



SEA SAFETY

INFORMATION BULLETIN

Number 6 - April 2011

In this issue ...

2009 was a bad year for ferries – in the Pacific and elsewhere

On the night of 14 April 1912 the largest luxury ship of its time, the unsinkable RMS *Titanic*, struck an iceberg in the north Atlantic and began sinking. By the following day the *Titanic* had sunk, leaving only 705 survivors out of a total of 2,228 passengers and crew who sailed on the maiden voyage. Many people believe that this was the worst ever peacetime sea tragedy. Unfortunately, it was not. That distinction belongs to a more recent event – the collision, fire, and subsequent sinking of the Philippine registered ferry, M/V *Doña Paz*. On 20 December 1987 the Manila-based *Doña Paz* was making one of her twice weekly trips when she collided with an oil tanker, M/T *Vector*. The collision caused a fire on *Vector* that quickly spread to *Doña Paz*, and both vessels eventually sank. Only 26 people, 24 passengers of *Doña Paz* and two of the crew of *Vector*, survived. The passenger manifest of *Doña Paz* showed 1,583 passengers. However, many passengers were not listed. Incredibly, the number of unlisted passengers on *Doña Paz* totaled more than 2,000 people. Estimates of how many really died as a result of *Doña Paz*'s sinking range from 3,000 to 4,375. Even more incredibly, ferry disasters are not rare events. Ferries, especially roll-on roll-off (RoRo) ferries are one of the most common and, at the same time, one of the most dangerous ways to travel.

RoRo ferries are inherently un-seaworthy in rough weather because they take on water quickly through the bow and stern doors, and capsize. This is especially true in developing countries, where ferries are often over-loaded with cargo and passengers and insufficiently equipped with life saving devices and appliances; regulations are often overlooked and many un-ticketed passengers are allowed to board ferries, making them top-heavy and unstable; and ferries are often poorly maintained. However, even in developed countries ferries can be unsafe in bad weather or in the event of a collision, crew error, or faulty equipment. Before embarking on a sea-going ferry, passengers would be well advised to check the weather forecast and to check whether or not the ferry has sufficient numbers of life jackets and life rafts for all onboard. If in doubt, don't go. The feature article in this issue of the *Sea Safety Bulletin* discusses two ferry disasters that struck close to home in 2009.

Steve Beverly, Editor

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■ Ferry disasters

Headlines 2009 – including two ferry disasters in SPC member countries – tell a grim tale:

- **January :**
250 missing and presumed dead in Indonesian ferry disaster
- **July:**
33 dead as Kiribati ferry overturns
- **August:**
74 dead in Tongan ferry sinking
- **September:**
9 dead, and 63 missing in Philippines ferry disaster
- **November:**
29 passengers dead and many missing in Indonesian ferry disaster
- **November:**
Scores of women and children dead in Sierra Leone ferry disaster
- **December:**
80 die when Bangladesh ferry sinks

Kiribati

On 13 July 2009 an inter-island ferry sailing between Tarawa and Maiana in Kiribati overturned with the loss of 33 of the ship's 55 passengers and crew. The ferry was a 17 m double-hulled wood catamaran. It capsized when the captain attempted to turn around to rescue a crew member who had been swept overboard in high seas. The Royal New Zealand Air Force sent a C130 aircraft to aid in rescue and recovery operations. Less than a month later M/V *Princess Ashika* capsized and sank on a voyage between Nuku'alofa and Ha'apai in Tonga.

Tonga

M/V *Princess Ashika* was built in Japan in 1972 and was originally called M/V *Olive Maru*. It was designed for short trips in protected waters only. In 1984 M/V *Olive Maru* was sold to North West Shipping of Suva Fiji and renamed M/V *Princess Ashika*. At that time the Fiji Marine Board had concerns about the vessel's stability and the inadequate drainage of the cargo deck. In 1988 the vessel was purchased by Patterson Brothers

Shipping of Suva. From then on the condition deteriorated and major repairs were never carried out. In 2005 a doorway was cut in a watertight bulkhead between the engine room and the shaft tunnel, ensuring that if one of these spaces flooded the other would now flood too. And then in June 2009 the vessel was purchased by the government of Tonga to do interisland service while Tonga awaited a new ferry that was under construction. M/V *Princess Ashika* departed for Tonga in June but had to return to Suva for repairs, eventually arriving in Tonga in time to start service on 3 July. In all four trips were completed.

