

# **PACIFIC REGION**

# **EXPLORATORY**

# **FISHERY GUIDELINES**

## **OCTOPUS BY DIVE**

**AUGUST 1, 2011 TO**  
**JULY 31, 2012**



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

**Canada**

*This Exploratory Harvest Guideline is intended for general purposes only. Where there is a discrepancy between the Plan and the Fisheries Act and Regulations, the Act and Regulations are the final authority. A description of Areas and Subareas referenced in this Plan can be found in the Pacific Fishery Management Area Regulations.*

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## 1. CONTACTS

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**1-800-465-4336**

Fisheries Information and Shellfish Contamination Closure Update (24 Hours) (866) 431-3474  
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### **Resource Management**

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### **WorkSafeBC**

Occupational Safety Officer, Victoria

Occupational Safety Officer, Terrace

Mike Ross (250) 881-3419

Shane Neifer (250) 615-6640

## 2. FISHERIES AND OCEANS CANADA INTERNET SITES

Pacific Region home page:

<http://www.pac.dfo-mpo.gc.ca/>

Octopus page:

<http://www.pac.dfo-mpo.gc.ca/fm-gp/commercial/shellfish-mollusques/octopus-poulpe/index-eng.htm>

Centre for Scientific Advice, Pacific (CSAP) – formerly Pacific Science Advice Review Committee (PSARC):

[www.pac.dfo-mpo.gc.ca/sci/advice\\_e.htm](http://www.pac.dfo-mpo.gc.ca/sci/advice_e.htm)

Links to Acts, Regulations, and Pacific Fishery Management Area definitions:

[www.pac.dfo-mpo.gc.ca/ops/fm/toppages/actreg\\_e.htm](http://www.pac.dfo-mpo.gc.ca/ops/fm/toppages/actreg_e.htm)

Pacific Fishery Management Area and Subarea maps:

[www.pac.dfo-mpo.gc.ca/ops/fm/Areas/areamap\\_e.htm](http://www.pac.dfo-mpo.gc.ca/ops/fm/Areas/areamap_e.htm)

## 3. GLOSSARY

|   |  |
|---|--|
| Area                                    | Defined in Section 2 of the Pacific Fishery Management Area Regulations available through the internet at:<br><a href="http://laws.justice.gc.ca/en/F-14/SOR-2007-77">http://laws.justice.gc.ca/en/F-14/SOR-2007-77</a>      |
| CSAP                                    | Centre for Scientific Advice – Pacific (replaces PSARC)  |
| environmentally benign harvest irritant | A substance that when introduced into an octopus den by a harvester will cause sufficient irritation to the octopus to encouraged it to exit the den and will not cause detrimental environmental effects.                   |
| Invertebrate                            | An animal without a backbone   |
| PSARC                                   | Pacific Scientific Advice Review Committee (replaced by CSAP)  |
| Stakeholder                             | People with an interest in the fisheries resources, such as recreational and commercial harvesters, processors, and non-consumptive users.   |
| Stock Assessment                        | Analyses of fisheries and research data used to estimate stock abundance and health, or evaluate the effects of fishing on a stock or population and predict the reactions of populations to alternative management choices. |
| Subarea                                 | Defined in Section 2 of the Pacific Fishery Management Area Regulations available through the internet at:<br><a href="http://laws.justice.gc.ca/en/F-14/SOR-2007-77">http://laws.justice.gc.ca/en/F-14/SOR-2007-77</a>      |

## 4. GOALS AND OBJECTIVES

- To develop and establish Precautionary Approach compliant reference points and harvest control rules for octopus.
- To develop a consultative process for the octopus by dive fishery.

## 5. BACKGROUND

### 5.1. Biology

The giant pacific octopus (*Enteroctopus dofleini* (Wulker, 1910)) is a large cephalopod mollusc distributed along the rocky areas of the pacific coast from the intertidal zone to depths of over 100 m. Adult and juvenile octopuses establish dens in caves, rocks, or soft shell substrates. They are primarily nocturnal predators that feed on crabs, a variety of molluscs and small fish. Females brood their eggs on the ceiling of their dens. The young are planktonic and remain in the water column until they are 50 mm in length, at which point they descend to the bottom. An octopus will mature in about 2-3 years, at a size of 12 kg for males and 20 kg for females. They may grow to 9 m in length, measured from tip of tentacle to tip of tentacle.

### 5.2. Commercial Harvest

Commercial fisheries for octopus in the Pacific Region have included the trap and dive fisheries, as well as a limited by-catch permitted in some trawl fisheries. The trap and dive fisheries were licensed under the same category “Z-J” licence until 1992, when the licences were separated into category “Z-P” for the trap fishery and category “Z-G” for the dive fishery. This allowed separation of the catch data according to gear type and development of a more meaningful catch database. Most trap caught octopus were reported as incidental catch in directed crab and prawn by trap fisheries.

In November 1999, the Minister of Fisheries and Oceans Canada announced management and licensing changes to the octopus fisheries in response to the need for a more precautionary and phased approach to developing this fishery. The phased approach as described by Perry *et al.*, 1999 outlines a framework for providing scientific advice in the development of new or data limited fisheries. Following this approach, information that will lead to a biologically based management plan is collected through an experimental approach to the fishery.

Commercial octopus by dive (“Z-G”) licences were not issued in 2000 and an experimental fishery began under the authority of a personal, vessel-based scientific licence. This change gave the Department more flexibility to address conservation concerns by adopting a collaborative approach with octopus harvesters to collect more detailed biological data with respect to octopus. Scientific licences were available to those harvesters who meet the criteria outlined in Section 9.3.

Since August 2007, because of concerns about using scientific licences for this fishery, the Department has licensed the octopus by dive harvest using a non-transferable exploratory fishing licence. Beginning in early 2009, the Department started

consultations with all stakeholders to discuss the possibility of converting to commercial licenses. The consultation is ongoing. For the 2011/12 season, the Department will continue to licence the octopus by dive fishery with a non-transferable exploratory licence.

In the dive fishery, octopus are harvested by SCUBA divers who swim along rocky shelves, reefs or the ocean floor in search of dens. Certain dens are “good producers” and may contain an octopus every time a diver visits. When an octopus is discovered in a den, the diver drives it out using an irritating substance (see Section 10.4) and captures it in a net or bag. Harvesters are not permitted to use deleterious substances as an irritant and are not permitted to use sharp implements to harvest octopus.

The octopus by dive fishery occurs primarily in South Coast areas, with the majority of octopus landed on the East Coast of Vancouver Island from Port Hardy to Sooke (Areas 12 to 20). Reported landings of octopus by divers from areas on the West Coast of Vancouver Island have been relatively minor and were primarily from Area 24. There have been minor landings of octopus by divers from North Coast areas.

