

GUIDANCE TO C&E PROGRAM STAFF ON THE ASSESSMENT OF MEASURABLE OR VERIFIABLE RESULTS OR STRATEGIES WITHIN A FOREST STEWARDSHIP PLAN (FSP)

PURPOSE

The purpose of this bulletin is to assist C&E program staff who may be called upon by a DDM to provide advice on whether results or strategies within an FSP are measurable or verifiable. It is not legal advice; it is not binding, and is intended to act as guidance only[†].

LEGISLATIVE REQUIREMENTS

Section 5(1)(b) of *Forest and Range Practices Act* (FRPA) reads as follows:

A forest stewardship plan must

(b) specify intended results or strategies, each in relation to (i) objectives set by government, and (ii) other objectives that are established under this Act or the regulations and that pertain to all or part of the area subject to the plan,

The *Forest Planning and Practices Regulation* (FPPR) in force January 31, 2004, contains the following two definitions:

"result" means a description of (a) measurable or verifiable outcomes in respect of a particular established objective, and (b) the situations or circumstances that determine where in a forest development unit the outcomes under paragraph (a) will be applied;

"strategy" means a description of (a) measurable or verifiable steps or practices that will be carried out in order to meet a particular established objective, and (b) the situations or circumstances that determine where in a forest development unit the steps or practices will be applied; (emphasis added)

Therefore, pursuant to the legislation, an FSP **must** contain a description of measurable or verifiable outcomes OR a description of measurable or verifiable steps or practices, **and** a description of the situations or circumstances that determines where they apply.

ASSESSING RESULTS AND STRATEGIES

It is the Delegated Decision Maker's (DDM) role to assess licensees' proposed results and strategies to determine if (a) they fulfill the descriptive requirements, and (b) are consistent with objectives. It is C&E's role to assist the DDM with respect to the (a) part of that determination.

How does government determine whether a result or strategy has met the descriptive requirements?

THE MEANING OF THE WORDS

Understanding the meaning of the words used in the provisions is an important first step. The following definitions, synthesized from Oxford and Merriam-Webster dictionaries, may be helpful:

Measurable: capable of being measured; susceptible of mensuration or computation.

[†] You will require a colour printer in order to fully utilize this Bulletin in a printed format.

Measure: dimensions, quantity, or capacity as ascertained by comparison with a standard. A reference standard or sample used for the quantitative comparison of properties: *The standard kilogram is maintained as a measure of mass.* A unit specified by a scale, such as a meter, or by variable conditions, such as a day's march.

Verifiable: capable of being verified or disproved by experiment or observation.

Verify: to determine or test the truth or accuracy of, as by comparison, investigation, or reference; to prove to be true or correct; to establish the truth of; to confirm; to substantiate.

Situation: the way in which something is placed in relation to its surroundings, or a relative position or combination of circumstances at a certain moment.

Circumstance: a condition, fact, or event accompanying, conditioning, or determining another; an essential or inevitable concomitant [*the terrain is a circumstance to be taken into consideration*]; or a subordinate or accessory fact or detail, a piece of evidence that indicates the probability or improbability of an event.

Generally speaking, something is measurable when an outcome can be compared to an empirical set of data in order to determine if the outcome has been achieved. This will usually involve numbers. Something is verifiable where there are either steps in a process and/or an end result that can be proven through examination or demonstrated to have occurred. The way in which something is placed in relation to its surroundings can describe the situation: for example, within a riparian area or not within a riparian area. A fact, condition, or occurrence affecting an event describes a circumstance: for example, low crown commercial thinning (intermediate cut) versus seedtree silvicultural system. Another way to view this is that a result or strategy must be quantifiable or demonstrable.

FAMILIARITY WITH THE PRACTICE REQUIREMENTS

Another valuable tool is to be familiar with the practice requirements set out in the FPPR. Each practice requirement is equivalent to a result or strategy. Under FPPR s.12.1, a licensee is exempt from providing certain results or strategies if it undertakes to comply with certain practice requirements. Alternatively, under FPPR s.12.2 to 12.5 a licensee may specify a result or strategy, and in doing so may adopt a practice requirement as their result or strategy. The practice requirements therefore provide valuable clues as to what the Legislature considers to be enforceable results and strategies. Moreover, those results and strategies are considered to be consistent with objectives.