During each of the four trips the sides of the vessel were breached by the sea. Steel plates had to be welded over the corroded and holed hull plates to keep sea water out. Despite the damage and the ingress of seawater the vessel continued to operate. The fatal voyage started and ended on 5 August 2009 with 96 passengers, 32 crew and 110 tons of cargo onboard. Water started to enter the vessel as soon as it left the shelter of land and began to accumulate on the cargo deck.

By 22:00 the vessel began to list badly to port and by 23:00 water had reached the engine room. At 23:30 the duty officer woke the captain, who had slept through the listing. There was not much he could have done at that stage other than send out a Mayday distress call on the radio. At 23:45 water reached the port engine effectively stopping it. At 23:50 M/V *Princess Ashika* capsized and sank. The vessel's EPIRB (emergency position-indicating radio beacon) was automatically released and activated. The life rafts were also automatically released as they had been equipped with hydrostatic release mechanisms. Many of them would remain empty. The first rescue vessel, M/V *Pulupaki*, arrived on the scene at 02:30 on 6 August. By 04:50 all of the survivors, 54 men, had been picked up. A total of 74 passengers, mostly women and children, went down with the vessel. They had been inside in the passenger accommodation while the men stayed on deck. Why was there such a huge loss of life? This question was examined by a Royal Commission of Inquiry. The summary of that inquiry can be found at:

http://www.matangitonga.to/home/download/01_Summary&Intro_pi-xii_p1-14.pdf

The inquiry found, among other things, that:

- The crew failed to appreciate the danger and failed to prepare to abandon ship;
- No PAN message was sent out to alert other vessels that could have assisted in evacuating M/V *Princess Ashika*;
- No life jackets were issued to passengers and crew – if this had been done by 20:00 many lives could have been saved;
- The design of the passenger lounge prevented easy escape; and
- The capsizing and sinking happened rapidly.

The inquiry also looked into the causes of the sinking and found, among other things, that:

- The disaster was due to systematic and individual failures;
- The vessel was unsuitable for service in the open sea;

- The vessel was unseaworthy and in an unsafe condition;
- The vessel should never have been allowed to go to sea; and
- A 2008 report from Fiji Islands Maritime Safety Administration stating that the vessel was in a terrible state of repair was ignored. That report said, *'The vessel is now 36 years old and in the condition it is in now, if it is allowed to trade will cause a maritime disaster...'*.

Sadly, the words of prophecy from the Fiji Islands Maritime Safety Administration were ignored. We can only hope that similar warnings will be heeded in the future and that we won't have to read any more grim headlines of ferry disasters in the Pacific. On a happier note, Tonga's new ferry M/V *'Otuanga'ofa*, arrived in Tonga in October 2010, replacing the ill-fated M/V *Princess Ashika*. The new vessel was built in Japan. It was paid for by the Japanese government at a cost of about USD 40,000,000.



Technology and safety

Technology and safety equipment

New man overboard system developed in the United Kingdom

The McMurdo MOB Guardian man overboard and vessel locator alert system was developed by the Royal National Lifeboat Institution (RNLI), McMurdo, and Active Web Solutions (AWS).

RNLI came up with the original idea and design for the MOB Guardian – a satellite-based vessel monitoring and man overboard system. They took the idea to McMurdo and AWS. The MOB Guardian system consists of a base unit and crew personal safety devices (PSDs). The base unit automatically transmits regular updates of a vessel's position, course, and speed via satellite to RNLI's monitoring station. If regular updates are missed, the monitoring station tries to regain contact with the boat and, if no further updates are received, an alert is raised with the coastguard so that a search can be initiated. Because the last known position of the vessel has been recorded, searching by the rescue services becomes far easier and casualties can be reached much quicker than with former systems.

Crew personal safety devices, which come with the MOB Guardian system, can either be worn around the neck or put in a pocket. If a crewmember falls overboard and hits the water, an alert is automatically triggered to both the main unit on the vessel and also the RNLI monitoring station. In addition, the PSD can also be used as a panic button if a serious incident occurs on board.



