

GUIDE TO THE STREAMSIDE PROTECTION REGULATION

(last revised 26-Jul-01)

1. Background

1.1 What is the Streamside Protection Regulation (SPR)? Why was it established?

Good quality streamside habitat is essential for ensuring healthy fish populations. The protection of streamside areas is viewed as one of the most important elements of an integrated fisheries protection program. Unfortunately, British Columbia has been losing this habitat at an alarming rate in its urban settings. Hundreds of kilometres of streamside habitat have been lost in the Lower Mainland alone and critical habitat continues to be lost daily due to land use and development practices in our rapidly growing areas. Furthermore, we cannot assume that rural and wilderness areas can "pick up the slack". People tend to settle along river and stream valleys in the same areas that provide the most productive fish habitat. Population growth and its accompanying land development are damaging some of the province's best fish habitat and cannot be ignored.

The Provincial government passed the **Fish Protection Act** in July 1997 to help ensure fish have sufficient water and habitat in the future as B.C. continues to grow and develop. Section 12 of the Act authorizes the Province to establish "policy directives regarding the protection and enhancement of riparian areas that ... may be subject to residential, commercial or industrial development".

The **Streamside Protection Regulation**, passed in January 2001 after extensive consultation, acts on this section. Its purpose is "to protect *streamside protection and enhancement areas* from residential, commercial and industrial development so that the areas can provide natural features, functions and conditions that support fish life processes". These features, functions and conditions are described in some detail in section 2 of the Regulation and are intended to reflect the current state of knowledge regarding the key elements of healthy streams and streamside habitat.

1.2 What are streamside protection and enhancement areas?

Section 2 of the SPR defines a streamside protection and enhancement area (SPEA) as "an area adjacent to a stream that links aquatic to terrestrial ecosystems and includes both the riparian area vegetation and the adjacent upland vegetation that exerts an influence on the stream, the width of which is determined according to section 6." Other familiar terms for SPEAs are stream setbacks, buffers or leave strips.

Section 6 sets out the widths of SPEAs based on certain stream characteristics - namely fish presence, nature of streamflows (ie: permanent or seasonal) and the status of streamside vegetation (Box 1-A). Within these areas, buildings and other structures are to be set back from streams, and streamside vegetation is to be protected or enhanced.

Box 1-A: SPEA widths - in simple terms (adapted from SPR, section 6)

Existing or <i>potential streamside vegetation</i> conditions Sec.6(1)*	Streamside Protection and Enhancement Area width Section 6(2)	
	Fish bearing	Non Fish bearing
		Permanent
≥50 m or ≥30 - 50 m (a),(b)*	At least 30 m* 2.(a)	At least 15 m 2.(b)
≥15 & <30 m (c)*	Greater of: - existing width or - potential width or - 15 m 2.(d)	15 m 2.(c)
< 15 m (d)*		At least 5 & up to 15 m 2.(e)

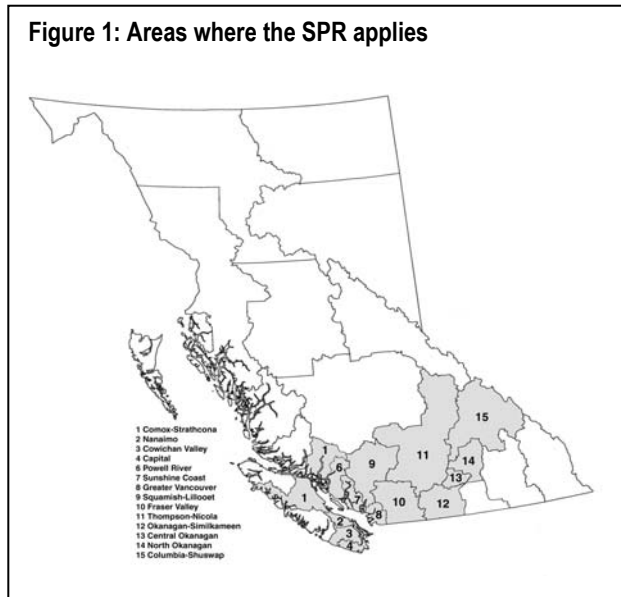
All widths measured from *top of the bank*. See "Definitions and Concepts" for a more detailed explanation of SPEA factors and widths.

1.3 What are local governments required to do?

First of all, the SPR does not affect all parts of B.C. It currently applies only to all municipalities and regional districts in the Lower Mainland, much of Vancouver Island, the Islands Trust area, and parts of the southern interior (Figure 1), as these are the regions where population growth and development are greatest. The Regulation may be phased in to other parts of the province as the need arises.

Section 4 of the Fish Protection Act states that if a policy directive is established under Section 12 (the SPR in this case), a local government must:

- “(a) include in its zoning and rural land use bylaws riparian area protection provisions in accordance with the directive, or
- (b) ensure that its bylaws and permits under Part 26 of the [Local Government Act] or Part XXVII of the Vancouver Charter, as applicable, provide a level of protection that, in the opinion of the local government, is comparable to or exceeds that established by the directive.”



Under the SPR, local governments in the designated areas are required to establish streamside protection and enhancement areas and to protect them through their land use plans and regulations. Local governments can use various planning and regulatory tools available under the Local Government Act to provide a level of protection that is comparable to or exceeds the SPR's requirements. This approach provides the flexibility required to reflect the varied landscapes, settlement patterns, stream conditions and regulatory frameworks that exist across B.C. However, the Province is also seeking consistency and fairness in the application of the Regulation, so that protective measures are not dramatically different when crossing from one local jurisdiction to another.

Local governments are required to establish these protective measures within five years of the enactment of the SPR - that is, by **January 19, 2006**. This has led some reviewers of the SPR to believe that little action needs to be taken until that date. However, this is a transition period during which much can be done to determine the status of current regulations and the best way to harmonize them with the SPR. Provincial and federal fisheries agencies will be calling on local governments to assist them in this process. Developing a working relationship with these agencies will take time, as will familiarizing the private sector and general public with the intent of streamside protection. It makes sense to start the process now rather than waiting until the last minute.

1.4 What are the roles of the Ministry of Water, Air and Land Protection (MWALP) and Fisheries and Oceans Canada (DFO)?

MWALP's primary responsibilities are to assist local governments achieve compliance with the SPR and to monitor that compliance up to and after January 2006. Since the SPR plays a strong complementary role to the Fisheries Act (see next section), DFO is assisting in these responsibilities.

Development review: To help clarify their roles during the transition period between January 19, 2001 and January 19, 2006, MWALP and DFO jointly released "Interim Procedural Guidelines". These Guidelines set out the basis by which MWALP and DFO will review development proposals over the next five years while local governments are

adapting their planning and regulatory requirements to comply with the SPR. A major focus of the two agencies will be creating agreements with local governments on how development review will occur under the SPR.

Financial assistance: MWALP, in cooperation with other provincial programs, commits to providing financial assistance to local governments to conduct stream inventories, develop bylaws and agreements, inform stakeholders, and conduct other activities associated with implementing the SPR. Funding is being made available through a variety of sources (Box 1-B).

Box 1-B: Funding assistance sources (still under construction)

<i>Funding Program</i>	<i>Items that Can be Funded</i>	<i>Website for more information</i>
Urban Salmon Habitat Program	Staff to implement SPR,.....	
Fisheries Renewal B.C.	Inventory, mapping,.....	
Habitat Conservation Trust Fund		
Municipal planning grants program		
???		

Other tasks: MWALP and DFO will also:

- Provide technical guidance (for example, this implementation guide), and information and training sessions as needed.
- Work with other provincial and federal agencies to establish mapping standards, guides and information/data systems to support SPR implementation
- Work to establish intergovernmental cooperation agreements promoted under Section 3 of the SPR.
- Report on the "status of implementation" of the SPR across the province, to help local governments network and learn from each other.
- Assist local governments to develop their own strategies for implementing the SPR, whether these strategies consist of revising existing or creating new plans, bylaws and development approval processes.

1.5 What is the relationship between the SPR and the federal *Fisheries Act*?

The federal Fisheries Act, administered by the Department of Fisheries and Oceans (DFO), is the main source of regulation over fish and fish habitat in Canada. Section 35 in particular prohibits any "harmful alteration, disruption or destruction of fish habitat" (a HADD) that is not authorized by DFO (Box 1-C). The definition of fish habitat under the Act extends to streamside (riparian) areas that provide habitat upon which "fish depend directly or indirectly in order to carry out their life processes".

Box 1-C: Fisheries Act section 35

"(1) No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat."

(2) No person contravenes subsection (1) by causing the alteration, disruption or destruction of fish habitat by any means or under any conditions authorized by the Minister or under regulations made by the Governor in Council under this Act."

So, if the Fisheries Act already protects streamside areas, why does B.C. also need the Fish Protection Act and the SPR? The Fisheries Act protects fish habitat in a reactive manner. When a streamside area is damaged by such actions as cutting down vegetation or causing erosion into a stream, DFO can prosecute the offender under the Act, but only after the damage has occurred. The federal government cannot prescribe land uses or prohibit development in streamside areas because the authority for land use planning and regulation in settlement areas rests with local governments.

The Fish Protection Act and the SPR, on the other hand, emphasize a proactive, planning approach that tries to put in place preventive measures before impacts on fish and fish habitat occur. The SPR is recognized by the federal

government as the proactive complement to the Fisheries Act. DFO cooperated in developing the SPR to ensure that federal requirements are harmonized with provincial and municipal requirements. As such, the streamside protection and enhancement area 'standards' set forth under the SPR are consistent with DFO advice respecting riparian habitat protection requirements in settlement areas.

Consequently, **anyone complying with the SPR “standards” is also considered to comply with Section 35(1) of the Act as it pertains to riparian habitat protection in settlement areas, and is afforded significant liability protection against potential prosecution under the Act for a HADD.** By corollary, disregard or failure to comply with the SPR 'standards' demonstrates lack of due diligence and may constitute an infraction of local government regulations and an offence under the Fisheries Act.

Where local governments establish planning processes or bylaws that reflect the SPR's setback and vegetation protection requirements, not only are senior government requirements met but the basis for a streamlined development review process is provided. Development proposals that meet the SPR 'standards' need not be referred to senior agencies; only variances from these 'standards' need to be addressed through an intergovernment cooperation agreement (ICA). Both situations could be the subject of one agreement that outlines, among other things, procedures for project review and approval with respect to all relevant local and senior government regulations and policies. (Part 5 discusses ICAs in more detail.)

DFO's role will continue to be to review development application variances for the determination of HADDs. If a proposal cannot be modified to prevent a HADD, the department must authorize any resultant habitat loss and would require the proponent to develop a compensation plan to offset the net loss in habitat productive capacity associated with their project. The Fisheries Act will also continue to be the primary enforcement tool in situations where damage to fish or fish habitat has occurred.

1.6 What about other Provincial legislation?

The SPR does not supersede or eliminate stream-related requirements of other provincial legislation.

- Any development in and about a stream still requires a notification under part 7 of the Water Act Regulations or approval under section 9 of the Water Act, depending on the nature of the development. This legislation is aimed at regulating activities that make changes to the beds and banks of streams in order to maintain water flows and water quality, prevent flooding, and protect downstream water users. This mandate is different from that of the SPR.
- Development within floodplains is regulated under the Land Titles Act with respect to subdivision and under Section 910 of the Local Government Act regarding structures. The Water Management division of MWALP administer these acts, and typically require minimum elevation levels and/or minimum setbacks from watercourses to reduce flood hazards. Other restrictions may be aimed at preventing loss of flood capacity.

