

## Guidelines Part 19 - Electrofishing

### G19.41 Electrofishing - Ensuring worker training and knowledge

Issued: September 28, 2005

#### Regulatory excerpt

Section 19.41 of the *OHS Regulation* ("Regulation") states:

The employer must ensure that

- (a) only certified workers trained in a course acceptable to the Board conduct electrofishing operations,
- (b) workers are provided with a statement of their responsibilities and written safe work procedures, and
- (c) workers are trained in and are knowledgeable of their responsibilities and work procedures.

#### Purpose of guideline

The purpose of this guideline is to provide recommendations for employers to use as means of ensuring that workers are trained in and knowledgeable of their responsibilities and work procedures under section 19.41(c) of the *OHS Regulation*.

#### Responsibility of the employer

Section 19.41(c) places the responsibility directly on the employer to ensure that workers are trained in and knowledgeable of their responsibilities and work procedures. Although a worker may have valid electrofishing certification under section 19.41(a), employers and representatives of the employers (i.e. crew supervisors) need to ensure the ongoing competence of the electrofishing operators in their employ.

#### Changes in electrofishing operations

A wide range of changes related to electrofishing operations typically occurs over a given time period. Certified electrofishing operators need to keep up-to-date on such information as:

- changes in regulations governing electrofishing practitioners; for example, as set by fisheries regulatory agencies;
- changes in electrical safety requirements for certification of electrofishing units; and
- new safety features for electrofishing equipment.

For certified workers to remain knowledgeable of their responsibilities and work procedures, they may need to receive refresher training periodically.

#### Demonstrating worker training in and knowledge of responsibilities and safe work procedures

To demonstrate compliance with section 19.41(c), employers should document how workers have received training and demonstrated knowledge of applicable responsibilities and work procedures. Appropriate means for ensuring this include:

- holding regular safety review meetings (i.e., annual, monthly and trip-specific, including 'tailgates') to remind certified electrofishing operators of safe work procedures and equipment safety features. It is recommended that employers have workers sign a form indicating the sort of information that has been reviewed at these meetings;
- checking, on a regular basis, how workers conduct inspections of electrofishing equipment to ensure it is safe and in proper working order; and
- recertification of workers, where appropriate.

Records of these activities should be kept in a central and accessible location for future reference by safety personnel (internal or external) as a means to maintain an effective training program, and in the event of an inspection or accident investigation.

### G19.41(a) Electrofishing - Courses acceptable to WorkSafeBC

Issued August 11, 2010; Revised December 19, 2013; Editorial Revision April 14, 2015; Editorial Revision November 21, 2017

#### Regulatory excerpt

Section 19.41(a) of the *OHS Regulation* ("Regulation") states:

The employer must ensure that

- (a) only certified workers trained in a course acceptable to the Board conduct electrofishing operations,

#### Purpose of guideline

The purpose of this guideline is to provide a reference to the training courses acceptable to WorkSafeBC for the purposes of section 19.41(a) of the *Regulation*.

#### Background

Electrofishing is inherently hazardous work. Direct electrical current at elevated voltage is used to temporarily stun fish for research and

environmental management purposes.

It is important that workers are initially trained to an acceptable standard so that the risks to themselves and their co-workers are adequately controlled. In recognition of the significant hazards faced by electrofishers, section 19.41(a) of the *Regulation* requires that only certified workers conduct electrofishing operations.

### **Electrofishing courses acceptable to WorkSafeBC**

Electrofishing certification courses are an introduction to electrofishing theory, safety, and practices. The courses are two days in duration and include a classroom lecture-based session and a field-based practicum. The first day addresses the theory, concepts, identification, electrical safety, and equipment settings for safe and efficient electrofishing sessions. The second day is a field-based practicum in which participants operate backpack electrofisher equipment and apply the skills and knowledge gained during the classroom time. Emphasis is on safety but the theory and practice of backpack electrofishing are also addressed.

A list of acceptable electrofishing courses as well as the certifying organizations can be found at [worksafebc.com/en/health-safety-education-training-certification/electrofishing-operator](https://worksafebc.com/en/health-safety-education-training-certification/electrofishing-operator).

### **Other courses**

WorkSafeBC recognizes that other training courses may be developed that may meet the requirements for acceptance under section 19.41(a). WorkSafeBC will review any proposed courses for acceptance to ensure consistency and appropriateness with the accepted electrofishing training requirement. Any new courses WorkSafeBC identifies as acceptable under section 19.41(a) will be added to the list found on the webpage identified above for the information of workplace parties and WorkSafeBC prevention officers.

Persons wishing to have WorkSafeBC consider an alternative course for acceptance under section 19.41(a) may submit that course for review and evaluation. Please contact WorkSafeBC [Certification Services](#) for further information.