For more information visit:
www.mcmurdo.co.uk/news/news_article.html?news_id=40

Stormline's new flotation bib

This new flotation bib (overalls) made by Stormline in New Zealand has special closed cell foam in the knees and the front and back to provide enough buoyancy to float a fisher while giving him or her adequate time to don an inflatable life jacket, which can be worn in a pouch on a belt at the back so as not to interfere with work. A fisher who falls overboard will have adequate flotation from the bib, though its buoyancy may not offer raised head support. This will give time for the fisher to bring the pouch to the front and put on and inflate the life jacket.



For more information visit:
www.stormlinegear.com/Stormline-International-Brochure.pdf

Rescue laser flare

The RLFAA023-01 Rescue Laser Flare Magnum is a hand-held day and nighttime laser signaling device that provides a convenient, effective way to signal a rescue party. Its waterproof, rugged design combines the safety of a laser signaling device with the convenience of a flashlight. It is the most popular model with mariners.

Unlike pyrotechnic flares, the Rescue Laser Flare Magnum is non-flammable, environmentally safe and can operate continuously for 72 hours on a two easily replaceable AA batteries. (<http://www.greatlandlaser.com/rescue-laser-flare-magnum.html>).



Product specifications:

Visibility: 20 miles (32 km) nighttime, optimum conditions;
1–3 miles (1.6–4.8 km) daytime
Waterproof: to 80 feet (24 m)
Laser diode: 10,000 hours mean life
Operational life: 72 hours continuous use before changing battery
Battery: two (2) AA batteries

For more information visit:
www.greatlandlaser.com/rescue-laser-flare-magnum.html

Help is in the distance

Line up your target

While aiming, slowly move laser back and forth

Note: Line shown for demonstration only. Line will not be visible during actual signaling.

Slowly move the laser back and forth across your target. At 16 miles you have a 6000 ft. fan of light to hit your target.

Why regular laser pointers don't work

With a common laser pointer you would have to hit your target directly in the eye for them to see you. At a distance this would be impossible.

Rescue Lasers work ...

6000 ft.

...because at a distance they produces a fan of light. At 16 miles, this fan will be 6000 ft. high.

Note: This fan of light will not be visible. The target will see a brilliant flash only when the fan crosses their line of vision.

How to use the Rescue Laser Flare



Basic boating safety in Papua New Guinea waters

National Maritime Safety Authority, Port Moresby, PNG

Preface

This booklet was designed primarily to assist Papua New Guineans and others using small boats and canoes to enjoy PNG waters in safety.

It is an initiative from the National Maritime Safety Authority, who compiled this booklet with some basic advice on boating safety in Papua New Guinea waters.

It is hoped that this booklet will be of assistance to the boating public.



Foreword

The booklet has been prepared as very basic advice to those who operate small boats and canoes. Based on a previous version published in 1990 and updated for 2008, the majority of Search and Rescue Operations in Papua New Guinea involves small boats and NMSA are very concerned by the loss of life that occurs in these boats. Since most incidents could have been easily avoided, NMSA are also very concerned at the effort and expense involved in searches for small boats that go missing.

When you are traveling to visit relatives or friends or going fishing offshore, it is essential that you have a boat that you can rely on, and that you have the right equipment on board. You must also learn to understand and respect the sea, and be prepared for any emergency that may arise.

This booklet on *“Basic boating safety in Papua New Guinea waters”* has therefore, been prepared by NMSA to give simple guidance on these matters. Please read it carefully and understand it properly.

To avoid unnecessary loss of life, think of: **“SAFETY FIRST”** before going to sea. Ensure your boat is properly prepared, if possible operate boats in groups of two or more, and do not go out if bad weather is expected.

This is the basic message of this booklet — It is hoped that it will result in increased awareness and concern for safety in small boats.



Introduction

In coastal and island areas, many people go to sea in small boats and canoes, often without adequate knowledge of the safety precautions that they should take. It is essential that you learn how to safely operate and equip your boat.

