Self-Screening Registration Criteria

P20: Professional Environmental Monitoring (RPBio)

Mandatory Knowledge Requirements

The Ministry of Forests and Range may contract with a qualified registered biologist to provide professional environmental monitoring services for Forest Service road, bridge and major culvert projects (including construction, maintenance, and deactivation). A professional biologist may be required as a condition of project approval and contract work requirements to monitor conformance with site works plans during active operations where (1) instream works will occur in important or critical fish habitats, or (2) instream works are approved outside of the fisheries timing window, or (3) complex works contemplated within the riparian management area may raise the potential for harmful alteration, disruption or destruction (HADD) of fish habitat. [**Note:** You may also qualify to register for T08 – Environmental Monitor (Technical) if you have the mandatory knowledge and experience requirements for that service category.]

Professionals providing professional environmental monitoring services must:

1. be members in good standing with the Association of Professional Biologists of British Columbia (RPBio);
2. have appropriate education, training and experience in environmental (biological) sciences that are congruent with the environmental monitoring services required by the ministry;
3. have a comprehensive working knowledge and understanding of: restoration ecology, biodiversity and conservation biology; environmental protection and environmental law; restoration of freshwater aquatic systems; forest hydrology; environmental management systems and ecological risk assessment; and water quality monitoring;
4. have considerable recognized specialization in: fish and their habitat requirements; fisheries impact assessment and mitigation; fish and fish habitat inventory and assessment; fish passage and instream flow assessment; and development and implementation of erosion and sediment control management plans (also known as "sediment drainage management plans"), including monitoring and evaluating the proper handling of lubricants and fuels, and emergency spill response procedures, as required to protect important and critical fish habitats and minimize the potential for a HADD;
5. be thoroughly familiar with stream crossing requirements and procedures of the Department of Fisheries and Oceans Canada (DFO) and the British Columbia Ministry of Environment (MOE), and knowledgeable about Federal legislation such as the *Fisheries Act* and the *Navigable Waters Protection Act*, and about Provincial legislation such as the *Forest Practices Code of British Columbia Act*, *Forest and Range Practices Act*, and *Water Act*, and associated regulations under those acts, including the Water Regulation, Forest Road Regulation, and the Forest Planning and Practices Regulation, among other legislation associated with the specific project, including the specific details of any granted variances, conditions, and approvals;
6. have a comprehensive working knowledge and understanding of: forest road, bridge and major culvert construction, maintenance, and deactivation procedures and techniques; construction techniques and procedures for work in and around stream crossings, lakes and wetlands; erosion and sediment control practices, techniques and products; soil erosion and stream channel disturbance avoidance, mitigation and remediation; the use of coffer dams

such as aqua-dams, sand bags, concrete blocks, or other appropriate designs to separate the in-channel work site from flowing water; and revegetation techniques;

7. have a comprehensive working knowledge and understanding of the principles and best management practices provided in the following government publications, among others as required:

   - Forest Practices Code of BC Forest Road Engineering Guidebook (June 2002)
   - Forest Practices Code of BC Fish-stream Crossing Guidebook (March 2002)
   - Forest Practices Code of BC Riparian Management Area Guidebook
   - Forest Practices Code of BC Fish-stream Identification Guidebook
   - Forest Practices Code of BC Soil Rehabilitation Guidebook
   - Best Management Practices Handbook: Hillslope Restoration in British Columbia (November 2001)

8. in the case of projects that come under the control and administration of BC Timber Sales (BCTS) you must:

- be familiar with the BCTS document called *Environmental Management System* (EMS) available at http://www.for.gov.bc.ca/bcts/areas/tch_certification.htm, including BCTS's *environmental field procedures* (EFPs) and *Checklists* for road, bridge and major culvert construction, maintenance, and deactivation activities, and the *Emergency Response Manual*;
- obtain BCTS Environmental Management System (EMS) Level 3 training prior to commencing work on any BCTS Worksite.

Mandatory Experience Requirements

All professional biologists providing services for environmental monitoring require a minimum of 5 years of demonstrated relevant professional experience directly related to environmental field monitoring of road, bridge and major culvert construction, maintenance and deactivation projects in forestry or related resource industries in British Columbia. This experience on past projects must have included assessment of adequacy of environmental measures for prevention, control, and response, and the development of recommendations for corrective / preventative actions and an appropriate action plan.

The duties of the Environmental Monitor will likely vary from project to project depending on the type and complexity of the work, the sensitivity of the fish and fish habitat, and the site-specific conditions of project approval specified by regulatory agencies. Subject to conditions, the Environmental Monitor should expect to be given the authority to modify or stop operations in the case of non-compliance with approved plans, designs, or prescriptions or where unforeseen circumstances cause or may cause environmental damage.

Registered professional biologists must have specific work experience in all the following types of environmental monitoring activities:

1. Identified fish and water and/or other forest resource values at risk of damage or loss, confirmed region and watershed specific in-stream timing windows, and determined the fish species and habitat requirements by life stage in an area that could be affected by site activities.
2. Communicated with DFO and Ministry of Environment officials with regards to forest road, bridge and major culvert construction, and acquired Permits from DFO under the *Fisheries Act***, and** approvals under the Water Regulation of the *Water Act* **(if required),** and provided

environmental input into applications under the *Navigable Waters Protection Act* **(if required)**.

3. Reviewed and evaluated engineering drawings and proposed construction work plans and specifications for a road, or bridge or major culvert project (construction, maintenance, deactivation), including the construction work schedule, and provided recommendations for environmental management including appropriate measures to mitigate / compensate for a potential HADD.
4. Observed and evaluated the adequacy of erosion and sediment control techniques, including work procedures for instream work, construction and diversions on watercourses, and other works in progress to assure that fish or fish habitat and water quality were protected.
5. Provided practical and appropriate mitigation options and recommendations to protect or minimize harmful effects to fish and fish habitat and water quality if changes to the work occurred due to unforeseen circumstances.
6. Observed, recorded, and photographed site conditions and work procedures, and provided reports with recommendations and cost estimates for proposed mitigation works.