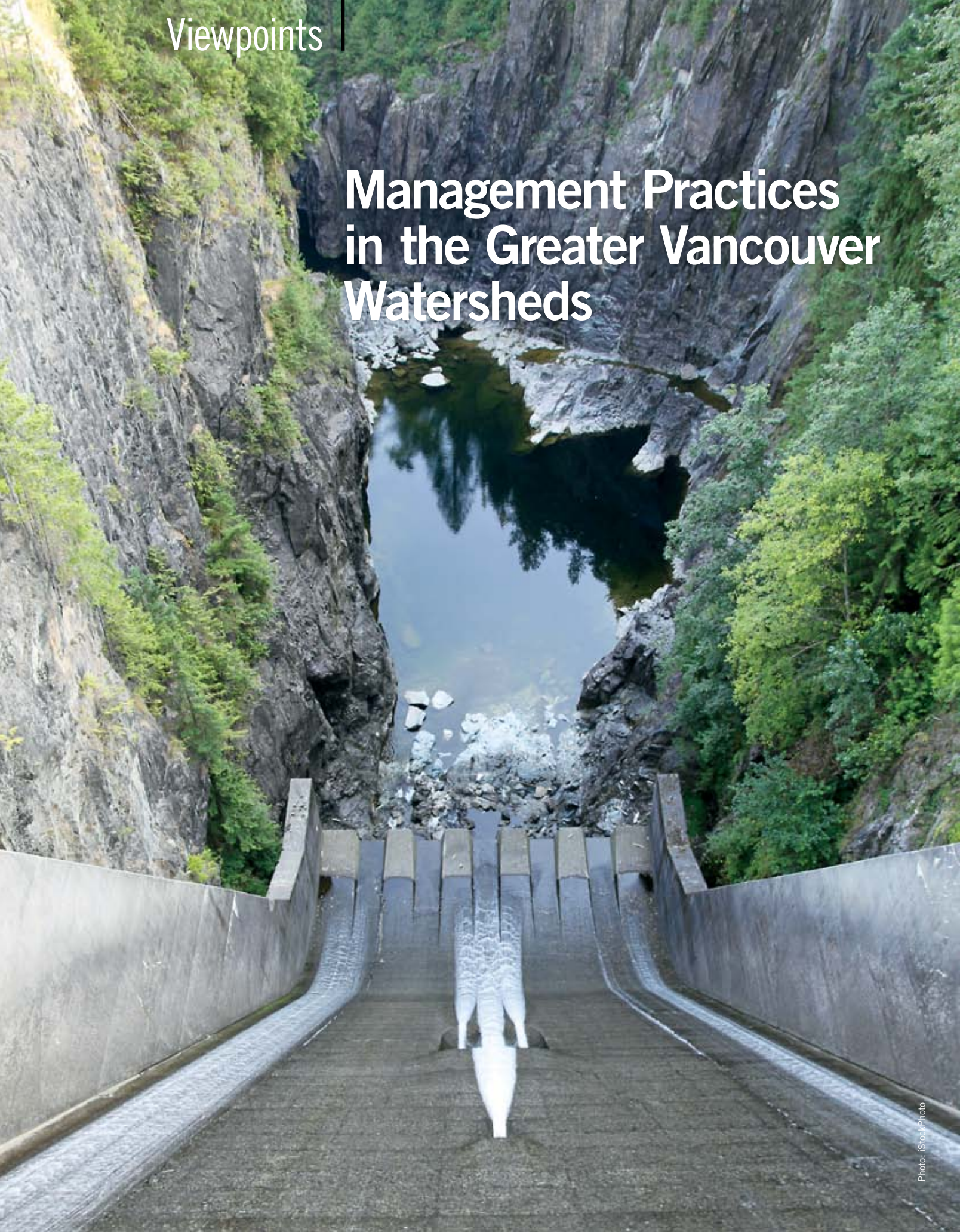


Management Practices in the Greater Vancouver Watersheds





THE GREATER VANCOUVER WATER DISTRICT (GVWD) and member municipalities work together to supply clean, safe drinking water for 2.2 million people in the Greater Vancouver region. They do this using three integrated sources—the Capilano, Seymour, and Coquitlam watersheds—which are made up of 580 square kilometres of coastal, forested land.