For a development applicant, this can mean going through two or more regulatory processes resulting in conflicting requirements. For example, floodplain setbacks may differ from streamside protection areas defined under the SPR; landfill requirements to elevate a building may conflict with the objectives of streamside protection.

It is unlikely that these regulatory processes and requirements will be harmonized at a provincial level in the near future. However, at a local level, an intergovernmental cooperation agreement could lay the groundwork for coordinating the input from different departments at all three levels of government, leading to a more streamlined overall review process.

[text box]

1.7 Types of Development that the SPR Does and Does Not Address

The SPR applies to new or redeveloping *residential, commercial and industrial development* along streams. What does this mean for existing or approved development, or for other land uses?

- **Existing permanent structures, roads and other development** within streamside protection areas are “grandparented”. Landowners can continue to use their property as they always have even if a streamside protection and enhancement area is designated on it. The SPR also has no effect on any repair, renovation or reconstruction of a permanent structure on its existing foundation. Only if the existing foundation is moved or extended into a SPEA would the SPR ‘kick in’. See “Questions and Answers” for more details.
- **Developments that have received final approval** (such as under a development permit, rezoning approval, subdivision plan and comprehensive development agreement) but have not yet been built are honoured. Requests for changes to the approved development may trigger a review with reference to the SPR, depending on the significance of the proposed change; e.g., a request for a new zone, different land use or larger structure than the one approved.
- **Agricultural land uses** are not subject to the SPR. This is because most farming practices are subject to the Farm Practices Protection (Right to Farm) Act. A Farm Practices Guide is being developed which will, among other matters, address streamside protection. **Mining activities, hydroelectric facilities and forestry activities** are also not subject to the SPR, as these land uses are regulated by other provincial and federal legislation. The bottom line is that all these land uses are still subject to the Fisheries Act.
- **Institutional land uses** (uses that are exempt from property taxes such as public schools, hospitals, government buildings and facilities) are not included in Section 12 of the FPA or in the SPR. Institutional land uses are still subject to federal and provincial regulations, including the Fisheries Act and the Water Act. Meeting the requirements of the SPR can help ensure that these land uses also comply with that Fisheries Act. Local governments can choose to apply the SPR requirements to institutional land uses, under their broad powers under the Local Government Act to establish environmental policies in official community plans (sec.878), and to establish development permit areas for “protection of the natural environment, its ecosystems and biological diversity” (sec.919.1).
- **Federal lands and First Nations reserve lands** are exempt from the SPR, just as they are from local government bylaws. Activities on these lands are still, however, subject to the Fisheries Act and similar requirements will be recommended by DFO. With regard to Treaty Settlement Lands, compliance with the SPR and local government bylaws will be negotiated in each treaty; MWALP’s policy is to attempt to incorporate the standards in the SPR in treaties.

2. Interpreting the Streamside Protection Regulation

(draft 26 July 2001)

As noted in Part 1, local governments are required to establish "streamside protection and enhancement areas" (SPEAs) and to protect them through their land use plans and regulations. To date, local governments and provincial and federal fisheries agencies have used the 1992 *Land Development Guidelines for the Protection of Aquatic Habitat* (the LDGs) as the basis for streamside protection. In particular, section 2 of the LDGs set guidelines for defining and protecting "leave strips" along streams.

The SPR is intended to update and replace section 2 of the LDGs. The LDGs' leave strips and the SPR's streamside protection and enhancement areas are similar; the major difference lies in how the appropriate width is determined. The LDGs assigned leave strip widths on the basis of land use (single-family and multi-family residential, commercial, industrial). The SPR assigns SPEA widths on the basis of existing or potential streamside conditions. This makes the SPR 'standards' more science-based and responsive to site conditions, but it also requires more analysis to determine the width that applies in any given situation.

This Part is intended to assist that determination by clarifying the key terms and phrases that the SPR uses to set SPEA widths, and providing some guidance on how to measure them. This assistance is qualified by the following considerations:

- It is not always possible to provide an interpretation that satisfies all possible situations. There will always be site-specific nuances that any one interpretation cannot anticipate. For example, a given site condition may not match any of the samples of "discontinuous existing or potential vegetation" illustrated here.
- There are biophysical differences across the province, particularly between coastal and interior stream systems. For example, differences in the nature and extent of riparian vegetation between the coast and the dry interior may dictate different approaches to defining "continuous" or "discontinuous" vegetation.
- The history and nature of land use may be a factor that should be taken into account. The 'standards' may apply differently to a rural landowner who has stewarded a streamside property for many years and now needs a variance from the new SPR standard to maintain a way of life. They may also apply differently in an urban redevelopment that can provide some reclamation of streamside habitat, but not the full 15 or 30 m standard.

Nature is not black and white. There will still be the need for some discretionary interpretation and plain old common sense in applying the SPR. The main thing to keep in mind is the purpose of the SPR - i.e., to protect or enhance "the features, functions and conditions that support fish life processes".

2.1 Key Questions

The key things that you need to know about a stream in order to define and protect a SPEA are:

- Is it a **stream** under the SPR?
- Is it currently or potentially **fish bearing**? If it is **non-fish bearing**, is it a tributary to a fish-bearing stream?
- Where is the **top of the bank**? (You need to know this as the starting point for measuring existing and potential vegetation along the stream.)
- What is the width and status of the **existing and potential vegetation** along the stream?
- Is it **permanent** or **non permanent**? (This needs to be determined in only one stream situation.)

The following sections address each of these questions.

2.2 Is it a Stream?

SPR definition of stream : “includes a watercourse or source of water supply, whether usually containing water or not, a pond, lake, river, creek, brook, ditch and a spring or wetland that is integral to a stream and provides fish habitat ”

When is a watercourse not a “stream” under the SPR? When it does not support fish or drain into a watercourse that supports fish; e.g., an isolated wetland that is not connected to a stream system. This does not prevent a local government from regulating development around these other watercourses in the interests of protecting other aquatic habitat and greenway values.

Box 2-A: Classifying Watercourses

- **Constructed ditches** - have no headwaters and carry water from local surface areas or subsurface drains. **Dry** ditches are normally dry for summer and early fall, are constructed primarily to manage winter storm events, and do not usually have aquatic vegetation. **Wet** ditches are wet all year.
- **Channelized or relocated stream** - has been diverted, dredged, straightened or dyked. They have headwaters, are an integral of a natural drainage, often have good fish habitat, usually have aquatic vegetation growth and support aquatic invertebrates.
- **Natural stream** - historic watercourses that have not been altered or have not been recently altered. Characterized by riparian and instream vegetation, meanders, pools and/or riffle habitat, variations in channel beds, and evidence of water flow at any time of year.

From "Agricultural Watercourse Maintenance Guide for Lower Fraser Valley and Vancouver Island, 2001". This Guide sets out conditions for maintenance of constructed ditches, and has useful ideas for urban and other settlement areas. The Guide can be obtained from the Ministry of Agriculture and Food at <http://www.gov.bc.ca/agf> or by contacting 604-556-3100.

Streams and ditches: Discerning when a "ditch" is a stream as opposed to a conduit of surface drainage only is a complicated question because not all ditches are created equal (Box 2-A). The SPR does not apply to ditches on agricultural lands as these are managed under other provincial legislation and guidelines. As for ditches on residential, commercial and industrial lands, differentiating streams and ditches will vary somewhat from place to place, according to particular terrain conditions and the degree to which ditches have replaced the area's natural drainage courses. The application of the SPR may depend on whether the ditch is a "constructed ditch" or a channelized or relocated stream (Box 2-A), and/or whether it flows directly into a fish-bearing stream.

Some local government and environment agencies have developed agreements on operation procedures around streams and ditches (Box 2-B). This is a potential topic for an intergovernmental cooperation agreement (see Part 5).

Box 2-B: "Ditch" maintenance protocols

- Because of its flat terrain, the **City of Surrey** is drained by many significant fisheries streams and a myriad of drainage ditches. The City undertakes a large number of projects in and adjacent to these streams each year. In an effort to streamline the process of obtaining approvals for these works, City staff worked with MWALP and DFO to develop a stream classification system based on relative significance as fish habitat. They then signed a Memorandum of Agreement in 1997 that established protocols for conducting capital and maintenance works around each of the 4 stream classes. This made individual assessments on each new project unnecessary in most cases.
- The **City of Kelowna** signed a Memorandum of Understanding with BC Environment in 1996 regarding storm sewer maintenance around key fish bearing streams. Under the MOU, the parties agree on procedures and scheduling of maintenance, and the City commits to provide a yearly schedule of storm drain cleaning activities.

2.3 Is it Fish bearing?

SPR Definitions:

Fish: "all life stages of (a) salmonids, (b) game fish, and (c) regionally significant fish".

Fish bearing stream: "a *stream* in which *fish* are present or potentially present if introduced barriers or obstructions are either removed or made passable for fish".

Non fish bearing stream: "a *stream* that (a) is not inhabited by *fish*, and (b) provides water, food and nutrients to a *downstream fish bearing stream or other water body*"

Note that:

- MWALP's Lower Mainland Region publishes a list of species that fall into the SPR's definition of fish (see *Appendix X? website? contact no.*).
- Non fish bearing still have significant value to fish and fish habitat, and are also protected under the SPR. However, the definition also implies that the SPR does not apply to streams and ditches that are not tributary to, or do not flow into, a fish bearing stream.
- It is necessary to know both fish presence and potential to define a fish bearing stream under the SPR (Figure 2-1).

Figure 2-1: Determining if a stream is fishbearing or potentially fish bearing. INSERT

If it is not known whether a stream is **fish bearing**, you can simply assume that fish are present and use the SPR 'standard' for fish bearing streams. (Box 2-C indicates common 'indicators' of fish presence that can support such an assumption.) In many situations, whether a stream is fish bearing or not has less effect on the SPEA width than the vegetation conditions.

Otherwise, there are a few options for determining if a stream is fish bearing:

- The Fisheries Information Summary System (FISS) is maintained by the Ministry of Fisheries and DFO, and can be accessed through their websites (Box 2-D). It provides mapping of fish species presence and habitat value, but at a scale of 1:20,000 which misses many small streams and is often too small a scale to identify fish presence in urban or rural development areas.
- MWALP and/or DFO staff in your region may have data on fish presence in local streams.
- Stewardship groups or local residents may also be sources of documented or anecdotal information. While not an "ultimate" answer, this can provide some basis for choosing to do a field assessment.
- It may ultimately be necessary to carry out field sampling for fish presence. Fish presence/absence sampling should be conducted by a *qualified professional* (see Box 2-F) according to standards for field sampling, data collection and data recording established by the federal-provincial Resources Inventory Committee (RIC; Box 2-C). Timing and location is also important. One time or single-site sampling is not considered adequate for confirming species absence without other indications, such as significant barriers, no flow periods, or some other water quality limiting factor. Streams must be sampled during all seasons that a species of fish is expected to be

Box 2-C: Fish presence "indicators"

- Stream gradient: in the absence of an acceptable fish inventory, all stream reaches having average gradients of less than 20% are designated as fish streams by default.
- In coastal drainages, habitat use by anadromous fish is very likely unless an impassable barrier exists at the stream mouth.
- Evenso, habitat use by resident salmonids above impassable barriers is likely if gradients are favourable; i.e., <20%.
- Ephemeral and intermittent streams must be considered as fish streams if their gradients are less than 20%, no barriers to fish access exist and no acceptable fish inventory demonstrates otherwise.

From: Forest Practices Code Fish-stream Identification

present. This may be limited to periods when the stream is accessible and/or has sufficient flows, which will reduce the number of sampling sessions required.

