

## FISH HABITAT ASSESSMENTS, INVENTORIES AND BASELINE STUDIES

Rob Heibein began his career in fish biology by volunteering where he gained valuable practical experience including all aspects of fish culture, creel surveys and tagging. Rob continued gaining a wealth of practical field experience and training in fish habitat assessments, stream classifications, fish inventories and baseline studies while consulting throughout British Columbia and Alberta.

As a government regulator, working in the former Habitat Management Branch of Fisheries and Oceans Canada, Rob reviewed over 400 industrial referrals and applied the fish habitat protection policies and legislation of the *Fisheries Act* of Canada. Duties included issuing Letters of Advice specifying mitigation measures, preparation of *Authorizations*, compliance inspections and enforcement activities.

Rob specialises in fish habitat assessments and can provide a limited range of professional assessments and reports independently as a Registered Biological Technologist or a wider range of assessments in association with Registered Professional Biologists.

### Specialized Training:

Electrofishing Crew Supervisor    Swiftwater Rescue Technician    Hover Exist\Entry Flight Training    Snorkel Survey Methods

### Featured Project Experience:

#### **Bute Inlet Hydroelectric IPP Cluster Project Baseline Fish and Fish Habitat, Bute Inlet, BC 2008 – 2010**

Baseline fish Inventory and habitat assessments on 17 rivers and creeks proposed for Run-of-the-River hydroelectric projects. Fish populations included all salmon species with the exception of sockeye and various forms of trout and char. Inventories and assessments followed numerous standard methodologies.

#### **Primary Roles and Responsibilities:**

Field crew leader for various forms of fish inventory and population estimate sampling, biological sampling (DNA tissue sampling, age structure sampling), spawner and redd surveys, age structure reading, PIT tagging, habitat assessments, fish barrier assessments, data entry and primary author of the Southgate Watershed Group report.  
Employer: EDI Environmental Consultants.



## Other representative project experience

**Kitimat River Estuary Baseline Fish Sampling, Kitimat, BC** – Crew lead for baseline fish inventory assessments within the Kitimat River estuary tidal and freshwater channels as part of the LNG Canada Project environmental assessment. Employer: Triton Environmental Consultants

**Beaver Creek Baseline Fish and Fish Habitat, Kitimat, BC** – Crew lead for baseline fish and fish habitat assessments within Beaver Creek as part of the LNG Canada environmental assessment. Assessments and sampling followed standard methodologies. Employer: Triton Environmental Consultants

**1:20, 000 Fish Inventory, Fort Nelson, BC** – Crew leader conducting fish sampling and habitat assessments following standardized RISC methods for various northeast BC watersheds. Primary report author. Employer: EDI Environmental Consultants.

**Two Island Lake Inventory, Ft. Nelson, BC** – Lake inventory including various forms of fish sampling, bathometric data collection and water quality samples following standardized methodologies as part of a temporary water license application. Employer: EDI Environmental Consultants.

**Proposed Water Intakes Fish and Fish Habitat Assessments, Ft. Nelson, BC** – Crew leader and jetboat captain for fish sampling using a boat-electrofisher. Habitat assessments / bathometric data collection for 3 proposed water intakes on the Ft. Nelson River and Liard River. Employer: EDI Environmental Consultants.

**19 Stream Crossing Assessments, Ft. Nelson, BC** – Crew lead for fish and fish habitat assessments along a proposed pipeline route. Responsibilities included various forms of fish sampling and habitat assessments following standardized methodologies. Employer: EDI Environmental Consultants. Employer: EDI Environmental Consultants.

**Akie Baseline Water Quality Sampling, Tsey Key, BC** – Baseline surface and groundwater sampling and First nations training as part of the proposed Akie Lead/Zinc Mine baseline environmental study. Employer: EDI Environmental Consultants.

**Akie Mainline Stream Crossing Assessments, Tsey Key, BC** – Assessment of 22 proposed stream crossings and preparation of Environmental Management Plans for the proposed Akie Mainline Extension as part of the proposed Akie Lead/Zinc Mine. Employer: EDI Environmental Consultants.

**12 Hwy Stream Crossing Assessments and Environmental Management Plan, St. Paul, AB** – Fish habitat assessments and fish sampling following standardized methodology for 12 proposed Hwy stream crossing replacements. Preparation of Environmental Management Plans. Employer: EDI Environmental Consultants.

**Akie Baseline 1:20K Reconnaissance Fish and Fish Habitat Inventory, Tsey Key, BC** – Responsibilities included crew leader for fish sampling and 1: 20, 000 reach habitat assessments following standardized methodology as part of the baseline fish studies for the proposed Akie Lead/Zinc Mine. Employer: EDI Environmental Consultants.

