

***A Watershed/Landscape-Based Approach to
Community Planning***

**Draft Working Paper for the
Greater Vancouver Regional District Technical Advisory Committee**

prepared by

Technical Advisory Committee Working Group on Watershed-based Community Planning

March 4, 2002

(revised March 25, 2002)

A Watershed/Landscape-Based Approach to Community Planning

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Note: this draft corrects typographical errors in the March 4, 2002 draft and adds a flowchart in Section 5.

A Watershed/Landscape-Based Approach to Community Planning

1. Introduction

This paper presents a working draft of a watershed/landscape-based approach to community planning for consideration by the Greater Vancouver Regional District's Technical Advisory Committee (TAC). This is intended as a "planning tool". It was prepared by a TAC working group comprised of biologists, engineers and planners from GVRD member municipalities, the regional district itself, and provincial and federal government agencies.

The application of this approach will depend on its usefulness at the municipal and community levels either as written or adapted to address local conditions. If municipalities choose to pilot test this approach, this will serve to provide illustrative examples, as well as help to refine and/or elaborate the approach and potentially lead to future community-based applications.

The paper includes a general description of a watershed/landscape-based approach to community planning as well as more detailed appendices on contextual information and application considerations.

2. Background

The Greater Vancouver Regional District and its member municipalities have a rich tradition as leaders in integrating environmental and resource interests in their growth management programs to achieve a livable future for present and future residents of this outstanding region. This continues in the form of strong regional and local commitments to:

- ◆ Focus growth in urban concentration areas.
- ◆ Promote the development of economically strong and socially vital complete and compact communities.
- ◆ Protect, restore and maintain the environmental qualities in the region, individual communities and neighbourhoods.
- ◆ Support resource productivity, particularly in the agricultural and fisheries sectors.

During the nineties, the federal and provincial governments increasingly called on local governments to use their planning, development control and servicing powers for environmental protection and resource management purposes. Increased attention to First Nation's traditional territorial interests has also focused on these topics. During the same period, public interest in environmental and resource stewardship, clean air and clean water has created strong regional and community support for local government programs aimed at creating environmentally healthy, socially vital and economically viable, livable communities.

Taken together this wide array of interests presents complex challenges for all orders of government, business, industry, landowners, developers, interest groups and the general public in the GVRD.

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The GVRD's Technical Advisory Committee (TAC) established a working group to advise TAC on a watershed/landscape-based approach to community planning to help meet these challenges. The result is this paper.

3. Watershed/landscape-based approach to community planning

The watershed/landscape-based approach to community planning described in this paper involves consideration of air, land and water and living organisms – including humans – as well as the interactions among them to achieve integrated outcomes. This approach involves decision-making that:

- ◆ Uses science-based, local and cultural knowledge about the relationships among physical, biological and human processes.
- ◆ Applies precautionary and risk avoidance principles to growth management and day to day human activity decisions which affect environmental health, ecosystems and resource production capability.
- ◆ Clearly defines expected outcomes with reference to a realistic and reasonable understanding of what can be achieved efficiently and effectively in different development settings and timeframes.
- ◆ Is based on careful and thorough assessments of the distribution of costs and benefits of planning and regulatory goals, objectives, policies and programs.
- ◆ Promotes the fair and equitable use of voluntary, regulatory, incentive and public investment approaches to the achievement of public and private interests.

In its simplest expression a watershed/landscape-based approach to community planning is aimed at the:

- ◆ Protection of people and property from natural hazards.
- ◆ Preservation and conservation of self-sustaining ecosystems.
- ◆ Continuation and growth of resource based economic activity.
- ◆ Provision of an affordable, sustainable and maintainable infrastructure.

The approach described below goes beyond this set of objectives and looks for triple bottom line social, economic and environmental outcomes. In many respects, this is “what municipal planners already do.” In other respects the approach builds on lessons learned from past and more recent practice with respect to the need to integrate environmental, social and economic considerations throughout the planning and implementation process. As a result it is more comprehensive, and it focuses on effective and efficient integration and performance. It starts with an assessment of community social, economic and environmental interests, moves step by step through a set of “external influences” and “on the ground” considerations and ends with an integrated community development plan and implementation strategy.

The appendices provide material which addresses some of the themes described above as well as and elaboration of concepts and steps outlined in the following material.

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4. Watershed/landscape-based community planning– a process involving 3 levels of effort and 3 scales of attention.

Figure 1 conceptually illustrates how analyses and assessments at the watershed level set the stage for sub-watershed level strategies that are implemented at the site level.

In general terms, this watershed/landscape-based approach:

- Operates within the context of existing regional and municipality-wide strategies such as the regional growth strategy and official community plans.
- Is informed by sector-focused strategies such as integrated stormwater management plans.
- Will inform the updating of existing community plans and regional strategies, as watershed/landscape-based strategies are completed.
- May involve inter-municipal cooperation where watersheds or drainage areas do not coincide with local government boundaries.

In **Level 1** the needs and priorities of people (i.e., community development needs) are determined with reference to demographic and socio-economic characteristics and the needs of present and forecast future populations, as well as to public aspirations for regional and community development. This work is intended to answer fundamental planning questions regarding the amount of land that will be needed, in what land use and density of use categories and in what urban form or structural arrangement.

Level 1 identifies conditions such as the presence and effect of physical constraints to urban development and/or environmental features and functions essential to maintaining biodiversity and/or ensuring ongoing resource production. These areas are identified early on to set the stage for finding integrated solutions in Level 2.

Level 1 results are presented as a set of profile statements and overlay maps that identify areas that are readily available for urban development or where this would be constrained or in conflict with other uses. This level is also where sector-specific guidelines for development and performance/results outcomes begin to be defined.

Level 2 involves developing a comprehensive strategy that considers effective and efficient implementation approaches. It involves multiple accounts assessment and distribution of costs and benefits of planning proposals before finalizing these, selecting courses of action and proceeding with implementation.

This three-level/scale approach calls for the integration of information at each level before moving to the next level.

Level 3 involves implementation and performance monitoring.

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Levels and Scales of Watershed/Landscape-based Planning

