

Partnership for Water Sustainability in British Columbia

(Incorporated under the Society Act of British Columbia)

THE MOST EFFICIENT INFRASTRUCTURE IS 'DESIGN WITH NATURE' – START WITH WATER SUSTAINABILITY

A Perspective by Tim Pringle, President
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Vancouver Island communities enjoy many natural amenities that are in the resources bank and producing returns. Lakes, streams, sea coast, forests, topography, flora and fauna comprise Island ecology which endows human settlements and the quality of the natural environment. These assets enable communities to draw on nature for infrastructure services needed for the built environment. By designing with nature, as it were, communities lessen and sometimes avoid the expense of engineering and building various kinds of infrastructure. For example, healthy wetlands clean surface water, replenish aquifers and control flooding (rainwater surges). Wetlands do not require future replacement, thus placing no future liability on the community's infrastructure investments. Natural amenities also are attractors for households moving to retire and to enjoy recreation and resort properties.

As the first goal of its *Draft Regional Water Strategy*, the Comox Valley Regional District intends to "protect the water sources and watersheds within the region." Further south in the mid-Island region, The Regional District of Nanaimo is working with the public to stress the importance of planning for water sustainability, not only for drinking water, but to manage rainwater impacts on settled areas. BC Hydro is rehabilitating the John Hart Dam near Campbell River to ensure, after 60 years of operation, continued non carbon-producing electrical power generation.

Designing with nature is efficient. It amounts to using income from natural capital rather than drawing down the resource. Two organizations are supporting leadership among elected officials, local government practitioners, the stewardship / conservation sector, and the development industry to advance this approach to managing settlement change more sustainably. Convening for Action on Vancouver Island (CAVI), an initiative of the Partnership for Water Sustainability in British Columbia, asserts that human settlement should be in relative balance with the ecology that supports it. This condition is prerequisite for designing with nature and it supports better control of the life-cycle costs of providing infrastructure for the built environment.

The quantity and quality of surface and groundwater are directly affected by human activity, whether that is development, resource extraction, water consumption, or discharge of pollutants. All of these activities are on the rise in the Regional District of Nanaimo. These activities have already led to negative changes in many watersheds and reduced and or contaminated ground water sources in a number of areas

<http://www.rdn.bc.ca/cms.asp?wpID=1748>

Regional District of Nanaimo

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In its Winter 2011 Newsletter, Asset Management BC (www.assetmanagementbc.ca) discusses this theme. "Asset management usually commences after something is built. The challenge is to think about what asset management entails BEFORE the asset is built. This paradigm-shift starts with land use planning and determining what services can be provided sustainably, both fiscally and ecologically."

"Thus, with respect to landscape-based rainwater management, an **Integrated Rainwater Management Plan** is a vehicle for local government to strategically connect the dots between land use planning, development and infrastructure standards, and asset management. And by 'designing with nature', a local government could make a very strong case for having a higher level of service, at a lower life-cycle cost, with 'assets' that appreciate, not depreciate."



SUGGESTED READING:

For further information about the themes of "designing with nature", "natural capital services," and managing settlement change in balance with ecology, the reader can go to the following sources.

- "Design with Nature" philosophy guides Water Sustainability Action Plan for British Columbia: <http://www.waterbucket.ca/cfa/sites/wbccfa/documents/media/372.pdf>
- Dr. Nancy Olewiler, a leading researcher in economics and public policy at Simon Fraser University, has produced critical studies about natural capital. In her 2008 paper, *Securing Natural Capital and Ecological Goods and Services in Canada*, Dr. Olewiler stresses "Canada is facing a crisis due to the mismanagement and loss of its natural resources and habitat. In order to secure them, we must put a price on the ecological goods and services that our natural environment supplies." (<http://www.sustainableprosperity.ca/article190>)
- Dr. Nancy Olewiler (2004). *The Value of Natural Capital in Settled Areas of Canada*; Published by Ducks Unlimited and the Nature conservancy of Canada. <http://www.ducks.ca/aboutduc/news/archives/pdf/ncapital.pdf>
- Convening for Action on Vancouver Island: www.waterbucket.ca/cfa
- Asset Management British Columbia: www.assetmanagementbc.ca
- David Brand (2007). *Payments for Ecosystem Services and the Future of Land Management*, Presentation to Canada West Foundation workshop. <http://cwf.ca/pdf-docs/projects/david-brand-calgary-presentation-1.pdf>