In a country like Papua New Guinea, people need to be self-reliant to survive. Search and Rescue facilities are limited. If an accident occurs, people in the water are likely to drown before help arrives, and are in any case very hard to find. Breakdowns are serious, and if days go by before the boat is reported missing, the search area can become very large and even with an extensive and costly search, it is possible the boat passengers will not be found.

This booklet is intended to make you **THINK ABOUT SAFETY BEFORE GOING TO SEA**. You should take proper action to keep out of trouble but still be equipped for survival if an accident or breakdown occurs.

Resource materials

1. Basic safety equipment / Checklist

The basic safety equipment of a boat should include:



Oars or paddles, single oar can be used for sculling from transom.



Drinking water and food: Water is essential for survival. Always take plenty for all persons on board.



An anchor with a length of chain and plenty of rope for anchoring.



A waterproof torch for signals with spare batteries and bulb.



A bucket or bailer.



Tools and spare parts for the engine.



A sail or tarpaulin: a small tarpaulin, preferably bright orange, can also be used as a sail, or for shelter or shade, or to attract attention, or to catch rainwater.



Enough lifejackets for everybody. If you cannot afford these, carry at least some inflated inner tubes.

Resource materials



Flares and a mirror for signaling.
Place flares in watertight container
or wrap in plastic.



First aid kit in watertight box.



Radio: Handheld or fixed VHF or cell phone (in plastic
bag) if it is known to work in area of travel.



Boats traveling out of sight of land
must have a reliable compass.



Sound signals: Whistle or air horn
to attract attention.



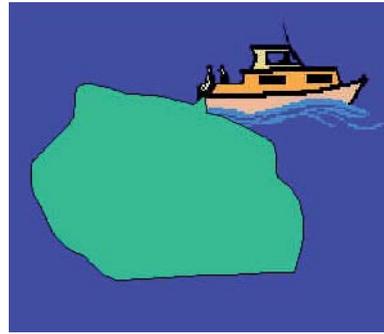
Boats traveling at night must also have
proper navigation lights or at least an
all round white light.



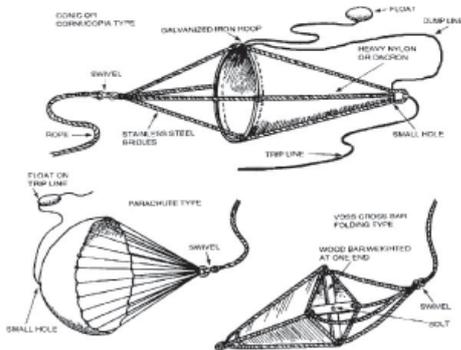
On decked boats with inboard engines and
electrical systems. Carry a minimum of two (2)
fire extinguishers of type 2-A; 20-BC mounted
in proper brackets.



On small decked boats carrying passengers, have minimum 2 lifebuoys on board with minimum 15-m line each.



Fluorescent dye markers can also be used DURING DAYLIGHT HOURS to pinpoint a boat in distress. They can be of various colours, orange or green are common; orange preferred. Use when search aircraft are near.



On all small boats it is advisable to carry a Sea Anchor, three (3) common types are shown here with a canvas commercially made sea anchor below.

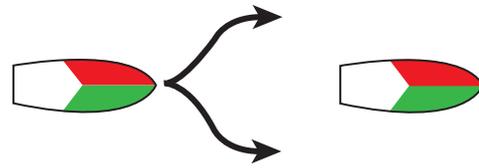
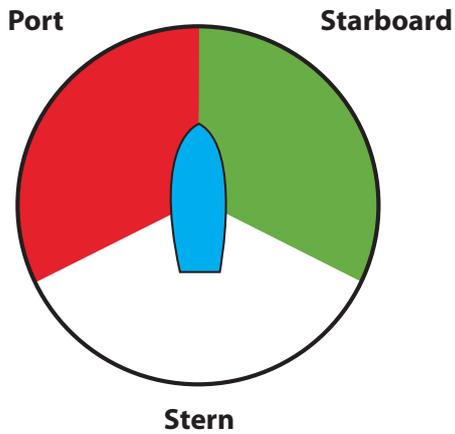


Anything that will create good DRAG in the water can also be used to slow down rate of drifting.