The reported annual landings of octopus from BC fisheries have fluctuated widely. Prior to 1987, octopus landings averaged less than 22 tonnes annually, but increased noticeably between 1988 and 1990 to approximately 200 tonnes in response to demands for octopus for use as bait in the halibut fishery. With the introduction of individual vessel quotas in the halibut fishery in 1991, the demand for octopus for bait declined as halibut harvesters began to use other bait products. Since 1996, there has been some interest in the octopus fishery for food products. Octopus landings by all gear types reached record levels of 217 tonnes in 1997 (118 tonnes from the dive fishery and 99 tonnes from the trap and trawl fisheries). Recent reported landings from the dive fishery indicate that landings have been decreasing annually since 2002.

### **5.3. First Nations Food, Social and Ceremonial Harvest**

There are no records of First Nations’ use of octopus. The Department recognises that information regarding use of octopus for food, social and ceremonial purposes may be incomplete. First Nations are invited to provide additional information on this topic.

### **5.4. Recreational Fishing**

Recreational fisheries for octopus remain open throughout the year. The effort in the recreational fishery for octopus is thought to be low. The daily sport catch limit for octopus is one. The maximum possession limit is two.

## **6. MANAGEMENT AND ASSESSMENT SUMMARY**

- 6.1. The 2011/12 licence will be in effect from August 1, 2011 to July 31, 2012. The fishery will be authorized under an exploratory licence.
- 6.2. Harvesters who meet the licensing eligibility criteria are required to select annually one licence area in which to fish: East Coast Vancouver Island, West Coast Vancouver Island, or North Coast. (see Section 9.4)

- 6.3. Prior to being issued a licence for 2011/12, applicants must ensure that a report has been submitted to the Department summarizing the use and effectiveness of the environmentally benign irritant(s) tested. Most harvesters will have completed this report prior to the previous fishing season. (see Section 10.4)
- 6.4. The Department is working in cooperation with the WorkSafeBC during the season to ensure that diver safety regulations are followed in this fishery. (see Section 12)
- 6.5. All persons onboard the vessel during harvesting activities are required to carry photo identification. (see Section 9.5)

## 7. OPEN TIMES AND HARVEST AREAS

The 2011/12 exploratory fishery will open August 1, 2011 and close July 31, 2012. All Pacific Fisheries Management Subareas are **closed** by regulation from January 1 to December 31 unless varied open by Variation Order. Harvesting opportunities for the octopus by dive fishery is authorized under the exploratory non-transferable licence. Harvesters are reminded to note closure areas listed in the appendix of their licence and listed in this harvest plan.

General information regarding open areas is available from the Resource Managers (see Section 1).

### 7.1. Open Areas

With the exception of permanent and seasonal closures listed in Section 8, the following Areas will be open for the harvest of octopus by dive:

- a) Licence Area A - East Coast Vancouver Island licence: Areas 11 to 20 and Subarea 29-5
- b) Licence Area B - West Coast Vancouver Island licence: Areas 21 to 27
- c) Licence Area C - North Coast licence: Areas 1 to 10.

## 8. CLOSURES

### 8.1. Permanent and Seasonal Area Closures

Additional area closures may be implemented in-season in order to conserve vulnerable stocks or to address First Nations' food, social and ceremonial requirements. Harvesters will be notified of in-season changes by means of DFO fisheries notice. Harvesters are advised to contact the local Fisheries and Oceans Canada office before commencing fishing a given area.

#### 8.1.1. Area 2

8.1.1.1. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Burnaby Narrows**: Those waters of Subareas 2-13 and 2-16 inside a line commencing at 52°23.071' N and 131°20.427' W, east to a point at 52°23.079' N and 131°22.790' W, then following the southern shoreline of Kat Island east to a point at 52°23.104' N and 131°22.193' W, then east to a point at 52°23.303' N and 131°22.277' W, then following the western shoreline

8.1.1.2. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Louscoone Estuary**: Those waters of Subareas 2-33 and 2-34 north of a line drawn from 52°11.828' N and 131°15.662' W east to 52°12.269' N and 131°14.579' W. (National Marine Conservation Area).

Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Flamingo Estuary**: Those waters of Subarea 2-37 north of a line drawn from 52°14.523' N and 131°22.24' W southeast to 52°14.245' N and 131°21.481' W. (National Marine Conservation Area).

8.1.1.3. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Gowgaia Estuary**: Those waters of Subarea 2-41 east of a line drawn from 52°24.947' N and 131°32.13' W southeast to 52°24.233' N and 131°32.021' W. (National Marine Conservation Area).

8.1.1.4. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **Cape Saint James**: Those waters of Subareas 2-19, 102-3, 130-3 and 142-1 inside a line commencing at 51°56.509' N and 131°01.547' W, southwest to a point at 51°55.499' N and 131°02.468' W, then southeast to a point at 51°52.493' N and 130°57.907' W, then south to a point at 51°51.655' N and 130°57.780' W, then southeast to a point at 51°50.395' N and 130°56.561' W, then northeast to a point at 51°51.054' N and 130°54.702' W, then north to a point at 51°53.826' N and 130°55.640' W, then northwest to a point at 51°58.517' N and 130°59.468' W, then west to a point at 51°58.727' N and 131°00.620' W then west following the southern shoreline of Kungit Island back to the point of commencement. (National Marine Conservation Area).

8.1.1.5. Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, **SGang Gwaay**: Those waters of Subareas 2-31 and 142-1 inside a 3 km radius from the centre point on Anthony Island located at 52°05.655' N and 131°13.178' W. (National Marine Conservation Area).

## 8.1.2. Area 6

8.1.2.1. Subarea 6-2 (First Nations access for food, social and ceremonial purposes)

## 8.1.3. Area 13

8.1.3.1. Wilby Shoals: A seasonal closure at Wilby Shoals, Campbell River, Subarea 13-1 will be in effect over the spawning period January 1 to February 28 of any given year and November 1 to December 31 of any given year. (Reproductive Period Closure)

8.1.3.2. Discovery Passage: Subareas 13-3, 13-4, 13-5 and a portion of 13-6. Those waters of Discovery Passage bounded on the north by a straight line drawn true west from North Bluff on Quadra Island, across Seymour Narrows to a fishing boundary sign on Vancouver Island, and on the south by a line from the Cape Mudge light true west to Vancouver Island. (Marine Reserve and Research Closure)