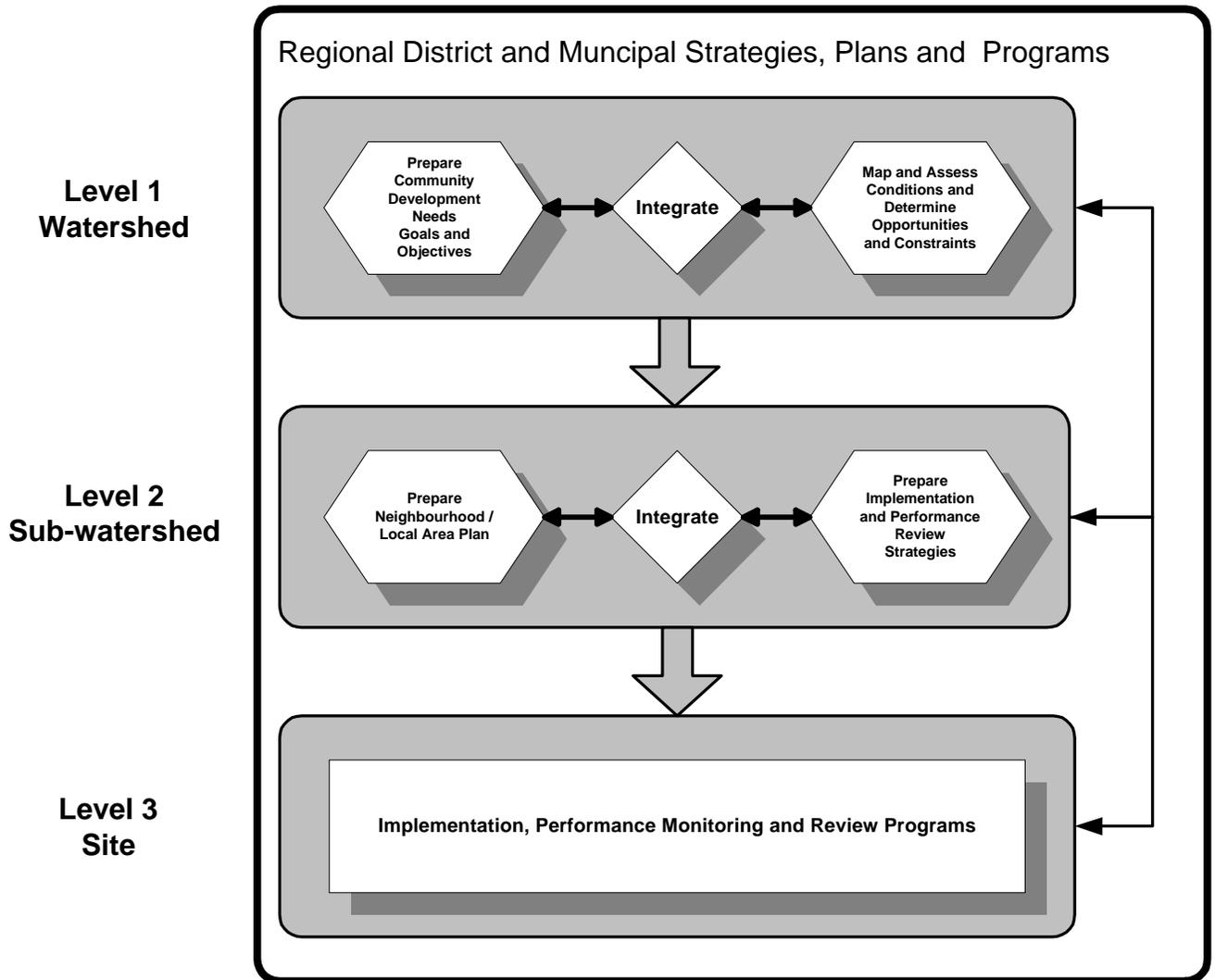


Figure 1

Application of this conceptually defined approach requires a 10-step process.

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5. Steps for a watershed/landscape-based approach to community planning.

Putting a watershed/landscape-based approach to community planning into practice involves ten steps:

- Step 1 – Prepare Planning Priorities and Issues Scan.
- Step 2 – Delineate the Planning Area.
- Step 3 – Describe the Policy Context.
- Step 4 – Determine and Assess Planning Area “Watershed / Landscape Conditions”:
 - Step 4.1 – Protected Areas.
 - Step 4.2 – Natural Hazards, Slope and Soil Conditions.
 - Step 4.3 – Sensitive Ecosystems.
 - Step 4.4 – Domestic Water Supply Areas.
 - Step 4.5 – Integrated Stormwater Management Plans.
 - Step 4.6 – Resource Production Areas.
 - Step 4.7 – Existing Settlement Pattern
 - Step 4.8 – Cultural attributes and perspectives.
- Step 5 – Analyze Planning Area Considerations.
- Step 6 – Relate Area-based Planning Considerations to Planning Context.
- Step 7 – Prepare Concept Plan.
- Step 8 – Determine and Assess Integrated Implementation Strategies.
- Step 9 – Finalize and “Adopt” Integrated Plan and Implementation Strategy.
- Step 10 – Implementation, Monitoring and Review Strategy.

Before describing each of these steps, four generally applicable governance principles are provided. These should be kept in mind when reading material on each step in the following pages and in Appendix 2.

General Guiding Principles:

- Transparent, open and engaging processes should be pursued throughout each step to ensure full communication among decision makers, decision advisors, formal stakeholders, interested organizations as well as the interested and affected public.
- The people who live in each community should be encouraged to participate to the greatest extent possible in finding planning and management solutions that address broad through to local considerations.
- Land use and development proposals and potential implementation strategies generated throughout the process should be subject to multiple accounts assessments coupled with ways and means strategies. This should occur as proposals are generated or at least before making land use and development decisions.
- Intergovernmental partnerships are encouraged to address the range and complementary nature of government interests, jurisdictions, mandates and programs associated with

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watershed/landscape based approaches to community planning. These should involve the use of cooperation agreements to provide information, prepare plans and resolve disputes as well as implementation agreements to achieve plan results through the complementary use of government mandates.

Steps

Each of the 10 steps developed for watershed/landscape based planning is briefly described below and summarized in Figure 2. Appendix 2 contains detailed information for each of these steps under the headings: purpose, principles, considerations checklist and outcomes.

Readers will note that each step builds on the preceding step or steps. As they read this material – and more detailed information in Appendix 2 – and think about their areas, they may find some of the steps can be taken together. Others may find that some of the information being discussed does not pertain to their areas as written and may need to be reworded to make sense in their settings, or may not apply at all. These readers' observations are expected given the general nature of this framework and template material in Appendix 2. By using Appendix 2 readers will be able to readily determine useful and relevant considerations applicable to their areas and can easily adapt the approach to local conditions. In other words these steps and more detailed information in Appendix 2 should be considered as a planning tool, not a guideline or prescription.

Step 1– Planning Priorities and Issues Scan – is aimed at ensuring that the planning program will be based on an assessment of interests (needs that should be addressed), issues (problems that need attention) and priorities. This first step covers a wide range of topics. It draws on existing information to describe the basic nature of the planning area, its general boundaries, and interests and issues to be pursued.

Step 2 – Delineate the Planning Area – This step builds on the general rationale provided in Step 1. It uses watersheds and drainage areas as fundamental building blocks and overlays the issues and interests needing attention to ensure that these will be covered in the area planning process. Step 2 involves the use of available information at a scale of 1:20,000.

Step 3 – Describe the Policy Context – In Step 3, topics from Steps 1 and 2 are reviewed with reference to policies and other external (to the planning area) considerations generated by the municipality, the regional district, the provincial and federal governments or interests generated by First Nations. This review informs inventory and assessment work in Step 4 and in turn facilitates the integration of interests in later steps. It helps to avoid problems that occur when external policies and influences are left too late in the planning process to be addressed effectively or efficiently.

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Watershed / Landscape-based Community Planning - a 10 Step Process