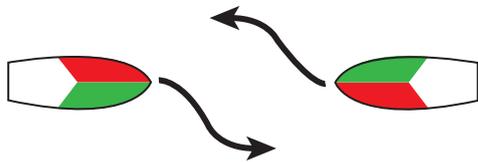
When travelling further than 2 miles from land, carry fish-hooks and fishing line.

Rules of the road for motorised vessels

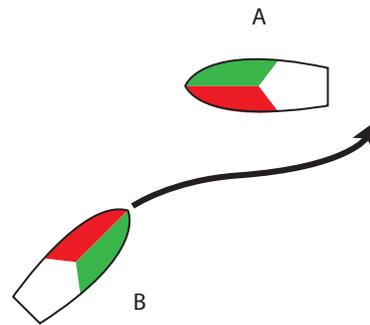


Any vessel overtaking another must keep clear of overtaken vessel.

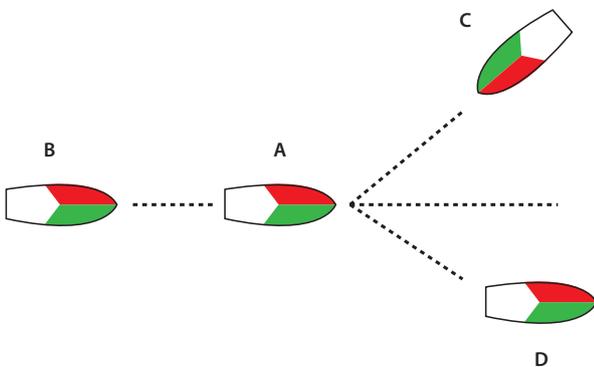
Port: If a motorised boat approaches within this sector, maintain with caution your course and speed.
Starboard: If any vessel approaches within this sector, keep out of its way.
Stern: If any vessel approaches this sector, maintain with caution, your course and speed.



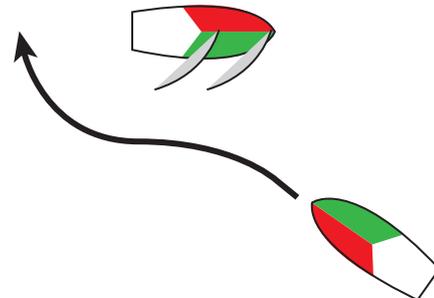
Both vessels alter course to starboard.



Vessel B to keep clear of vessel A and must avoid crossing ahead of vessel A.



A keeps clear of D.
 B keeps clear of A and D.
 C keeps clear of A and B.
 D doesn't alter course while being overtaken by A and B.



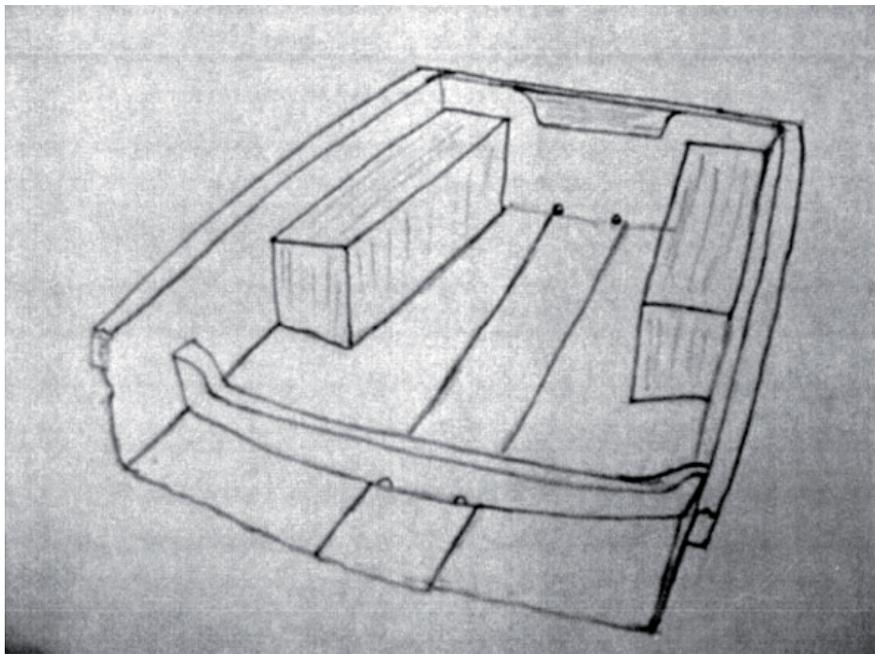
A powerboat keeps clear of any type of sailing vessel.