8.1.3.3. Mitlenatch Island: (As described in Area 15 Closures.)



#### **8.1.4. Area 14**

8.1.4.1. Hornby Island: Those waters of Lambert Channel and the Strait of Georgia, Subarea 14-7, inside a line commencing at Shingle Spit on Hornby Island, thence 239° true for 0.5 nautical miles, thence 126° true for 3.5 nautical miles, thence 64° true for 4.9 nautical miles, thence 304° true for 2.9 nautical miles, thence 213° true for 0.5 nautical miles to Cape Gurney on Hornby Island. (Marine Reserve)

8.1.4.2. Mitlenatch Island: (As described in Area 15 Closures.)

#### **8.1.5. Area 15**

8.1.5.1. Vivian Island: Those waters of Subarea 15-2 within 0.5 nautical miles of Vivian Island, located approximately 5.0 nautical miles west of Powell River. (Marine Reserve)

8.1.5.2. Rebecca Rock: Those waters of Subarea 15-2 within 0.25 nautical miles of Rebecca Rock, located 2.5 nautical miles west of Powell River. (Marine Reserve)

8.1.5.3. Dinner Rock: Those waters of Subarea 15-2 within 0.25 nautical miles of Dinner Rock, located 2.5 nautical miles south of Lund. (Marine Reserve)

8.1.5.4. Emmonds Beach: Those waters of Subarea 15-2 within 0.5 nautical miles of the unnamed reef off Emmonds Beach, located approximately 4.0 nautical miles south of Lund. (Marine Reserve)

8.1.5.5. Mitlenatch Island: Those waters of Subareas 13-1, 13-3, 14-13, and 15-2 within 1.0 nautical mile of Mitlenatch Island, located in the upper Strait of Georgia. (Marine Reserve)

8.1.5.6. Beach Gardens: Those waters of Subarea 15-2 within a 0.25 nautical mile radius of the southerly end of the Beach Gardens breakwater. (Marine Reserve)

#### **8.1.6. Area 16**

8.1.6.1. Skookumchuck Narrows Provincial Park: Those waters of Skookumchuck Narrows and Sechelt Rapids in Subarea 16-9 bounded on the west by a line from a point on the foreshore at the westerly limit of Secret Bay on Sechelt Peninsula thence 50° true to a point on the foreshore on the mainland; and the east by a line from Raland Point on Sechelt Peninsula, thence 50° true to a point on the foreshore on the mainland. (Park)

#### **8.1.7. Area 17**

8.1.7.1. Saskatchewan and Cape Breton artificial reefs: Those waters of Subarea 17-12 within 100m of the marker buoys at the artificial reef 'Saskatchewan' on the east coast of Snake Island and within 100m of the marker buoys at the artificial reef 'Cape Breton'. (Marine Reserve)

#### **8.1.8. Area 19**

8.1.8.1. Mackenzie artificial reef: Those waters of Subarea 19-5 within 100m of the marker buoys at the artificial reef 'Mackenzie', near Rum Island. (Marine Reserve)

8.1.8.2. Ogden Point: Those waters of Subarea 19-3 inside a line from the navigation light at the western end of the Ogden Point Causeway thence to Brotchie Ledge Light, thence to Holland Point on Vancouver Island. (Marine Reserve)

8.1.8.3. Race Rocks: Those waters of Subareas 19-3 and 20-5 within 0.5 nautical miles of Great Race Rocks. (Marine Reserve)

8.1.8.4. 10 Mile Point: Those waters of Subareas 19-4 and 19-5 within 0.4 nautical miles of Cadboro Point navigation light. (Marine Reserve)

8.1.8.5. Saanich Inlet: Subareas 19-7 to 19-12 inclusive. (Sport and First Nations access for food, social and ceremonial purposes)

#### **8.1.9. Area 20**

8.1.9.1. Race Rocks: Those waters of Subareas 19-3 and 20-5 within 0.5 nautical miles of Great Race Rocks. (Marine Reserve)

8.1.9.2. Botanical Beach Provincial Park: That portion of Subarea 20-3 between the lowest low water on record and the highest high water on record from San Juan Point thence following the Vancouver Island shoreline easterly to the mouth of Tom Baird Creek. (Marine Reserve)

#### **8.1.10. Area 21**

8.1.10.1. Pacific Rim National Park: That portion of Area 21 between the lowest low water on record and the highest high water on record from Pachena Point thence following the Vancouver Island shoreline easterly to Bonilla Point. (Park)

#### **8.1.11. Area 23**

8.1.11.1. Pacific Rim National Park, Broken Group Islands: Those waters of the Broken Group Islands in Barkley Sound within park boundaries as shown, since 1989, on Canadian Hydrographic Service Chart 3671. (Park)

8.1.11.2. Bamfield Marine Station Research Area Closure: Those waters of Pacific Fishery Management Subareas 23-4, 23-6 and 23-7 bounded by a line commencing at the light at Whittlestone Point and running directly to the southern tip of Haines Island; from the northwestern tip of Haines Island to the southern tip of Seppings Island; from the northwestern tip of Seppings Island to Kirby Point on Diana Island; from Kirby Point directly to the northwest tip of Fry Island; from the northwestern tip of Fry Island to the nearest adjacent point on Tzartus Island; from Foucault Bluff on Tzartus Island to the northwest tip of Nanat Island; from the eastern tip of Nanat Island to the nearest adjacent point on Vancouver Island and thence along the coastline of Vancouver Island to the point of commencement. (Research Area)

8.1.11.3. Pacific Rim National Park: That portion of Subareas 23-7, 123-3 and 123-1 between the lowest low water on record and the highest high water on record commencing at Whittlestone Point in 23-7 south to Pachena Pt. in 123-1. (Park)

#### **8.1.12. Area 24**

8.1.12.1. Pacific Rim National Park, Grice Bay & McBey Islets: The waters of Tofino Inlet within Pacific Rim National Park including McBey Islets and Dinner Island in Tsapee Narrows, Browning Passage in Subarea 24-9 and Grice Bay west and south of Indian Island in Subarea 24-11. (Park)

#### **8.1.13. Area 26**

8.1.13.1. Checleset Bay Fishery Closure Area: Those portions of Areas 26 and 126 enclosed by a line drawn from a point on the Brooks Peninsula (at 127°49.58' W long., 50°05.18' N lat.), thence due south to the 50° parallel, thence due east to Alert Point on Lookout Island, thence northeasterly to a point on Vancouver Island near McLean Island (at 127°25.03' W long.,