You will notice that each of the practice requirements contains specific and essential elements. They are:

- Who
- What
- Where
- When

The “why” is usually implicit in the objectives set by government, or contained within documents supplied for information purposes to support the FSP.

With respect to *how* results and strategies will be achieved or carried out, there is no need for an FSP to explain how a *result* will be achieved. A *strategy*, on the other hand, must articulate sufficient steps or practices for the DDM to understand what is being described and to determine whether it is consistent with

objectives. The “how” may be described in more detail in a site plan, or through the adoption of a guidance document, or even in a licensee’s standard operating procedure.

An example of the application of the ‘who, what, where, when’ test to a FPPR practice requirement is set out below.

***Landslides 37** An authorized person who carries out a primary forest activity must ensure that the primary forest activity does not cause a landslide that has a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act. (emphasis added)*

- Who: “*authorized person*”
- What: “*does not cause a landslide that has a material adverse effect*”
- Where: (location of) “*the primary forest activity*”
- When: “*carries out a primary forest activity*” “*in relation to one or more of the subjects listed in section 149(1) of the Act.*”

This practice requirement describes a result that can be verified and enforced.

A 2-STEP PROCESS

The first step in assessing results and strategies is to break down each proposed result or strategy into its essential elements: Who is doing it, where will it occur, when will it occur and what will occur. Why it will occur will likely be the implicit goal of meeting the objective. Without one of these essential elements, the result or strategy may not be measurable or verifiable, or describe the situations or circumstances where it will be applied in a forest development unit.

Where a proposed result or strategy does not contain one of the four essential elements, and you are going to advise the DDM that it does not meet the legislative definition, you may wish to describe it in terms such as these:

“the proposed result for xxxx is not measurable because it is not specific as to “when” it will occur. Without the required specificity C&E staff will be unable to state whether the activity occurred in or outside of the prescribed period and accordingly will be unable to enforce this provision of the FSP.”

The second step, once you have broken the proposed result or strategy into its elements, is to ask:

- a) can an empirical set of data be used to determine whether or not the proposed result has been achieved? and/ or
- b) are there specific, clear steps or practices in a well described process that can be shown to have occurred? and
- c) can it be determined under what situations or circumstances the result or strategy will be applied?

Here is an example of a result or strategy that is missing one or more of the essential elements (from a fictional FSP submission), and below it, some of the missing elements are identified:

Result or Strategy for Objective set by government for water, fish, wildlife and biodiversity within riparian areas (FPPR s.8)

5.1.1: Each Holder of this FSP adopts that the width of the riparian management zone (RMZ), riparian reserve zone (RRZ) and the riparian management area (RMA) shall be either:

- a) as specified in FPPR s.47(4), 48(3) and 49(2), as they were on the Date of Submission; or
- b) other specified widths as may be specified by a Holder of this FSP in a site plan, provided that these widths reflect FPPR Schedule 1 s.2 factors as they may apply to the riparian areas, and
 - i) no net change in total riparian reserve area at a watershed (area between 5 – 500 km²) or landscape unit level, within +/- 10% (based on a sampling error greater than 10) over the term of the FSP; with the balance of the riparian reserve area being allowed to be carried over into the next term, to the extent that such factors are not already addressed by a requirement, i) under this FSP, or ii) in an enactment that applies to the riparian area covered by the site plan, or
 - ii) practicable to harvesting high value timber.

Sleuthing out the missing elements:

- Content/consistency – no mention of FPPR s.50, 51, 52(2) or 53 as related to FPPR s.8, 12.1(2) and 12.3
- No definition provided for “riparian reserve area” – therefore, “what” or “where” is it?
- Site plan has widths, however, site plan is not defined as an “operational plan,” therefore verification would be about “what” is or is not listed in a site plan. The site plan itself is not enforceable.
- Verification of factors (as to “where or when” is it going to occur) used initially could be problematic to identify after the fact for all parties, as conditions would or could have changed
- No situation identified as to “when” a watershed vs. landscape unit measurement would or could be used
- Not clear as to “when” or if the strategy is to fully apply within the term of this plan or over many plan terms
- No specified situation or circumstance that identifies “when” or “where” a) or b) will apply
- Etc.

To assist in the process of assessing results and strategies, C&E Branch has prepared Appendix 1 to this Bulletin: *Example Analysis Breakdown of Section Elements*. We have broken down sections 35, 37, 57, 64 and 68 of the FPPR into their essential elements, and colour coded them. These are examples of how a result or strategy may meet the ‘who, what, where, when’ test. In the second column, we have colour coded each of these sections to illustrate how they meet the descriptive requirements. We encourage you to review, analyze,

and examine each example, and then apply a similar analysis to the proposed results or strategies you are asked to assess.