2. Boat preparation

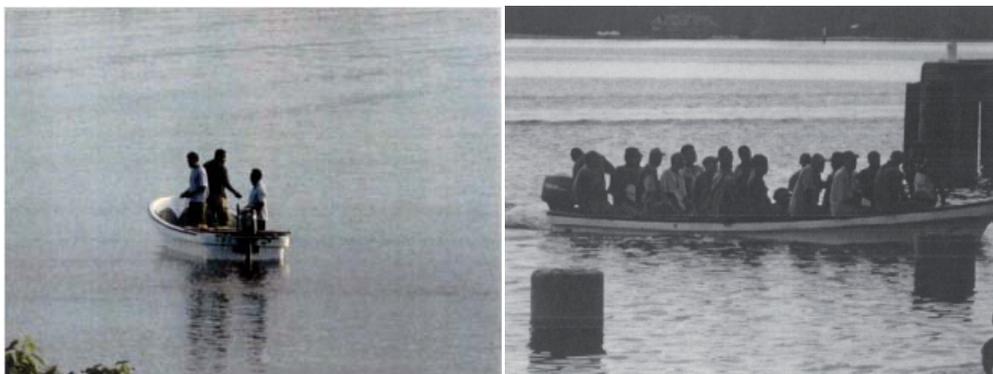
The boat or canoe that you go to sea in should:

- Be large enough and seaworthy enough for the job. Overloading has caused many fatal accidents; **DO NOT OVERLOAD THE BOAT.**
- Have proper built-in buoyancy that will keep the boat afloat and level if it fills with water, even with the engine in place. (see illustration below).
- Be kept in good condition.
- Carry appropriate basic safety equipment as shown in section 1.

Remember, dump cargo if in danger of sinking; it is possible to buy more goods but **it's not possible to buy a lost life.**



**Retro-fitted buoyancy chambers used as seats
in stern of boat**



Boat with light load prepares for departure (left) and boat more than 100% overloaded (right)

3. Engine preparation

The engine must be properly maintained. Outboard motors are not always reliable, and a breakdown may result in you being adrift for days.

- If the boat is large enough, carry a spare small outboard and test it regularly.
- Always carry much more fuel than you expect to use. If the boat is heavily loaded, or the weather is bad, or you have to tow another boat, you will use a lot more fuel than usual, so always have plenty of fuel in reserve.
- Make sure the fuel is clean and correctly mixed for 2 stroke engines.
- Check that the boat is strong enough for the size of motor. Securely clamp or bolt the engine on, and check tightness often. Fit a strong rope or safety chain as an additional precaution against the motor being lost.
- Carry spare propeller pins, spark plugs, starter cord, and the appropriate tools.
- Plan your trips so that two or more boats go together, so that if one boat breaks down there is help immediately available.



Loading fuel and water

4. Pre-departure checklist

- Make sure that the boat, engine and equipment are properly prepared, and that there is sufficient water and fuel on board for emergencies.
- Check the state of the weather and sea, and the weather forecast. If the sea is rough or there is a strong wind warning, do not go to sea in small boats.
- Check the loading of the boat. The load should be distributed evenly and low down in the boat. Do not overload with cargo or passengers. See illustration on previous page showing a badly overloaded boat.
- Make sure that a relative or friend ashore knows:
 - Exactly where you intend to go and by what route.
 - Your expected time of return.
 - An accurate description of the boat and equipment and its registry number.
 - The number of people on board, and their names.

This ensures that there is somebody reliable to raise the alarm if you are missing, and that they have the necessary information to locate you.

5. Safety on board

Common sense is the keynote to boating safety. Use the boat and equipment properly. Carry the recommended equipment and supplies.

