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1. MAYDAY CALL ON A RADIO
2. EPIRB

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PART A  GENERAL INFORMATION

1. Introduction

The Basic Sea Safety course has been designed and is intended for the crew of small boats, generally less than 15 meters in length and operating in near coastal waters. The content of the course has been modeled on the Safety Course developed by the Regional Maritime Programme of the Secretariat of the Pacific Community, but modified to meet the requirements of small-boat crew in Pacific Island countries and territories.

This Learner’s guide is designed for students who are being trained and assessed for the Basic Sea Safety certificate. Attendance at the course, involvement in the practical exercises and studying of this easy-to-follow book is sufficient for to be well skilled in the requirements for maintaining safety at sea and being able to survive in the event an emergency occurs.

2. Course development

The resource materials were produced with financial support from the Government of Taiwan/ROC and compiled by Grant Carnie, Manager of Fishing & Maritime Programmes, Australian Fisheries Academy, Adelaide, South Australia.

The materials were developed through consultation with staff of the Fisheries Training Section, Coastal Fisheries Programme, Secretariat of the Pacific Community and regional experts on safety-at-sea training. Resources from Australia, New Zealand and SPC training materials were used as a guideline to developing materials that were relevant to the maritime and fishing small-boat sector in the Pacific Island region.
PART B COURSE INFORMATION

1. Course name

Basic Sea Safety.

2. Prerequisites

There are generally no prerequisites for completing the Basic Sea Safety course. Refer to local regulations for any country-specific requirements.

3. Course duration

Three days (at the discretion of the course provider).

4. Assessment

Candidates doing the Basic Sea Safety course will be assessed as they are completing the competencies.

5. Recognition of Prior Learning (RPL)

If students have been assessed previously for some of the learning outcomes or believe they are already competent in certain areas, they can apply to the trainer/assessor to have these particular skills recognised. This will most likely occur where a person can demonstrate they have a current first aid certificate covering the learning outcomes of the Basic First-Aid section of the course.

6. Resources

The resources required by anyone attending the Basic Sea Safety course are minimal. A copy of the Learner’s Guide and attendance at all sessions of training are enough for a candidate to successfully finish the course and attain their certificate. Candidates should check with the training institution offering the course with regard to clothing requirements for the practical components.

Anyone wanting additional resource materials could borrow or purchase a copy of either The Australian Boating Manual by Captain Dick Gandy or Safety in Small Craft by Mike Scanlan. Both books are excellent, easy to follow and cover a wide range of safety and other skills for mariners.
BASIC FIRST AID

THE FIRST AID KIT

IMPORTANT

♦ Know where the first aid kit is kept on your boat
♦ Make sure items that are used are replaced
BASIC FIRST AID

A B C OF FIRST AID (Airway, Breathing, Circulation)

1. CHECK IF CONCIOUS
   - Ask the person’s name

2. CLEAR THE AIRWAY

3. CHECK FOR BREATHING

PUT IN THE RECOVERY POSITION
(Leave lying on their side)
| IF BREATHING | PUT IN THE RECOVERY POSITION  
| Leave lying on their side |
| IF NOT BREATHING | |

4. **START E.A.R. (BLOW)**  
- Give 5 full breaths in 10 seconds.

5. **CHECK PULSE** (for 10 seconds)
IF PULSE PRESENT

CONTINUE E.A.R. (BLOW)
(give one breath every 4 seconds)

WHEN BREATHING STARTS

PUT IN THE RECOVERY POSITION
(Leave lying on their side)

IF PULSE ABSENT

6. APPLY C.P.R.
- 15 heart compressions followed by 2 blows, 4 cycles in a minute
- Check pulse and breathing every minute
BASIC FIRST AID

TREATMENT OF BLEEDING

1. Lie person down, press thick bandage firmly on the wound and lift the limb

2. When bleeding stops, wrap a bandage around the wound
# EMERGENCY SITUATIONS

## CAUSES OF EMERGENCIES

### IMPORTANT
- Human error causes emergency situations
- Preparation prevents emergencies occurring
- Inform the skipper immediately a problem occurs