If no fish are known to be present, then determine if there is **fish bearing potential**:

- Check with MWALP, DFO, local stewardship groups or fisheries consultants for records or personal knowledge about the presence of impassable barriers to fish passage.
- Conduct or commission a *qualified professional* to conduct a visual assessment of instream habitat and barriers to fish passage, and to identify reaches that are potentially fish bearing.

Impassible conditions or barriers, where no reasonable potential for fish presence through flow or access enhancement can be expected, include:

- Insignificant flows during critical life history stages (flow enhancement cannot address).
- Natural impassable barriers; e.g., falls or steep cascades that are too high even in high flow periods for fish to jump.
- Human made permanent or irreparable barriers; e.g., large weirs or dams, extensive enclosed or channelized reaches or section.

Box 2-D: Sources of FISS information and RIC standards

Ministry of Fisheries: FISS Data Manager
Planning and Information Branch
BC Fisheries - 780 Blanshard St.
Victoria, BC V8N 9M2
phone: (250) 356-9938
fax: (250) 356-1202
email: GOLIPHAN@FWHDEPT.ENV.GOV.BC.CA
<http://www.fisheries.gov.bc.ca>>.

Brad Mason, Department of Fisheries and Oceans
327 - 555 West Hastings Street
Vancouver, BC V6B 5G3
phone: (604) 666-7015
fax: (604) 666-7907
email: MASONB@MAILHOST.PAC.DFO.CA
<http://habitat.pac.dfo.ca/heb/FHIIP/index.htm>

RIC standards manuals for aquatic ecosystems can be obtained from:
<http://www.for.gov.bc.ca/ric/PUBS/AQUATIC/index.htm>

2.4 Where is the Top of the Bank?

The SPR defines "top of the bank" for three situations:

1. "the point closest to the boundary of the **active floodplain** of a stream where a break in the slope of the land occurs such that the grade beyond the break is flatter than **3:1** * at any point for a minimum distance of 15 metres measured perpendicularly from the break,"
2. "for a floodplain area not contained in a ravine, the edge of the **active floodplain** of a stream where the slope of the land beyond the edge is flatter than **3:1** * at any point for a minimum distance of 15 metres measured perpendicularly from the edge".
3. **Top of the ravine bank**: "the first significant break in a ravine slope where the break occurs such that the grade beyond the break is flatter than **3:1*** for a minimum distance of 15 metres measured perpendicularly from the break, and the break does not include a bench within the ravine that could be developed".

Additional terms defined are:

- **Active floodplain**: "an area of land within a boundary that is indicated by the visible high water mark or water level of a stream that is reached during annual flood events as evidenced by **riparian area** conditions described in the definition of 'riparian area'".
- **Riparian area**: "the area adjacent to a stream that may be subject to temporary, frequent or seasonal inundation, and supports plant species that are typical of an area of inundated or saturated soil conditions, and that are distinct from plant species on freely drained adjacent upland sites because of the presence of water".
- **3:1** refers to horizontal distance to vertical distance, or run to rise; e.g., 3-meter horizontal distance to 1-meter vertical. This translates to about a 30% slope.

A few additional notes:

- The first definition represents streams flowing in well-defined channels where the slope of the stream bank is quite distinct from the surrounding land (Figure 2-2).
- The second definition represents streams in flat terrain where the stream channel is not well defined. The stream banks are shallow (less than 3:1) and the stream may flood the surrounding area on a frequent basis. In this case, the TOB is defined less by a break in slope and more by the riparian vegetation characteristic of the active floodplain (Figure 2-3).
- The third definition makes special note of the fact that short breaks in slope, creating benches within a ravine, are excluded (Figure 2-2).

Figure 2-2: Top of the Bank - situations 1 and 3 *INSERT*

Figure 2-3: Top of the Bank - situation 2 *INSERT*

The method used to locate the **top of the bank** depends on the purpose for which it is required.

- **"Desktop" method**: Top of the bank may be roughly estimated from 1:5000 or larger scale topographic maps. The top of a bank can be outlined where the contour density changes dramatically, such that the distance between contours increases significantly (Figure 2-4). Where there is no obvious change in contour density (i.e., the land is basically flat or rises only gently from the stream), the stream edge could be used as an approximation of top of the bank.

Figure 2-4: Estimating Top of the Bank from contours *INSERTED*

This method should be used only in conjunction with orthophotos, for estimating a starting point for determining the width of existing or potential vegetation. (See Case Examples for illustrations of this point.) It should not be used to define the top of the bank for the purposes of delineating the boundary of an SPEA as part of a development application or detailed plan.

- **Field method:** On site, the top of the bank needs to be assessed and determined according to the situations defined above. Where stream banks are distinct, this may be readily accomplished. In flatter areas (the floodplain situation), identifying the top of the bank based on riparian vegetation in the active floodplain can be difficult, especially in flat terrain and where water tolerant plants occur in response to subsurface water sources as much as surface waters. The top of the bank should be identified and flagged by a *qualified professional* and then surveyed by a land surveyor or GPS technician.

2.5 What is the status of Existing and Potential Vegetation?

SPR definitions:

Existing vegetation: "means native and non-native vegetation".

Potential vegetation: "is considered to exist if there is a reasonable ability for regeneration either with assistance through enhancement or naturally, and considered to not exist on that part of an area covered by a **permanent structure**".

Permanent structure: "any building or structure that was lawfully constructed, placed or erected on a secure and long lasting foundation on land in accordance with any local government bylaw or approval conditions in effect at the time of construction or placement on location"

A few additional notes:

- "Potential vegetation" refers to portions of streamside areas that have been cleared of vegetation but where there are no permanent structures, such that in the short to medium term, with development or a change in land use, the streamside area could be re-vegetated.
- Permanent structures are intended to include permanent infrastructure such as roads, parking lots, utilities and facilities. Table 2-1 provides further guidance on what are considered to be "permanent structures". A streamside area could gain "potential vegetation" status where significant redevelopment is proposed that involves removing a permanent structure within the streamside area. In that case, reclaiming and restoring a streamside area could be part of the development approval.

Table 2-1: Examples of permanent structures

3 Land Use	Permanent or Temporary Structure?	4 Potential vegetation ?
Public Road	Permanent: road alignment is consistent with a current transportation plan and can not be changed.	No
Private Road	Permanent: required access for an existing use that is to be retained (i.e., not subject to redevelopment, rezoning or subdivision wherein road alignment could change). Temporary: existing use will not be retained due to ongoing development, redevelopment, rezoning or subdivision such that road alignment can be changed.	No Yes

Temporary Public or Private Access	5 Temporary: not required for permanent use, alternative permanent access is or will be available	Yes
Parking	Permanent: is associated with a permitted structure, the existing use of which will be retained, and the parking is required to meet minimum local government parking standards for the existing use (i.e., parking area can not be reduced, altered, moved or relocated). Temporary: the existing use will not be retained, but is subject to new development, redevelopment, rezoning or subdivision, would not be considered a permitted structure, and/or the parking area can be reduced, or reasonably altered, moved or relocated.	No Yes
Landscaped Area	Temporary: could be modified over time to provide more natural riparian conditions	Yes
Playing field, playground or golf course	Permanent: however, there may be room and opportunity to allow streamside areas to be 'naturalized' without compromising the recreational use. Temporary: if land is being used in this capacity in the short term, while being held for some other recreational or other purpose.	Negotiable
Trail	Permanent: if an integral part of a trail network, has been in use for an extended period of time and no room or opportunity exists to relocate it. Temporary: if room or opportunity to relocate the trail (especially portions that are degrading streambanks and riparian vegetation).	No Yes
Outdoor storage associated with a commercial, industrial or utility operation	Permanent: is associated with a permitted structure, the existing use of which is to be retained, storage use is in compliance with all other appropriate legislation, and storage area can not be reduced, altered, moved or relocated. Temporary: existing property use will not be retained; is subject to new development, redevelopment, rezoning or subdivision; would not be considered a permitted structure; and/or storage area can be reduced altered, moved or relocated.	No Yes
Utility works and services	Permanent: existing permitted structures only (authorised use on land zoned for that activity) use in compliance with all other appropriate legislation. Where the utility is underground for which a right of way exists for servicing purposes, the right of way within the streamside area should be naturalised or revegetated with minimum clearing to allow service vehicles.	No

Figure 2-5 - Categories of existing and potential vegetation INSERT

The SPR defines four categories of existing and potential vegetation conditions (Figure 2-5). To determine the appropriate category, you will need aerial or ortho-photographs of the stream, stream reach, or site of interest, at sufficient scale and resolution to discern vegetation from permanent structures – probably a minimum of 1:10,000, preferably 1:5000 or less. An overlay of topographic contours is also useful in roughly indicating top of the bank. This is more critical where the top of the bank may be at some distance from the stream, such as in ravine situations. Otherwise, viewing a 50-100 m swath along each side of a stream should be sufficient to assess general vegetation conditions.

- Mark all permanent structures; you may wish to also highlight areas of potential vegetation; e.g., non permanent structures or restorable clearings in the riparian area.
- Draw an approximate or average boundary of existing and potential vegetation that excludes most of the permanent structures.
- Consider boundary smoothing to address minor local variations. Highly variable SPEA widths within short distances of a stream may be considered unfair to riparian landowners. The local variations (specific sites or properties) that do not coincide with the “average” along the stream may be the subject in the future of special planning or review procedures.
- Estimate which category of existing/potential vegetation the stream or stream reach falls into.

- Field check the orthophoto interpretation where land use has changed or structures and clearings are difficult to interpret.

2.6 Is it Permanent or Non Permanent?

SPR definition - permanent stream: “typically contains continuous surface waters or flows for a period more than 6 months in duration”. **Non-permanent stream:** “typically contains surface waters or flows for periods less than 6 months in duration”.

There is only one situation where stream permanency needs to be determined: on non fish bearing streams with existing or potential vegetation greater than 30 m in width. Then, the minimum SPEA width is either 15 or 30 m depending on whether the stream is permanent or not. Hence, this characteristic will need to be determined on a more limited basis than the other SPEA factors.

There are some options for determining whether a stream is permanent or not:

- Assume a stream is permanent until proven otherwise.
- Come to an agreement with MWALP and DFO staff on whether a stream is permanent based on size of the stream and its upstream source, anecdotal information and/or local knowledge.
- Obtain “best professional advice” from a *qualified professional*, based on watershed characteristics and available flow data for the stream or similar streams in the area.
- Field check the stream. Ideally, stream flow should be sampled through all four seasons. As a minimum, groundtruth streams or reaches of uncertainty during winter/spring flood flows and summer/early fall flows.

Box 2-E: Characteristics of Non-permanent streams

- *Ephemeral* or seasonal streams have well-defined, continuous channels but flow for only part of the year: winter and spring in coastal drainages, and spring, early summer and fall in interior ones. Seasonal streams can be important to fish because they may provide overwinter habitat in coastal systems and early spring spawning and rearing habitat in both interior and coastal drainages.
- *Intermittent* streams do not dry up completely during seasonal dry periods, but retain water in separated pools. They can support salmonids (commonly coho juveniles, trout and char) all year in both coastal and interior drainages.

From: Forest Practices Code *Fish-stream Identification Guidebook* (2nd edition, 1998)

Box 2-F: What is a "Qualified Professional"?

The term "qualified professional" is referred to in sec.3(1)(g) of the SPR with reference to intergovernmental cooperation agreements, but it is significant in the context of interpreting the SPR in general. It can be used with reference to a local government staff person or a consultant. The following is drawn from a definition developed by MWALP Lower Mainland Region and modified slightly through discussions with local government representatives.