THINGS TO REMEMBER

1. Any assessment of results or strategies by C&E staff to evaluate its descriptive requirements must be done fairly and objectively.
2. The decision on whether or not a result or strategy meets the descriptive requirements and is consistent with objectives rests with the DDM.
3. C&E program staff provide advice on whether or not a result or strategy meets the descriptive requirements but do not assess whether or not proposed results or strategies are consistent with objectives.

ATTACHMENTS

There is one attachment for this bulletin. The attachment (Appendix 1) is included in the PDF file version.

APPENDIX 1: *Example Analysis Breakdown of Section Elements*

Appendix 1: – Example Analysis Breakdown of Section Elements

[As they were worded March 18, 2005, with exceptions as noted. Sections below are highlighted for discussion and or training purposes only.]

Who, What, When, Where.	Measurable or Verifiable, Situation or Circumstance
<p>Soil disturbance limits 35 (1) In this section: "roadside work area" means the area adjacent to a road where one or both of the following are carried out: (a) decking, processing or loading timber; (b) piling or disposing of logging debris; "sensitive soils" means soils that, because of their slope gradient, texture class, moisture regime, or organic matter content have the following risk of displacement, surface erosion or compaction: (a) for the Interior, a very high hazard; (b) for the Coast, a high or very high hazard.</p> <p>(2) Repealed [B.C. Reg. 580/04]</p> <p>(3) An agreement holder other than a holder of a minor tenure who is carrying out timber harvesting must not cause the amount of soil disturbance on the net area to be reforested to exceed the following limits: (a) if the standards unit is predominantly comprised of sensitive soils, 5% of the area covered by the standards unit, excluding any area covered by a roadside work area; (b) if the standards unit not is not predominantly comprised of sensitive soils, 10% of the area covered by the standards unit, excluding any area covered by a roadside work area; (c) 25% of the area covered by a roadside work area.</p> <p>(4) An agreement holder may cause soil disturbance that exceeds the limits specified in subsection (3) if the holder (a) is removing infected stumps or salvaging windthrow and the additional disturbance is the minimum necessary, or (b) is constructing a temporary access structure and both of the following apply:</p>	<p>Soil disturbance limits 35 (1) In this section: "roadside work area" means the area adjacent to a road where one or both of the following are carried out: (a) decking, processing or loading timber; (b) piling or disposing of logging debris; "sensitive soils" means soils that, because of their slope gradient, texture class, moisture regime, or organic matter content have the following risk of displacement, surface erosion or compaction: (a) for the Interior, a very high hazard; (b) for the Coast, a high or very high hazard.</p> <p>(2) Repealed [B.C. Reg. 580/04]</p> <p>(3) An agreement holder other than a holder of a minor tenure who is carrying out timber harvesting must not cause the amount of soil disturbance on the net area to be reforested to exceed the following limits: (a) if the standards unit is predominantly comprised of sensitive soils, 5% of the area covered by the standards unit, excluding any area covered by a roadside work area; (b) if the standards unit not is not predominantly comprised of sensitive soils, 10% of the area covered by the standards unit, excluding any area covered by a roadside work area; (c) 25% of the area covered by a roadside work area.</p> <p>(4) An agreement holder may cause soil disturbance that exceeds the limits specified in subsection (3) if the holder (a) is removing infected stumps or salvaging windthrow and the additional disturbance is the minimum necessary, or (b) is constructing a temporary access structure and both of the following apply:</p>