One key component of clean, safe drinking water is good watershed management. So within Metro Vancouver's Drinking Water Management Plan, is the Watershed Management Plan. It outlines the programs needed to keep the watersheds operating well and involves the following components.

Watershed Security

Watershed security restricts public access by maintaining gates, fences, signage and conducting watershed patrols. Restricting access to the watersheds reduces the risk from microbiological or chemical contamination and risk of fires. This practice is the first barrier of a multi-barrier approach that also includes water treatment and water testing to ensure the best possible source water quality and ultimately clean, safe drinking water at the tap.

Water Monitoring and Forecasting

Water monitoring and forecasting provides reliable and timely information on source water quality, watershed snowpack and stream flows. Turbidity sensors provide early warning of elevated turbidity events that may impact drinking water quality. These measurements of the physical, biological and chemical parameters in the reservoirs ensure water quality. However, collecting this information isn't easy. We maintain and evaluate the network of monitoring stations, add new stations to fill information gaps and remove redundant ones where necessary. Maintenance and upgrade of sensors in the rivers and reservoirs also requires constant attention.

Forest Ecosystem Management

Forest ecosystem management is achieved by minimizing the amount of human induced disturbances such as logging, road construction and land clearing. Natural disturbances are monitored as to their extent and impact to watershed resources. A past

western hemlock looper infestation and occasional blowdown within some second growth stands has resulted in no measurable impacts to the water resource while likely contributing to important ecological functions for habitats and biodiversity.

Fire Management

Fire management involves retaining fire suppression resources, developing fire preparedness plans and emergency response plans, and supporting community wildfire protection plans. Extensive wildfires are rare in the watersheds, although evidence exists of natural fires occurring in the warmer and drier zones located at low elevations in the watersheds. The consequences of wildfires in the drier zones may pose risks to water quality, public safety and property, and air quality.

Road Decommissioning

A network of roads previously designed and built for a sustained-yield, forest management program are being decommissioned. The end of the sustained yield, forest management program and the start of decommissioning logging roads resulted from recommendations from a multidisciplinary team of scientists and public advisors as to the best watershed management practice to minimize the risk to drinking water quality. Non-essential roads are decommissioned by conducting a range of road deactivation practices from complete pullback of road fill to only removing culverts to maintain natural drainage.

Road Maintenance

Road maintenance is a routine but important practice on the remaining essential roads. Roads are maintained to a high standard to undertake watershed management activities over the long-term. High road standards include ensuring a stable road prism, providing sufficient road surfacing and upgrading drainage structures that also facilitate fish passage. Road safety is paramount and is achieved by ensuring the road right-of-way is brushed to maintain visibility, road signage is in place, mandatory radio communication and posting a watershed travel advisory based on weather conditions.

Erosion Control

Erosion control practices are undertaken to avoid potential impacts to the quality of water entering the water distribution system. Practices include stabilizing gullies, re-vegetating landslide scars and armouring stream banks. We try to find a balance between enhancing aquatic habitat while being protective of drinking water quality.

Water System Infrastructure

Water system infrastructure is required for the storage, transmission and treatment of the water supply while conserving watershed resources to the greatest extent possible. The water system infrastructure within the watersheds includes seismic upgrading of dams, constructing water intakes, installing pipelines and building water treatment facilities. The road network provides access to sources of aggregate and staging areas for the storage of soils and construction materials. Federal and provincial regulations prescribe best management practices in conjunction with project approvals.

Communication and Education

A public education program demonstrates that watershed resources are managed in an environmentally responsible and cost-efficient manner. The program includes:

- Public review and input on plans
- Watershed data and information on Metro Vancouver's web site
- Public tours of the watersheds and,
- Resources for education.

Currently, a comprehensive environmental management system is being developed by Metro Vancouver for the entire drinking water system. This will ensure that all regulatory requirements are met and the public can be confident that there is a process in place to continually improve the programs used to assure Metro Vancouver's drinking water supply, quality and sustainability. 🐟

Derek Bonin's, RPF, 30-year career at Metro Vancouver includes forest management, watershed planning, and developing strategies associated with the fisheries resource and drinking water supply.