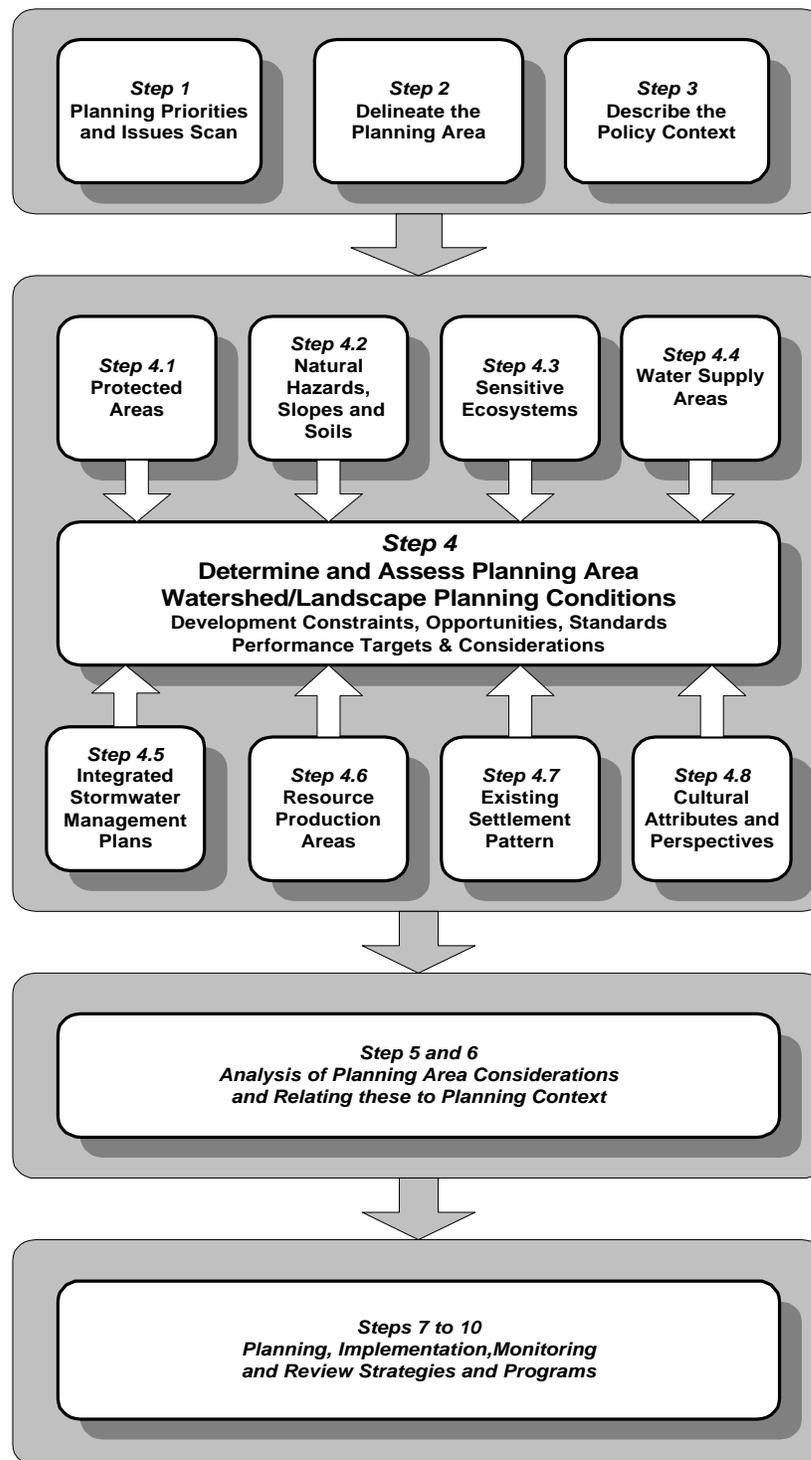


Figure 2

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Step 4 – Determine and Assess Planning Area “Watershed / Landscape Conditions” – This step provides the fundamental building blocks of the plan from the “ground-up” at a scale that is commensurate with the topics being considered (e.g., 1:5000).

Step 4.1 – Protected Areas – Evaluate the nature and role of areas, such as ecological reserves, ecologically significant and sensitive areas, and parks and recreation areas, that have been set aside from development or should be considered for set-aside (see Step 4.3). Determine which of these areas are suitable for public access and use and which are not. Anticipate access, use and buffering strategies that need to be considered in plan preparation and implementation. Those areas that are set aside for domestic water supply would be included in this step. (This step could be informed by a biodiversity strategy.)

Step 4.2 – Natural Hazards, Slope and Soil Conditions – This step is intended to determine areas that are physically suitable for development, as well as areas that have constraints which either make them totally unsuitable or suitable only with mitigation. (Hydrotechnical hazards could be addressed through an integrated stormwater management plan – see Step 4.5.)

Step 4.3 – Sensitive Ecosystems – The general intent of this step is to determine what areas require special planning, regulatory or development approval attention in order to protect or restore habitat conditions for specified species. (See Step 4.3 in Appendix 2 for information on specified species.) If these species are not present or it is not reasonable to restore habitat to support their presence this should be noted in the planning document. Opportunities for naturescaping in developed areas could also be identified. (This step could be informed by a biodiversity strategy.)

Step 4.4 – Domestic* Water Supply Areas – With increased attention being given to protecting water supply areas, this step ensures that such areas are considered early in the community planning process. This step could be informed by a water management plan and/or by a liquid waste management plan, and may include the consideration of other consumptive or “contact” uses. (* Refers to potable water as well as water for agricultural and industrial processes.)

Step 4.5 – Integrated Stormwater Management Plans (ISMPs) – this relates to interests/points in the previous three steps. ISMPs will become an increasingly common way to approach hydrotechnical, ecological and clean water considerations in association with community planning programs. Refer to the GVRD’s *Integrated Stormwater Management Plan - Terms of Reference Template*, and to *Stormwater Planning – A Guidebook for British Columbia*, to be published by Environment Canada and the Ministry of Water, Land and Air Protection.

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Step 4.6 – Resource Production Areas – Soil- and water-based renewable resource production areas, as well as other resource production activities such as construction aggregates, influence and are influenced by community development and need to be considered. (This step could also be expanded to include the presence of major heavy industrial activities and public facilities such as solid and liquid waste management operations.)

Step 4.7 – Existing Settlement Pattern – Existing land uses, Official Community Plans, sector plans, regulations and infrastructure either reflect or form the basis for public and private investments. Depending on the complexity of current development conditions in the planning area this step may be divided into separate public and private investment categories.

Step 4.8 – Cultural attributes and perspectives – This step addresses heritage as well as current cultural interests in the planning area. (Details on this step have not yet been prepared.)

Step 5 – Analysis of planning area considerations – Information from the inventories, assessments, analyses and, where appropriate, strategies in Step 4 would be compiled and compared. Where mapped information is available, this would be overlaid to see where areas with potential for environmental protection or resource management correspond with areas that are not suitable for development because of site conditions identified in Step 4.2. Information on development “standards” or conditions needed to achieve sector-specific objectives would also be available for consideration.

Step 6 – Relating Area-based Planning Considerations to Planning Context – The ability of the planning area to accommodate the forecast or allocated population from the regional growth strategy and official community plan is considered at this step. For instance although an area may be able to accommodate growth and address other interests, this may only be possible under certain density or design considerations. These considerations would be specified in the form of maps, policy statements and development standards, conditions and/or performance targets. The results should identify where it is possible to achieve multiple-interests and where tradeoffs may be necessary as well as specify related considerations and procedures.

Step 7 – Prepare Concept Plan – Using information and directions generated in Step 6, but also drawing on statements and strategies in earlier steps, a neighbourhood concept/local area plan would be produced.

Step 8 – Determine and Assess Integrated Implementation Strategies – The approach outlined above may raise concerns about the potential inequitable impact on individual municipalities, developers and landowners that may result in order to achieve new, potentially higher standards than were required when other areas or sites in other municipalities were developed. The challenge of this step is to determine how public interests can be fairly achieved in any given municipality, watershed, or

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neighbourhood/local area, or on any particular site by using a full range of appropriately applied voluntary, regulatory, incentive and investment tools and approaches.

Step 9 – Finalize and “Adopt” Integrated Planning and Implementation

Strategies – This step will result in a combined area plan and set of implementation strategies. It will provide a set of clearly defined and supported performance-focused standards, action plans and accountabilities. These could be specified in intergovernmental implementation agreements. Also, where appropriate, public private partnerships – could be entered into to ensure intergovernmental and private sector co-operation on matters of mutual interest.

Step 10 – Implementation, Monitoring and Review Strategy – This step builds on and carries forward the commitments made and understandings reached in Step 9, and ensures ongoing consideration of local, regional and broader influences that affect the quality of life of plan area residents.

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Appendix 1 – Context for Watershed/Landscape – Based Community Planning

1. *Looking back and looking forward – perspectives on development in the Greater Vancouver Regional District*

When one embarks on outlining new approaches to doing business, questions are often asked about why decisions made in the past did not consider what has become obvious in the present. The simple answer is that public issues, concerns and values change over time in response to changing conditions, awareness about these conditions, and the willingness and capacity to participate in decision-making.

A brief look back at regional planning in the Lower Mainland highlights key themes from past regional strategies that have shaped the urban structure of the Greater Vancouver Regional District. This look back traces how regional planning has evolved over 50 years from focusing initially on some fundamental public safety and economic concerns about urban sprawl to broader sustainable development considerations in the last five to ten years.

