The Cross-Country Plenary
Four presenters from a range of regional settings and planning agencies showcased current engagements of the conference theme. Using an underlying bioregional perspective, Ken Cameron compared old and new paradigms on a Vancouver city-region scale. Pierre Valiquette contributed insights from an "uncommon" grassroots initiative in Montreal, firmly based on a perspective that values the historic notion of the commons (represented by floodplains and riverbanks). Stan Schwartzenberger reported on the emergence of local watershed-based stewardship initiatives as the possible well-spring of a revival of inter-municipal, if not regional, planning in Alberta. A multi-county Eastern Ontario initiative, capitalizing on new information systems technology, was outlined by Ian Jarvis.

A Self-Managing Paradigm
for the Waters of Greater Vancouver

by Ken Cameron, FCIP

Water is a critical strategic resource for urban regions in the twenty-first century. Although the water resources of most Canadian urban regions are the envy of many other areas in the world, conservation and protection is a core duty of Canadian governments at all levels. Greater Vancouver enjoys a great diversity of water resources. These include mountain reservoirs of drinking water, freshwater rivers and streams, the Fraser River, the salt water of Georgia Strait, and the Fraser River Estuary, where fresh water and salt water mix in a complex process that supports unique habitat and life-forms of international importance.

The selection of water resources as the theme of CIP's national conference is very timely in the context of Greater Vancouver. Working together, the communities of Greater Vancouver are embarking on new, holistic planning approaches to the entire range of water resource challenges. The urban region has been conceptualized as a self-managing organism in which water in all its forms is a critical strategic resource—one which is best managed under a new paradigm.

The urban region as a self-managing organism

In a modern, mobile society, our domain is the space in which we live our daily lives—where we sleep, eat, learn, work, shop and play. The scale on which most of these activities take place for most Canadians is the urban region—the interdependent set of communities that provide the necessities of life for the vast majority of the residents. In Greater Vancouver, this corresponds to the Census Metropolitan Area, whose boundaries are coterminous with those of the Greater Vancouver Regional District (GVRD).

What do we mean by "self-managing"?

Until quite recently, Canadian urban regions could not have been described as self-managing. The close supervision of municipal governments by the provinces and the fragmented structure of local government combined to impede any effort to provide overall management of these entities. The navigation and control systems were not just dispersed or distributed; they were disconnected. However, as a result of the growing recognition of urban regions as the incubators of the new economy—as well as the trend to consolidate governance in amalgamated cities or more effective regional entities—there is now a greater acceptance of the need for and ability of urban regions to manage their own affairs.

Left to their own devices by federal and provincial downloading, local governments in urban regions now have greater political legitimacy and capacity to unleash their potential energy and creativity, and to set their own directions. The growth of competition among city-regions in a global economy has increased the need for successful urban starships to be aware of current and possible developments elsewhere in their economic galaxy.

In this context, it becomes essential for urban regions to be concerned with their capital (not only human and financial but also natural) and with the critical resources that will affect their ability to
function and compete effectively. Water is certainly one of those resources, and is bound to become more critical with growing global scarcity. It would be difficult to find an urban region in Canada with a greater diversity of water resources than Greater Vancouver. There is a corresponding diversity of challenges and opportunities in planning for and managing these resources.

**Embracing a new paradigm**

Traditionally, water resource management has been based on a paradigm that emphasizes cleaning up fresh water so that it is fit for human consumption, and treating wastewater so that it can be discharged in a fairly clean condition into the receiving environment. This paradigm presents some significant obstacles to the achievement of a cost-effective and sustainable approach to water resource management. A new paradigm developed in Greater Vancouver is based on an integrated, comprehensive framework of growth management planning. It treats all water as a resource to be conserved; emphasizes demand-side management as a key strategy; and reflects the principles of pollution prevention and minimum intervention with nature.

Results of the new paradigm include an intergovernmental management plan for the Fraser River Estuary, a recently adopted liquid waste management plan under innovative provincial legislation, and land management plans for drinking-water watersheds and potential future water-supply areas. A new drinking-water management plan will provide a long-range strategy for the provision of water from the source to the consumer's tap.

**Towards a more integrated approach to a critical resource**

Although water is one of the most basic substances on earth, the development of water policy is a matter of great complexity, particularly in a region such as Greater Vancouver. Given the information we now have about the limits of this resource and the impact of ongoing global changes, and given the need for environmental stewardship as a fundamental element of urban management, water resource policy and management are matters of the highest priority. Recent changes in organization and priority within the GVRD have considerably improved the ability of the region's residents and communities to chart their own destiny in the management of water resources.

**A new level of integration in planning**

Bringing together the planning functions for drinking water and wastewater management within an overall context provided by regional growth management and financial policy has enabled the development of a holistic approach to water as a resource. The potential for improvement in policy and planning for this resource is only beginning to be realized.

**A new level of integration in implementation**

The organizational changes have also brought together the GVRD's engineering, construction, operations and maintenance functions in the management of drinking water and wastewater. There is now integrated management of the water that is in the custody of the GVRD, either as potable water or as wastewater. This has enhanced coordination and cooperation, and has placed greater emphasis on the potential for multiple benefits from key projects such as water conservation and the control of pipe corrosion in the drinking-water system.

Given the overemphasis on regulation and traditional thinking in Canada's approaches to water, there are significant issues still to be faced in shifting to the new paradigm.

**“Top-down” standards**

The old paradigm placed almost complete reliance on standards developed at national or even international levels for drinking water quality or discharges of liquid waste. Gaining the flexibility to implement plans and approaches under the new paradigm involves major challenges for the review and reform of senior government regulatory frameworks. This requires the active involvement of local government in the resolution of federal and provincial regulatory regimes.

**Balancing the legacy of industrial infrastructure with new approaches**

Local governments have large intellectual and financial investments in existing physical plant, perspectives and procedures—all developed over many years under the old paradigm. Many of the approaches required by the new paradigm will focus on the micro-level, which may not be familiar to existing management agencies. Providing the necessary professional, jurisdictional and financial climate for these approaches will require conscious effort. Despite the daunting nature of these challenges, it is clear that the shift to the new paradigm is already underway, not only in Greater Vancouver but elsewhere in the world. This shift can be viewed with optimism because of its potential to respond to the urgent global and local challenges of sustainability in water resource management.

---

**Water resource management: the old paradigm**

- **Drinking water**: pristine sources further cleaned by industrial processes
- **Waste water (sewage and storm water)**: initial treatment through industrial processes, finished off by nature

**Critique of the old paradigm**

- Clear cost/benefit analyses—too tough to operationalize
- Conservation too easily trumped by pollution prevention
- Trade-offs difficult when “silos” dominate the decision-making landscape
- Public involvement regarded as part of the problem rather than as part of the solution
- The seductively “logical” progression from industrial process to best available technology
- Jurisdictional complexity and conflict hampering citizen stewardship initiatives

**Water resource management: the new paradigm**

- Integrated, comprehensive planning as a framework
- Investment in knowledge and monitoring as the basis for determining the need for action
- Maximum environmental/human health benefit for dollars spent

**Basic principles of the new paradigm**

- Planning, with public involvement, up front
- Demand-side management integral to decision-making
- Pollution prevention at source
- Water as a resource to be conserved for the benefit of the entire ecosystem
- Minimum intervention in nature's ways