<table>
<thead>
<tr>
<th>Emergencies</th>
<th>Prevention</th>
<th>Actions</th>
</tr>
</thead>
</table>
| Out of fuel                  | • Take adequate fuel to sea  
• Take more than required for intended distance to travel | • Radio for assistance  
• Use alternate propulsion source (e.g. sails, oars) |
| Lost sight of land           | • Have navigation skills                                                 | • Head towards direction last saw land                       |
| Vessel swamped               | • Don’t overload  
• Beware of bad weather                                                 | • Discard extra cargo or fish  
• Bail or pump water out                                                 |
| Vessel instability           | • Load boat correctly  
• Keep weight low in the boat                                            | • Re arrange weight  
• Clear scuppers                                                        |
| Vessel leaking               | • Check boat in port and repair                                          | • Temporary repairs at sea  
• Continuous baling or pumping                                           |
| Vessel overloaded            | • Don’t overload                                                        | • Remove extra load                                           |
| Engine failure               | • Service engine regularly     
• Have spares and tools                                                  | • Attempt to repair  
• Radio for assistance  
• Use alternate propulsion                                                |
| Sudden change of weather     | • Check weather forecast before going to sea                            | • Head for port  
• Heave to                                                              |
| Grounding on a reef          | • Keep a good lookout  
• Know the area                                                           | • Attempt to get off  
• Radio for assistance                                                   |
| Collision with another vessel| • Keep a good lookout                                                   | • Repair damage  
• Assist each other                                                      |
| Loss of steering at sea      | • Check steering gear regularly                                         | • Rig a jury rudder system                                    |
| Loss of propeller at sea     | • Check propeller regularly                                             | • Radio for assistance  
• Use alternate propulsion                                                |
**OUT OF FUEL**

<table>
<thead>
<tr>
<th><strong>Prevention</strong></th>
<th><strong>Actions</strong></th>
</tr>
</thead>
</table>
| • Take adequate fuel to sea  
  • Take more than required for intended distance to travel | • Radio for assistance  
  • Use alternate propulsion source (e.g. sails, oars) |
LOST SIGHT OF LAND

**Prevention**

- Have navigation skills

**Actions**

- Head towards direction last saw land
### VESSEL SWAMPED

**Prevention**
- Don’t overload
- Beware of bad weather

**Actions**
- Discard extra cargo or fish
- Bail or pump water out
<table>
<thead>
<tr>
<th>VESSEL INSTABILITY</th>
<th>Prevention</th>
<th>Actions</th>
</tr>
</thead>
</table>
| • Load boat correctly  
  • Keep weight low in the boat | ![Prevention Image] | ![Actions Image] |
| • Re arrange weight  
  • Clear scuppers | | |
**VESSEL LEAKING**

<table>
<thead>
<tr>
<th>Prevention</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Check boat in port and repair</td>
<td>• Temporary repairs at sea</td>
</tr>
<tr>
<td></td>
<td>• Continuous baling or pumping</td>
</tr>
<tr>
<td>EMERGENCY SITUATION</td>
<td>Prevention</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td>VESSEL OVERLOADED</td>
<td>Don't overload</td>
</tr>
</tbody>
</table>
ENGINE FAILURE

**Prevention**
- Service engine regularly
- Have spares and tools

**Actions**
- Attempt to repair
- Radio for assistance
- Use alternate propulsion
SUDDEN CHANGE OF WEATHER

**Prevention**
- Check weather forecast before going to sea

**Actions**
- Head for port
- Heave to
<table>
<thead>
<tr>
<th>GROUNDING ON A REEF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevention</strong></td>
</tr>
<tr>
<td>- Keep a good lookout</td>
</tr>
<tr>
<td>- Know the area</td>
</tr>
<tr>
<td><strong>Actions</strong></td>
</tr>
<tr>
<td>- Attempt to get off</td>
</tr>
<tr>
<td>- Radio for assistance</td>
</tr>
</tbody>
</table>
COLLISION WITH ANOTHER VESSEL

**EMERGENCY SITUATION**

- Keep a good lookout

**Prevention**

- Repair damage
- Assist each other

**Actions**
LOSS OF STEERING AT SEA

- Check steering gear regularly

Prevention

- Rig a jury rudder system

Actions
# Loss of Propeller at Sea

**Emergency Situation**

- Check propeller regularly
- Radio for assistance
- Use alternate propulsion

## Prevention

- Check propeller regularly

## Actions

- Radio for assistance
- Use alternate propulsion
3. Shout Man Overboard, turn towards the side person went over