In 1965 Chance and Challenge, A Concept and Plan for the Development of the Lower Mainland Region of British Columbia, identified urban sprawl as the cause of:

- ◆ *...Serious servicing problems – water supply, sewers, road paving and public transit for example – which bedevil the Councils and taxpayers.*
- ◆ *...Living conditions which are unsafe and unhealthy as well as inconvenient.*
- ◆ *It [urban sprawl] has wiped out key sites. In the last decade the region has lost several airport sites and hundreds of acres of industrial land.*
- ◆ *While devouring new land on a grand scale, it [urban sprawl] has left a vast patchwork of unused land in its wake. If the 10,000 scattered acres of vacant unused land in the Burrard Peninsula, the North Shore and Richmond could be re-assembled in one block it would measure five miles by three; but they cannot thus be reassembled.*
- ◆ *It [urban sprawl] undermines the whole economic pyramid based on agriculture, which directly or indirectly supports 20 percent of the jobs in the region, and makes the region unnecessarily dependent on other areas for its food supply.*

When the Lower Mainland Regional Planning Board (a predecessor organization to the GVRD and the Fraser Valley Regional District) embarked on regional planning over 50 years ago, the 1948 Fraser Valley flood was fresh in everyone's mind. Following years of in-depth studies and consultations, the LRMPB's 1965, *Chance and Challenge* identified urban sprawl as the cause of serious problems facing the region and proposed the following vision:

Its [the Lower Mainland's] business and distribution centres, harbours, industrial areas, residential districts, beauty spots and farmlands must be welded into a pattern that is functionally efficient, livable and economical.

The goals were *to build livable cities and to respect the land*. The objectives were to protect farmland, keep urban development out of the floodplain, focus development in existing urban areas and not allow new subdivision without services.

The 1966 *Lower Mainland Official Regional Plan* addressed the themes in *Chance and Challenge*. In the 1982 update of the *LMORP* refined and elaborated the earlier plan.

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Lower Mainland Development Strategy (LMORP, 1982)

The strategy consists of nine interconnected elements:

1. *Protect farmland, floodplain and natural assets.*
2. *Develop and enhance the use of farmland and other natural resources for the long-term benefit of the Lower Mainland.*
3. *Locate more of the total population growth within the metropolitan area.*
4. *Locate more of the population growth occurring outside of the metropolitan area to the north of the Fraser River.*
5. *Focus four-fifths of Fraser Valley growth in the five valley towns.*
6. *Promote higher residential densities in the metropolitan area and the valley towns.*
7. *Focus new commercial employment and high and medium density housing in and around the metropolitan core and existing regional centres.*
8. *Improve the balance in the distribution of jobs and labour force in all parts of the Lower Mainland*
9. *Provide transportation and physical services in a way which reinforces the development concept.*

Although the *LMORP* and regional planning authority were rescinded by Provincial legislation in 1983, the GVRD continued to provide *regional development services* to its member municipalities. This work led to the 1990 Board adoption of a much broader vision in *Creating our Future* than those used to guide earlier regional strategies:

Greater Vancouver can become the first urban region in the world to combine in one place the things to which humanity aspires on a global basis: a place where human activities enhance rather than degrade the natural environment, where the quality of the built environment approaches that of the natural setting, where the diversity of origins and religions is a source of social strength rather than strife, where people control the destiny of their communities and where the basics of food, clothing, shelter, security and useful activity are accessible to all.

This vision set the stage for work leading to the 1996 adoption of the *Livable Region Strategic Plan* under new Provincial regional growth strategy legislation.

Like earlier regional plans, the *LRSP* addresses concerns about urban structure such as: spreading population throughout the Fraser Valley, development pressures on farmland; increasing distances between jobs and housing, cost of public services and utilities and worsening air pollution from increased automobile use. The *LRSP's* strategies, policies and objectives focus on protecting the green zone, building complete communities, achieving a compact metropolitan region and increasing transportation choice. The *LRSP* also has informed and guided more recent sector plans (e.g., *Liquid Waste Management Plan*).

Over the past 5 years, GVRD strategies combined with federal, provincial, municipal and non-government initiatives resulted in increased dialogue on the need to apply sustainable development principles and practices to growth management and service programs, setting the stage for the new *Sustainable Region Initiative*.

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2. Perspectives and Influences

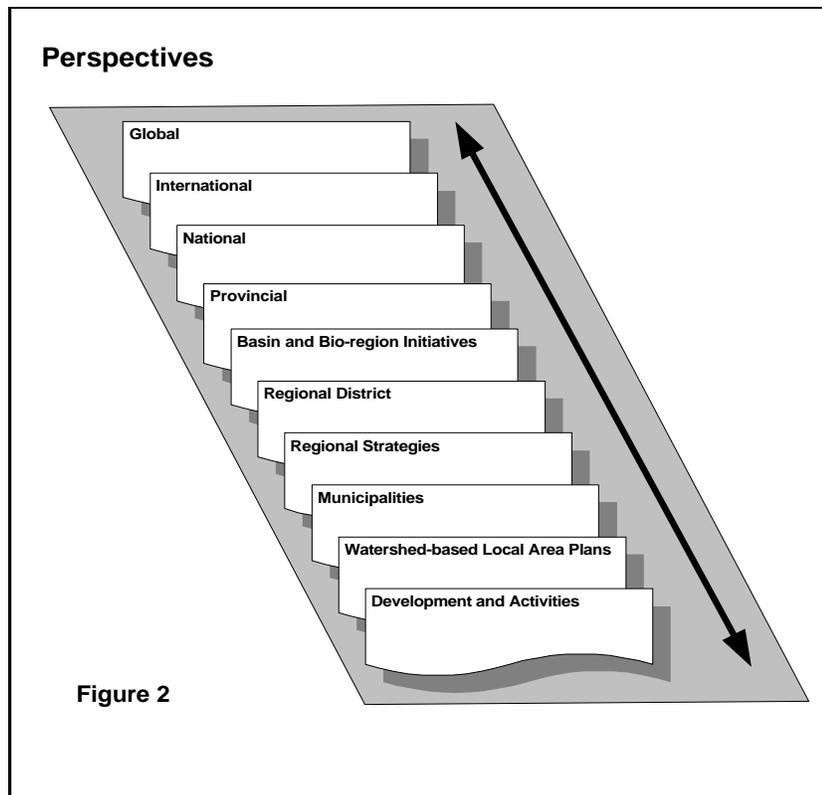
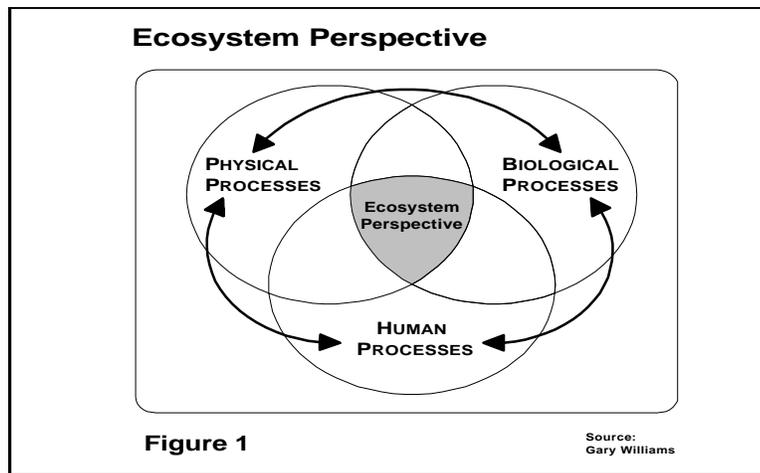
Watershed/landscaped based planning described earlier in this paper enables consideration and application of an ecosystem perspective that links physical, biological and human perspectives. See Figure 1.

