

Specialized Equipment



Technicians in the fisheries and oceans sector often use specialized equipment to do their jobs. To learn how to properly and, in some cases, to legally use this equipment, technicians may need to take a certification course and/or to have a licence. They may also require training that is not offered through an educational or technical institute.

Six specialized pieces of equipment used by fisheries or field technicians are described below along with the associated training courses or activities. Please review this information and answer the questions, if possible. Note that there is an open-ended question at the end to ask about other specialized equipment that you or your team may be using that requires specific training.

Counting Fence

This live trap fence is used in rivers to catch fish so it may be accurately counted before being released or transferred. A counting fence extends across the entire width of a waterway and may sometimes be V-shaped.¹



Fish Wheel (Salmon Wheel)

This water-powered device is similar to a watermill. It is used in rivers to catch and carry fish from the water into live holding tanks using the natural flow of the water to maintain a constant supply of oxygen to the fish. A fish wheel can be designed and modified to suit the location of operation.



Rotary Screw Trap (Smolt Wheel)

This passive sampling gear uses a drum cylinder or cone and a water screw to help capture and count fish moving downstream in rivers at various sampling locations. It may also be used to collect data, such as fish weight and measurement, and/or to tag fish for capture-mark-recapture research.



Training in Fish Inventory Techniques may help a technician learn how to use a counting fence, fish wheel or rotary screw trap. The placement, maintenance, use and repair of this equipment may also be learned through a knowledge transfer activity, such as in-field training or mentoring.

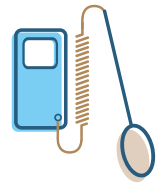
1. Does your AAROM Department, community or partner operate a counting fence, fish (salmon) wheel and/or rotary screw trap (smolt wheel)? Y / N

- If so, how were you (or your technicians) trained to use this equipment? Select from the following:
 - Did you take a course from an educational or training institute?
 - Did you learn from other members of your community?
 - Did a DFO scientist or another official from a federal, provincial or territorial government train you or your team to use it?
 - Other means, please explain:

¹ Adapted from: <https://www.louispage.com/blog/bid/13520/a-counting-fence-measures-fish-population>

Electrofisher

This device uses two electrodes to deliver a current at a set voltage through the water in order to create an electric field to which fish are attracted. When fish get close to the electrofisher, they are stunned for a few seconds or minutes, which gives the technical team of dip netters and sampling crew time to collect data related to fish health and abundance in the waterway.²



There are two types of electrofishing: backpack and boat. Both require safety procedures and practises to be followed by the operator, including successful completion of First Aid and Cardiopulmonary Resuscitation (CPR) courses. A Small Vessel Operator Proficiency licence and successful completion of a Marine Emergency Duties (A3) course may also be required.

Certification courses are used to train technicians to properly use and supervise the use of an electrofisher. These certifications must be renewed every five years. Fisheries and Oceans Canada also has an interim policy for its employees regarding the use of backpack electrofishers. The policy applies to anyone engaging in electrofishing on behalf of the Department or who may be sharing DFO's electrofishing equipment.

Drone

This unmanned aerial vehicle may be used by communities to monitor, map and protect resources on their territories, including waterways and oceans spaces. A drone may also be used to complete certain projects, such as marine planning or archaeological research.



A number of institutes offer training to help individuals learn how to set up and run a drone for various applications. But to operate a drone, a person must first have a valid drone pilot certificate (licence) from Transport Canada. To obtain a certificate, the pilot must register their drone with Transport Canada before it is flown for the first time, mark the drone with its registration number, and pass an exam. Proof of registration and the pilot certificate (printed or electronic) must then be carried by the pilot whenever they are operating the drone.

2. Has anyone (or more than one) on your team successfully completed a course or exam to operate an electrofisher and/or drone? Y / N

- If so, where did you (or your technicians) take the training? Please name the educational or technical institute

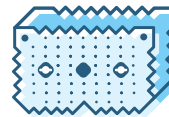
- How many persons in your community, AAROM Department or another group have completed a certified course to operate an electrofisher? _____ How many are licensed drone pilots? _____



² Adapted from: <https://www.fecpl.ca/what-is-electrofishing>

Jordan/Scotty Fish Egg Incubator

This incubator was developed to eliminate or minimize the majority of problems experienced during natural spawning by salmon, trout and walleye, such as fungus infection, silt suffocation and predation. Pilot testing of the fish egg incubator indicates survival rates from egg to fry is greater than 90% compared to natural spawning survival rates of between 5% and 20%.³



3. Does your AAROM Department, community or partner use Jordan/Scotty fish egg incubators? Y / N

- If so, how were you (or your technicians) trained to use this equipment? Select from the following:
 - Did you take a course from an educational or training institute?
 - Did you learn from other members of your community?
 - Did a DFO scientist or another official from a federal, provincial or territorial government train you or your team to use it?
 - Other means, please explain:

- Should fisheries and/or environmental field skills certificate programs include training on fish egg incubators? Y / N

Other Specialized Equipment

4. Do you or your staff use other types of equipment that require specific training? Y / N

Please share information with us about this equipment and training:

Equipment Type: _____

Training: _____

Equipment Type: _____

Training: _____

Equipment Type: _____

Training: _____

Your Input

Send your input to comms@indigenousfisheries.ca

³ Adapted from: <https://scotty.com/product/jordan-scotty-fish-egg-incubator>