Qualified professional: "an applied scientist or technologist specializing in a relevant applied science or technology including, but not necessarily limited to, agronomy, biology, engineering, geology, hydrogeology or landscape architecture, geo-morphologist and

- a) who is registered in BC with their appropriate professional organization and acting under that association's Code of Ethics and subject to disciplinary action by that association, and/OR
- b) who, through demonstrated suitable education, experience, accreditation and knowledge relevant to the particular matter, may be reasonably relied on to provide advice within their area of expertise."

This definition is presented as a guideline only . There is much debate about the need for registration with a professional organization or some form of certification. Some "professionals" may not hold such credentials but, through experience, they are known and trusted to provide objective and knowledgeable service. Another proposed rule of thumb is a minimum 5 years related experience or education with minimum 2 years of related experience.

Ultimately, local governments have adopted, or will adopt, their own set of qualifications as they gain experience in working with professional consultants. Local government may wish to reach some agreement with MWALP and DFO regarding qualifications generally or a list of professionals that they agree are qualified to assist in streamside protection. The agreement might also indicate when a qualified professional is and is not required.

2.7 Putting it Altogether - Determining a SPEA

SPR definition - streamside protection and enhancement area: "an area adjacent to a stream that links aquatic to terrestrial ecosystems and includes both the riparian area vegetation and the adjacent upland vegetation that exerts an influence on the stream, the width of which is determined according to section 6".

Box 1-A (Part 1) contains the well known matrix that summarizes the widths defined by section 6. Sections 6(3) and 6(4) add a refinement to these SPEA 'standards' that addresses streams in large ravines (Figure 2-6). For ravines that are greater than 60 m in width (from the top of one ravine bank to the other, and not including the stream within its active floodplain boundaries), the area to be protected is at least 10 meters wide, measured perpendicularly from the top of the ravine bank. Streams that are in ravines of lesser width are subject to the normal SPEA 'standards'.

Figure 2-6: SPEA on large ravines INSERT

Figure 2-7 illustrates the main steps in determining an appropriate SPEA width based on the factors discussed above.

FIGURE 2-7: SPEAs - how to determine the width INSERT

Box 2-H: What about Trails in SPEAs? (*under construction*)

- Effect of existing trails on determining existing/potential vegetation: when is a trail a permanent structure and when is it not. Examples (pictures?):
 - Large multi-use trails on large rivers or lakes: e.g., Kamloops, Kelowna
 - smaller trails along creeks, small lakes.
- Building new trails in SPEAs – do's and don'ts (drawn from Access Guidelines)

2.8 Interpreting the SPR - Case Examples (*under construction*)

- Greenfield situation – Nunns Creek, Campbell River
- Urban "savaged stream" situation - Como Creek, Coquitlam
- Single-family residential situation - North Vancouver or Cat Stream/Departure Creek, Nanaimo
- Lakeshore situation - somewhere on Okanagan Lake
- Dyke situation? -

3. Implementing the Streamside Protection Regulation

(draft last revised 26 July 2001)

Implementing the Streamside Protection Regulation (SPR) consists of:

- choosing the legislative and policy tools suitable to your administrative and regulatory framework; and
- setting them up to establish and protect streamside protection and enhancement areas.

3.1 The Tools in General

There are a variety of planning and regulatory tools under the Local Government Act that a local government can use to implement the SPR. Section 12(4) of the Fish Protection Act directs local governments to use its zoning bylaws or its other powers under Part 26 of the Local Government Act to carry out the SPR. The main tools under Part 26, which addresses "Planning and Land Use Management", include:

- **Official community plans**
- **Development permit areas**
- **Zoning bylaws and rezoning requirements**
- **Subdivision approval**

There are a few points to keep in mind when considering options for implementing of the SPR:

- Implementing the SPR does NOT necessarily require a "new" set of bylaws or regulations. Many local governments already have streamside protection measures in place, and complying with the SPR is largely a matter of reviewing and revising them. Local governments should ask themselves: what are the main tools currently being used to regulate development? How can they be adapted to incorporate the SPR? Alternatively, is it desirable to introduce a new tool, such as a new development permit area or setback in a zoning bylaw? Would this be a "cleaner" way of addressing streamside protection within the current administrative framework?
- None of these tools is mutually exclusive; using them in combination may be necessary to cover all possible land development situations. The mix and match that any local government chooses will depend on the characteristics of their own legislative framework.
- Much of the focus on implementing the SPR has been on the use of zoning powers (establishing streamside areas as setbacks) or development permit areas. However, some local governments presently do not use either of these measures within their land planning and management framework, and are reluctant to now introduce them. They have developed other land use policies, processes and administrative tools under Part 26 powers to accomplish streamside protection. It is possible to adapt these measures in combination with intergovernmental cooperation agreements to satisfy the SPR.
- The directive also does not preclude local governments from using powers under other parts of the Local Government Act to support implementation of the SPR. For instance, powers under Part 22 regarding tree protection, removal and deposit of sand, gravel and other soil, and protection of waterways for stormwater management. These other powers can perform a significant role, in concert with policies under an OCP for example, in meeting or beating the SPR.

Whatever tools are used to implement the SPR, they need to two things:

- **Define** streamside protection and enhancement areas – identify what and where they are in a way that is comparable to the SPR.
- **Protect** streamside protection and enhancement areas –regulate development to achieve the purpose of the SPR, namely maintenance of the "natural features, functions and conditions that support fish life processes".

3.2 DEFINING Streamside Protection and Enhancement Areas

Establishing streamside protection and enhancement areas (SPEAs) consists of stating what and where they are. Whether a local government is setting up new bylaws and policies or adapting current ones to implement the SPR, there are some general 'rules of thumb' in defining SPEAs.

a) Ensure that your streams = the SPR's streams: It is important that the definition of "stream" that is adopted encompasses the SPR's definition. Your definition may not be specific to fish habitat but rather encompass a broader range of aquatic habitat - and that is fine, as long as it covers the range of waterbodies that are included in the SPR definition (see Part 2.1).

b) Call streamside protection and enhancement areas what you want but ensure they are consistent with the SPR: There are other terms in current use in bylaws and policies that refer to streamside areas - such as leave strip, riparian buffer or watercourse protection area. There is no need to change these terms, as long as they are defined to meet the intent of the SPR. Local governments could have their terminology acknowledged in an intergovernmental cooperation agreement with senior agencies. An example clause might be: "The parties acknowledge that for the purposes of meeting the requirements of the SPR, "leave strip" as defined under Bylaw _____ is consistent with the purpose and intent of "streamside protection and enhancement area" as defined in the SPR."

c) Ensure your SPEA meets or beats the widths specified in the SPR: As noted above, section 6 of the SPR sets out the widths to be met in determining SPEAs. Achieving consistency with these "standards" depends on the approach taken to define the area to be protected.

- Some local governments may wish to simply replicate the wording of section 6 of the SPR in the bylaw or policy tool they are using. The SPR 'standards' then become the criteria for determining a SPEA when needed; the width to apply on any given stream or site would be determined at the time of a development application or local area planning process. This approach may be most appropriate in areas of low development pressure and where the location and extent of streams are not well known.
- In jurisdictions where good stream information is available and development pressure is greater, local governments may wish to predetermine the SPEA width in advance of development. This requires that the streams in question be assessed for fish-bearing status, existing and potential vegetation and permanency (if needed) in order to assign the appropriate width (see Part 2).
- A variation on this approach is to establish a 'management' area, wider than the widest possible SPEA, and then define the area to be protected according to the SPR 'standards' when needed for planning or development approval purposes (see Box 3-A for an example).

In any of these approaches, make sure that the area (width) is measured from the same starting point as the SPR – i.e., the *top of the bank*. If it does not, consider changing the starting point or ensure that the specified width is large enough to include any possible top of bank configuration.

Box 3-A - Snapshots: The **District of Maple Ridge** has established a development permit area (DPA) 50 m from the top of the bank of all its streams. Within the DPA, a "watercourse protection area" (setback) is defined at the time of a development permit application. The width of a watercourse protection area is determined as part of the review by an interagency *environmental review committee*. To date, the widths typically followed the *Land Development Guidelines*. The **District of Lake Country** is taking a similar approach in revising its environmental DPAs around streams....

d) Consider showing where SPEAs are: Identifying where SPEAs are located can be done narratively, with maps, or through some combination of words and maps.

- In a "no map" approach, definitions of streams and SPEAs are provided in a bylaw. Streams may be identified by name but not by location. The process of determining whether a stream exists on a property and locating it and its SPEA is left up to an applicant at the time development is proposed. This approach is satisfactory for defining setbacks in zoning bylaws. However, it does not work for defining streams and streamside areas as

development permit areas, since section 877(1) requires "map designations" for areas covered in an official community plan where "restrictions on the use of land that is .. environmentally sensitive to development" apply.

- Alternatively, a local government may provide some form of map of streams with or without associated SPEAs. The detail of such maps will depend on the stream information and mapping that is available, and the need to provide this information ahead of development or municipal servicing activities. Table 3-1 illustrates some of these levels of detail. Stream inventories and maps assist local government staff, developers and the public in protecting streams, and provide greater certainty regarding where protection is required and what areas remain for development. Steps and support for stream inventory and mapping are discussed in more detail in Part 6.

[Table 3-1 attached at end of document]

e) Get agency agreement on SPEAs that do not meet the SPR standard: Section 6(5) of the Regulation states that in determining a SPEA, a local government may vary from the SPR widths if that variance is supported by an intergovernmental cooperation agreement (ICA). It is a good idea to consult with MWALP and DFO when defining streamside protection areas in general, but is particularly important if you choose to assign SPEA widths. Part 4 discusses ICAs in more detail.

3.3 PROTECTING Streamside Protection and Enhancement Areas

Along with defining SPEAs, local governments are required to protect them using the legislative and policy tools most appropriate to their situation. While a variety of mechanisms are available, there are some 'basic ingredients' that should be contained in whatever tools are used (Box 3-B).

Box 3-B: Basic ingredients for protecting SPEAs

1. **A "rule"** regarding development in SPEAs that triggers regulatory action. It can be broad, such as an OCP statement that defines SPEAs and directs their protection in all future development approvals; or more specific, such as a zoning bylaw provision stating that no structures can be built within SPEAs.
2. **An approval mechanism** - for example, a rezoning or subdivision approval, a development permit or development variance permit. This forms the basis for reviewing development proposals to see if they meet the SPR 'standards', as well as a mechanism for assessing variances from the SPR "standards". This may also include **exemptions** for any activities that may not require an approval, such as emergency situations.
3. **Inventory and assessment procedures** that set out what development applicants are required to do to: 1) prove they are not developing within a SPEA; or 2) if an SPEA is affected, prove that impacts will be negligible, minimised, mitigated or compensated, as applicable.
4. **A review process** that defines who reviews a development proposal, when senior agency approval is required, and how they are involved (through referrals, meetings, etc.).
5. **Long-term (post-development) protection** for an SPEA, such as park dedication, covenanting, and fencing.
6. **Measures to gain compliance** which range from **information and education** about streamside protection, to **enforcement** in the event something is done within an SPEA without approval, or if the terms of approval are not met.

The following sections examine each of the main tool options. It looks at how they can be used to implement the SPR, how the 'basic ingredients' might be incorporated, and their comparative advantages and disadvantages. 'Snapshots' provide examples of their use by various local governments in B.C. to protect streamside areas.

For more information about the use of these bylaw tools, see other publications in the Stewardship Series, particularly "Stewardship Bylaws: a Guide for Local Government", "Stream Stewardship: A guide for planners and developers" and "Community Greenways". These are available through the Stewardship Centre website www.stewardshipcentre.org.