Also, the pursuit of wellbeing for current and future generations is often characterized as thinking globally and acting locally.

This means making decisions at the site and activity level, that when taken together do not lead to cumulative foreclosure of the wellbeing of future generations.

As illustrated in Figure 2, local governments have the primary power in this regard and the watershed-based planning approach described later in this paper is aimed at enabling them to sustain not only their own communities but, by doing so, contribute to broader interests as well.

As illustrated in Figure 3, planning and development decision-making is influenced by global through regional factors. The interaction among these factors and regional and community considerations has been, or needs to be, defined and communicated at the regional level. This is the role of regional strategies such as the *Livable Region Strategic Plan* and the new *Sustainable Region Initiative*. It is also the role of specific regional and

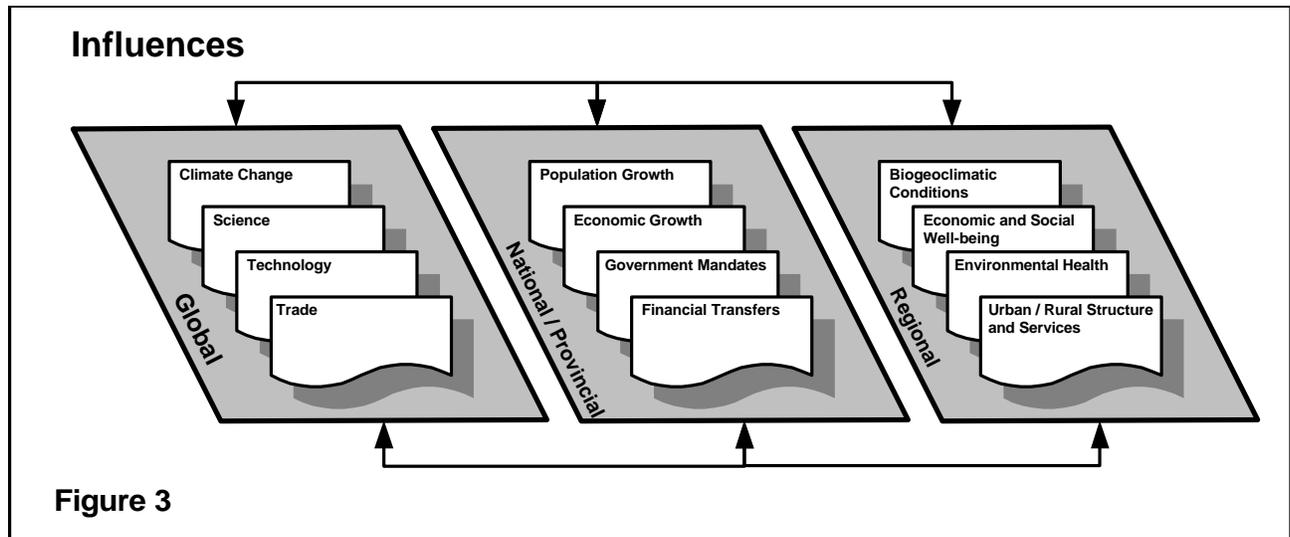


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municipal action plans for transportation, liquid and solid waste management, parks and recreation areas, resource production, energy and greenhouse gas reduction, public facilities, and a range of social and economic development programs.

Another important message in both figures 2 and 3 is that planning and implementation involves cooperation among all orders of government as well as the non-government and private sectors.

Achieving desired results at the site and activity levels also requires support from individuals, which in turn calls for engaging people both in the development of strategies and the use of a range of voluntary, incentive, public investment and regulatory tools.



3. Regional and Community Factors

Community development that provides a healthy environment combined with social and economic well-being involves maintaining and, where appropriate, restoring or creating productive capacity (environmentally, socially and economically) for the benefit of current and future generations.

As illustrated in Figure 4, this brings into play four interacting sets of factors:

- ◆ Governance and decision-making.
- ◆ Natural systems and resource productivity.
- ◆ Implementation approaches.
- ◆ Development approaches.

Governance and decision-making considerations involve the mandates of governments and the interests of area residents, landowners and developers, and non-government organizations. All interact with each other in responding to population growth and/or change and in pursuing their mandates and aspirations.

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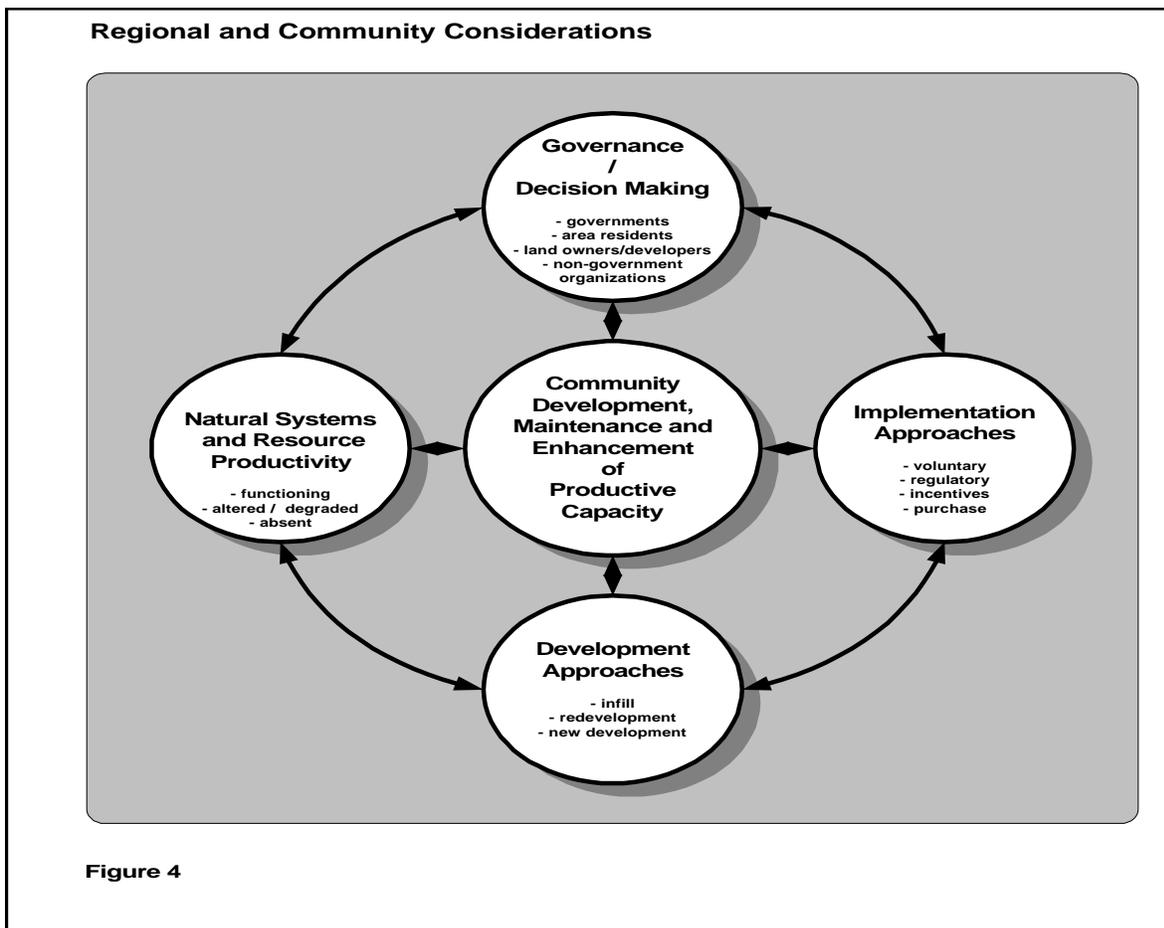
Natural systems and resource productivity considerations involve determining the productive status of natural systems or managed resource lands.