### **G19.41(b) Responsibilities and safe work procedures for electrofishers**

Issued August 11, 2010; Editorial Revision November 21, 2017

### **Regulatory excerpt**

Subsection 19.41(b) of the *OHS Regulation* ("*Regulation*") states:

The employer must ensure that

(b) workers are provided with a statement of their responsibilities and written safe work procedures, and

### **Purpose of guideline**

Subsection 19.41(b) of the *Regulation* requires that electrofishers be provided with a written statement of their responsibilities and with written safe work procedures. This guideline describes responsibilities (for employers, supervisors, and crew members) during electrofishing operations and describes areas of safety that should be addressed in written safe work procedures. Note that employers must also ensure under subsection 19.41(c) of the *Regulation* that workers are trained in and are knowledgeable of their responsibilities and work procedures.

### **Responsibilities**

Electrofishing is an inherently dangerous work activity. Workers involved in electrofishing operations must be trained in the fundamentals of electricity, and follow written safe work procedures for operating electrofishing equipment.

Employers' responsibilities include the following:

- Ensuring only commercially available certified electrofishing equipment is used (Homemade equipment or in-house expertise equipment is not allowed. Electrofishing equipment is a regulated product and must be certified as required and enforced by British Columbia Safety Authority (operating as Technical Safety BC — "TSBC")
- Providing necessary supervision and ensuring workers are properly certified (see [G19.41\(a\)](#) for information on electrofishing certification)
- Providing appropriate safety equipment
- Ensuring workers are aware of their rights and responsibilities

Crew leader or supervisor's responsibilities include the following:

- Supervising daily operations and safety of the team
- Identifying and assessing site hazards, and ensuring adequate control measures are in place before initiating electrofishing work procedures
- Conducting bank-side crew talks regarding equipment checkout procedures and safe work procedures
- Inspecting equipment and ensuring maintenance and repair (Inspection should be daily and the testing/maintenance interval should not be greater than once a year)
- Preventing hazardous work procedures

Crew members' responsibilities include the following:

- Being knowledgeable of and following provided instruction, training, and written safe work procedures
- Ensuring a detailed instruction manual for electrofishing equipment is available and that they are thoroughly familiar with the manual

- Reporting identified and/or observed hazardous conditions to the supervisor or employer

### **Written safe work procedures**

Written safe work procedures for electrofishing equipment should address the following areas of safety:

#### General factors

- Prior to commencing work, identify the crew leader and their responsibilities (e.g., safety, first aid, and equipment)
- The crew leader should ensure that all personal protective equipment is worn as required and that all personal clothing worn by crew members is appropriate for the task

#### Crew size

- An electrofishing team should typically be composed of either two or three people
- Written safe work procedures should clearly identify the crew size in each situation (e.g., backpacking, boat fishing, etc.) and the role of each crew member

#### Safe use of the equipment

- Prior to the equipment being taken into the field for use, a visual check of the equipment is to be done, paying particular attention to the generator, electrical control gear, and cable insulation
- Safe storage of the electrofishing equipment
- Procedures and circumstances in which electrofishing activity should cease (e.g., poor weather, faulty equipment, etc.)
- Refueling/recharging procedures
- Communication plan (among electrofishers) during use of the equipment
- Completion of an equipment log book to record use, inspections, troubles, and maintenance

#### Setup and security of work area at site

- Site assessment and crew briefing prior to starting electrofishing
- A clear system of working signals to ensure proper communication between team members
- Inspection of the work area and equipment prior to operating equipment
- Safe and appropriate use of equipment (e.g., fishing electrodes are not to be energized unless immersed in water)
- Established means of keeping other personnel, spectators, and animals clear of the hazard area (e.g., signs warning spectators that electrofishing is in progress and procedures for stopping work should animals or spectators approach too closely)
- Procedures and circumstances in which wading vs. boat-based electrofishing should take place, as well as procedures specific to each method

#### Maintenance of equipment

- Electrofishing equipment is to be properly maintained and checked regularly for mechanical and electrical faults
- The maintenance and checks are to be performed by qualified workers, and a record is to be kept
- Procedures for identifying and removing faulty equipment from service

#### Use of protective equipment and clothing, including

- Waders/Clothing (appropriate for conditions, non-conductive, leak-free, etc.)
- Footwear (rubber boots, studs on boots not penetrating soles to cause a shock hazard, etc.)
- Gloves that should be no less than 14" in length and have an electrical insulation rating of at least 5000 Volts
- Lifejackets when working from a boat or using chest waders

#### Emergency plan and written procedures addressing

- First aid procedures
- Action plans in case of accidents such as electric shock
- Transport of injured workers
- Emergency contact phone numbers