3.4 Official Community Plans

OCPs provide the basic direction for land use decisions in a community. Among other things, OCPs can establish policies for "the preservation, protection, restoration and enhancement of the natural environment, its ecosystems and biological diversity" (Local Government Act, sec.878).

On their own, OCPs can be a significant tool for acknowledging the SPR, defining and designating SPEAs, and setting the policy context for their protection as part of planning or development approvals. OCPs are also the vehicle for establishing SPEAs as development permit areas (see section 3.5).

There are no specific approval or enforcement mechanisms associated with an OCP other than amendments to a policy or land use designation. Implementation of an OCP policy relies on land use decisions made under other bylaws. As such, if a local government is going to rely on its OCP as the main vehicle to implement the SPR (i.e., without establishing development permit areas), the applicable OCP policies must clearly set forth the goal of meeting the SPR and the mechanisms or processes for doing so. Ways of doing this are outlined in Table 3-2.

An option that local governments may consider is to designate streams, and possibly SPEAs, in a map or schedule adopted under an OCP. This demonstrates more clearly where the streamside protection policies will apply. The one drawback is that amending the revising an adopted schedule requires an OCP amendment process, which may seem a cumbersome process for dealing with ongoing revisions to a stream map. (For example, the City of Surrey prefers to refer to its stream map as part of "implementation policies" in its OCP - see Box 3-C).

Table 3-2: OCPs and SPR implementation

Ingredient	Applies to OCPs?	Options
Establish SPEAs	✓	<ul style="list-style-type: none"> Define streams and SPEAs (or equivalent). Adopt map of streams as a Schedule, or refer to a stream map as background information.
"Rule" for protecting SPEAs	✓	<ul style="list-style-type: none"> Include a goal statement to protect SPEAs in land planning and development. Include policies to meet or beat SPR standards. Establish SPEAs as development permit areas (see section 3.2.4).
Approval mechanism		<ul style="list-style-type: none"> No specific mechanism, but OCP acts as policy guide for all land use approvals (rezoning, subdivision, development permit approval).
Inventory/assessment requirement	✓	<ul style="list-style-type: none"> Include a policy to require a stream assessment for development proposals or plans around streams.
Review process	✓	<ul style="list-style-type: none"> Acknowledge review/referral process as means of varying from SPR standards.
Long term protection measure	✓	<ul style="list-style-type: none"> Include policies to acquire or protect SPEAs through dedication, right of way, covenant, seek or accept donations
Compliance measures	partial	<ul style="list-style-type: none"> Include policies to promote public awareness of stream stewardship, work with senior agencies and nongovernment organizations to provide educational opportunities. No enforcement provisions.

Box 3-C: Snapshot The City of Surrey relies on a detailed watercourse classification map, a "standard letter" approvals process, and an interagency environmental review committee to achieve streamside protection. The OCP is seen as the primary legislative tool to recognize and implement this process. The OCP currently acknowledges the Land Development Guidelines as the basis for streamside protection. City staff foresee revising the OCP to establish the SPR as the basis for land use decisions, and recognize its watercourse map and ERC process in implementation policies.

3.5 Development Permit Areas (DPAs)

Development permit areas can be designated in an OCP for "protection of the natural environment, its ecosystems and biological diversity" (sec.919.1, LGA). Designating a DPA must be accompanied by objectives and justification for the designation, as well as guidelines for development in the DPA in either the OCP or a zoning bylaw.

A DPA is a common tool for protecting streamside areas, and there are several advantages to its use. A DPA allows a local government to regulate a wide range of development activities that involves any disturbance of the land, and is only tool that can be used to prohibit all site disturbance prior to approval. A development permit can vary or supplement requirements under zoning or subdivision bylaws as long as they do not vary the zoned use or density. It can also require dedication of a watercourse to the Crown or the local government, though this power does not extend to the riparian area or floodplain.

DPAs are primarily a measure to regulate rather than prohibit development. As such, they are particularly useful where streamside areas are already zoned for development or are developed, such that streamside preservation opportunities are limited but regulating development is possible.

A drawback of DPAs is the limited enforcement measures. Violations of the terms of a development permit can be addressed only through a court injunction; as some local government staff noted, it is difficult to find a judge on a Saturday night. Dealing with activities carried out in a DPA without a permit also relies on court proceedings, which are typically considered too time consuming and costly to undertake. In the end, gaining compliance through DPAs relies mostly on providing the opportunity for educating landowners and developers of the need for and benefits of streamside protection.

Table 3-3: DPAs and SPR implementation

Ingredient	Applies to DPAs?	Options
Definition of SPEA	✓	<ul style="list-style-type: none"> Define SPEA (or equivalent). Adopt map of streams as schedule, or refer to map as background information.
"Rule" to protect SPEA	✓	<ul style="list-style-type: none"> Any development near or in SPEA requires a development permit.
Approval mechanism	✓	<ul style="list-style-type: none"> Development permit; allow variance with appropriate mitigation, compensation. May exempt land uses from DP requirement; e.g., emergencies, hazards, works and services, enhancement projects.
Inventory/assessment requirement	✓	<ul style="list-style-type: none"> Criteria and requirements set out in DPA Guidelines or in development approval information/ assessment bylaw.
Review process	✓	<ul style="list-style-type: none"> Standard review/referral process.
Long term protection	✓	<ul style="list-style-type: none"> Require dedication of watercourse. Acquire SPEA as dedication and/or covenant
Gaining compliance	✓	<ul style="list-style-type: none"> Development permit application information package. Withhold development permit. Bonding or security. Court injunction for violation of DP or for activity undertaken without a DP.

Box 3-D Snapshots - Development permit areas (DPA) for streamside protection are in common use across the province - here are a few examples: *(still under construction)*

- **As noted in Box 3-A, the District of Maple Ridge** defines all streams and a 50-m strip from top of the bank as DPAs within which "watercourse protection areas" (WPA) are defined as part of a DP application. Proposed WPAs are reviewed by District staff with senior agencies. The DPA guidelines seeks dedication of the WPA as parkland. They also contain a provision stating that the minimum lot size must be exclusive of WPAs, thereby varying the standard lot sizes for all parcels adjacent to streams.
- The **City of Kelowna** defines Streamside Protection Corridors as DPAs.....
- The **District of Lake Country** is revising the "environmental development permit areas" under its OCP to address the SPR 'standards'.....
- The **North Okanagan Regional District** provides planning services for 5 municipalities and 6 electoral areas in this vast regional district. OCPs for most of these areas define watercourses and 30 m from their natural boundaries as DPAs. Areas to be protected are determined at time of DP application, with review and endorsement of senior agencies.
- The **Regional District of Nanaimo** has established OCPs for ___ electoral areas that define streams and their "leave strips" as DPAs....
- Along with establishing leave strips as setbacks in its zoning bylaw (Box 3-E), the **City of Nanaimo** has defined these streams and leave strips as DPA #23....

3.6 Zoning Bylaws

The Fisheries Protection Act makes specific reference to the use of zoning bylaws to implement streamside directives. A zoning bylaw is the main tool to regulate land use, density, lot sizes, and the siting and location of uses, buildings and structures. For implementing the SPR, a zoning bylaw can establish SPEAs as "setbacks" in which land uses and structures cannot be located (Table 3-2). The setbacks would reflect the SPR standards either by citing them directly, or by applying the SPR widths on a stream basis.

Setback requirements are applied in several contexts:

- At time of rezoning, as the mechanism for achieving streamside protection over an entire parcel.
- At time of subdivision, in directing the size, shape and location of lots to protect streamside areas.
- At time of lot development, in regulating the siting of a building or structure to avoid a SPEA.

Setback requirements can also trigger the use of more site-specific zoning approaches, such as comprehensive development zoning and density bonuses, that can benefit stream protection as well as development priorities.

One drawback is that zoning bylaws are aimed at regulating lots and structures (which can include impervious surfaces), but are not a good tool for addressing vegetation protection. The means available to vary the setback may also be considered a drawback. Large variances require a development variance permit (DVP), which is a rather cumbersome process requiring a Council or Regional Board resolution and formal notification of surrounding residents. Also, unlike DPs, review and approval of DVPs cannot be delegated by a Council/Board to a staff member.

Minor variances to bylaw requirements are handled by a Board of Variance, whose primary criterion is the determination of "hardship" caused by the requirement on an applicant. Whether varying streamside setbacks would be considered "minor" and thereby subject to this form of review is unclear, and may be up to a Council/Board to determine. (The Board of Variance process, however, can be used to allow minor variances to other zoning bylaw requirements - such as yard setbacks or parking area requirements - that would help to maintain a SPEA setback..)

Table 3-4: Zoning and SPR implementation

Ingredient	Applies to zoning bylaw?	Options
Definition of SPEA	✓	<ul style="list-style-type: none"> Define SPEA (or equivalent) in zoning bylaw. Adopt a streams map as a schedule in zoning bylaw.
"Rule" for protecting SPEA	✓	<ul style="list-style-type: none"> Require stream setbacks that reflect SPR 'standards' in which no structures or impervious surfaces are allowed to be constructed. Require deeper lots along streams; e.g., minimum lot area not to include stream setback.
Approval mechanism	✓	<ul style="list-style-type: none"> Rezoning application: negotiations at time of rezoning can allow variance with appropriate mitigation, restoration or compensation measures as part of approval. Subdivision application (lot sizes and configurations): can allow variance with appropriate mitigation, restoration or compensation measures as part of approval. Development permit or building permit: for siting structures and impervious surfaces on individual parcels or lots. Variances allowed using development variance permit (major variances - Council/Board approval required) or Board of Variance approval (minor variances).
Inventory/assessment requirement	✓	<ul style="list-style-type: none"> Criteria and requirements may be set out in OCP policy, in Development Approval Information and Assessment Bylaw, or in rezoning application procedures.
Review process	✓	<ul style="list-style-type: none"> Review/referral of applications; see section 4.2.
Long term protection measure	✓	<ul style="list-style-type: none"> Acquire SPEA as dedication and/or covenant as part of rezoning or subdivision.
Gaining compliance	✓	<ul style="list-style-type: none"> Rezoning or subdivision application information packages; public consultation processes. Withhold rezoning, subdivision or permit approval. Bonding or security.

Box 3-E: Snapshot The City of Nanaimo has identified its watercourses and specified "leave strips" on each in Schedule G of its Zoning Bylaw. The majority of streams, lakes, ponds and wetlands are currently assigned a leave strip of 15-m from top of bank, with 2 rivers with 30 m. Each zone in the Zoning Bylaw also contains provisions stating: "the leave strip area cannot be used in calculation of minimum lot size".

Box 3F: Snapshot In the Township of Langley, most vacant lands are not zoned, so new development typically requires a rezoning. Township staff sees the rezoning process as its major tool for protecting SPEAs and achieving the SPR standards. *Check where policies are located - OCP or zoning bylaw?*

3.7 Subdivision Approval

Subdivision approval is governed by both the Local Government Act and the Land Titles Act. Together, they provide several powers to subdivision approving officers¹ that support implementation of the SPR:

- Approving officers are obliged to consider local government regulations and policies and to ensure that a subdivision application meets them. This includes OCP policies and designations, zoning requirements, and subdivision bylaws. As such, subdivision approval is guided by streamside protection policies and provisions of OCPs and zoning bylaws, as discussed above.

¹ In municipalities, the subdivision approving officer is a staff member, whereas in most regional districts, the function of the approving officer is still held by the Ministry of Transportation and Highways. This is changing as more regional districts negotiate the acquisition of subdivision approval authority.