°02.1' N lat.), thence northwesterly along the shore of Vancouver Island to Malksope Point (at 127°28.95' W long., 50°05.53' N lat.), thence due west to a point midchannel on the southeast end of Gay Passage (at 127°30.1' W long., 50°05.53' N lat.), thence midchannel through Gay Passage to a point midchannel on the northwest end of Gay Passage (at 127°31.8' W long., 50°06.7' N lat.), thence northwesterly to the shore of Vancouver Island, just west of Theodore Point (at 127°32.8' W long., 50°07.7' N lat.), thence westerly along the Vancouver Island shore to an unnamed point on the east side of Nasparti Inlet (at 127°38.6' W long., 50°08.75' N lat.), thence westerly across Nasparti Inlet to an unnamed point on Vancouver Island (at 127°37.8' W long., 50°08.7' N lat.), thence along the Vancouver Island shore to the point of commencement.) (Sea Otter Reserve)

8.1.13.2. Kyuquot Sound Marine Communities Study Area: consisting of: Kyuquot Bay: A portion of 26-6 inside or northerly of a line from White Cliff Head to Racoon Point and Entrance to Crowther Channel: A portion of 26-6 on the west side of Union Island commencing at position 50° 0.4' N, 127° 19.3' W. (Sea Otter Research Closures)

## **8.2. Refugia**

Refugia (no harvest areas) for octopus will be selected in consultation with stakeholders and in conjunction with current initiatives under the *Oceans Act*. No octopus fishing or retention will be permitted within these refugia.

## **9. LICENSING REQUIREMENTS**

### **9.1. Licence Category**

A non-transferable, exploratory Octopus by Dive licence will be in effect for the fishing season. Licence eligibility holders may not transfer eligibility for this licence.

Applications must be completed and submitted to the Department by July 31 of each year whether or not it is fished. Harvesters who do not apply for the licence may lose future eligibility for this fishery.

Prior to annual licence issue, licence eligibility holder(s) must:

- a) Ensure any Ministerial conditions placed on the licence eligibility are met. Ensure any conditions of the previous year's licence such as completion and submission of logbooks are met and accepted.
- b) Designate a registered commercial fishing vessel eligible for a commercial or communal commercial licence for salmon, schedule II, sablefish, halibut, crab, shrimp, prawn, geoduck, or groundfish trawl. Only one licence may be may be designated for each vessel.

Fisheries and Oceans Canada reserves the right to implement vessel length restrictions at a future date.

### **9.2. Time Frame**

The licence period will run from August 1, 2011 to July 31, 2012.

### **9.3. Licence Eligibility**

Licence eligibilities are issued to past participants in the octopus dive fishery who have had a history of substantial landings. Following consultation with commercial harvesters of octopus, a landing history of at least 10,000 lbs. between January 1, 1993 and October 14, 1997 was set as the requirement to be eligible for participation in the experimental fishery.

As a condition of licence each licence holder is required to submit timely and accurate biological harvest logs. In order to be eligible for re-licensing, applicants must demonstrate that these conditions of licence have been met.

### **9.4. Area Licensing**

Licence holders in the exploratory fishery must select annually one of the following areas in which they will fish and to which their exploratory licence will apply:

- a) Area A: East Coast Vancouver Island (Areas 11 – 20 and Subarea 29-5)
- b) Area B: West Coast Vancouver Island (Areas 21 - 27)
- c) Area C: North Coast (Areas 1 - 10)

### **9.5. Photo Identification**

All persons onboard the fishing vessel during harvesting activities must carry photo identification.

### **9.6. Seafood Harvesting Diving Certificate**

All divers shall be in possession of a Workers' Compensation Board of BC (WCB) Seafood Harvesting Diving Certificate or have completed training that meets the minimum requirements of CSA Standard Z275.4-97, Competency Standard for Diving Operations, or other standards acceptable to the Board.

## **10. CONTROL AND MONITORING OF HARVEST ACTIVITIES**

### **10.1. Gear**

Hand collection by divers. Hooks, gaffs, spears or sharp pointed instruments may not be used. Only approved environmentally benign harvest irritants may be used to harvest octopus.

### **10.2. Size limit**

For harvest under the authority of the exploratory licence, the minimum size limit for octopus is 2 kg.

### **10.3. Minimum Harvest Depth**

All harvesting of octopus must be conducted from seabeds deeper than 10 feet below chart datum (i.e. deeper than 10 feet at the lowest low tide).

#### 10.4. “Environmentally Benign” Irritants

Prior to 2000, the use of chlorine bleach as an irritant was common practice. As chlorine bleach is a deleterious substance, alternatives needed to be found to continue with the fishery. As a pre-condition to issuing an exploratory licence, harvesters were required to provide a declaration that they would not use chlorine bleach or chlorine bleach derivatives as a tool for harvesting. Further, licence applicants were required to provide a list of alternative products that would be tested or used under the authority of the exploratory licence.

Through experimental harvesting activities in 2000 and 2001 hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) has been found to be the most successful product to date. H<sub>2</sub>O<sub>2</sub> was tested by Environment Canada as a suitable alternative to chlorine bleach and was found to be unlikely to have an acute adverse effect on marine macro-organisms when used as a harvest irritant in the octopus dive fishery.

The products that are considered deleterious, and cannot be used as a harvest irritant in the octopus fishery, include (but are not limited to); chlorine bleach and bleach derivatives, ammonia, iodine, nitrogen fertilizer, chlorine dioxide and copper sulphate (blue stone).

Harvesters are advised that the introduction of deleterious substances, including chlorine bleach and chlorine bleach derivatives, to the marine environment is in contravention of the *Fisheries Act*.

**Harvesters are further advised that the WCB requires that the vessel master provide the crew with training and knowledge of the hazards of any chemicals in use. This includes the Personal Protective Equipment required and clean up procedures for chemicals. Please refer to the WCB Occupational Health and Safety Regulations. For further information call (800) 663-3871.**

#### 10.5. Oral Reports

##### 10.5.1. Notification Prior to Commencement of Fishing

The local Fisheries and Oceans Canada office must be notified prior to commencement of fishing and each month thereafter, or if changing areas. Notification shall occur during normal business hours.

#### 10.6. Processing at Sea

Octopus may not be processed on any vessel except the catcher vessel in accordance with Section 23 of the *Pacific Fishery Regulations, 1993*. This section states that no person shall use a vessel to process fish unless the vessel is registered and a Category “P” licence has been issued in respect of the vessel. This does not apply in respect of washing, eviscerating, icing, or freezing fish, other than bivalve molluscs, on board the vessel that was used to catch the fish.

## **10.7. Biological Data Collection**

Biological data, which includes the sex and maturity stage, must be collected for each octopus harvested on each dive. The sex and maturity stages of the octopus are to be determined according to the description below and the diagrams located in Appendix 1.

### **10.7.1. Sex Determination**

The sex of an octopus can be determined externally by examining the tip of the third right arm for a hectocotylus (a modification of the arm for transferring sperm to the female). The male arm lacks suckers for the final fifth of the arm length. In the female, the arm has the normal complement of suckers along its entire length.