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<p>(i) the limit set out in subsection (3) (a) or (b), as applicable, is not exceeded by more than 5% of the area covered by the standards unit, excluding the area covered by a roadside work area;</p> <p>(ii) before the regeneration date, a sufficient amount of the area within the standards unit is rehabilitated such that the agreement holder is in compliance with the limits set out in subsection (3).</p> <p>(5) The minister may require an agreement holder to rehabilitate an area of compacted soil if all of the following apply:</p> <p>(a) the area of compacted soil</p> <p>(i) was created by activities of the holder,</p> <p>(ii) is within the net area to be reforested, and</p> <p>(iii) is a minimum of 1 ha in size;</p> <p>(b) the holder has not exceeded the limits described in subsection (3);</p> <p>(c) rehabilitation would, in the opinion of the minister,</p> <p>(i) materially improve the productivity and the hydrologic function of the soil within the area, and</p> <p>(ii) not create an unacceptable risk of further damage or harm to, or impairment of, forest resource values related to one or more of the subjects listed in section 149 (1) of the Act.</p> <p>(6) An agreement holder who rehabilitates an area under subsection (4) or (5) must</p> <p>(a) remove or redistribute woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, to the extent necessary to limit the concentration of subsurface moisture on the area,</p> <p>(b) de-compact compacted soils, and</p> <p>(c) return displaced surface soils, retrievable side-cast and berm materials.</p> <p>(7) If an agreement holder rehabilitates an area under subsection (4) or (5) and erosion of exposed soil from the area would cause sediment to enter a stream, wetland or lake, or a material adverse effect in relation to one or more of the subjects listed in section 149</p>	<p>(i) the limit set out in subsection (3) (a) or (b), as applicable, is not exceeded by more than 5% of the area covered by the standards unit, excluding the area covered by a roadside work area;</p> <p>(ii) before the regeneration date, a sufficient amount of the area within the standards unit is rehabilitated such that the agreement holder is in compliance with the limits set out in subsection (3).</p> <p>(5) The minister may require an agreement holder to rehabilitate an area of compacted soil if all of the following apply:</p> <p>(a) the area of compacted soil</p> <p>(i) was created by activities of the holder,</p> <p>(ii) is within the net area to be reforested, and</p> <p>(iii) is a minimum of 1 ha in size;</p> <p>(b) the holder has not exceeded the limits described in subsection (3);</p> <p>(c) rehabilitation would, in the opinion of the minister,</p> <p>(i) materially improve the productivity and the hydrologic function of the soil within the area, and</p> <p>(ii) not create an unacceptable risk of further damage or harm to, or impairment of, forest resource values related to one or more of the subjects listed in section 149 (1) of the Act.</p> <p>(6) An agreement holder who rehabilitates an area under subsection (4) or (5) must</p> <p>(a) remove or redistribute woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, to the extent necessary to limit the concentration of subsurface moisture on the area,</p> <p>(b) de-compact compacted soils, and</p> <p>(c) return displaced surface soils, retrievable side-cast and berm materials.</p> <p>(7) If an agreement holder rehabilitates an area under subsection (4) or (5) and erosion of exposed soil from the area would cause sediment to enter a stream, wetland or lake, or a material adverse effect in relation to one or more of the subjects listed in section 149</p>

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<p>(1) of the Act, the agreement holder, unless placing debris or revegetation would not materially reduce the likelihood of erosion, must</p> <ul style="list-style-type: none"> (a) place woody debris on the exposed soils, or (b) revegetate the exposed mineral soils. 	<p>(1) of the Act, the agreement holder, unless placing debris or revegetation would not materially reduce the likelihood of erosion, must</p> <ul style="list-style-type: none"> (a) place woody debris on the exposed soils, or (b) revegetate the exposed mineral soils.
<p>Landslides</p> <p>37 An authorized person who carries out a primary forest activity must ensure that the primary forest activity does not cause a landslide that has a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act.</p>	<p>Landslides</p> <p>37 An authorized person who carries out a primary forest activity must ensure that the primary forest activity does not cause a landslide that has a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act.</p>
<p>Protection of fish and fish habitat</p> <p>57 An authorized person who carries out a primary forest activity must conduct the primary forest activity at a time and in a manner that is unlikely to harm fish or destroy, damage or harmfully alter fish habitat.</p>	<p>Protection of fish and fish habitat</p> <p>57 An authorized person who carries out a primary forest activity must conduct the primary forest activity at a time and in a manner that is unlikely to harm fish or destroy, damage or harmfully alter fish habitat.</p>
<p>Maximum cutblock size</p> <p>64 (1) If an agreement holder other than a holder of a minor tenure harvests timber in a cutblock, the holder must ensure that the size of the net area to be reforested for the cutblock does not exceed</p> <ul style="list-style-type: none"> (a) 40 hectares, for the areas described in the Forest Regions and Districts Regulation that are listed in Column 1, and (b) 60 hectares, for the areas described in the Forest Regions and Districts Regulation that are listed in Column 2: <p>[Note: Table as per regulation is not reproduced here for brevity purposes]</p> <ul style="list-style-type: none"> (2) Subsection (1) does not apply to an agreement holder where <ul style="list-style-type: none"> (a) timber harvesting <ul style="list-style-type: none"> (i) is being carried out on the cutblock <ul style="list-style-type: none"> (A) to recover timber damaged by fire, insect infestation, wind or other similar events, or (B) for sanitation treatments, or (ii) is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would 	<p>Maximum cutblock size</p> <p>64 (1) If an agreement holder other than a holder of a minor tenure harvests timber in a cutblock, the holder must ensure that the size of the net area to be reforested for the cutblock does not exceed</p> <ul style="list-style-type: none"> (a) 40 hectares, for the areas described in the Forest Regions and Districts Regulation that are listed in Column 1, and (b) 60 hectares, for the areas described in the Forest Regions and Districts Regulation that are listed in Column 2: <p>[Note: Table as per regulation is not reproduced here for brevity purposes]</p> <ul style="list-style-type: none"> (2) Subsection (1) does not apply to an agreement holder where <ul style="list-style-type: none"> (a) timber harvesting <ul style="list-style-type: none"> (i) is being carried out on the cutblock <ul style="list-style-type: none"> (A) to recover timber damaged by fire, insect infestation, wind or other similar events, or (B) for sanitation treatments, or (ii) is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would

