

UNDERSTANDING EXPLANATORY NOTES

Explanatory Notes are intended to provide clarity with the Integrated Pest Management Regulation (IPMR) and ensure consistency among proponents when using pesticides in B.C.

The IPMR requires Pesticide Free Zones (PFZs) around sensitive habitats such as bodies of water, streams, and riparian areas in order to protect those sensitive habitats and the riparian ecosystem from potential pesticide impacts. Under certain conditions, the PFZ may be reduced as long as the body of water does not contain fish nor drain directly to Fish Bearing Water (FBW).

The terms “drain directly” and “drains directly” are not defined in the IPMR resulting in a lack of consistent understanding of what the IPMR requires. This Explanatory Note describes how IPM Officers view the terms “drain directly” and “drains directly”. This definition outlines three specific situations where bodies of water are not directly draining to fish bearing water and is to be used when assessing potential PFZ reduction.

REASONS FOR THE REQUIREMENTS

The IPMR allows pesticide users to reduce the PFZ to manage vegetation for safety, ecosystem protection, and operational requirement reasons. This includes managing weeds and trees on public and private land along rights-of-ways, in facilities and on industrial sites to maintain access for maintenance, reduce fire hazards, preserve sight lines for visibility, and protect habitat from noxious or invasive species.

Application of pesticides near bodies of water must not cause harm or damage to fish, fish habitat and high value riparian areas. The PFZ may be reduced under these circumstances but still must be protected from pesticides entering it. **Pesticides may not be applied directly to a body of water and it must be protected from pesticides entering from drift or runoff.** Proponents may apply for a permit to acquire an exemption to this restriction.

RELEVANT REGULATION SECTIONS

73 (1) *Except as provided in sections 74 (1) and (2), 75 (3) to (7), 76 (5) to (7), 77 (2), 78 (2), 79 (3) and (4) and 80, a licensee, for the purposes of a pesticide use described in section 5 (1) (a), (b), (g), (j), (k) or (l) [pesticide uses requiring a licence], and a confirmation holder, for the purposes of a pesticide use for which the confirmation is required, must ensure that a minimum 10 m pesticide-free zone is maintained around or along bodies of water, dry streams and classified wetlands.*

74 (1) & (2) A licensee for the purposes of a pesticide use described in section 5 (1) (a), (b), (k) or (l) [pesticide uses requiring a licence] and a confirmation holder for the purposes of a pesticide use described in section 24 (2) (a), (b) (f) or (g) [pesticide classes and pesticide uses requiring a confirmation] using glyphosate, may reduce the pesticide-free zone required under section 73 (1) as follows:

- (a) to 2 m along or around a body of water or a classified wetland that is fish bearing or that drains directly into a fish bearing body of water or a dry stream that when wet is fish bearing or drains directly into a fish bearing body of water
 - (i) if the treatment area is
 - (A) railway ballast, signal, switch or yard, or
 - (B) another industrial site that must be free of vegetation, or
 - (ii) if the pesticide is applied using selective application methods;
- (b) except as provided in section 77 (2), to 5 m along or around body of water or a classified wetland that is fish bearing or that drains directly into a fish bearing body of water or along or around a dry stream that when wet is fish bearing or drains directly into a fish bearing body of water, unless the treatment area is described in paragraph (a) (i);
- (c) except as provided in section 77 (2), to a 2 m no-treatment zone along or around a body of water if the body of water is not fish bearing at any time of the year and does not drain directly into a fish bearing body of water.

74 (2) A person described in subsection (1), despite that subsection, may apply glyphosate

- (a) up to but not below the high water mark of temporary, free-standing bodies of water, and
- (b) over dry streams

that are not fish bearing at any time of the year and do not drain directly into a fish bearing body of water.

76 (5) A person described in subsection (1) using glyphosate may reduce the pesticide-free zone required under section 73 (1) to a 1 m no-treatment zone along or around a body of water if

- (a) the pesticide is applied to railway ballast or yards, and
- (b) the body of water is a temporary, free-standing body of water that is not fishbearing at any time of the year and does not drain directly into fish bearing waters.