- The Land Title Act also authorizes the approving officer to consider matters of public interest, which includes environmental issues, in approving subdivisions.
- Subdivision approving officers can require dedication (as parkland, up to 5% of a parcel) or covenants on environmentally sensitive areas.
- Officers can also require dedication and improvement of "highways", which is defined as "any way open for public use"; as such they could be used to acquire trail rights-of-way that supplement streamside areas.

In addition, under Part 26, local governments have the authority to adopt subdivision bylaws to regulate the provision of works and services on subdivided lands. This authority is the basis for engineering standards that typically apply to the design and construction of roads and utilities. In support of the SPR, engineering standards can also be used to set procedures for protecting existing vegetation, replanting standards, and erosion and sediment control design standards.

Table 3-5: Subdivision bylaw and SPR implementation (*under construction*)

Ingredient	Applies to subd. bylaws?	Options
Definition of SPEA		•
"Rule" for protecting SPEA		•
Approval mechanism/ variances		•
Inventory/ assessment requirement		•
Review process		•
Long term protection measure		•
Gaining compliance		•

3.8 "Part 22" Powers

Often referred to as "blanket" bylaws, powers under Part 22 of the Local Government Act are not referred to in the Fish Protection Act as a means of implementing streamside directives. However, in association with an OCP policy to protect streamside areas, these powers can collectively be used to meet or beat the SPR (see Box 3-G for an example). These powers can also act as effective supplements to zoning and DPA provisions. In fact, a local government may need to review these blanket bylaws to ensure that they do not conflict with or create unnecessary redundancies (e.g., permits for the same activity) with zoning or DPA provisions.

Table 3-6: Part 22 bylaws (under construction)

Ingredient	Tree Protection Bylaw	Soil Removal & Deposit Bylaw	Waterway Protection Bylaw
Definition of SPEA		5.2	5.3
"Rule" for protecting SPEA			
Approval/ variance mechanism			
Inventory/ assessment requirement			
Review process			
Long term protection measure			
Gaining compliance			

Box 3-G: Snapshot (under construction) The **District of North Vancouver** has taken the unique approach of combining bylaw-making powers under Part 22 of the LGA into one Environmental Protection and Preservation Bylaw. Its "environmental permit" can be used to regulate.....

3.9 Streamside Protection on Single Lots

Some local governments wonder how to regulate building on single lots to protect streamside areas. Powers respecting building regulation are contained in Part 21 of the Local Government Act, which does not authorize regulating or withholding building or occupancy permits in the interests of environmental protection. Regulating construction on a single lot can be addressed by:

- a) Establishing a Development Permit Area, which would require a builder to acquire a DP before applying for a building permit. (A DP Area defined for protection of the natural environment can apply to single-dwelling development, unlike a DP Area defined for form and character.) For example, the City of Nanaimo's Watercourse DP Area applies to all forms of development, including single houses, but the DP fees are reduced for single-family houses or waived altogether.
- b) Establishing a stream setback in a zoning bylaw; a builder would have to obtain a development variance permit or variance approval, depending on whether the variance to the setback is considered minor.

Local governments who do not use zoning bylaw setbacks or DPAs to protect streamside areas can only warn building permit applicants of SPR and Fisheries Act requirements, and that building within the SPEA may be grounds for prosecution under the Act. This may not be considered to "meet or beat" the SPR in regulating building on single lots.

3.10 Watershed Planning and the SPR

The SPR has been criticized for taking a narrow perspective in protecting healthy stream systems. Research is proving that just protecting riparian areas is not enough; that the way land is used throughout a watershed (the area draining into a stream) needs to be managed to maintain the characteristics of water quantity and quality that are vital to stream health.

The Province recognizes this limitation, and emphasizes that the SPR is only one step in achieving long term protection for stream habitat across B.C. Local governments are encouraged to take a more wholistic approach to protecting streams by incorporating the SPR's requirements into watershed- or ecosystem-based land use planning.

There are many approaches to watershed planning being proposed and implemented throughout the Pacific northwest. Box 3-H lists some of the basic elements that watershed planning may include, putting stream protection in context with other natural resources and human activities. Watershed planning may represent an intensive commitment, but can result in a comprehensive basis for determining land uses and streamside protection areas. Agreement by senior agencies to a watershed plan can also simplify review and approval of all subsequent development that occurs in compliance with the plan.

Box 3-H: Elements of watershed planning*

- Inventory of natural features:
 - watershed and subwatershed boundaries
 - geology, soils and topography
 - watercourses and wetlands: fish species, fish accessibility, stream bank characteristics, stream bed materials, riparian vegetation condition, stream cover, crossings, water quality, etc.
 - floodplain areas
 - groundwater resources
 - vegetation communities, wildlife and fish habitat
 - environmentally sensitive and hazardous areas
- Inventory of anthropogenic features:
 - cultural and heritage resources/values
 - aesthetic/recreational resources and values
 - parks and trails
 - urban and rural land use
 - transportation and other utility corridors
 - drainage characteristics, stormwater facilities
 - % total impervious surface area
- Proposed/future land use:
 - land use concept plan, rezonings
 - projected population growth, trends (age, needs)
 - future impervious surface areas
 - proposed parks, green space, recreation opportunities
 - proposed transportation, utilities, capital improvements and infrastructure
- Assessment of environmental stressors or constraints.
- Watershed targets and goals - including opportunities for improving watershed health, if that is a target.
- Identifying and protecting environmentally sensitive areas, including but not limited to SPEAs, through dedication, acquisition, setbacks or green corridors.
- Maintaining or restoring natural hydrological regimes through the application of stormwater best management practices, on and off site.
- Applying stewardship measures and programs to protect soils, vegetation, water quality and species; collaboration with non-government organizations can be particularly effective.
- Monitoring for how watershed resources are responding to management practices of the plan - identify indicators, strategize sampling.
- Implementation (development application and review) and enforcement.

** Adapted from "Watershed Management Plan Template", Township of Langley, Sept. 8/2000, and E. Karlsen, W.E. Derry and K.A. Stephens, 2001: Cross Border Stormwater Initiatives: sharing solutions to land development challenges in the Georgia Basin-Puget Sound BioRegion.*

4. Applying the Streamside Protection Regulation

(Draft July 26, 2001)

Along with interpretation and implementation, applying the SPR means regulating development around streams to meet the objectives of the SPR – to protection streamside areas so that they “can provide natural features, functions and conditions that support fish life processes”. This Part examines two aspects of SPR application: the review of development proposals that may affect SPEAs, and gaining and maintaining compliance with the SPR ‘standards’.

4.1 Development Review: what it might look like

The length and complexity of the development review process is directly proportional to the size of the proposed development, how close it is to a stream, and how much work has been done ahead of time to determine the appropriate SPEA width. Table 4-1 illustrates this concept. The review of any one development proposal will take longer if the development encroaches into a SPEA, or the appropriate SPEA width must first be determined. From an administrative perspective, reaching agreement on SPEA widths ahead of time may save time and effort over the long term, as compared to dealing with each site-specific SPEA on a referral basis. This is particularly true for regions experiencing growth and development; regions where development pressure is low may find the “variance approach” satisfactory.

Table 4-1: Approaches to development review

Prescriptive approach	Predetermined approach	Variance approach
SPEA width = 30 m or greater	Predetermined SPEA width	SPEA width other than 1 and 2
no referral needed	no referral, but have agency agreement (ICA) on predetermined SPEA width	site-specific referral (ERC or other)

A “generic” development review process for proposals around streams is illustrated in Figure 4-1. Certain details, such as the form of interagency review or the source of inventory and assessment requirements, will be specific to each local government.

Figure 4-1: Process for Development Proposals near Streams INSERT

4.2 Gaining Compliance: from information to enforcement

Gaining compliance with the SPR relies on a wide range of methods - information and encouragement, awards and rewards, incentives, education (including “teachable moments”), negotiation, collaboration, and financial instruments (Table 4-1). Gaining compliance should occur along a “continuum”, starting with the friendliest measures and moving to the punitive only as needed. “Enforcement” - imposing penalties or taking other disciplinary action - should be the latter steps in getting people to comply with the SPR.

Information and education: There are many advantages in focusing resources on information and education.

Public education - In many cases, streams and streamside areas are damaged simply because people don’t know that their activities have a negative impact. Informing them about the nature of streamside areas and how impacts

can be easily avoided is all that many people need to change their behaviour. Awareness also brings more “eyes” on potentially damaging situations that if reported early can be curtailed. Probably the most important result of information and education efforts is prevention. Gaining awareness and buy-in to streamside protection measures can avoid the cost and frustration of “enforcement” actions over the long term.

Table 4-2: a sampling of stream information and involvement programs (under construction)

Langley: LEPS program	<i>short description</i>	<i>websites for further info</i>
Nanaimo: Watercourse Protection and You		
Surrey: ShaRP program		
Kelowna: watershed stewardship program		
...others?		

Who's involved - Informing stakeholder groups, landowners and the general public about streamside protection can often be highly effective when done in collaboration with community organizations (Table 4-2). Local governments typically have stronger ties with community groups, but senior agencies can help out by providing information brochures (both MWLAP and DFO have developed a range of related brochures and fact sheets) and being available to do presentations or participate in public events.

Internal education - Education within a local government is just as important as public outreach. Informing staff across departments, politicians, consultants and contractors about streamside protection requirements and methods can help to ensure that a local government is abiding by its own bylaws and policies – that it is indeed “walking the walk” in the eyes of the public and development community.

Who's involved - Senior agencies can play a key role here by offering workshops or collaborating with local government staff on presentations to other staff and contractor groups.

The reverse can also be true; informing the staff in senior agencies about the regulatory requirements of a local government can help make them more aware of their role viz a viz local government staff. It can also help to avoid situations where conflicting advice or direction is given from different levels of government.

Covenants and financial tools: These lie somewhere between education and enforcement on the compliance spectrum. Both have their advantages and disadvantages (Table 4-3). Bonding is a common financial tool used to ensure that certain actions are taken with respect to streamside protection and enhancement (Box 4-A).

Table 4-3: Features of covenants and bonding

Tool	Source; when can use	Pro's	Con's
Covenants (sec.219 of Land Title Act)	Can be used as condition of rezoning, subdivision or development permit	<p>Informs landowner of environmental values.</p> <p>Conservation covenants can provide opportunity to bring in third party as covenant holder that can do monitoring.</p>	Needs monitoring. Staff generally rely on complaints to learn of covenant infractions; often too late.
Bonding or letter of security	LGA section 925: to ensure that restoration occurs, allows the withholding of	Can ensure that the conditions of subdivision or DP are met, or use	Typical security of \$2000 is often not enough to ensure compliance (cost of doing business) or cover costs if local government must do it

	subdivision approval and/or final occupancy until actions for which bonding is taken are complete.	bond to conduct the measures.	themselves.
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Box 4-A: Several local governments use **BONDING** to achieve streamside protection objectives: *(under construction)*
 Salmon Arm – surety is 125% of a local landscape architect’s estimate...
 Burnaby: bonding for landscaping plan released in phases over 3 years; released with annual environmental consultants report indicating what is still alive...?
 Maple Ridge: requires bonding to be transferred from developer (subdivider) to builder (single lot) to ensure that streamside protection is carried out on a lot-by-lot basis, not just at subdivision stage.

Enforcement: A variety of enforcement tools exist under the Local Government Act, depending on what authority is being exercised (Table 4-4). Again, each one comes with certain benefits and limitations.