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<p>result from a natural disturbance, and</p> <p>(b) the holder ensures, to the extent practicable, that the structural characteristics of the cutblock after timber harvesting has been substantially completed resemble an opening that would result from a natural disturbance.</p> <p>(3) Subsection (1) does not apply if the timber harvesting that is being carried out on the cutblock retains 40% or more of basal area of the stand that was on the cutblock before timber harvesting.</p> <p>(4) Subsection (1) does not apply if no point within the net area to be reforested is</p> <p>(a) more than two tree lengths from either</p> <p>(i) the cutblock boundary, or</p> <p>(ii) a group of trees reserved from harvesting that is greater than or equal to 0.25 ha in size, or</p> <p>(b) more than one tree length from a group of trees reserved from timber harvesting that is less than 0.25 ha in size.</p>	<p>result from a natural disturbance, and</p> <p>(b) the holder ensures, to the extent practicable, that the structural characteristics of the cutblock after timber harvesting has been substantially completed resemble an opening that would result from a natural disturbance.</p> <p>(3) Subsection (1) does not apply if the timber harvesting that is being carried out on the cutblock retains 40% or more of basal area of the stand that was on the cutblock before timber harvesting.</p> <p>(4) Subsection (1) does not apply if no point within the net area to be reforested is</p> <p>(a) more than two tree lengths from either</p> <p>(i) the cutblock boundary, or</p> <p>(ii) a group of trees reserved from harvesting that is greater than or equal to 0.25 ha in size, or</p> <p>(b) more than one tree length from a group of trees reserved from timber harvesting that is less than 0.25 ha in size.</p>
<p>Coarse woody debris</p> <p>68 (1) An agreement holder who carries out timber harvesting must retain at least the following logs on a cutblock:</p> <p>(a) if the area is on the Coast, a minimum of 4 logs per hectare, each being a minimum of 5 m in length and 30 cm in diameter at one end;</p> <p>(b) if the area is in the Interior, a minimum of 4 logs per hectare, each being a minimum of 2 m in length and 7.5 cm in diameter at one end.</p> <p>(2) An agreement holder is exempt from subsection (1) if</p> <p>(a) the holder's agreement or an enactment requires the holder to act in a manner contrary to that set out in subsection (1), or</p> <p>(b) the holder carries out on the cutblock a controlled burn that is authorized under an enactment.</p>	<p>Coarse woody debris</p> <p>68 (1) An agreement holder who carries out timber harvesting must retain at least the following logs on a cutblock:</p> <p>(a) if the area is on the Coast, a minimum of 4 logs per hectare, each being a minimum of 5 m in length and 30 cm in diameter at one end;</p> <p>(b) if the area is in the Interior, a minimum of 4 logs per hectare, each being a minimum of 2 m in length and 7.5 cm in diameter at one end.</p> <p>(2) An agreement holder is exempt from subsection (1) if</p> <p>(a) the holder's agreement or an enactment requires the holder to act in a manner contrary to that set out in subsection (1), or</p> <p>(b) the holder carries out on the cutblock a controlled burn that is authorized under an enactment.</p>