Three categories are provided: naturally functioning, altered or degraded and absent (i.e., never present (with respect to a particular species) or previously present and lost) to help focus on whether the response to growth and change involves protection, restoration and enhancement or no action.

Development approaches relate to those development conditions that have a bearing on the ability to address natural systems and resource production interests in association with new development. Three categories include infill, redevelopment and new development, with the latter generally referred to as green-field development.

Implementation approaches include voluntary, regulatory and purchase or investment options. These may be used individually or in combination to achieve sustainable outcomes.

Choosing an implementation approach involves being realistic and reasonable. **Realistic** means ground-truthed. **Reasonable** means that the community has prepared a plan of action by engaging interested parties in decision-making and ensuring that decisions respond to their expressions of interest.



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Appendix 2 – An Outline of Steps, Purposes, Principles, Considerations and Outcomes.

General Guiding Principles:

- ❑ Transparent, open and engaging processes should be pursued throughout each step to ensure full communication among decision makers, decision advisors, formal stakeholders, interested organizations as well as the interested and affected public.
- ❑ The people who live in each community should be encouraged to participate to the greatest extent possible in finding planning and management solutions that address broad through to local considerations.
- ❑ Land use and development expectations generated throughout the process should be subject to multiple accounts assessments coupled with and ways and means strategies either as expectations are generated or at least before making land use and development decisions.
- ❑ Intergovernmental partnerships are encouraged to address the range and complementary nature of government interests, jurisdictions, mandates and programs associated with watershed / landscape based approaches to community planning. These should involve the use of cooperation agreements to provide information, prepare plans and resolve disputes as well as implementation agreements to achieve plan results to achieve plan results through the complementary use of government mandates.

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Step 1– Prepare Planning Priorities and Issues Scan – is aimed at ensuring that the planning program will be based on an assessment of interests (needs that should be addressed), issues (problems that need attention) and priorities. This first step covers a wide range of topics. It draws on existing information to describe the basic nature of the planning area, its general boundaries, and interests and issues to be pursued.

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|---|--|--|--|
| <p>Purpose:</p> <p>Identify primary planning interests, issues and priorities.</p> | <p>Principle:</p> <p>Community social, economic and environmental interests and related opportunities and constraints should be used to determine planning priorities and establish the basis for developing a planning program for selected areas.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> ❑ Regional growth strategies, regional context statements, and regional sector plans (LWMP/ISMP, transportation, solid waste, etc.) ❑ Official community plans and municipal sector plans. ❑ Local government “corporate” strategies and action plans. ❑ The results of studies and/or community consultations on specific themes (e.g., sustainable development strategies, economic development strategies, etc.) and topics (affordable housing, parks, environmental stewardship, etc.). ❑ Performance monitoring reports for existing policies and programs. | <p>Result:</p> <p>Clearly defined rationale for planning in the area.</p> |
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Step 2 – Delineate the Planning Area – This step builds on the general rationale provided in Step 1. It uses watersheds and drainage areas as fundamental building blocks and overlays the issues and interests needing attention to ensure that these will be covered in the area planning process. Step 2 involves the use of available information at a scale of 1:20,000.

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| <p>Purpose:</p> <p>Select and then apply criteria to delineate the planning area.</p> | <p>Principles:</p> <p>The planning area boundaries should enable the:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Protection and maintenance of self-sustaining natural terrestrial and aquatic ecosystems (watershed/landscape) where these exist or are degraded but still functioning, or where they can be reasonably restored over the long term in association with redevelopment. <input type="checkbox"/> Protection of people and property from natural hazards. <input type="checkbox"/> Where areas are intended to accommodate growth, the efficient and economic provision of a “complete” range of land uses and densities, public facilities and services to meet the needs of future residents while minimizing the need to use personal vehicles and encouraging walking, bicycling and the efficient use of transit. <input type="checkbox"/> Where areas are intended primarily for resource production, planning area boundaries should encompass areas that are meaningful to maintaining these uses. <input type="checkbox"/> Other (list). | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Primary purpose(s) for undertaking a planning process in the planning area. <input type="checkbox"/> Overview (reconnaissance) level of information on natural hazards. <input type="checkbox"/> Overview (reconnaissance) level of information on aquatic (freshwater, estuarine, marine) and terrestrial ecosystems. (Include watershed boundaries and major drainage systems.) <input type="checkbox"/> Primary social, economic and environmental planning issues, interests and needs. <input type="checkbox"/> Existing settlement pattern and related services and facilities. <input type="checkbox"/> Administrative and or interest boundaries (municipal boundaries, federal, provincial and First Nations interests). <input type="checkbox"/> The value of or need for intergovernmental understandings where administrative boundaries do not coincide with other boundary delineating criteria. <input type="checkbox"/> Other (list). | <p>Results:</p> <p>The plan area enables the consideration of all factors that directly influence the planning, development and management of the area.</p> |
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Step 3 – Describe the Policy Context – In Step 3, topics from Steps 1 and 2 are reviewed with reference to policies and other external (to the planning area) considerations generated by the municipality, the regional district, the provincial and federal governments or interests generated by First Nations. This review informs inventory and assessment work in Step 4 and in turn facilitates the integration of interests in later steps. It helps to avoid problems that occur when external policies and influences are left too late in the planning process to be addressed effectively or efficiently. Note that not all of the points listed in Step 3 will be relevant in all planning areas, given the variation in existing settlement patterns and other features of individual planning areas.

| Purpose: | Principles: | Checklist of considerations: | Results |
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| <p>Determine and report on externally generated policies, etc. that directly or indirectly affect or influence the planning area, and anticipate how these might be addressed.</p> | <p>The plan should integrate applicable regional growth strategy, official community plan and sector specific policies as well as applicable mandates, policies and interests of other orders of government, with respect to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Population growth. <input type="checkbox"/> Quality of life (social, economic and environmental well-being). <input type="checkbox"/> Protecting, providing and maintaining natural systems. <input type="checkbox"/> Protecting and maintaining resource production areas and levels. <input type="checkbox"/> Providing services and related infrastructure. <input type="checkbox"/> Other (list). <p>Anticipate the likelihood of significant conflicting mandates and begin the process of dealing with these, either through trade-off or integration strategies.</p> | <p>Visions, goals, and principles as well as applicable policies, standards and programs that may affect or influence the preparation and implementation of the plan:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Regional and municipal population allocations. <input type="checkbox"/> Residential land use distribution and densities. <input type="checkbox"/> Commercial, industrial, institutional and public open space land uses distribution and densities (qualitative and quantitative). <input type="checkbox"/> Infrastructure and servicing strategies and standards. <input type="checkbox"/> Environmental health status and related programs (clean air, water and land). <input type="checkbox"/> Natural systems health status and opportunities for protection, restoration, creation and maintenance. <input type="checkbox"/> Resource area protection and management. <input type="checkbox"/> Federal and provincial interests (legislation, policies, programs (financial, regulatory, advisory...)). <input type="checkbox"/> First nations interests (specify). <input type="checkbox"/> Private sector interests including the interests of non-government organizations (specify). <input type="checkbox"/> Other (list). | <p>A set of basic external goals, objectives, policies and standards applicable to the analysis and evaluation of conditions in the planning area and early understanding about how these can be addressed.</p> |