Table 4-4: Enforcement Tools

Tool	Source; when can use	Pro's	Con's
Ticket	Can be applied under a "blanket" bylaw e.g., tree protection, soil deposit and removal, stormwater management	Provides "a teachable moment"; you have their attention and a ticket can be used as a preventative tool instead of, or in addition to, a disciplinary measure.	The enforcement of tickets is usually up to bylaw enforcement staff, who may need training on what constitutes streamside infractions. No avenue for requiring remedy; i.e., no "fix-it" authority unless tickets are used as a means of negotiating a remedy. May be viewed by the contravenor as a minor disincentive – "the cost of doing business".
Fine (over and above a ticketable offence)	Can be applied under a "blanket" bylaw e.g., tree protection, soil deposit and removal, stormwater management	You have their attention, a teachable moment - can be used as a preventative tool.	Court system may award a low fine. May be viewed by the contravenor as a minor disincentive – "the cost of doing business".
Stop work order or Permit withdrawal	<i>Where/what bylaw powers can use this?</i>	Stops development activity on site until infraction rectified.	Applicable only while development is underway, not after the fact.
Withhold subdivision approval	Subdivision approving authority under Land Title Act	Can withhold approval of preliminary plan or design stage until streamside issues are addressed.	Approving officer must be able to justify based on bylaw requirements or "public interest"; usually needs political support.
Court order or injunction	Development permits	Stops work until infraction is rectified	Hard to find a judge to respond during the evenings and weekends when some of the serious offences occur.

4.3 Who Does What? – coordinating compliance roles

Once implementing bylaws and policies are in place, local governments will typically be the "first responders" to complaints and infractions regarding streamside protection. How a local government responds will depend on the regulatory tool used to implement the SPR and the relationship established with senior agencies (Box 4-B).

For their part, MWALP and DFO are involved in enforcement in several ways:

- Both agencies should confer first with the applicable local government before responding to a complaint or notice of a possible violation. The appropriate local government staff may already be taking action under their applicable regulations, and independent action by MWALP or DFO officers may only frustrate the situation.
- Back up the local government's position regarding requirements under their bylaws and the SPR, if needed.
- Reinforce the message that there is the potential for charges under the Fisheries Act or Water Act, as applicable.
- Enforce the Fisheries Act or Water Act, as applicable.

In some situations, final enforcement action under a local government bylaw may be seen to involve more cost and effort than the infraction is worth or that the local government can afford. Similarly, proving habitat loss or destruction as a criminal action under the Fisheries Act may also be seen by DFO as too difficult or costly to risk their limited resources. In these situations, the best that any regulatory agency may be able to do is to settle for whatever mitigation or compensation measures that they can extract from the offending party (Box 4-C), and hope that the violator has "learned" from the process.

Box 4-C: Mitigation and compensation measures

When it comes to riparian areas, current DFO policy is to retain or acquire land, because once the land base is removed from riparian function it is very difficult to get back. For this reason, in-stream enhancements are not usually an acceptable "trade" for loss of streamside areas. Therefore, encroachment into a SPEA should be mitigated first by restoring the disturbed area. Where the encroachment is permanent, additional streamside area should be sought elsewhere in the same reach or stream.

Box 4-B: Enforcement Scenario

A common infraction is conducting an activity within a streamside area without the applicable authorization or permit. A response "spectrum" might be:

- Inform the party of the need for authorization or permit, the bylaw basis for that requirement, and the reasons why (a "teachable moment").
- Require that the permit be acquired, involving whatever level of assessment needed for that situation.
- Seek mitigation or remedial action as part of the permit or approval; e.g., replant disturbed areas, install erosion control measures, pull back or remove illegally added soil or structures. In cases where removal of an offending structure might create more disturbance than leaving it in place, seek compensation measures such as restoration of additional streamside habitat elsewhere on the property.
- If the offending party is resistant, inform them that they could be subject to charges under the Fisheries Act or Water Act, and advise MWALP and DFO of the situation.
- MWALP/DFO staff may:
 - provide backup to local government efforts to enforce their bylaws.
 - reinforce the warning about violation of federal or provincial legislation and potential consequences.
 - initiate investigations of a violation.
 - proceed to lay charges.

5. Intergovernmental Cooperation Agreements (ICAs)

(revised July 26, 2001)

5.1. The Basis for ICAs (or “When do we need an ICA?”)

The SPR defines intergovernmental cooperation agreements (ICA) as “an agreement made by MELP with the authorized representative of the appropriate local government, which may include agreement with Fisheries and Oceans Canada”. Section 3(1) identifies a number of topics that ICAs can address (Box 5-A).

The only matter for which an ICA is required is when it is necessary to establish a streamside protection area that does not meet the SPEA “standards” under section 6 of the SPR. Otherwise, ICAs are voluntary; a local government does not have to have an ICA in order to pass bylaws that comply with the Regulation. However, there are many functions that ICAs can perform to support local governments in reaching that stage.

5.2. ICAs to Support SPR Implementation

As Section 3 (Box 5-A) indicates, ICAs can be used to:

- Clarify roles and responsibilities for streamside protection.
- Assist the process for gaining compliance with the SPR through financial and technical support, education, training, monitoring, enforcement and auditing.
- Streamline local and senior government referral and review processes.
- Provide for flexibility in applying the SPR to take into account local biophysical conditions, development history and status, regulatory history and framework, and local/senior government relationships.

A common form of intergovernmental agreement is a *memorandum of agreement or understanding* (MOU). Several local governments in B.C. have entered into MOUs with MWALP and DFO (Table 5-1). MOUs are typically not intended to be legally binding contracts; rather the parties are expected to act in accordance with the agreement in “good faith”. They are usually considered administrative in nature, are signed by senior staff members, and do not directly involve politicians.

Box 5-A: Topics for ICAs (from SPR sec.3)

“3(1) This regulation is to be supported by intergovernmental cooperation agreements that include provisions for any of the following topics:

- (a) financial and technical support for the implementation of this regulation;
- (b) a transition strategy to give effect to existing agreements and approved streamside protection measures;
- (c) the staged establishment of streamside protection and enhancement areas;
- (d) the confirmation of regionally significant fish by the appropriate regional director of the Ministry of Environment, Lands and Parks;
- (e) the amendment of streamside protection and enhancement areas determined under section 6;
- (f) providing, sharing or confirming information on fish habitat conditions;
- (g) advice by qualified professionals with reference to the operation of this regulation;
- (h) describing roles and responsibilities with reference to applicable and appropriate use of authority and program mandates;
- (i) dispute resolution;
- (j) a compliance strategy, including education, training, monitoring, reporting, enforcement and auditing.”

Table 5-1: Synopsis of Local Government Agreements with MWALP and DFO

{Can we provide the text of these agreements via local government websites, or compile them on a stewardship website? This will require agreement of the respective local governments}

Local Government	Title and Purpose	Topics
District of North Vancouver	<p>Intergovernmental Agreement on Sharing Environmental Responsibilities (1996?)</p> <p><input type="checkbox"/> To work cooperatively on environmental matters to extent permitted by respective areas of jurisdiction</p>	<ul style="list-style-type: none"> ● Emergencies ● Guidelines ● Statutory limitations ● Liability protection ● Dispute resolution ● Public participation ● Education and training ● Annual audit ● Implementation ● Amendments ● Attachments: development review process
Comox-Strathcona Regional District	<p>Intergovernmental Partnership Agreement for the Protection of the Environment (1995, updated 2000)</p> <p><input type="checkbox"/> Provide a process for more efficient, collaborative delivery in environmental permitting and protection</p>	<ul style="list-style-type: none"> ● Term ● Liability ● Enforcement : compliance and enforcement protocol (Schedule B) ● Identification of ESAs (sensitive habitat atlas) ● Development process reviews ● Guideline development for marine foreshore protection ● Cooperative initiatives: <ul style="list-style-type: none"> ○ water management ○ groundwater ○ liquid waste management planning ○ air quality monitoring
City of Kelowna	<p>Cleaning of Storm Drains that flow into Fish Bearing Waters - Kelowna Creek (1996)</p> <p><input type="checkbox"/> To avoid impacts on streams caused by storm drain maintenance</p>	<ul style="list-style-type: none"> ● With BC Environment (MWALP) only ● Storm drain cleaning procedures (Appendix A) ● Scheduling of storm drain cleaning ● Due diligence compliance ● Annual schedule ● Annual review
Regional District of Nanaimo	<p>Intergovernmental Partnership Agreement for Protection of ESAs 2000-2003</p> <p><input type="checkbox"/> Implement new collaborative process, cooperative framework, recognize authority of RDN to assess and determine environmental impacts</p>	<ul style="list-style-type: none"> ● Data management & sharing ● Development application reviews ● Training ● Community stewardship and public awareness measures ● Environmental policy reviews: OCPs, GMP, parks ● Waste management: ● Emergency planning ● Term ● Meetings ● Liability ● Enforcement ● Dispute resolution
City of Surrey	<p>Memorandum of Agreement on Master Drainage Plans and Drainage Servicing Plans (1997)</p>	<ul style="list-style-type: none"> ● Role of Environmental Liaison meetings ● Effect of plan - simplify approval of detailed designs ● No effect on property rights or constitutional authority

	<ul style="list-style-type: none"> <input type="checkbox"/> Acknowledge change in process for MELP/DFO involvement and approval of MDPs and DSPs <p>Memorandum of Agreement on Surrey's Stream Classification and Mapping, Emergency Operation Procedures, and Planned Capital and Maintenance Works (1997)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Acknowledge change in procedures for applications for instream works. 	<ul style="list-style-type: none"> • Subject to Water Act, Land Title Act, Fisheries Act. • Confirm classification map as basis for guiding emergency and planned instream works: <ul style="list-style-type: none"> ○ Class A: inhabited or potentially inhabited with access enhancement by salmonids year round ○ Class AO: inhabited or potentially inhabited by salmonids during winter; non salmonid species present year round ○ Class B: significant source of food/nutrient value; no documented or reasonable potential for fish presence ○ Class C: insignificant food/nutrient value; no document or reasonable potential for fish presence. Generally manmade watercourses parallel to roads. • Emergency works procedures: Appendix indicating types and protocol • Planned capital and maintenance (in-stream) works: appendix indicating types and protocol
City of Nanaimo	<p>Memorandum of Understanding for Cooperation on Environmental Matters (1998)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clarify responsibilities, improve referral process, clarify objectives and standards, and provide for sub-agreements. 	<ul style="list-style-type: none"> • Sub-agreements: list of topic areas set out in Schedule A • Implementation - coordination meetings • Dispute resolution • Term • Sub-agreement A: Coordination meetings (1998) <ul style="list-style-type: none"> ○ Timing, operational matters • Sub-agreement B: Referral of development applications (2001) <ul style="list-style-type: none"> ○ Coordination responsibilities ○ Review framework ○ Basis for development review and approval ○ Effect of Fish Protection Act, Streamside Protection Regulation <ul style="list-style-type: none"> ○ Review and response process ○ Dispute resolution ○ Monitoring, training and review • Subagreement C: Referral of city projects and operational activities (on going)

Based on the examples to date, MOUs seem to fall into one of three forms:

- One general agreement that covers a range of topics (e.g., Comox-Strathcona Regional District, Regional District of Nanaimo).
- An "umbrella" agreement stating overarching principles accompanied by a series of sub-agreements addressing specific topics (e.g., District of North Vancouver, City of Nanaimo).
- Agreements on specific topics as they are needed (e.g., City of Surrey, City of Kelowna).

There are no hard and fast rules about how ICAs of this nature should be structured. However, a few basic ingredients based on examples from these jurisdictions are suggested in Table 5-2. Table 5-3 provides an indication of the topics that ICAs could address.