If the third right arm is missing or damaged, sex must be determined internally. The male has a single reproductive tract, consisting of testes, spermatheca (Needham's sac) and a series of ducts and glands. The female reproductive system consists of a single ovary and paired reproductive ducts.

### **10.7.2. Maturity Stage**

Maturity is determined internally for both sexes, and is a combination of size of the gonad and other traits. Immature animals have relatively small gonads, and poorly developed reproductive ducts and glands. Maturing males have larger testes, and the reproductive ducts are increased in size and become translucent. Mature males have spermathecae in the spermatheca and often one in place at the end of the reproductive tract. Maturing females have larger ovaries that are yellowish or orange in colour. Mature females have very large ovaries, with the outer membrane stretched and transparent.

The data collected in harvest logs will be used to determine catch per unit effort (CPUE), mean size, sex ratios, and seasonal and geographic distribution. This information will be used to develop assessment and management frameworks and limit reference points for the octopus dive fishery. New management strategies may be recommended as a result of the biological data collected. These will be developed in consultation with stakeholders.

While undertaking harvest activities under the authority of the exploratory licence, observer coverage may be required by the Department to verify that dive information and biological data collection is reported or undertaken correctly or to otherwise observe harvesting and irritant-testing operations.

Directed studies (e.g. tagging, growth rate studies) may also be initiated in co-operation with licence holders and the representative association.

## **10.8. Catch and Fishing Data**

### **10.8.1. Harvest Logs**

Harvest log information collected for each dive, includes location of harvest, dive time, depth, piece count, catch weight and number of brooding females. Brooding females are protecting eggs hanging from the ceiling of their dens. Though the Department has not specifically prohibited the harvesting of brooding females, harvesters are requested to not disturb octopus with eggs, while recording their numbers for each dive.

The licence holder is responsible for the provision and maintenance of an accurate record, a “log” of daily harvest operations. This log must be completed and a copy submitted in both hard copy (paper) and electronic form in an approved format as defined by Fisheries and Oceans Canada Marine Ecosystems and Aquaculture Division’s Shellfish Data Unit.

The licence holder is also responsible for reporting latitude/longitude on harvest logs in the ‘location’ field. For those vessels not equipped with the appropriate electronic instruments, harvest location co-ordinates must be read from a marine chart and entered in the harvest log.

Logbooks meeting Fisheries and Oceans Canada requirements are available from third party service providers that, for a fee, will provide the logbook coding and keypunch service, thus complying with the requirements for a hard (paper), an electronic copy, and location information.

The original white page copy of the log and the electronic copy must be forwarded within **28 days following the end of each month in which fishing occurred**. In the event no fishing has occurred, a “**nil**” report (a page from the harvest log signed by the licence holder, identifying the vessel, licence tab number, and month, with ‘nil’ entered in the body of the log in place of catch information) shall be sent within 28 days following the end of each month to indicate that no fishing occurred. Harvest log information must be sent to:

Fisheries and Oceans Canada  
Shellfish Data Unit  
Pacific Biological Station  
Hammond Bay Road  
Nanaimo, B.C. V9T 6N7

Tel: (250) 756-7022 or (250) 756-7306

As an alternative to harvest log provision through a service provider, the licence holder may provide a hard copy log in the same form and providing the same particulars as shown in the fishing log sample attached hereto (see Conditions of Licence). The licence holder must also provide an electronic copy, which is required to be a true and accurate transcription of the hard copy data, delivered on a Windows compatible mini CD or other Shellfish Data Unit approved media. Mini CD’s will remain the property of Fisheries and Oceans Canada. The electronic copy must be either:

- a) an ASCII text file in the data format specified by the Fisheries and Oceans Canada Shellfish Data Unit, or
- b) the equivalent information in a database table of approved design created by any of the following database management tools: Access XP (or earlier version), FoxPro, Paradox or dBase III or IV.

Contact the Shellfish Data Unit at the above address to obtain the full requirements and acceptable data formats for supplying harvest log and electronic data in a format which meets the Conditions of Licence. The hard copy of the harvest logs, as well as the completed electronic copy must be forwarded within 28 days following the end of each month in which fishing occurred. This information must be sent to the above address.

**Catch information must be recorded in the harvest log by midnight of the day of fishing.** The logbook must be kept aboard the licensed vessel. Logbooks must be produced for examination on demand of a fishery officer, guardian, or a fishery observer designated under the *Fisheries Act*.

**FISHERIES AND OCEANS CANADA WISHES TO REMIND HARVESTERS THAT HARVEST LOGS MUST BE COMPLETED ACCURATELY DURING FISHING OPERATIONS AND SUBMITTED TO THE DEPARTMENT IN ACCORDANCE WITH THE TIMING SET OUT IN CONDITIONS OF LICENCE. DELAY OF COMPLETION OR SUBMISSION OF LOGS IS A VIOLATION OF A CONDITION OF LICENCE.**

To be eligible for licence renewal, all catch information, including harvest logs and ‘fish slips’, must be in full compliance with the conditions of licence.

### **10.8.2. Confidentiality of Harvest Data**

Harvest data, including fishing location data supplied through latitude/longitude coordinates, loran or chart records, collected under the Harvest Logbooks for Shellfish Fisheries programs, are collected for use by Fisheries and Oceans Canada in the proper assessment, management and control of the fisheries. Upon receipt by the Department of harvest log data and/or fishing location information, supplied by the harvester in accordance with Conditions of Licence, Section 20(1)(b) of the *Access to Information Act* prevents the Department from disclosing to a third party, records containing financial, commercial, scientific or technical information that is confidential information. Further, Section 20(1)(c) of the Act prevents Fisheries and Oceans from giving out information, the disclosure of which could reasonably be expected to result in material financial loss or could reasonably be expected to prejudice the competitive position of the fisher.

### **10.8.3. Fish Slip Requirements**

It is a condition of this licence that an accurate written report shall be furnished on a fish slip of all fish and shellfish caught under the authority of this licence. A report must be made even if the fish and shellfish landed are used for bait, personal consumption, or otherwise disposed. The written report shall be posted **not later than seven days after the offloading and sent to:**

Fisheries and Oceans Canada  
Regional Data Unit  
Suite 200 – 401 Burrard Street  
Vancouver, B.C. V6C 3S4  
(604) 666-3784

Fish slip books may be purchased at the above address.

## **11. ENFORCEMENT**

Fisheries and Oceans Canada has the responsibility to enforce the *Fisheries Act* and associated regulations, to address conservation, health and safety issues and to maintain proper management and control of the various fisheries.



