



## Fire Hazard Assessment Procedure

August 2018

For use in BCTS, Strait of Georgia to complete Assessments at prescribed intervals and Abatement within prescribed periods

**Licence/Contract/Project:** \_\_\_\_\_ **Block:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Describe Condition(s) being Assessed** \_\_\_\_\_

Fuel Loading Factors	<b>Industrial Activity Area characteristics and Point Rating</b>				Score
	Score each factor within range that best describes the condition(s) being assessed.				
Fuel Depth: Dispersed, or Piles with 3m fuel breaks	<20cm <4x4m, <10/ha 1	20 to 40cm >4x4m, <10/ha 3	40 to 60cm >4x4m, <10/ha 5	>60cm >4x4m, >10/ha 7	
Fuel Size: (% all fuels < 7 cm diameter)	<15% 1	15 to 30% 3	31 to 45% 5	>45% 7	
Horizontal Fuel Arrangement (% of area)	Fuel coverage <20% 1	Fuel coverage 20 to 50% 3	Fuel coverage 51 to 80% 5	Fuel coverage >80% 7	
Vertical Fuel Arrangement (fine fuels < 7 cm)	Mixed with soil or > 50% of area piled 1	On ground or roadside piled with fuel breaks 3	Partially Elevated dispersed fuel 5	Mostly elevated dispersed fuel 7	
Vegetation (contributes to Fuel Load )	None 0	Low 1	Moderate 3	High 5	
Cedar Slash Component	<20% 1	20 to 40% 2	41 to 60% 3	>60% 4	
Risk of Ignition:	No access (barrier >500 m or isolated) 1	Poor access (or mostly piled 30m from road) 2	Good access (or piled within 30m of road) 3	Readily accessible (public use road) 4	

On average conditions a score over **14** should have hazard abatement associated with the conditions and factors causing the greatest risk. Apply an interpretation of this score to surrounding factors and state hazard abatement to reduce risk in specific terms to change inherent risk to managed risk.

**Inherent Fire  
Hazard Risk  
Total:**

**Hazard Interpretation & Abatement Strategy:**

	<b>Managed Fire Hazard Risk Total:</b>	

Completed by: \_\_\_\_\_

**Note:** A person required to complete a fire hazard assessment and hazard abatement must be qualified to use this procedure.

- Attach a map showing areas and conditions assessed, additional notes and provide a copy to the BCTS staff contact.
- If conditions are complex or dissimilar, break them down by individual assessment and abatement strategies.

### **Guidance and Interpretation**

#### **Wild Fire Act Section 7 Legal Requirement**

*In prescribed circumstances and at prescribed intervals, a person carrying out an industrial activity or a prescribed activity on forest land or grass land or within 1 km of forest land or grass land must conduct fire hazard assessments. A person carrying out an industrial activity or a prescribed activity must abate within a prescribed period a fire hazard of which the person is aware or ought reasonably to be aware.*

BCTS Licensee's are responsible for completing assessments and abatement. BCTS Contractor's should discuss in Pre-work who is responsible when this requirement is applicable. BCTS will not assume another party's responsibility or take ownership of a fire hazard not of their doing under these legal requirements. BCTS staff are not officials as defined in the *Wild Fire Act* and can not verify if the assessment or abatement strategy meets these legal requirements.

#### **Wild Fire Regulation Section 11 and 12**

*The hazard assessment must assess the fuel hazard, risk of a fire starting and spreading. The prescribed interval for assessment and abatement is either:*

- *Assessment every 3 months during the period of industrial activity when within an area of local government (municipal area or regional fire protection district) and on completion of the activity if a shorter interval. Abatement of known hazard every 6 months following the assessment. Or,*
- *Assessment every 6 months in all other areas and on completion of activity if a shorter interval. Abatement of known hazard every 12 months following the assessment.*

*Abatement must reduce the fuel hazard without increasing the risk of a fire starting, fire behaviour or fire suppression.*

A person may request an exemption to these requirements in the manner set out in *Section 70 of the Wild Fire Act*. If an exemption is granted, any conditions or alternative requirement must be followed. For all Strait of Georgia BA operations, contact Coastal Fire Centre for exemption information (250) 951 – 4222 or fax exemption request to (250) 954 – 0823.

#### **Qualified Persons**

For good due diligence the Strait of Georgia BA recommends that assessments be conducted and abatement strategies prepared by individuals under one of two types of qualification: A qualified person or a qualified professional.

- A qualified person following a procedure prepared by a qualified professional. A qualified person is suggested to be a person with considerable experience in completing fire hazard assessments and abatement strategies including fire control or prescribed fire project experience and current S-100 fire fighting course accreditation.
- A procedure prepared by a qualified professional is either the one offered by Strait of Georgia BA for use on their projects or any other procedure prepared by a qualified professional.
- A qualified professional has the right of practice in BC under a recognized Professional Association and declares themselves qualified in this practice. Need not follow any procedure. They may simply document in their professional opinion the fuel hazard, risk of a fire starting and spreading and any required abatement if they know a fire hazard exists.

#### **The Strait of Georgia BA Fire Hazard Assessment Procedure**

The procedure allows 2 conditions to be assessed together most common on Strait of Georgia operations; dispersed fuel over a cut block with piled fuel to establish plantable area or to achieve some other objective. Piles either have 3 meter fire breaks being lower risk, or not and must be considered higher risk than dispersed fuel. If the conditions at the site of the activities are too complex to reasonably assess together, multiple assessment should be done separating similar from dissimilar conditions.