Table 5-2: Generic components of a MOU-style intergovernmental cooperation agreement (under construction)

Component	Example Clause
<ul style="list-style-type: none"> Reasons for the agreement - often the "whereas" section, this states why the parties are entering into and committing to act collaboratively. 	
<ul style="list-style-type: none"> Purpose statement – specifically what the parties intend to accomplish through the agreement: topic, scope, benefits to be gained. 	
<ul style="list-style-type: none"> Recognition of roles and responsibilities – acknowledge the independent jurisdictional authorities and accountability, and then the basis for collaboration for mutual interest. 	
<ul style="list-style-type: none"> Parties - clear identification of the agencies responsible for effecting the agreement. Depending on how general or specific the agreement is, this may be a general manager, a department head or particular staff position. 	
<ul style="list-style-type: none"> Principles – general themes, “rules”, or policies that the parties agree to abide by. 	
<ul style="list-style-type: none"> Timeframe of the agreement - when it will be officially reviewed and updated. 	
<ul style="list-style-type: none"> Flexibility - to adjust agreement on an ongoing basis, with appropriate notification and collaboration, to adapt to changing administrative or jurisdictional conditions. 	
<ul style="list-style-type: none"> Method for withdrawal from the agreement. 	
<ul style="list-style-type: none"> Dispute resolution method. 	
<ul style="list-style-type: none"> Administration of agreement – committees, meetings, review and monitoring of agreement, who organizes, chairs, takes minutes, prepares agendas, etc. 	
<p>How other agencies, stewardship groups, First Nations, etc. may be involved or can contribute/participate.</p>	
<ul style="list-style-type: none"> Implementation sub-agreements (optional): may identify topics or actions to be addressed, with a timeframe. 	

Table 5-3: What can ICAs address?

Topic	Potential Elements
Creation of SPEAs	<ul style="list-style-type: none"> • Timing within 5-year framework • Bylaws to be used • Regulatory measure to be applied for their protection
"Meet or beat" the SPR	<ul style="list-style-type: none"> • Acknowledge that existing regulatory framework meets the requirements of the SPR
Referrals of development applications in SPEAs	<ul style="list-style-type: none"> • Referral process • Criteria for referral: what projects are dealt with by local government entirely, what projects are referred to MWALP and/or DFO • Role of ERCs (see below) • Application "checklist" • Timing and nature of response: verbal, written,
Management of local government activities in SPAs	<ul style="list-style-type: none"> • What activities: maintenance, capital projects • Review/referral process • Criteria to satisfy SPR
Stream mapping and inventory	<ul style="list-style-type: none"> • Geographic extent; entire jurisdiction, specific watersheds • Methods • Data and base map sources • Financial support • Technical support
Stream classification	<ul style="list-style-type: none"> • Classification scheme – hierarchy of protection • What classification will be used for – all development or specific activities • Protocols for development in each class • Application – what streams fall into what class
Enforcement	<ul style="list-style-type: none"> • What authority, mechanisms local government can/will use • When MELP and DFO are called upon
Information sharing	<ul style="list-style-type: none"> • What data each level of government can offer • Common formats (digital data), platforms for compiling, storing and retrieving data • Common mapping standards • Acceptable data collection standards (RIC)
Education	<ul style="list-style-type: none"> • Partnerships in public education and stewardship programs • Training for local government staff: topics, means, timing
Area or site-specific requirements	<ul style="list-style-type: none"> • An ICA can address a particular site development or local area plan

5.3. ICAs to Support Variances

The role of ICAs in varying from the 'standards' is addressed in section 6(5) of the SPR (Box 5-B). There are several forms that such ICAs can take:

- If a variance is sought for a particular development application or site plan, then the ICA may simply be a *referral letter or authorization* from the applicable agency approving the variance subject to certain conditions.
- *Minutes from a joint review meeting* (see ERCs below) recounting a decision on a variance may also form a *de facto* ICA, as long as all parties are agreeable to the use of minutes as a record of variance decisions.

Box 5-B: Section 6(5) of the SPR

"6(5) In determining a streamside protection and enhancement area a local government may make allowances for one or more of the following if supported by an agreement under section 3: {emphasis added}

- (a) the potential to provide greater opportunity for streamside protection and enhancement than what would be achieved under subsections (2) to (4);
- (b) the existence of obstacles that impair the ability to designate streamside protection and enhancement areas in accordance with subsections (2) to (4) including, but not limited to the following:
 - (i) biophysical conditions;
 - (ii) existing parcel sizes;
 - (iii) existing roads, works or services;
 - (iv) proposed roads, works and services needed to provide access or services to otherwise developable land;
 - (v) the existence of artificial controls on the high water mark or water level of a stream."

- A local government may wish to determine appropriate SPEA widths on streams within a planning area, watershed or throughout its jurisdiction, and some of those widths may not fully comply with SPR standards due to conditions of land use, lot sizes, biophysical constraints, etc. An agreement on a stream map, watershed plan or local land use plan that identifies SPEA widths may be the subject of an ICA.

5.4. Environmental Review Committees - a tool in the ICA kit

The term "environmental review committee" (ERC) is used here to refer to an ongoing committee made up of MELP, DFO and local government staff. Several local governments in B.C. already have such committees under a variety of names (Box 5-C). A committee can exist prior to or in the absence of an ICA; in fact, most existing committees operate quite informally, without a formalized agreement or terms of reference, and their functions vary from jurisdiction to jurisdiction.

However, a common objective of ERCs is to provide a more efficient and functional method for addressing environmental management issues than the traditional paperbound referral process. ERCs do not replace the referral process, but supplement and streamline it by providing a forum for discussion and problem-solving in a more immediate and collaborative environment. Decisions are usually made more promptly, and the rationale for them is clearer, than under the traditional referral process.

It is important to remember that ERCs are advisory in nature; they cannot fetter the authority of a municipal council or regional district board over land use decisions. They can provide, however, the main source of direction on how a local government's decision can satisfy federal and provincial environmental requirements.

Box 5-C: Local governments with ERCs or equivalent

Burnaby
 Chilliwack
 Comox-Strathcona Reg'l District
 Coquitlam
 Langley (Township)
 Maple Ridge
 Mission
 Nanaimo (City)
 Nanaimo Regional District
 North Vancouver (District)
 Port Coquitlam
 Port Moody
 Sechelt
 Squamish
 Surrey

Nuts and bolts of ERCs

The Lower Mainland Region office of MWALP has issued an information release on "Recommended Terms of Reference for Environmental Review/Planning Liaison Committees"; contact them at (604)582-5200 for a copy.

Objective: Most ERCs are established to streamline referral and review procedures. Some also address policy and planning issues (e.g., review OCP or neighborhood plans; operational policy, procedures and guidelines), with the objective of implementing environmental protection in a proactive manner.

Participants: Regular attendees are usually representatives from planning, development services, engineering and parks departments in the local government, and habitat protection staff from each of MWALP and DFO. Staff from other departments or branches attends on an as-needed basis to address specific projects or programs. Also, representatives from other ministries, federal departments or nongovernment organizations might be invited to attend regarding a particular project or program.

Organization: Meetings are usually chaired and scheduled by local government staff, who are also responsible for preparing agendas and minutes. Frequency ranges from monthly to every 3 to 4 months.

Procedures: When addressing particular development applications or civic projects, some ERCs use a standardized form or "checklist" for covering the main features of a proposal. With the agreement of the parties, these forms act as minutes and a formal record of decision-making that the local government staff can then use to establish conditions and issue recommendations for approvals.

Sub-committees can be formed to address specific initiatives, such as developing a sub-agreement on a topic that involves only certain departments; or for certain operational issues - e.g., a sub-committee may meet in early spring to deal with annual drainage maintenance works.

5.5. Existing ICAs – what happens to them now?

If you already have an agreement, MOU or review committee process, the main advice is to simply “carry on”. You and the senior agencies will likely want to review clauses that address streamside protection and discuss whether they comply with the SPR, and if they do not, how to bring them into compliance.

For example, if your ICA refers to existing bylaws or policies as the means of regulating development, and these do not conform to the SPR, then possible topics are:

- a) review and potential revision of the bylaws;
- b) acceptance of existing setbacks as “variances” under section 6(5); or
- c) variance acceptance in the short term with achievement of setbacks that comply with the SPR “standards” in the long term as redevelopment occurs.

If your review committee has no formal basis, you might consider formalizing its existence in an ICA, OCP policy and/or bylaw. This provides the basis for recognizing it as a component of your SPR implementation strategy.

Other existing agreements and approvals are also honoured under the SPR. These include:

- Covenants that were established pursuant to the *Land Title Act* to protect streamside areas in accordance with conditions specified by MWLAP and/or DFO. These will remain in effect unless amended with the agreement of the signatory parties.
- Conditional letters of advice and recommendations from MELP and/or DFO with regard to streamside protection requirements.
- Authorisations issued or compensation agreements approved by DFO;
- The requirements of and approvals issued under the Fraser River Estuary Management Plan.
- Approvals or written statements from local governments regarding development applications that are still ‘in stream’, that were made in accordance with the Land Development Guidelines or with written recommendations from MWALP (or formerly MELP) and/or DFO, including those developed through Environmental Review Committees.

GUIDE TO THE STREAMSIDE PROTECTION REGULATION
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DRAFT: FOR DISCUSSION PURPOSES ONLY

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GLOSSARY

QUESTIONS AND ANSWERS

Note: "Case studies" moved to Part 2 as case examples for interpreting the SPR

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**** = "under construction"**

Table 3-1: DEFINING SPEAs – Examples of narrative/mapping combinations (DRAFT July 23, 2001)

	<i>TYPICAL SITUATION</i>	<i>NARRATIVE COMPONENTS</i>	<i>MAP COMPONENTS</i>	<i>NOTES</i>
<i>Narrative Only – No Map</i>	No mapping and limited information on streams; few resources and staff to dedicate to information gathering and protection.	<ul style="list-style-type: none"> Streams defined and SPEAs established as per sec.6 of SPR. 	NONE	This method cannot be used to establish development permit areas along streams as means of protecting SPEAs (see text).
<i>Narrative + Stream Location Map</i>	TRIM* maps (1:20,000) or equivalent and some knowledge of streams; air photos may be available.	<ul style="list-style-type: none"> Streams defined and SPEAs established as per sec.6 of SPR. Short explanation of map with qualifiers regarding accuracy of stream locations; i.e., that the exact location is subject to detailed assessment at time of development application or detailed planning. 	Stream map based on TRIM (Terrain and Resource Inventory Mapping) data	Map may be verified/corrected from air photos (if available) , local knowledge and/or modest groundtruthing.
<i>Narrative + Stream Map assigning SPEA Widths</i>	More detailed maps of streams available, along with air photos and data to allow analysis of fish presence, stream permanence, and existing and potential vegetation.	<ul style="list-style-type: none"> Streams defined and SPEAs established as per sec.6 of SPR. Short explanation of map with qualifiers regarding accuracy of stream locations; i.e., that the exact location of a stream and boundaries of SPEA subject to detailed assessment at time of development application or detailed planning. 	Stream map based on air photo interpretation and groundtruth.	The applicable SPEA width may be indicated on streams; e.g., "color coded" as 5, 10, 15, 30 etc. meter width.
<i>Narrative + Stream Map showing SPEA Boundary</i>	Detailed stream information (fish presence or potential, permanence (if needed), streamside vegetation) available and stream surveyed.	<ul style="list-style-type: none"> SPEAs established as per sec.6 of SPR 	Stream location (centre line or edge), top of the bank, boundary of existing/potential vegetation (optional), and SPEA boundary indicated.	Typically done on site-specific level (scale of 1:1000 or less), usually as part of a development application or detailed local area plan.