Users of the resource have a responsibility to report violations. Any suspected or actual fisheries, wildlife, or pollution violations can be quickly and discretely reported to the appropriate enforcement officer by using the toll free Observe, Record, and Report hotline. This toll free number is available 24 hours a day. Confidentiality is assured.

**OBSERVE, RECORD AND REPORT - 1-800-465-4336**

**Or (604) 607-4186 (Lower Mainland)**

Enforcement enquiries can also be directed to the local field offices during regular office hours.

## **12. DIVER SAFETY**

Jurisdiction over health and safety on commercial fishing vessels in Canada is the mandate of the provinces. In British Columbia, jurisdiction over health and safety issues on commercial fishing vessels defaults to the WorkSafeBC (previously Workers' Compensation Board of British Columbia). Health and safety issues on fishing vessels include the health and safety of the crew and design, construction and use of fishing equipment on the vessel. Matters of transportation and shipping fall to the federal government and are administered by Transport Canada, Marine Safety (TCMS). WorkSafeBC and TCMS have entered into a Memorandum of Understanding on fishing vessel safety that addresses, as much as possible, jurisdiction. The document also contemplates that each party will work co-operatively to ensure that vessels and their crew remain healthy and safe.

With WorkSafeBC, dive fisheries are legislated by the requirements for occupational divers, found in Part 24 of the Occupational Health and Safety Regulation (OHSR) and as commercial fishing ventures, also found in Part 24 of the OHSR. Many of the general sections of the Regulation also apply, for example: Part 8 - Personal Protective Equipment, addresses issues related to safety head gear, safety foot ware, and personal floatation devices. Part 17 addresses issues on rigging and Part 5 addresses issues of exposure to chemical and biological substances. The entire regulation can be acquired from the Provincial Crown Printers or by visiting the WorkSafeBC at:

[www.worksafebc.com](http://www.worksafebc.com)

(For WorkSafeBC contacts, see the Contacts in Section 1.)

## **13. REFERENCES**

Gillespie, G.E., G. Parker, and J. Morrison. 1998. A review of octopus fisheries biology and British Columbia octopus fisheries. Can. Stock Assess. Secret. Res. Doc. 98/87. 66pp.

Perry, R.I., C.J. Walters, and J.A. Boutillier. 1999. A framework for providing scientific advice for the management of new and developing invertebrate fisheries. Rev. Fish Biol. Fish. 9: 125-150.

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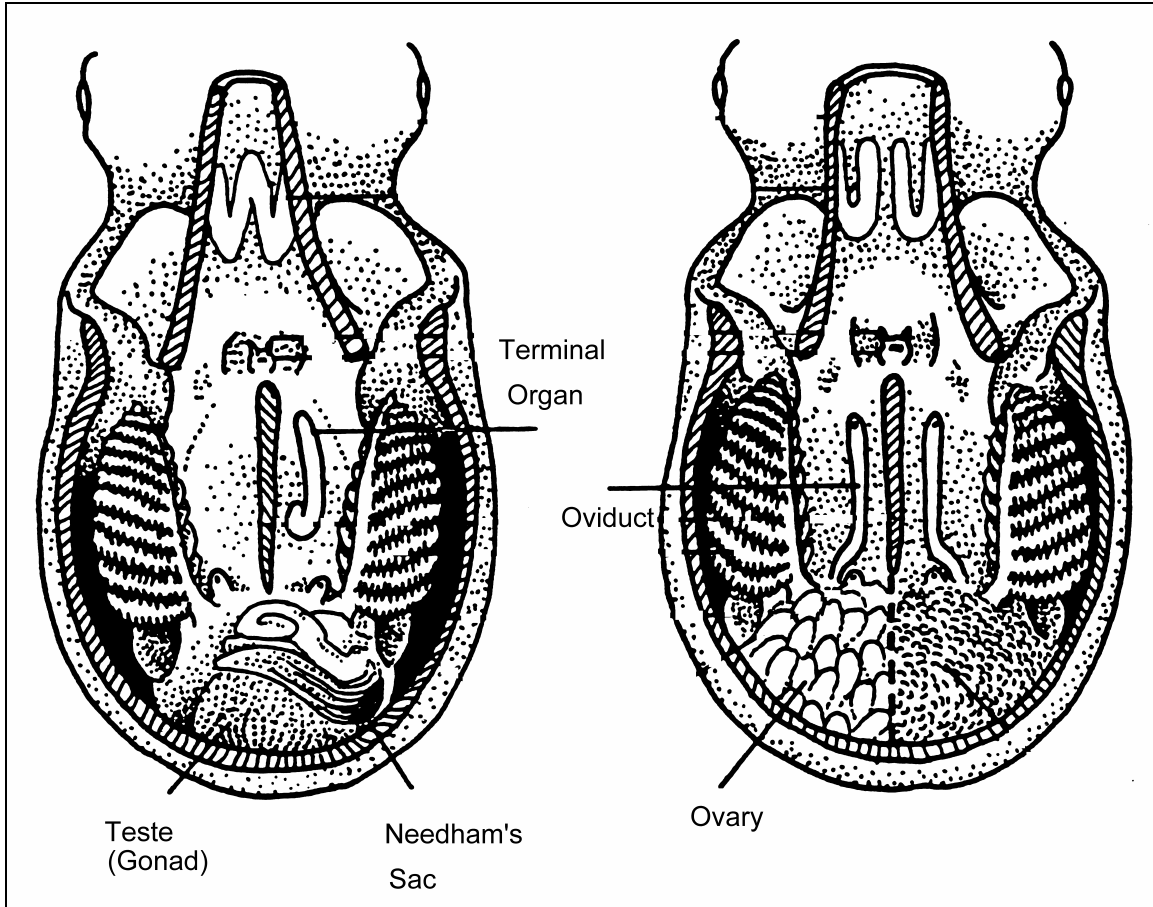
## **14. APPENDICES**

Appendix 1: Index for Maturity Stage and Sexing of Octopus

Appendix 2: Harvest Logbook Example

Appendix 3: Fishing Vessel Safety

**Appendix 1: Index for Maturity Stage and Sexing of Octopus**



Octopus laid face down, funnel up

**MALE**

**FEMALE**

|                        | <b>MALE</b>  | <b>FEMALE</b>  |
|------------------------|--|--|
| Sexual Characteristics | External - third right arm shorter than others, no suckers near blunt tip.<br>Internal – single reproductive duct (terminal organ) on left side. | External – all arm pairs of similar length, suckers extend to the tips of all arms.<br>Internal – paired oviducts. |
| Maturity Stage 1       | Immature – entire reproductive duct transparent.   | Immature – ovary small and white.  |
| Maturity Stage 2       | Maturing – reproductive tract thickened, creamy white.   | Maturing – ovary larger, yellow, or orange.  |
| Maturity Stage 3       | Mature – spermatophores present in Needham's sac.  | Mature – ovary stretched and transparent.  |