The fire hazard score of 14 is not a clear indication of a fire hazard or not. It is a default threshold for average conditions where the assessor must put their minds too for determining if a fire hazard exists. The abatement strategy must reduce the fire hazard so as to make the likelihood of a fire starting or spreading acceptable to the assessor considering all factors. This can be one or a combination of reducing fuel loading, rearranging fuel, removing ignition sources, creating fuel breaks and limiting access.

#### **Fuel Loading Factors**

In general terms each of the 7 factors scored should be interpreted as they approximate the actual conditions being assessed. Using good judgement and awareness assess each factor, low risk being the lowest number and high risk being the highest number. All factors must be scored to make the threshold of 14 of any significance. Other considerations such as values at risk, likelihood of human or lightning fire starts, slope position, terrain, aspect, adjacent fuel hazards, local prevailing winds and local fire history should all be used to shift a score higher or lower to resolve uncertainty. And likewise to interpret if the overall score is over or under an acceptable threshold for the specific area of activity to trigger abatement strategies.

Fuel Depth	Used to describe average fuel depth in a dispersed area. Ignore fuel free areas. Indicator of fuel hazard and suppression difficulty. <ul style="list-style-type: none"> <li>▪ If the dispersed area has had piling done than interpret smaller and fewer piles as lower risk than larger and frequent piles. Stratify and average out areas either piled or dispersed.</li> <li>▪ If piling reduces all fuel loading to less than 20cm, assess strictly on pile size and number.</li> <li>▪ If not, determine average dispersed fuel height and factor higher for the added piled fuel.</li> </ul>
Fuel Size	Used to describe the amount of fine fuels. Indicator of fire ignition due to rapid drying and spread. <ul style="list-style-type: none"> <li>▪ Regardless of piled or dispersed fuel, estimate how much as a % of the total fuel loading</li> </ul>
Horizontal Fuel Arrangement	Used to describe the amount of area covered by continuous fuel. Indicator of fire spread. <ul style="list-style-type: none"> <li>▪ If piles have a 3 meter fire guard, deduct the area of the piles and guard.</li> <li>▪ If piles do not have guards, include the area of the pile.</li> <li>▪ Reduce % area of fuel for roads, and other disturbed or natural fuel free areas within the total area being assessed.</li> </ul>
Vertical Fuel Arrangement	Used to describe air space and stacking of fine fuels only for oxygen supply and preheating of fine fuels much as one would kindle a camp fire. Indicator of ignition and fire behaviour. <ul style="list-style-type: none"> <li>▪ Easily confused with fuel depth but is assessing ignition vs. fuel hazard.</li> <li>▪ The interpretation on piles here is how risk of ignition or risk of fire spread was altered.</li> <li>▪ In piles, consider if they have reduced or increased fine fuel aeration and height.</li> </ul>
Vegetation	Used to describe contributing fuel hazard from brush. Indicator of fuel hazard and fire spread. <ul style="list-style-type: none"> <li>▪ Low brush would not impede walking High brush would make walking difficult.</li> <li>▪ Perennial succulent types of vegetation do not contribute to fuel hazard.</li> </ul>
Cedar Slash Component	Cedar has ease of ignition and intense burning characteristics effecting fire spread and behaviour. <ul style="list-style-type: none"> <li>▪ A % of the total fuel load that is comprised of cedar.</li> </ul>
Risk of Ignition	This is the risk posed by ease of access for human start fires. Indicates ease of ignition. <ul style="list-style-type: none"> <li>▪ The more ready the 4X4 vehicle access, the higher the risk.</li> <li>▪ Roadside piling can reduce risk; consider distance of piles from the road edge and if significant reduction of fine fuels.</li> </ul>

In the Hazard Interpretation & Abatement Strategy section, the assessor should address the factors and conditions most contributing to the risk of fire if reasonable or common sense to do so. Assessor's should address the fuel hazard, fire start or fire spread directly as they contribute overall to the greatest fire hazard. By referencing the specific factor scores, the assessor should then re score the fire hazard based on the implementation of their abatement strategy.

Fire Hazard Assessment is a process of risk management. The assessment is intended to describe the inherent fire hazard risk on an area of industrial activity. The abatement strategy reduces the risk to a manageable level commensurate with the values at risk, expected fire behaviour and suppression difficulty. On a scale, adjacent to homes in a dry belt area should have the lowest managed risk whereas an isolated logging block in a hyper maritime area can be managed to a higher risk.

### **Best Practices Recommendations:**

1. This is a subjective process and the assessor must clearly rationalize their interpretations for determining risk and for selecting the most appropriate abatement strategy.
2. Take pictures and date them that best show the conditions at the time of assessment.
3. Some conditions or factors will be very complex. Some values at risk will be very high or indeterminate. The assessor must stay within the limit of their competence. Decline to assess yourself, or seek a peer review to confirm your assessment and strategy, or consult with a local Fire Protection Officer for advice.
4. Due Diligence is what the assessor is striving for. Due Diligence is training, awareness, experience, knowledge of requirements, communicating, checking, taking prevention or corrective action, documenting and most important, respect and concern for those that could be directly affected by a wild fire starting or spreading into the area of activity.

**Note:** This guide is not an instructional tool. The assessor is assumed to be qualified to follow this procedure and be able to interpret its intent. This procedure is under continuous improvement and the most current dated version will be on the BCTS Strait of Georgia Business Area EMS Public Web Site: <http://www2.gov.bc.ca/gov/content/industry/forestry/bc-timber-sales/forest-certification/ems-sfm>