, there is no requirement to amend the FDP or Site Plan if the licensee wishes to exceed the specified soil disturbance limits. The licensee is allowed to temporarily exceed soil disturbance limits if the excess area (i.e. area required above limits specified in Site Plan) is rehabilitated.

Wildlife Trees

Section 18(1)(u) – Map and information Requirements for FDP’s – states that the licensee’s FDP must include general objectives respecting target levels of retention for CWD and wildlife trees. In addition Section 16(1) of the THSPR states that licensees must at least meet the performance standard for retention of Wildlife Trees or if no performance standard exists to follow the retention specified in Chapter 3.2 of the 1999 Landscape Unit Planning Guide.

Note:

- Wildlife Trees - There are no provisions to amend the area occupied by wildlife trees in the Site Plan or FDP, from those specified in the applicable performance standards or the default values described in the Landscape Unit Planning Guide.

Applicable Performance Standards

The ‘applicable performance standard’ is defined in Section 1(2) of the THSPR as meaning the specific level to which a person must perform a requirement of Sections 16, 30, 31 or 32 on an area. Furthermore, this Section states that if (as per subsection (2)(b)) the area is not subject to a Silviculture Prescription, then **those standards must be specified in the FDP.**

Section 18(3) of the OSPR – Optional Content for a FDP – allows these performance standards to be inserted into the licensee’s FDP. As stated previously, if the licensee doesn’t want to produce any performance standards of their own, there are default provisions provided in the THSPR.

Riparian Assessments in Community Watersheds

January 23, 2004

It is critical that the information the licensee is using to produce their development plan meet the requirements of sections 10(1)(d) and 41 the *FPC* to allow the SDM make a decision. The SDM must be both, confident with the licensee's riparian classification and assured that the resource will be adequately managed.

There is no legislated requirement to collect information in the field to complete a riparian assessment. However, it is sometimes difficult to determine the existence of stream reaches without field verification. Section 15 of the OPR was amended in August 2001 to provide the licensee an option to completing field assessments at the FDP stage - this does not apply to areas within community watersheds.

MoF district staff has obtained a legal opinion with regard to when field verification of riparian class is required. The opinion states that the riparian class of a stream (or a reach) cannot be accurately determined using aerial photos and/or topographic maps. Therefore, the licensee must field verify the riparian class of all streams within community watersheds that are within or adjacent to or may be impacted by any proposed development (blocks and roads). Where this is not the case the licensee must identify the area of this deficiency and provide the DM with sufficient information for him to determine that the Sec 41(1)(a) test has been satisfied.

Guidance for Wildlife Management

January 23, 2004

The Development Plan should:

- Update and provide summary seral tables for caribou that show development is consistent with the Higher Level Plan (HLP) tables.
http://www.for.gov.bc.ca/ftp/DAB/external!/publish/District_Guidance_2004/
- Update and provide summary seral tables for ungulate winter range units that show development is consistent with the KBLUP-IS direction.
- Summarise the strategies to address caribou and ungulate winter range seral targets.
- Summarise measures to protect species at risk. The priority species lists can be found at <http://srmwww.gov.bc.ca/cdc/tracking.htm>
- Further to the above, all development should consider the “Identified Wildlife Management Strategy”, Volume 1, February 1999. Additional information is available at <http://wlapwww.gov.bc.ca/wld/identified/>

Ungulate Winter Range

Management will be consistent with the provisions of the Kootenay-Boundary Land Use Plan – Implementation Strategy.

Maps identifying critical ungulate winter range are available on the IFPA website
http://www.for.gov.bc.ca/ftp!/Project/Arrow_IFPA/Outgoing/ArcCover/DistrictThemes/

The Licensee should propose generally smaller block sizes within ungulate winter range. Effective integration of harvesting within ungulate winter range requires site specific design and a long term harvesting strategy for areas of at least 250 hectares. Proponents are strongly advised to retain professional biologists or other qualified persons to collect area and site specific information and to design harvest plans that do not compromise ungulate winter range.

Harvest and road building activities in the latter part of winter in UWR may cause physiological stress to the animals when they are at their lowest energy levels. Accordingly, the FDP should highlight when these activities are planned in UWR in the winter months.

Small pockets of important ungulate winter range occur outside of the mapped area; forest practises are expected to manage for ungulate winter range where it occurs, when identified and agreed to by the District Manager and Designated Environment Official.

Seral Targets for Ungulate Winter Range

Follow the KBLUP-IS direction on ungulate winter-range cover requirements. To summarise:

- Retain a minimum of 30% of the existing forest cover, with an average age >101 years, in BEC's within NDT4 for winter range areas in each landscape unit.
- Retain a minimum of 40% of the existing forest cover, with an average age >101 years, in each BEC outside of NDT4 for winter range areas in each landscape unit.

Caribou Habitat

Apply the KBHLP Resource Management Zone objectives and Strategies.

Apply Table 3.1 Caribou Habitat requirements consistent with habitat areas shown on Map 3, dated November 3, 2000.

<http://nelftp.env.gov.bc.ca/pub/outgoing/hlp/maps/>

Updated seral tables identifying forest contributions to caribou habitat targets and harvest opportunities can be found at

http://www.for.gov.bc.ca/ftp/DAB/external!/publish/District_Guidance_2004/

Grizzly Bear Habitat

Development proposals will be reviewed on the basis of the KBHLP Strategies and the portions of KBLUP-IS that are applicable to licensees/BCTS. The Granby-Gladstone Grizzly Bear population has been designated as a high priority for a Grizzly Bear Recovery Strategy under the Provincial Grizzly Bear Conservation Strategy. A process for this strategy may commence at any time and may include areas in the Arrow TSA and TFL 23, in addition to the Boundary TSA.

Although mapping of important avalanche tracks has not been made available by the DEO (as per KBHLP RMZ objective 5), the following guidance should be considered;

The higher ranked habitat type is the herb/forb/grass dominated avalanche track. In conjunction with the vegetative component, attention should be given to the significance of the number of tracks, dimensional attributes such as runout width and rate of incidence with riparian or adjacent avalanche runouts. For example, a series of avalanche tracks with wide runouts that interconnect, traverse through riparian habitat and have the appropriate vegetative component would be classified as very high. Single, wide avalanche tracks with a herb/forb/grass dominated vegetative community, but isolated by extensive tracks of forest habitat, should also receive consideration for a high classification ranking primarily because of the avalanche track's biodiversity significance.

Additional Guidance for Granby-Gladstone Grizzly Bear Planning Area.

The area in the former Boundary Forest District shown by KBLUP-IS as Priority 2 and Priority 3 Grizzly Bear Habitat and the area covered by the existing Grizzly Bear Compartments will now be known as the "Granby-Gladstone Grizzly Bear Planning

Area.”. In addition to the above, this strategy will be used to review proposals in this area. Refer to the directory “Granby-Gladstone Grizzly Bear Planning” for the most recent version of the strategy. This can be found at http://www.for.gov.bc.ca/ftp/DAB/external/!publish/District_Guidance_2004/

Proponents must state how they will manage for grizzly bears. Tabular data should state the Grizzly Bear priority rating and if the block or road is within a Granby-Gladstone Grizzly Bear Compartment, list the compartment number.

Mountain Goat Habitat

Mountain goat habitat mapping is available on the IFPA site.

Using the available mapping noted above, the licensee should identify escape terrain (generally identified as steep, cliff-dominated topography with south-western exposure). Within approximately 400m of identified escape terrain, the licensee should propose harvesting that maintains roughly 40% of the existing forest cover similar to requirements for the above noted ungulate winter range.