**Appendix 2. Octopus by Dive Logbook Page Example**

**Octopus by Dive Harvest Log**

**Page No.**

|                     |      |       |     |                          |               |
|---------------------|------|-------|-----|--------------------------|---------------|
| CFV #               | Year | Month | Day | Vessel Name              | Licence Tab # |
|                     |      |       |     |                          |               |
| Vessel Master Name: |      |       |     | Company Product Sold To: |               |
| Irritants Used:     | 1.   | 2.    | 3.  | 4.                       |               |

|   |  |   |   |
|---|--|---|---|
| <b>Weights:</b><br>(check one)<br><br><input type="checkbox"/> Pounds<br><br><input type="checkbox"/> Kilograms | <b>Landed Weights:</b><br>(check one)<br><br><input type="checkbox"/> Actual<br><br><input type="checkbox"/> Estimated | <b>Piece Counts:</b><br>(check one)<br><br><input type="checkbox"/> Whole<br><br><input type="checkbox"/> Dressed | <input type="checkbox"/> Actual<br><br><input type="checkbox"/> Estimated |
|---|--|---|---|

**Total Landings for Day:**

Total # Pieces: \_\_\_\_\_

Total Weight: \_\_\_\_\_

**Fishing Event Information – make a new entry for each diver, each time a new location is fished each day**

| Dive # | Stat Area | Sub Area | Location |           | Diver Name<br>(First and Last) | Irritant # | Bottom Time (min) | Depth (Ft.) |      | Piece Count | Weight | # Brood Females |
|--------|-----------|----------|----------|-----------|--------------------------------|------------|-------------------|-------------|------|-------------|--------|-----------------|
|        |           |          | Latitude | Longitude |                                |            |                   | Min.        | Max. |             |        |                 |
| 1      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 2      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 3      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 4      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 5      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 6      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 7      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 8      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 9      |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 10     |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 11     |           |          |          |           |                                |            |                   |             |      |             |        |                 |
| 12     |           |          |          |           |                                |            |                   |             |      |             |        |                 |

**Biological Information – report biological data for all animals landed**

| Dive # | Animal # | Sex (circle one)<br>M=male/F=female |   | Maturity Stage (circle one) |   |   |   | Weight |
|--------|----------|-------------------------------------|---|-----------------------------|---|---|---|--------|
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |

| Dive # | Animal # | Sex (circle one)<br>M=male/F=female |   | Maturity Stage (circle one) |   |   |   | Weight |
|--------|----------|-------------------------------------|---|-----------------------------|---|---|---|--------|
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |
|        |          | M                                   | F | 1                           | 2 | 3 | 4 |        |

**Continued next page? Y N**

### **Appendix 3: Fishing Vessel Safety**

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, prevent vessel damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), WorkSafeBC, and other applicable agencies. Vessels subject to inspection should ensure that the certificate of inspection is valid for the area of intended operation.

In the federal government, responsibility for shipping, navigation, and vessel safety regulations and inspections lies with Transport Canada (TC); emergency response with the Canadian Coast Guard (CCG) and DFO has responsibility for management of the fisheries resources. In B.C., WorkSafeBC also regulates health and safety issues in commercial fishing. This includes requirements to ensure the health and safety of the crew and safe operation of the vessel. DFO (Fisheries and Aquaculture Management (FAM) and CCG) and TC through an MOU have formalized cooperation to establish, maintain and promote a safety culture within the fishing industry.

Before leaving on a voyage the owner, master or operator must ensure that the fishing vessel is capable of safely making the passage. Critical factors for a safe voyage include the seaworthiness of the vessel, vessel stability, having the required safety equipment in good working order, crew training, and knowledge of current and forecasted weather conditions. As safety requirements and guidelines may change, the vessel owner, crew, and other workers must be aware of the latest legislation, policies and guidelines prior to each trip.

There are many useful tools available for ensuring a safe voyage. These include:

- Education and Training Programs
- Marine Emergency Duties
- Fish Safe Stability Education
- First Aid
- Radio Operators Course
- Fishing Masters Certificates
- Small Vessel Operators Certificate
- Publications:

- Transport Canada Publication TP 10038 '*Small Fishing Vessel Safety Manual*' (can be obtained at Transport Canada Offices from their website at [www.tc.gc.ca/MarineSafety/Tp/Tp10038/tp10038e.htm](http://www.tc.gc.ca/MarineSafety/Tp/Tp10038/tp10038e.htm)),
- Gearing Up for Safety – WorkSafeBC
- Safe At Sea DVD Series – Fish Safe
- Stability Handbook – Fish Safe and Measuring Stability –DVD

For further information see: <http://www.tc.gc.ca/marine/menu.htm>

### **Important Priorities for Vessel Safety**

There are three areas of fishing vessel safety that should be considered a priority. These are: vessel stability, emergency drills, and cold water immersion.

## **1.1. Fishing Vessel Stability**

Vessel stability is paramount for safety. Care must be given to the stowage and securing of all cargo, skiffs, equipment, fuel containers and supplies, and also to correct ballasting. Fish harvesters must be familiar with their vessel's centre of gravity, the effect of liquid free surfaces on stability, loose water or fish on deck, loading and unloading operations and the vessel's freeboard. Know the limitations of your vessel; if you are unsure contact a reputable naval architect, marine surveyor or the local Transport Canada Marine Safety Office.

Fishing vessel owners are required to develop detailed instructions addressing the limits of stability for each of their vessels. The instructions need to be based on a formal assessment of the vessel by a qualified naval architect and include detailed safe operation documentation kept on board the vessel. Examples of detailed documentation include engine room procedures, maintenance schedules to ensure watertight integrity, and instructions for regular practice of emergency drills.

## **1.2. Emergency Drill Requirements**

The master must establish procedures and assign responsibilities to each crew member for emergencies such as crew member overboard, fire, flooding, abandoning ship and calling for help.

The Crewing Regulation under the Canada Shipping Act (CSA) states that as of July 30th 2002 all seafarers, including fish harvesters, must have a Basic Safety Certificate (MED A1 or A3 depending upon vessel and operating waters) within 6 months of becoming a crewmember, regardless of time at sea. The MED A1 is a three day course, and must be taken by all crew regardless of duty station.

MED provides a basic understanding of the hazards associated with the marine environment; the prevention of shipboard incidents; raising and reacting to alarms; fire and abandonment situations; and the skills necessary for survival and rescue.