**Mt Milligan Mine Road Route Impact Study, Fort St James / Mackenzie, BC** – Fish habitat assessments and fish sampling following standardized methodology. Primary report author for the Mt. Milligan Mine Road Route Impact Study. Employer: EDI Environmental Consultants.

**Belcourt River Bridge Replacement Assessment, Tumbler Ridge, BC** – Fish habitat assessment following standardized methodology and preparation of Environmental Management Plans for the Belcourt River Bridge replacement. Employer: EDI Environmental Consultants.

**8 Stream Crossing Assessments and Environmental Management Plans, Fort Nelson, BC** – Fish habitat assessments and fish sampling following standardized methodology. Preparation of Environmental Management Plans, Water Act Permitting and DFO referral. Employer: EDI Environmental Consultants.

**21 Stream Crossing Assessments and Environmental Management Plans, Rainbow Lake, AB** – Fish habitat assessments and fish sampling following standardized methodology. Preparation of Environmental Management Plans, DFO referrals, Water Act and Navigable Waters Permitting. Employer: EDI Environmental Consultants.

**8 Hwy Stream Crossing Assessments and Environmental Management Plans, Deadwood, Manning, Clear Prairie and Valleyview, AB** – Fish habitat assessments and fish sampling following standardized methodology. Preparation of Environmental Management Plans. Employer: EDI Environmental Consultants.

**4 Stream Crossing Audits, Fox Creek, AB** – Performance audits and report preparation for compliance with *Fisheries Act Authorizations*. Responsibilities included fish sampling and as built assessments of 4 culvert stream crossing structures. Employer: EDI Environmental Consultants.

**14 Stream Crossing Assessments and Environmental Management Plans, Grand Cache, AB** – Crew lead for Fish sampling and habitat assessments following standardized methodology and preparation of Environmental Management Plans for the Muskeg Road Extension. Employer: EDI Environmental Consultants.

**32 Fish Passage Culvert Inspections & 14 Stream Classifications, Barrier, BC** – Field crew leader for fish passage culvert inspections, fish sampling and stream classifications following standard procedures. Employer: EDI Environmental Consultants.

**Muskwa River Gravel Extraction Fish and Fish Habitat Impact Study, Fort Nelson, BC** – Field crew leader for baseline fish and fish habitat assessments including boat electrofishing, liaison with DFO and report author (2006, 2007 and 2010). Employer: EDI Environmental Consultants.

**5 stream crossing assessments and Environmental Management Plans, Cochrane, AB** - Conducted 5 stream crossing assessments, prepared Environmental Management Plans for the installation of crossing structures, prepared DFO referrals and instream work permits applications. Employer: EDI Environmental Consultants.

**Nechako River Female Chinook Residency Study, Vanderhoof, BC** – Assessment of the duration female chinook salmon spend spawning within the Nechako River as part of a large scale stock assessment. Responsible for observing, tracking and documenting each female chinook at multiple control sites. Employer: DFO Prince George Branch.

**Canfor Compensation Site Fish Sampling, Prince George, BC** – Crew leader for fish sampling a Fraser River sidechannel compensation site. Employer: EDI Environmental Consultants.

**Bill Lake & Drake Inlet Stream Classifications, Prince Rupert / Princes Royal Island, BC** - Stream classifications following the Forest Practices Code fish stream classification procedures for new forestry development on Princess Royal Island and Work Channel. Responsibilities included sampling for fish presence using an electrofisher and conducting stream surveys following the habitat inventory and information methodology. Employer: McElhanney Consulting Ltd.

**West Fraser Mills Stream Classifications, Terrace, BC** - Stream classifications following the Forest Practices Code fish stream classification methodology within the White River watershed near Meziadin Junction. Responsibilities included project management, crew supervision, sampling for fish presence using an electrofisher / G-Traps, mapping and reporting. Employer: McElhanney Consulting Ltd.

**McCully Creek Baseline Stream Survey, Smithers, BC** - Conducted a 300 meter detailed survey of McCully Creek, a tributary of the Kispiox River, to help monitor upslope forestry related impacts. Responsibilities included identifying habitat units, substrate survey, flow assessment and rod person for the Total Station survey. Employer: McElhanney Consulting Ltd.

**Highway Culvert Inspections, Terrace, BC** - Responsible for assessing fish access along highways from Terrace to Kitwanga and from Kitwanga to Stewart. Conducted fish sampling using G-Traps and prepared a culvert priority replacement list based on the amount and quality of inaccessible habitat. Employer: DFO Terrace Branch.

**CN Rail Culvert Inspections, Terrace, BC** - Responsible for assessing fish access along CN rail-line from Terrace to Prince Rupert, from Terrace to Kitwanga and from Terrace to Kitimat. Conducted fish sampling using G-Traps and prepared a culvert priority replacement list based on the amount and quality of inaccessible habitat. Employer: DFO Terrace Branch.