4. Throw life-buoy or flotation device

5. Keep person in sight

6. Use a spotlight at night

7. Attach a line to the rescuer
ESSENTIAL SAFETY EQUIPMENT

LIFE-SAVING AIDS

<table>
<thead>
<tr>
<th>Spare Fuel</th>
<th>Engine Tools and Spares</th>
</tr>
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<tbody>
<tr>
<td>Anchor and Rope</td>
<td>Sea Anchor</td>
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<tr>
<td>Alternative Propulsion</td>
<td>Compass</td>
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<tr>
<td>Flares</td>
<td>Signalling Device</td>
</tr>
<tr>
<td>Nebes</td>
<td>Flotation Device</td>
</tr>
<tr>
<td>Water</td>
<td>Water in Container</td>
</tr>
<tr>
<td>First Aid Kit</td>
<td>Knife</td>
</tr>
<tr>
<td>Bailing Device</td>
<td>Shade</td>
</tr>
</tbody>
</table>
ESSENTIAL SAFETY EQUIPMENT

LIFE JACKETS

1. Putting on a life jacket

2.Securing a life jacket

3. Jumping correctly into the water
SURVIVAL AT SEA

INFLATABLE LIFE RAFT

1. Rain catchment tube and bung
2. Canopy instruction label and bag (life raft handbook inside bag)
3. Internal lifeline
4. Emergency pack
5. Paddles
6. Lanyard
7. Quick release for hauling-in line
8. Painter
9. Painter patch
10. Window in inner door
11. Boarding ladder & righting strap
12. Inflation hose
13. Deflation plug
14. Water stabilising pocket
15. Canopy furling tapes
16. Sea light cell
17. Plug
18. Cell pocket
19. Drogue
20. Drogue line
21. External life line
22. Floor inflation valve
23. Rain catchment
24. Hauling-in line
25. Canopy furling tapes
26. Safety and topping-up valve
27. Knife (stuck on Arch tube)
28. External light
29. Internal light
### SURVIVAL AT SEA

#### LIFE RAFT EQUIPMENT

<table>
<thead>
<tr>
<th>Sea anchors</th>
<th>Buoyant bailer</th>
<th>Pump or bellows</th>
<th>Puncture repair kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddles &amp; sponges</td>
<td>Torch</td>
<td>Whistle</td>
<td>Rescue signal table</td>
</tr>
<tr>
<td>Buoyant smoke signals</td>
<td>Instructions for immediate use</td>
<td>Thermal protective aid</td>
<td>Sea-sickness bag</td>
</tr>
<tr>
<td>Buoyant rescue quoit</td>
<td>Parachute distress rockets</td>
<td>Hand flares</td>
<td>Safety knife</td>
</tr>
<tr>
<td>Heliograph</td>
<td>Fishing kit</td>
<td>Food ration</td>
<td>Water ration</td>
</tr>
<tr>
<td>Graduated drinking vessel</td>
<td>Tin openers</td>
<td>Sea-sickness tablets</td>
<td>First aid outfit</td>
</tr>
</tbody>
</table>
SURVIVAL AT SEA

HYDROSTATIC RELEASE

- Painter line
- Senhouse slip
- O Ring
- Shackle
- Drawbolt
- Weak Link
- HRU
- Shackle
- Deck Plate
## SURVIVAL AT SEA

### LAUNCHING THE RAFT

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>8.</strong> Check painter is tied somewhere secure</td>
<td><strong>9.</strong> Pull out sufficient line to reach ship's side</td>
</tr>
<tr>
<td><strong>10.</strong> Release shenhose slip</td>
<td><strong>11.</strong> Carry to side of vessel, check for obstructions and throw in</td>
</tr>
<tr>
<td><strong>12.</strong> Pull painter to inflate raft</td>
<td><strong>13.</strong> Pull raft alongside and climb in without getting wet</td>
</tr>
<tr>
<td><strong>14.</strong> If necessary, cut painter with knife kept in arch and move away</td>
<td></td>
</tr>
</tbody>
</table>
SURVIVAL AT SEA

RIGHTING A LIFE RAFT
SURVIVAL AT SEA

SURVIVAL AFTER LAUNCHING

15. Move away from sinking ship by paddling or by using sea anchor rolled into a ball and thrown in direction you want to go. Once clear, wind will blow you faster

