

Safety Section Marine Technology 2228

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General Safety Precautions

Aquaculture Sites

There are many hazards on aquaculture farms. One must always be diligent and aware of potential hazards. The following is from a presentation given by Halfyard (2001), of the Marine Institute, at a Small Boat and Farm Safety Workshop held in Head of Bay d'Espoir and Grand Falls-Windsor. It summarizes the major areas of concern associated with working on aquaculture farms.

In addition to the Small Boat and Farm Safety Workshop the student is directed to Spawn, Spat, and Sprains (Jerry Dzugan and Dan Falvey, 1998, Alaska Sea Grant). This book describes the dangers faced by shellfish farmers and salmon hatchery workers at the aquaculture worksite, and tells how to reduce the chance of injury. Marine safety experts wrote the manual in response to numerous requests from the industry. Chapters include physical and chemical hazards, proper lifting techniques, airplane and boat safety, basic first aid, electrical hazards, fire fighting, cold water survival, and coping with bears.

Why We Need to Promote Safety on Aquaculture Farms

- To reduce incidences of injury and / or death.
- To reduce losses/cost (e.g. equipment failures, escaping fish, lost lines).
- To increase awareness/knowledge of safety procedures/issues.
- To receive certification approved by Canadian Coast Guard.

Life Safety Devices

Knowledge of life safety devices for general, fishery, aquaculture, offshore petroleum and marine transportation activities and occupations is an essential requirement. Please refer to the following websites to explore information about PFDs, life jackets, other flotation devices, etc.

Websites: <http://www.redcross.ca/article.asp?id=015198&tid=024>

Question / Activity:

When are different types of flotation devices required?

Conduct an audit or check of life safety devices on a vessel in your region (e.g. types of equipment needed and present, inspection or expiry dates).

General Safety Precautions

Safety Representative

- Each site
- Daily and monthly safety reports completed
- Any problems addressed

Internal Inspections

- Inspection of level of safety.
- Warnings issued to non-complying worker/farmer.

Farm Safety Audit

- Code of Practice Daily Checklist
- Safety Inspection Sheet
- Post Storm Inspection Report
- How Does Safety Rate on Your Farm

Common Aquaculture Farm Safety Measures

- Life jackets essential in all boats when alone.
- Life jackets or PFDs can be worn if more than one person on the boat.
- Emergency procedures learned and practised.
- Emergency procedures posted on all sites for all occasions.
- Proper use of fire extinguishers taught.
- Fire drills held; location of fire extinguishers learned.
- Body protection worn in designated areas.

Mandatory Life Saving Courses

- Offered to all new employees.
- First Aid
- Oxygen Provider

Other Recommended Courses

- Transport of Dangerous Goods
- WHIMIS
- Forklift Operators
- Boat Safety Ticket
- Ergonomics
- Firearms Acquisition Certificate

Workplace Hazards: Physical

- Noise (hearing loss, warning shouts)
- Tools and machinery
- Dehydration
- Preventing falls
- Sleep deprivation

Sleep And Fatigue Recommendations

- Allow 15 min to fully awake before starting task.
- Mental tasks best performed in the morning; physical in the afternoon.
- Rotate jobs to reduce boredom.
- Music, fresh smells, tasty drinks, etc. provide stimulation.
- Keep an eye out for others, especially when working in hazardous areas.
- Schedule break times so that workers can pace themselves.
- Stimulants such as caffeine only effective in the short term.
- Use full spectrum lights.
- Encourage a positive work environment and teamwork.
- Eat regular and nutritious meals.
- If you have to work around the clock, six-hour shifts are more effective than four-hour shifts.
 - If only a few hours of sleep are possible, sleep between 2 and 4 am in a spot where you won't be disturbed.

Workplace Hazards: Chemical

- Anaesthetics
- Antibiotics
- Vaccines
- Fungicides and Pesticides
- Cleaning Agents / Disinfectants
- Herbicides
- Piscicides
- Hormones
- Water Treatment
- Gases

Workplace Hazards: Personal Protective Equipment

- Clothing
- Gloves
- Eye Protection
- Respirators
- Hearing Protection

Ergonomics

- Fall prevention
- Appropriate use of back braces
- Proper lifting procedures
- An exercise program
- Ergonomically designed tools
- Appropriate gloves
- Work tables at the correct height
- Facilities that are ergonomically designed
- Proper nutrition
- Adequate sleep
- A work rotation schedule which includes rest periods for repetitive jobs
- Keeping body weight within acceptable ranges
- Proper attitude

Injuries From Fish

- Wear protective gloves
- Wash hands regularly
- Replace waterproof gloves when worn; keep dry
- Disinfect cuts immediately
- Infection (Fish Poisoning)
- Jellyfish stings
- Paralytic Shellfish Poisoning (PSP), etc.

Electrical Hazards on the Water

- Electrical Shock
- Fire
- Fire and Shock Prevention
- Safe Electrical Systems

Processing Plants

- Forklifts and trucks
- Slippery floors
- Equipment (moving parts)
- Steam pipes
- Cookers
- Knives
- Allergic reactions, particularly to crustaceans

High Pressure Cylinder Safety

- 'The Sleeping Giant' (following section)
- Safe handling and use guidelines

The Sleeping Giant

I am a high pressure, compressed cylinder.

I stand 57 inches tall.

I am 9 inches in diameter.

I weigh in at 155 pounds when filled.

I am pressurized at 2200 pounds per square inch (psi).

I have a wall thickness of 1/4 inch.

I wear a regulator and hose at work.

I wear a label to identify the gas I am holding. My colour is not the answer.

I transform miscellaneous stacks of materials into glistening ships and many other things when properly used.

I transform glistening shops and many other things into miscellaneous stacks of material - when allowed to unleash my fury unchecked.

I can be ruthless and deadly in the hands of the careless and uninformed.

I am too frequently left standing alone on my small base without other visible means of support - my cap removed by an unthinking worker.

I am ready to be toppled over - when my naked valve can be damaged or even snapped off - and all my power unleashed through an opening no larger than a lead pencil.

I am still proud of my capabilities - here are a few of them.

... I have on rare occasions been known to jet away - faster than any dragster.

... I might smash my way through the air.

... I may spin, ricochet, crash and slash through anything in my path.

You can be my master, but only under these terms.

... Full...Never or empty - see to it that my cap is on, straight and snug.

... repeat - never leave me standing alone. Secure me so that I cannot fall.

Union Carbide Corporation

Question / Activity:

Get the students to perform a general safety audit of their school, home or some community business. Students should create a checklist (prepare form on computer) before commencing the audit.