76 (6) A person described in subsection (1) may reduce the pesticide-free zone required under section 73 (1) to a 1 m no-treatment zone along or around a body of water or a dry steam if

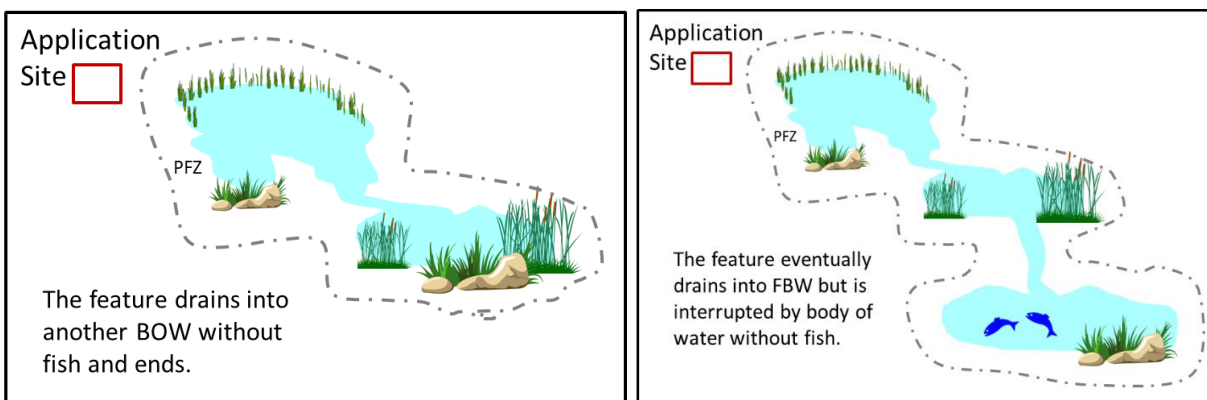
- (a) the treatment is selective application to trees at highway crossings along the right of way,
- (b) the body of water or dry stream is not fish bearing at any time of the year and does not drain directly into fish bearing water, and
- (c) if in relation to a body of water, the body of water is a temporary, free-standing body of water.

UNDERSTANDING THE REQUIREMENTS

This Explanatory Note provides a definition of the term “drains directly” by establishing three situations that do not drain directly. The definition allows proponents to evaluate sites for the required environmental protection measures when applying pesticides. The three situations establish where a body of water or wet or dry stream is not directly draining into FBW. **If an application site at a body of water or dry stream does not match one of the three situations, it will be considered directly draining** and proponents must not reduce the PFZ further than what is permitted in IPMR S.74.

SITUATION 1- TERMINATION OR INTERRUPTION

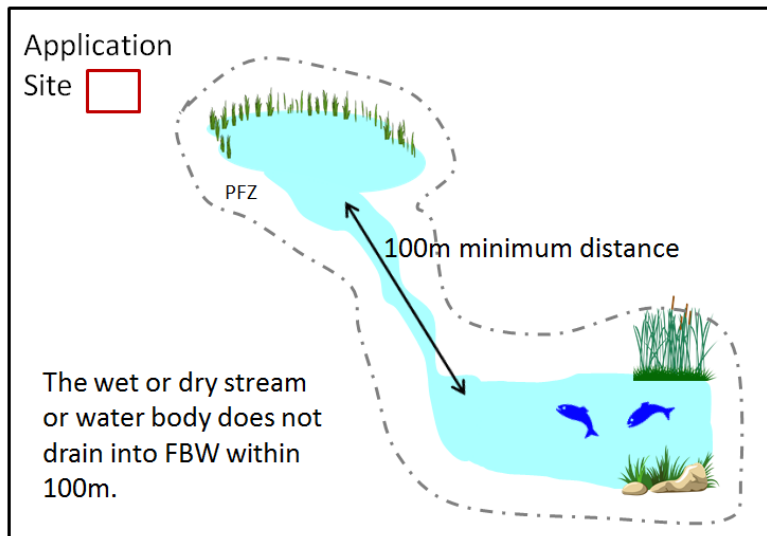
A feature is not directly draining to FBW if it flows into another body of water that is not fish bearing. This also includes situations where the second body of water eventually drains into a body of water that is fish bearing.



SITUATION 2- DISTANCE TO FISH-BEARING WATER

The term drains directly is limited in distance and that the PFZ may be reduced if the feature does not drain into FBW within 100m. This limit on the distance from FBW was adopted due to the tendency of glyphosate to bind to organic matter and remain relatively immobile in the environment. This distance also aligns with similar sections of the IPMR (e.g., IPMR S.75(4)(iii)) regarding PFZ reduction with glyphosate).

NOTE: IPMR S.76(6) allows for PFZ reduction to manage trees on the right of way at highway crossings along rail lines. This section is unique in that it allows for the PFZ reduction with selective application of any active ingredient as long as the body of water is not fish-bearing and does not drain directly to FBW. However, for IPMR S.76(6), Situation 2 is limited to glyphosate when assessing pesticide application near bodies of water. Proponents may not reduce the PFZ based on the 100m distance from FBW for any other active ingredients than glyphosate.