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| <p>Step 4 – Assess Planning Area “Watershed / Landscape Conditions” – This step provides the fundamental building blocks of the plan from the “ground-up” at a scale that is commensurate with topics being considered (e.g., 1:5000). Given the range of development status conditions (i.e., relatively natural to completely developed), some of the points in this section will not be relevant in some planning areas.</p> | | | |
| <p>Step 4.1 – Protected Areas – Evaluate the nature and role of areas, such as ecological reserves, ecologically significant and sensitive areas, and parks and recreation areas, that have been set aside from development or should be considered for set-aside (see Step 4.3). Determine which of these areas are suitable for public access and use and which are not. Anticipate access, use and buffering strategies that need to be considered in plan preparation and implementation. Those areas that are set aside for domestic water supply would be included in this step. (This step could be informed by a biodiversity strategy.)</p> | | | |
| <p>Purpose:</p> <p>Establish the basis for protecting these areas from or integrating them with community development.</p> | <p>Principles:</p> <p>Ensure that existing or potential protected areas are not adversely affected by urban growth and that the opportunities these provide for improving the quality of life for community residents are realized.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Location, purpose and sensitivity of existing and potential protected areas. <input type="checkbox"/> Risks to these areas associated with community development. <input type="checkbox"/> Opportunities to enhance community livability. | <p>Results:</p> <p>Strategies to protect set aside areas and realise their direct contribution to community well-being.</p> |

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| <p>Step 4.2 – Natural Hazards, Slope and Soil Conditions – This step is intended to determine areas that are physically suitable for development, as well as areas that have constraints which either make them totally unsuitable or suitable only with mitigation. (Hydrotechnical hazards could be addressed through an integrated stormwater management plan – see Step 4.5.)</p> | | | |
| <p>Purpose:</p> <p>Identify the presence, nature and effect of natural hazard constraints to urban development in the planning area.</p> | <p>Principles:</p> <p>People and property should be protected from unreasonable exposure to risks associated with natural hazards either through avoidance of development in areas exposed to natural hazards or management of these hazards</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presence of existing or potentially introduced risks to people and property from flooding, mud flows, debris torrents, erosion, land-slip, rock fall, subsidence, avalanche or other known or potential natural hazards (specify). <input type="checkbox"/> Standards that may be applicable to development in areas subject to natural hazard risks, including: <ul style="list-style-type: none"> <input type="checkbox"/> Outright avoidance of development; or <input type="checkbox"/> Mitigation of hazards. | <p>Results:</p> <p>Identification of areas that should not be developed or should be developed only in accordance with appropriate BMPs.</p> |

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Step 4.3 – Sensitive Ecosystems – The general intent of this step is to determine what areas require special planning, regulatory or development approval attention in order to protect or restore habitat conditions for specified species. (Note that areas significant enough to be set aside would be dealt with under Step 4.1.) If these species are not present or it is not reasonable to restore habitat to support their presence this should be noted in the planning document. Opportunities for naturescaping in developed areas could also be identified. (This step could be informed by a biodiversity strategy.)

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| <p>Purpose:</p> <p>Identify the presence and status (health) of terrestrial and ecosystems for significant species.</p> | <p>Principles:</p> <p>Areas that support the life stages of red and blue listed species, species that are subject to federal and provincial legislation and policy, and which have been identified as being regionally or locally (i.e. at the community level) significant through a biodiversity strategy (hereafter referred to as significant species) should be:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Protected; and <input type="checkbox"/> Ecosystem features and functions that support their life stages, should be maintained <p>to support self-sustaining wild populations of these species.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presence and health of significant species, their habitat and supporting ecosystem features and functions. <input type="checkbox"/> Factors that support or threaten the health of these species, habitat and ecosystem features and functions. <input type="checkbox"/> Potential for restoring disrupted or degraded habitat. <input type="checkbox"/> Applicable best planning and management practices. | <p>Results:</p> <p>Information on areas essential to species and habitat to enable the consideration of areas that should not be developed or only developed in accordance with BMPs.</p> |
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Step 4.4 – Domestic* Water Supply Areas – With increased attention being given to protecting water supply areas, this step ensures that such areas are considered early in the community planning process. This step could be informed by a water management plan and/or by a liquid waste management plan, and may include the consideration of other consumptive or “contact” uses.

(* Refers to potable water as well as water for agricultural and industrial processes.)

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| <p>Purpose:</p> <p>Identify surface and groundwater supply areas, threats to water quality and quantity and how to address these threats.</p> | <p>Principles:</p> <p>Water supply areas should be used and managed to maintain water supply and quality in accordance with federally and provincially prescribed ‘standards’**.</p> <p>**may be expressed as guidelines or objectives</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> ❑ Presence of water supply areas and factors that influence the quality and quantity of water commensurate with the end use of the water. ❑ Applicable best planning and management practices. (May be covered in liquid waste and drinking water management plans) | <p>Results:</p> <p>Information that enables the protection and management of water supplies in accordance with BMPs.</p> |
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Step 4.5 – Integrated Stormwater Management Plans – This step touches on interests/points in the previous three steps. This will become an increasingly common way to approach hydrotechnical, ecological and clean water considerations in association with community planning programs. Refer to the GVRD’s *Integrated Stormwater Management Plan - Terms of Reference Template*, and to *Stormwater Planning – A Guidebook for British Columbia*, to be published by Environment Canada and the Ministry of Water, Land and Air Protection.

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Step 4.6 – Resource Production Areas – Soil- and water-based renewable resource production areas, as well as other resource production activities such as construction aggregates, influence and are influenced by community development and need to be considered. (This step could also be expanded to include the presence of major heavy industrial activities and public facilities such as solid and liquid waste management operations.)

| Purpose: | Principles: | Checklist of Considerations: | Results: |
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| <p>Identify renewable and non-renewable resource production areas and their relationships with community development.</p> | <p>Resource production areas should be protected from urban encroachment (direct and indirect), in accordance with Provincial legislation and programs as well as supporting LRSP Green Zone and Official Community Plan policies and programs.</p> <p>Emphasis should be placed on supporting food security with reference to the role our agricultural lands, farmers and consumers play in sustainable agriculture.</p> <p>New or expanded resource production activities should be planned and managed to avoid or mitigate impacts on existing communities and on areas important to other interests or uses.</p> | <ul style="list-style-type: none"> ❑ Presence of provincially or otherwise designated or allocated resource production areas. ❑ Applicable best planning and management practices to protect resource production areas from urban encroachment and influences and vice versa. ❑ Opportunities to strengthen rural-(sub)urban community linkages (e.g., in support of sustainable local food production) | <p>Information to both support resource production activity and address impacts on community development and livability.</p> |

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Step 4.7 – Existing Settlement Pattern – Existing uses, Official Community Plans, sector plans, regulations and infrastructure either reflect or form the basis for public and private investments. Depending on the complexity of current development conditions in the planning area this step may be divided into separate public and private investment categories.

| Purpose: | Principles: | Checklist of Considerations: | Results: |
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| Identify existing private and public investment in the planning area in relation to existing uses, enactments and services. | Consider private and public investments in property, services and facilities that are based on existing land uses, Official Community Plans, zoning and other regulatory standards. | <ul style="list-style-type: none"> ❑ Existing land uses, parcel sizes and services. ❑ Existing planning designations and approval conditions, and zoning (land use, density of use, parcel size and siting regulations and requirements) and other applicable development regulations and requirements. ❑ Government capital investments or plans associated with existing formal land use, development and servicing plans for the area (i.e., resulting from regional growth strategies, official community plans, sewer and water plans, and transportation plans.) | Information on landowner, developer and public sector interests in the planning area for consideration in preparing specific planning goals, objectives, and BMPs for the area. |

Step 4.8 – Cultural attributes and perspectives – This step addresses heritage as well as current cultural interests in the planning area. (Details on this step have not yet been prepared.)

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Step 5 – Analysis of planning area considerations – Information from the inventories, assessments, analyses and, where appropriate, strategies in Step 4 would be compiled and compared. Where mapped information is available, this would be overlaid to see where areas with potential for environmental protection or resource management correspond with areas that are not suitable for development because of site conditions identified in Step 4.2. Information on development “standards” or conditions needed to achieve sector-specific objectives would also be available for consideration.