19. Look for survivors. Use quoit to reach them

20. Lift survivors into raft from under arms

21. Keep life raft together

22. Set off EPIRB

23. Set the sea anchor

24. Take sea-sickness tablets

25. Collect and ration fresh water

26. Use flares and radar reflector to aid detection
SURVIVAL AT SEA

LESSENING HYPOTHERMIA

1. H.E.L.P.

2. HUDDLE
INTERNATIONAL DISTRESS SIGNALS

SIGHT

1. Flames on the vessel

2. A square object above or below a round object

3. Slow and repeated raising of the arms outstretched to each side

4. International code flags N & C
INTERNATIONAL DISTRESS SIGNALS

SOUND
1. Gun or other explosive device fired at intervals of about a minute

2. Continuous sounding of a fog-signaling device

RADIO
1. Mayday call on a radio

2. EPIRB
INTERNATIONAL DISTRESS SIGNALS

PYROTECHNICS

1. Parachute flare (red light)

2. Hand held flare (red light)

3. Smoke signal (orange)
COMMUNICATIONS IN AN EMERGENCY

VHF AND MF/HF (SSB) TRANSCEIVERS

1. VHF radio

2. VHF range
3. MF/HF(SSB) radio

4. MF/HF range
COMMUNICATIONS IN AN EMERGENCY

EPIRB

1. An EPIRB

2. Average time to detect an 121.5/243 EPIRB
COMMUNICATIONS IN AN EMERGENCY

GPS (GLOBAL POSITIONING SYSTEM)

1. GPS

2. Satellite signals to a GPS
FIRE PREVENTION AND CONTROL

THE FIRE TRIANGLE
FIRE PREVENTION AND CONTROL

CAUSES OF FIRES

1. Fire hazards in the accommodation

27. Combustible materials

28. Matches and smoking

29. Defective electrical connections

2. Fire hazards in the galley

30. Combustible materials

31. Oil or gas stoves (gas bottles)

32. Hot surfaces, ovens, frying pans, flues

33. Defective electrical connections
3. Fire hazards in the engine room

<p>| | |</p>
<table>
<thead>
<tr>
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<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>1. Poor housekeeping</td>
<td>2. Oil leaks and oil soaking into exhaust lagging</td>
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<td>4</td>
</tr>
<tr>
<td>3. Hot surfaces, eg exhaust pipes, engine parts</td>
<td>4. Defective exhaust lagging</td>
</tr>
<tr>
<td>5</td>
<td></td>
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<tr>
<td>5. Welding or metal cutting</td>
<td></td>
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<tr>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. Auto ignition, eg oil dripping on a hot surface</td>
<td>7. Electrical fire (or smoke)</td>
</tr>
</tbody>
</table>
**FIRE PREVENTION AND CONTROL**

**FIRE-FIGHTING PRINCIPLES AND PRECAUTIONS**

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<tbody>
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<td>1.</td>
<td>On discovering a fire, first raise alarm</td>
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<td>2.</td>
<td>Remove Heat</td>
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<td>3.</td>
<td>Remove oxygen</td>
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<td>4.</td>
<td>Remove Fuel</td>
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<td>5.</td>
<td>If small, tackle it quickly using the right appliance</td>
</tr>
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<td>6.</td>
<td>Don’t use water-based extinguishers on electrical fires</td>
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<td>7.</td>
<td>If large, get help</td>
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<td>8.</td>
<td>Maintain fire-fighting equipment</td>
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</table>
**GENERAL DECK SAFETY**

**DANGERS**

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<td>7.</td>
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<td></td>
<td>DANGERS</td>
<td></td>
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<td>10.</td>
<td>Spring lines breaking when mooring</td>
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<td>11.</td>
<td>Weakened wires</td>
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<tr>
<td>12.</td>
<td>Blocks failing through wear</td>
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<td>Danger areas where you might get hit if line or</td>
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<td>14.</td>
<td>Getting caught in the bight of a rope; sprags</td>
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<td>Riding turns</td>
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<td>16.</td>
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<td>17.</td>
<td>Teeth and spikes when handling fish</td>
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<td>18.</td>
<td>Water on deck in rough weather</td>
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</tbody>
</table>