SITUATION 3- DILUTION PRIOR TO FISH-BEARING WATER

Situation (3) clarifies that a feature does not drain directly if it converges with a stream or river before reaching fish bearing water. The confluence must be of substantial volume so as to provide significant dilution. The confluence must occur at least 10m away from FBW.

In respect to the diversity of professionals operating under the IPMR, the description of this situation incorporates the two main classification systems used in practice. Proponents are able to use either system to establish if a body of water does not drain directly to FBW. Examples for the stream classification systems are shown below in Figure 1 and Figure 2.

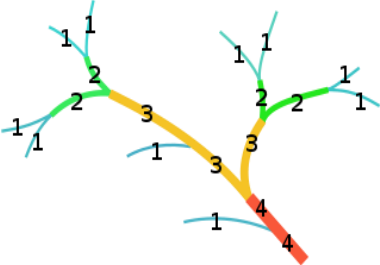
A stream is not directly draining if it converges with another stream that is either an:

- **Equal or higher stream order OR**
- **Equal or lower stream classification**

and at a minimum of 10m away from FBW.

Stream Order: Stream order in hydrogeography is the hierarchy of streams from the source (headwaters) to downstream (Figure 1). The headwaters are the first order streams and downstream segments are defined at confluences. Stream orders are ranked from first order to twelfth order. First order streams are the smallest tributaries, which have no other streams feeding into them. When two streams of different orders meet, the resulting stream is assigned the higher stream order of the two. Higher stream orders are created when two streams of the same order meet (Figure 1). **A stream is not considered directly draining if it converges with another stream of equal or higher order at a distance greater than 10m before entering FBW.**

Stream Classification: Stream riparian classification is based on the presence of fish, the average channel width of the stream, and whether the stream is in a community watershed or not, as defined in the B.C. Forest Planning and Practices Regulation (FPPR) (Figure 2). S1 to S4 streams are fish streams or are streams in a community watershed. S5 and S6 streams are not fish bearing streams and are not in a community watershed (Figure 2). For the purposes of stream riparian classification, a fish stream means that portion of the stream is either (i) frequented by species of fish (outlined in FPPR), (ii) has been identified in a fish inventory acceptable to the district manager, or (iii) fish presence has been confirmed by the occurrence of any life phase of fish or anadromous salmonids. **A stream is not considered directly draining if it converges with another stream of equal or lower classification at a distance greater than 10m before entering FBW.**

Stream Order (Strahler, 1952)	Stream Riparian Classification (FPPR)																	
<p><i>Figure 1:</i></p> 	<p><i>Figure 2:</i></p> <table border="1"> <thead> <tr> <th>Is it fish bearing or part of a community watershed?</th> <th>Channel Width</th> <th>Riparian Class</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Yes</td> <td>> 20 m</td> <td>S1</td> </tr> <tr> <td>>5-20 m</td> <td>S2</td> </tr> <tr> <td>1.5-5 m</td> <td>S3</td> </tr> <tr> <td><1.5 m</td> <td>S4</td> </tr> <tr> <td rowspan="2">No</td> <td>> 3 m</td> <td>S5</td> </tr> <tr> <td>≤ 3 m</td> <td>S6</td> </tr> </tbody> </table>	Is it fish bearing or part of a community watershed?	Channel Width	Riparian Class	Yes	> 20 m	S1	>5-20 m	S2	1.5-5 m	S3	<1.5 m	S4	No	> 3 m	S5	≤ 3 m	S6
Is it fish bearing or part of a community watershed?	Channel Width	Riparian Class																
Yes	> 20 m	S1																
	>5-20 m	S2																
	1.5-5 m	S3																
	<1.5 m	S4																
No	> 3 m	S5																
	≤ 3 m	S6																

ADDITIONAL SOURCES OF INFORMATION

The ENV [Integrated Pest Management website](#) provides links to additional information, including the [Integrated Pest Management Act](#) and the [Integrated Pest Management Regulation](#). In addition, B.C. has a number of resources that proponents can use to help them when planning an application near a body of water:

1. BC Web Map Library - <https://catalogue.data.gov.bc.ca/dataset/bc-web-map-library>
2. A Imagery Web Mapping Service - <https://catalogue.data.gov.bc.ca/dataset/imagery-web-map-service>
3. BC Water Resources Atlas - <https://catalogue.data.gov.bc.ca/dataset/bc-water-resources-atlas>
4. iMapBC 2.0 - <https://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc>
5. [Forest & Range Practices Act](#) and [Forest Planning and Practices Regulation](#)