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| <p>Purpose:</p> <p>Compile and compare information from Steps 4.1 to 4.8, and determine ways to achieve multiple interest goals and objectives and address potential conflicts among these.</p> | <p>Principles:</p> <p>All existing and potential considerations related to the use and development of the planning area should be presented in order to enable a review of complementary and conflicting interests.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> ❑ How do natural hazard constraints compare to environmentally important areas, water supply areas and resource production areas? ❑ How much land is available for development and where? ❑ How do the results of this comparison relate to the settlement pattern information generated through Step 4.7? ❑ What opportunities or conflicts need attention within the planning area and how might these be addressed? | <p>Results:</p> <p>Comprehensive information on land use planning and development considerations for use in Step 6.</p> |
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| <p>Step 6 – Relating Area-based Planning Considerations to Planning Context – The ability of the planning area to accommodate the forecast or allocated population from the regional growth strategy and official community plan is considered at this step. For instance although an area may be able to accommodate growth and address other interests, this may only be possible under certain density or design considerations. These considerations would be specified in the form of maps, policy statements and development standards, conditions and/or performance targets. The results should identify where it is possible to achieve multiple-interests and where tradeoffs may be necessary as well as specify related considerations and procedures.</p> | | | |
| <p>Purpose:</p> <p>Determine “program” for the planning area based on external and area-specific considerations. Highlight where and how it is possible to achieve integrated results. Where conflicts occur, describe these and outline trade-off decision-making processes.</p> | <p>Principles:</p> <p>The capacity to meet externally generated expectations, determined in Step 3, with conditions in the planning area, determined in Step 5, should be reviewed and reconciled prior to proceeding with the plan.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> What planning processes are applicable to exploring and reconciling differences and to achieving opportunities? <input type="checkbox"/> The decision-making role for: <ul style="list-style-type: none"> <input type="checkbox"/> Local government elected officials. <input type="checkbox"/> Local government staff. <input type="checkbox"/> Officials (specify) from other government organizations. <input type="checkbox"/> Non-government organization representatives. <input type="checkbox"/> Area residents, landowners and developers. <input type="checkbox"/> The community at large. <input type="checkbox"/> What is the timing for the decision-process? | <p>Results:</p> <p>All interests and issues will be reconciled or left to an appropriate (and defined) later stage, enabling clearly defined terms of reference for planning the area as applied in Step 7.</p> |

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Step 7 – Prepare Concept Plan – Using information and directions generated in Step 6, but also drawing on statements and strategies in earlier steps, a neighbourhood concept/local area plan would be produced.

| Purpose: | Principles: | Checklist of Considerations: | Results: |
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| <p>Prepare the concept plan for the community with reference to information generated through previous steps.</p> | <p><i>Social, economic and environmental interests will be pursued through an integrated approach to achieving multiple goals and objectives. Such an approach looks for mutually beneficial outcomes among interests rather than pursuit of tradeoffs. Where tradeoffs are unavoidable these will be pursued with reference to applicable legislation, policy and processes, with the latter defined in intergovernmental co-operation agreements.</i></p> | <ul style="list-style-type: none"> <input type="checkbox"/> Terms of reference clearly reflect outcome of steps to this point. <input type="checkbox"/> Intergovernmental co-operation agreements are available to facilitate a co-operative and integrated approach and to ensure any conflicts that may arise are dealt with in a timely way. <input type="checkbox"/> Planning team comprised of, or has access to, professional disciplines with appropriate knowledge to engage in integration and trade-off discussions. <input type="checkbox"/> Pro-active public process. | <p>A draft concept plan that reflects external influences, local conditions and community-based interests.</p> |

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| <p>Step 8 – Integrated Implementation Strategies – The comprehensive approach to planning outlined above raises concerns about the potential inequitable impact on individual municipalities, developers and landowners that may result in order to achieve new, potentially higher standards than were required when other areas or sites in other municipalities were developed. The challenge of this step is to determine how public interests can be fairly achieved in any given municipality, watershed, or neighbourhood/local area, or on any particular site by using a full range of appropriately applied voluntary, regulatory, incentive and investment tools and approaches.</p> | | | |
| <p>Purpose:</p> <p>Ensure that concept plan can be implemented.</p> | <p>Principles:</p> <p>A multiple-accounts approach to determining the distribution of costs and benefits associated with the plan should be undertaken to provide a basis for allocating these costs and benefits, and reasonable efforts should be made to ensure fairness in distributing these costs and benefits accordingly.</p> <p>Emphasis should be placed on voluntary compliance approaches, particularly with respect to the ongoing protection and management of the environment.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Applicability of the following to each key plan component: <ul style="list-style-type: none"> <input type="checkbox"/> Regulatory or approval requirements and conditions; <input type="checkbox"/> Development related charges; and/or <input type="checkbox"/> Broadly based revenues <input type="checkbox"/> Implementation issues and their impact on the concept plan. <input type="checkbox"/> Strategies to deal with these issues: <ul style="list-style-type: none"> <input type="checkbox"/> Change concept plan. <input type="checkbox"/> Alternative approaches to implementation. <input type="checkbox"/> Other (list). | <p>Results:</p> <p>A fully implementable plan.</p> |

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Step 9 – Finalize and “Adopt” Integrated Planning and Implementation Strategies – This step will result in a combined area plan and set of implementation strategies. It will provide a set of clearly defined and supported performance-focused standards, action plans and accountabilities. These could be specified in intergovernmental implementation agreements. Also, where appropriate, public private partnerships – could be entered into to ensure intergovernmental and private sector co-operation on matters of mutual interest.

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| <p>Purpose:</p> <p>Provide clear statements regarding plan implementation with respect to outcomes and supporting actions.</p> | <p>Principles:</p> <p>Having engaged in a comprehensive planning initiative, there are reasonable expectations among interested parties to see the plan carried forward. These should be spelled out in implementation agreements that include performance responsibilities and accountabilities. Provision should also be made for performance review and revision.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Plan policies are stated in measurable or clearly defined performance standards or outcomes. <input type="checkbox"/> Actions needed to achieve these standards and outcomes are defined and supported. <input type="checkbox"/> Timing of actions and considerations that may affect timing are stated. <input type="checkbox"/> Responsibilities and accountabilities for actions are stated. <input type="checkbox"/> Performance review and revision procedures, responsibilities and accountabilities are defined, including: <ul style="list-style-type: none"> <input type="checkbox"/> Who monitors what and when? <input type="checkbox"/> Who reports on what and when? <input type="checkbox"/> Who takes what action and when? <input type="checkbox"/> How disputes will be resolved, by whom and when? <input type="checkbox"/> Follow-up actions (who, what, why and when)? | <p>Results:</p> <p>A fully defined plan, set of actions for implementation, with related responsibilities, accountabilities, and commitments to take action, monitor progress and revise as necessary.</p> |
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Step 10 – Implementation, Monitoring and Review Strategy – This step takes builds on and carries forward the commitments made and understandings reached in Step 9, and ensures ongoing consideration of local, regional and broader influences that affect the quality of life of plan area residents.

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| <p>Purpose:</p> <p>The plan will be implemented, performance reviewed, and revisions made, according to decisions, agreements and understandings reached in Step 9 as well as consideration of influences outside of the plan area.</p> | <p>Principles:</p> <p>Plan implementation will be based on expectations determined during its preparation and “approval”. Its success will be monitored, reviewed and reported. When changes are needed, these will be determined with reference to considerations and procedures used during plan preparation and approval processes.</p> | <p>Checklist of Considerations:</p> <ul style="list-style-type: none"> ❑ Plan performance reports with reference to plan area conditions in Step 4 as well as plan goals, objectives, policies and actions determined in Steps 7, 8 and 9. ❑ Reviews of issues and priorities such as those considered in Step 1. ❑ Changes to the policy context for the plan such as those considered in Step 3. | <p>Results:</p> <p>A viable, responsive plan which protects those qualities of the planning area that are to be protected, that achieves the social and economic goals intended to be achieved, and that ensures ongoing consideration of ways to improve the quality of life for area residents</p> |
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