



Purpose

This document provides a guideline for interpreting the phrase *material adverse effect*, which is used in seven (7) sections of the Private Managed Forest Land Council Regulation, 2007 (the regulation) but is not defined in the regulation.

Interpretation

Each of the sections of the regulation in which *material adverse effect* is used relate to protecting fish habitat and the quality of water that is diverted by a licensed waterworks intake (LWI). In that context, the Council has adopted the following meanings to the specific components of the phrase:

material - the impact to the fish habitat or water quality must be of a substantive nature and not one that is limited to a trivial or incidental impacts;

adverse - the impact to the fish habitat or water quality must be negative;

effect – is the impact or net change to the fish habitat or water quality.

The requirement that an event must trigger an outcome that causes a negative change to fish habitat or water quality at a LWI is relatively straight forward. The assessment of ‘materiality’ is more complex. The following section identifies and discusses the factors the Council will consider when assessing the issue of materiality.

Materiality Factors

In cases where an event has caused an adverse effect, the Council will consider the following factors when assessing the materiality of the adverse effect:

- (1) the magnitude (or significance) of the effect,
- (2) the sensitivity (or resilience) of the fish habitat or LWI water supply effected, and
- (3) the importance of the fish habitat effected.

(1) *Magnitude of the Adverse Effect*

Council will consider the following three attributes of the adverse effect when assessing magnitude:

<u>The size of the effect</u>	The size of effect may also be related to the size and amount of fish habitat affected or the level of turbidity in drinking water.
<u>The duration of the effect</u>	The period the effect lasts and the recovery time to regain the natural condition.
<u>The intensity of the effect</u>	It is possible that the time of year when the sediment enters fish habitat could have a profound effect of the intensity of the adverse effect. The intensity of the effect could be simply the level of suspended sediment or turbidity in the fish habitat or a LWI water supply.



(2) Sensitivity

Sensitivity of fish habitat to adverse effects is along a spectrum. Examples include:

- a large river will be much less sensitive to a deposit of sediment than will be a spawning area in a small stream
- seasonal fish habitat is less sensitive to an adverse effect if it is dry at the time rather than if it had been wet;
- streams that flow through bedrock canyons are much less sensitive to the removal of non-commercial trees and understory vegetation than is a stream with banks comprised of sand or gravel.

Sensitivity of water quality at a LWI is also along a spectrum. A water source for a LWI located on a lake is likely to be considerably less sensitive to forestry-related sediment inputs than is a LWI located on a stream or river. Sediment transport capability (the ability of the stream to move sediment downstream) will also have to be assessed to determine how much sediment will reach the LWI. There may also be mitigating factors at the LWI such as the presence of water treatment capability.

(3) Importance

Importance of the value is the third factor to be considered. With respect to fish habitat, aspects contributing to importance include:

- the productivity of the fish habitat regarding the number of fish being supported
- the scarcity of the fish habitat, and
- the importance of the fish stocks that utilize the fish habitat.

With respect to water quality at a LWI, aspects contributing to importance include:

- whether or not an alternative source of potable drinking water is readily available, and
- the number of persons served by the LWI.

Potential Triggers

Forestry activities that increase the input of sediment to a stream above natural levels, or damage stream channels, have the potential to have an adverse effect (harmful or damaging) on fish habitat. This adverse effect may be immediate in the case of a significant input of sediment to a fish stream, especially if there is sufficient sediment to result in a direct loss of in-stream habitat due to in-filling. Alternatively, the adverse effect may not manifest for several years if a channel is de-stabilized through the excessive removal of non-commercial streamside trees and understory vegetation. These same forestry activities can also result in an adverse effect on water that is diverted by a LWI.

Material Adverse Effect

The following table provides some but not all potential triggers for a *material adverse effect* for each of the seven sections within the regulation which contain that phrase:

Regulation		Activity	Potential Triggers
Section	Title		
15	Sediment transport or deposition	All primary forestry activities	Sediment, or other material, transported to or deposited into a stream
17	Stream crossings	Building road or logging trail stream crossings	Disturbance of stream banks or stream channel
18	Natural surface drainage patterns	Building road or logging trails	Failing to maintain natural surface drainage patterns both during and after construction.
19	Measures respecting exposed soils	Road construction or deactivation	Exposing soils outside of the running surface where it would be reasonable to expect that surface erosion could cause a material adverse effect and failing to take measures to reduce likelihood of soil erosion within 2 years.
21	Road maintenance	Road maintenance	Failure to maintain the structural integrity of the road prism and clearing width and the proper functioning condition of the road drainage systems.
22	Road deactivation	Road deactivation	Failing to remove round-pipe stream culverts and other culverts or bridges or stabilizing the road prism if the road is no longer used or maintained.
30	Retaining non-commercial trees and understory vegetation	All primary forestry activities	Falling and removal of non-commercial trees, or disturbing understory vegetation within 30 m for Class A and B streams and 10 m for Class C, D, and E streams.

Council Considerations

The Council will, on a case specific basis, assess whether or not the owner of private managed forest land or the owner's contractor, agent or employee was responsible for a potential trigger that may have resulted in a material adverse effect. In cases where there was an adverse effect on fish habitat or water quality at a LWI, the Council will consider each of the materiality factors (magnitude, sensitivity and importance) to determine whether or not there has been a material adverse effect in any particular instance. Council will often consider evidence provided from resource professionals and other sources when making its determination.

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Approved: Original signed
Trevor Swan, Chair