## **1.3. Cold Water Immersion**

Drowning is the number one cause of death in B.C.'s fishing industry. Cold water is defined as water below 25 degrees Celsius, but the greatest effects occur below 15 degrees. BC waters are usually below 15 degrees. The effects of cold water on the body occur in four stages: cold shock, swimming failure, hypothermia and post-rescue collapse. Know what to do to prevent you or your crew from falling into the water and what to do if that occurs. More information is available in the WorkSafe Bulletin *Cold Water Immersion* (available from the WorkSafe BC website).

## **1.4. Other Issues**

### **1.4.1. Weather**

Vessel owners and masters are reminded of the importance of paying close attention to current weather trends and forecasts during the voyage. Marine weather information and forecasts can be obtained on VHF channels 21B, Wx1, Wx2, Wx3, or Wx4. Weather information is also available from Environment Canada website at:

[http://www.weatheroffice.gc.ca/marine/index\\_e.html](http://www.weatheroffice.gc.ca/marine/index_e.html)

### **1.4.2. Emergency Radio Procedures**

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system early rather than later by contacting the Canadian Coast Guard (CCG). It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons should be registered with the National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources.

Fish harvesters should monitor VHF channel 16 or MF 2182 Khz and make themselves and their crews familiar with other radio frequencies. All crew should know how to make a distress call and should obtain their restricted operator certificate from Industry Canada. However, whenever possible, masters should contact the nearest Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) station (on VHF channel 16 or MF 2182 kHz) prior to a distress situation developing. Correct radio procedures are important for communications in an emergency. Incorrect or misunderstood communications may hinder a rescue response.

Since August 1, 2003 all commercial vessels greater than 20 metres in length are required to carry a Class D VHF Digital Selective Calling (DSC) radio. A registered DSC VHF radio has the capability to alert other DSC equipped vessels in your immediate area and MCTS that your vessel is in distress. Masters should be aware that they should register their DSC radios with Industry Canada to obtain a Marine Mobile Services Identity (MMSI) number or the automatic distress calling feature of the radio may not work. For further information see the Industry Canada site at: [http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h\\_00014.html](http://www.ic.gc.ca/eic/site/ic1.nsf/eng/h_00014.html)

A DSC radio that is connected to a GPS unit will also automatically include your vessel's current position in the distress message. More detailed information on MCTS and DSC can be obtained by contacting a local Coast Guard MCTS centre (located in Vancouver, Victoria, Prince Rupert, Comox and Tofino) or from the Coast Guard website:

[www.pacific.ccg-gcc.gc.ca](http://www.pacific.ccg-gcc.gc.ca)

#### 1.4.3. Collision Regulations

Fish harvesters must be knowledgeable of the *Collision Regulations* and the responsibilities between vessels where risk of collision exists. Navigation lights must be kept in good working order and must be displayed from sunset to sunrise and during all times of restricted visibility. To help reduce the potential for collision or close quarters situations which may also result in the loss of fishing gear, fish harvesters are encouraged to monitor the appropriate local Vessel Traffic Services (VTS) VHF channel, when travelling or fishing near shipping lanes or other areas frequented by large commercial vessels. Vessels required to participate in VTS include:

- a) every ship twenty metres or more in length,
- b) every ship engaged in towing or pushing any vessel or object, other than fishing gear,
- c) where the combined length of the ship and any vessel or object towed or pushed by the ship is forty five metres or more in length; or
- d) where the length of the vessel or object being towed or pushed by the ship is twenty metres or more in length.

Exceptions include:

- a) a ship towing or pushing inside a log booming ground,
- b) a pleasure yacht *less than* 30 metres in length, and
- c) a fishing vessel that is *less than* 24 metres in length and not *more than* 150 tons gross.

More detailed information on VTS can be obtained by calling (604) 775-8862 or from Coast Guard website:

<http://www.ccg-gcc.gc.ca/e0003901>

#### 1.4.4. Buddy System

Fish harvesters are encouraged to use the buddy system when transiting, and fishing as this allows for the ability to provide mutual aid. An important trip consideration is the use of a sail plan which includes the particulars of the vessel, crew and voyage. The sail plan should be left with a responsible person on shore or filed with the local MCTS. After leaving port the fish harvester should contact the holder of the sail plan daily or as per another schedule. The sail plan should ensure notification to JRCC when communication is not maintained which might indicate your vessel is in distress. Be sure to cancel the sail plan upon completion of the voyage.

## 2. WORKSAFE BC

Commercial fishing is legislated by the requirements for diving, fishing and other marine operations found in Part 24 of the Occupational Health and Safety Regulation (OHSR). Many general hazard sections of the OHSR also apply. For example, Part 8: Personal Protective Clothing and Equipment addresses issues related to safety headgear, safety foot wear and personal floatation devices. Part 15 addresses issues on rigging, Part 5 addresses issues of exposure to chemical and biological substances, and Part 3 addresses training of young and new workers, first aid, and accident investigation issues. Part 3 of the Workers Compensation Act (WCA) defines the roles and responsibilities of owners, employers, supervisors and workers. The OHSR and the WCA are available from the Provincial Crown Printers or by visiting the WorkSafeBC website:

[www.worksafebc.com](http://www.worksafebc.com)

For further information, contact an Occupational Safety Officer (Shane Neifer, Terrace, (250) 615-6640), Bruce Logan (604)244-6477 (Lower Mainland), David Clarabut (250) 881-7563 (Victoria), Pat Olsen (250)334-8777 and Mark Lunny, (250) 334-8732 (Courtney) or the Focus Sector Manager for fishing Mark Peebles, (604) 279-7563.

For information on projects related to commercial fishing contact Ellen Hanson (604) 233-4008 or Toll Free 1-888 621-7233 ext. 4008 or by email: [Ellen.Hanson@worksafebc.com](mailto:Ellen.Hanson@worksafebc.com).

## 3. FISH SAFE

Fish Safe is coordinated by Gina Johansen and directed by the Fish Safe Advisory Committee (membership is open to all interested in improving safety on board). The advisory committee meets quarterly to discuss safety issues and give direction to Fish Safe in the development of education and tools for fish harvesters.



Vessel masters and crew are encouraged to become more knowledgeable regarding vessel stability. FishSafe BC developed the Fish Safe Stability Education Course, which is available to all fish harvesters who want to improve their understanding of stability and find practical application to their vessel's operation.

Fish Safe also works closely with WorkSafeBC to improve the fishing claims process. For further information:

Gina Johansen, Safety Coordinator  
Fish Safe  
2-11771 Horseshoe Way  
Richmond, BC V7A 4V4

Phone: 604-261-9700  
Email: [fishsafe@telus.net](mailto:fishsafe@telus.net)  
Website: [www.fishsafebc.com](http://www.fishsafebc.com)