

## **General Aquaculture Safety**

There are many hazards on aquaculture farms both in the finfish and shellfish industry. Some of these are more avoidable than others through proper training and others are uncontrollable. There are many injuries related to aquaculture due to a lot of the hard labor and repetitive movement some positions include. There are also injuries related to the risky environmental conditions that present themselves out on the water. In Canada workers, employers and other indirect groups like contractors, engineers and equipment designers have a responsibility to protect the health, safety and well being of themselves and the individuals working in the aquaculture industry.

All companies are required to inspect their sites whether they are in open water or land based operations for safety equipment and practices along with other regulatory standards. Employers are also responsible for the proper training of employees for proper use of equipment to prevent accidents as well as first aid training in the event there is an accident while on the job. This is especially important with many aquaculture sites in remote areas where immediate response teams may not be able to respond as quickly.

Risks of aquaculture jobs translate to the different types of operations like hatcheries, finfish cage sites and shellfish grow out.

### **Hatcheries**

A land based facility with either natural source water flowing through the building or recirculation water that is cleaned and reused. Fish or shellfish are reared to the age and condition where they can be put in open water sites for grow out. There are hazards including electrocution from pumps and heater/chillers, soft tissue injuries from lifting the different types of feed, slips and falls on wet surfaces, chemical exposure in the lab or from ozone water disinfection systems and other irritants with poor ventilation systems.

### **Open Water sites**

Cage sites for finfish and long line or suspended systems for different shellfish are moored and maintained in open water ocean sites. They all require boating to travel to sites for monitoring as well as set up and harvesting. There is also a risk to workers created by the weather where high waves can make the deck of any boat or aquaculture infrastructure pitch and roll with rough seas. This is obvious for man overboard situations as well as slip and fall injuries. There is always a risk of someone going over board so the proper floatation gear is required and those operating vessels must be well trained in the rules of the water ways. Much of the work on open water sites includes labor intensive activities which presents fatigue and soft tissue related injuries like lifting heavy feed and handling large fish at harvest. Employees are to be trained in navigation, boat safety, radio communication and basic survival swimming skills if they are going to be out on the water.

### **Processing**

All aquaculture products go through some type of processing after harvest. Plant workers are at risk for contact injuries and hearing loss with heavy equipment being operated, as well as the development of chronic conditions from repetitive motion and exposure to chemical and bad air quality conditions in poorly ventilated enclosed buildings. This environment is also wet most of the time so electrocution and slip and fall accidents are also a hazard. Much of the automated equipment can cause injury if someone comes in contact with the moving parts of a machine on a processing line as well as sharp flitting knives on sections of the line. Product is always being moved around during production with fork lifts, presenting a risk to workers in the vicinity. Proper training is essential to fork lift operators so they do not injure themselves or others by moving heaving loads improperly. There is also a risk of chemical exposure in a processing facility in the form of disinfectant during cleaning or chemicals added to products. Things like scales and sharp teeth or spines are also a risk to plant workers where they are handling many different species.

#### Miscellaneous

Where there is an aquaculture operation there is wharf activity to service the open water sites. Feed for finfish must be delivered by transport truck and then loaded onto vessels for delivery on cage sites, using fork lifts booms and winches with heavy loads. This proposes physical risk to people operating this equipment as well as pedestrian traffic on the wharf. With increased activity on a wharf the already present risk of falling into the water is also increased. All employees working on the wharf must have the appropriate safety equipment for land and water, and also keep pedestrians within safe distance.

