



Raincoast Applied Ecology provides innovative, science-based solutions to complex environmental questions. We provide expertise in six main areas: (1) urban stream and watershed management; (2) environmental monitoring; (3) species at risk recovery; (4) plant ecology; (5) environmental planning and policy; and (6) ecological design. Our projects range from spatial analyses of landscape-scale ecological patterns, to surveys of rare butterflies, and the design of river restoration projects. We often work as part of inter-disciplinary teams made up of water resources engineers, landscape architects, planners, and wildlife biologists. Raincoast Applied Ecology started in 2003 and is based in Vancouver, BC.

#102 – 1661 West 2nd Avenue
Vancouver, BC
Canada V6J 1H3

Tel: (604) 742-9890
Fax: (604) 742-1339

www.raincoastappliedecology.ca
info@raincoastappliedecology.ca

Urban Streams and Watersheds



Many of Raincoast Applied Ecology projects focus on the assessment and management of urban streams in Metro Vancouver. Projects range from watershed plans (ISMPs and IWMPs), to benthic invertebrate or water quality monitoring programs, and stream restoration projects.

Byrne Creek Integrated Stormwater Management Plan. Comprehensive inventory, analysis, and planning for the Byrne watershed in Burnaby (for City of Burnaby with KWL Associates, and HB Lanarc, 2007–10).

Partington Creek Integrated Watershed Management Plan. Comprehensive inventory, analysis, and planning for the Partington watershed in northeast Coquitlam (for City of Coquitlam by KWL Associates, Lanarc Consultants, and Gartner Lee, 2006–10).

Little Campbell River Watershed Characterization Study. Mapping and GIS analysis study of land use and water quality in the Little Campbell River watershed (for BC Ministry of Environment, 2006).

Environmental Monitoring



Raincoast Applied Ecology has used three approaches to monitor the condition of urbanizing streams and rivers: 1) assessing biological condition using the benthic invertebrate community; 2) storm event and continuous monitoring of water quality; and 3) use of long-lived freshwater mussels to measure long-term change. Each of these methods provides different information on how freshwater ecosystems are affected by natural and anthropogenic changes.

City of Surrey Benthic Monitoring Program. Management and data analysis for a long-term monitoring program for stream health in the City of Surrey (for City of Surrey, 2007-10).

University of British Columbia Stormwater Monitoring Program. Management and data analysis for an intensive water quality monitoring program for UBC Campus. It includes continuous monitoring, storm event sampling, and fecal coliform analysis (2003–10).

Assessment of the Use of B-IBI in Metro Vancouver. Sampling and data analysis study prepared for Greater Vancouver Regional District (KWL Associates, Raincoast Applied Ecology, and Leska Fore Statistical Design, 2006).

Species at Risk



The Species at Risk Act has changed how rare species are protected in Canada. We have worked on a range of species including a genus of rare moths (*Copablepharons* and Edward's Beach Moth), and rare butterflies. Our work also includes conservation planning for pink sand-verbena, Vesper Sparrow, and Streaked Horned Lark.

Taylor's Checkerspot Butterfly Surveys. Planning and implementation of comprehensive surveys for Taylor's Checkerspot on Denman Island, Hornby Island, and southeastern Vancouver Island (for BC Ministry of Environment, 2007–09).

Coastal Sand Ecosystems Status Report.

Development of a multi-species status report and action plan to guide the recovery of at-risk species in sand dunes, spits, and beaches (for Parks Canada, 2009–10).

Action Plans for Island Blue, Taylor's Checkerspot, and Island Large Marble. Development of action plan components for three endangered or extirpated butterflies as part of Maritime Meadows Action Plan (for BC Ministry of Environment, 2009–10).

Invasive Plants and Plant Ecology



Plant communities are an increasingly important focus of conservation planning in British Columbia. Our work includes the description and classification of plant communities and inventories and management planning for emerging invasive plants.

Framework for Invasive Plant Management in GVRD Parks. Policy framework to guide invasive plant management in regional parks in Greater Vancouver (prepared for GVRD Parks by Raincoast Applied Ecology, 2006).

Inventory and Restoration Guidelines for Invasive Plants in the City of Coquitlam. GIS-based mapping and management guidelines for City of Coquitlam Parks and Recreation (by N. Page and J. Shaben, 2007).

Effects of Fish Habitat Restoration Activities on Plant Communities in the Squamish River Estuary. Inventory and management study of estuarine vegetation for the Squamish River Watershed Society (Raincoast Applied Ecology, 2006).

Environmental Planning



The patterns and functions of biodiversity and its related ecological processes are critical components of urban sustainability. Environmental planning includes the inventory or assessment of ecological features and their incorporation into regional, municipal, or neighbourhood plans.

City of Surrey Environmental Management Study. Mapping and spatial analysis of environmental features in City of Surrey (HB Lanarc and Raincoast Applied Ecology, 2008–10).

University of British Columbia Natural Features and Systems Study. Inventory and analysis study for UBC Community Planning (2007-08).

Biodiversity Conservation Strategy for the GVRD. Inter-disciplinary planning study for regional-scale conservation planning (Lees + Associates, Holland Barrs Planning Consultants, and Raincoast Applied Ecology, 2007).

Ecological Design



Habitat restoration, creation, or compensation are critical components of environmental management, particularly in urban areas. Raincoast Applied Ecology has contributed to or led the design of a variety of innovative projects including stream daylighting, off-channel habitat creation, biofiltration wetlands, and large and small streambank or shoreline stabilization projects using bioengineering.

VanDusen Botanical Garden Revitalization. Member of design team developing a building and landscape plan for revitalizing VanDusen Botanical Garden (with Busby and Associates, 2008).

Kitsilano, Jericho, and New Brighton Shoreline Stabilization Projects. Design, permitting, and implementation of the environmental components of shoreline stabilization projects (for Vancouver Parks Board with KWL Associates and Sea Science, 2004–07).

Lost Lagoon Biofiltration Wetland. Design of environmental components for the large biofiltration wetland in Stanley Park (with PWL Associates, Coast River Environmental, and KWL Associates, 2001).

Who We Are

Nick Page, BLA, MSc, RPBio

Nick is a professional biologist who works on the assessment, restoration, and management of ecosystems in coastal BC. He has a bachelor's degree in landscape architecture (UBC, 1993) and completed a Master's of environmental studies at the Institute for Resources, Environment, and Sustainability at UBC in 2003. His thesis focused on local- and regional-scale patterns of exotic plant species in sand beach plant communities on the west coast of Vancouver Island. Much of his recent work has focused on biological monitoring, urban watershed assessment and stormwater planning, invasive species, urban environmental design such as green roofs and wetland creation, and plant community ecology. He is also involved in the recovery of species at risk and sits on recovery teams for pink sand-verbena and Streaked Horned Lark, and is a technical advisor to the provincial invertebrate recovery team.

Patrick Lilley, BSc, MSc, RPBio

Patrick Lilley is an ecologist interested in landscape-level solutions for biodiversity conservation and environmental management in BC. He has a Bachelor's degree in Environmental Sciences (UBC, 2000) and most recently completed his Master's degree in Botany at UBC in 2008. His thesis investigated the factors influencing the distribution of native and exotic plant species in Garry oak meadow habitats on southeastern Vancouver Island. He has expertise in plant ecology, ecosystem assessment, and conservation planning. He has field experience in rare species surveys, habitat mapping, and biological monitoring, as well as GIS experience working on diverse spatial datasets. Patrick is co-chair of the Science & Research Committee of the Greater Vancouver Invasive Plant Council and a member of the Conservation Science Advisory Committee for A Rocha Canada.