- Remember that overloading is very dangerous. Do not exceed the weight and power for which the boat was designed.
- Do not go to sea in bad weather or if bad weather is expected.
- In small boats, the behaviour of the operator and passengers is very important. Passengers must remain seated — standing up reduces the stability of the boat. Sit inside the boat — it is dangerous to sit on the gunwale, and 'bow riding' is very dangerous.
- All persons on board must wear lifejackets.
- Alcohol is a factor in many boating accidents. Excess alcohol and boating do not mix.
- The boat should be operated by an experienced licensed operator.
- Keep a good lookout at all times, and proceed with caution in areas that are unfamiliar or around reefs.
- Keep clear of swimmers and divers.
- Keep out of breaking seas or surf.
- At night, slow down and switch lights on. Keep a very careful watch for other boats. Operate in groups of two or more boats.
- **NO SMOKING when refueling with petrol.**

6. Survival on a drifting boat

Many incidents around Papua New Guinea involve boats adrift through breakdown or running out of fuel. If this occurs, and there are no other boats passing, you may be adrift for some days or weeks, unless an effective search is quickly initiated and carried out locally. Make sure someone on shore knows your route.

- Conserve drinking water. Try to keep people shaded and cool to reduce their need for water. Take every opportunity to collect rainwater. Do not drink seawater.
- Do not attempt long swims to shore without careful thought: it is usually best to stay with the boat. In many cases where people have tried to swim to islands etc., they have been swept past and drowned.
- Do not waste flares. Wait until you see an aircraft, ship or village and there is a good chance of your flare being seen.
- When traveling long distances in the open ocean, keep some fishing lures, hooks and line on board for emergency fishing for food. Fish tend to gather around drifting boats.



The benefits of having a tarpaulin or canopy is that rainwater can be collected as well as giving shade from sun. If a couple of wooden poles are on board the tarpaulin can also be used as a sail.

7. Conclusion

With proper precautions and good maintenance, boats should not go adrift, but you should give some thought to:

- Avoiding breakdown or running out of fuel. Operating in pairs or groups.
- Making local arrangements so that any missing boats are reported at an early stage.
- Equipping the boat so that you can row or sail her, survive for a long period, and signal to ships and aircraft with flares or mirror or waterproof flashlight. Carrying spare batteries and bulb(s) for flashlight.
- Carrying a fully charged hand held VHF radio transmitter or a cell phone that is known to work in your operating area. Keeping it dry and fully charged.
- **Making sure there is enough fuel onboard** (see next page).

■ Outboard engine fuel consumption card

A new safety card to calculate fuel consumption by outboard engines has been developed by the National Maritime Safety Authority of Papua New Guinea and produced by SPC's Nearshore Fisheries Development Section. This unique card will help mariners determine how much fuel they need in litres per trip based on the engine horse power and how long the engine will be running. There are different figures for 2 stroke and 4 stroke outboard engines. The card can be seen on SPC's website www.spc.int/Coastfish/en/publications, or copies can be obtained by contacting Michel Blanc at michelbl@spc.int.

OUTBOARD ENGINE FUEL CONSUMPTION FIGURES IN LITRES / TRIP								
2 Stroke	Hours running							
Engine HP	1	2	3	4	5	6	8	10
15	8	16	24	32	40	48	64	80
25	11	22	33	44	55	66	88	110
30	12	24	36	48	60	72	96	120
40	21	42	63	84	105	126	168	210
60	26	52	78	104	130	156	208	260
75	35	70	105	140	175	210	280	350
4 Stroke	Hours running							
Engine HP	1	2	3	4	5	6	8	10
15	5.5	11	16.5	22	27.5	33	44	55
20	7	14	21	28	35	42	56	70
25	9.5	19	28.5	38	47.5	57	76.5	95
30	11	22	33	44	55	66	88	110
40	15	30	45	60	75	90	120	150
50	17.5	35	52.5	70	87.5	105	140	175
115	38	76	114	152	190	228	304	380



NATIONAL MARITIME SAFETY AUTHORITY
PAPUA NEW GUINEA

Round fractions of litres UP, e.g. 37.6 = 38 litres.

Note: Above figures are best estimates, actual consumption depends on factors such as brand and condition of engine, sea conditions, cleanliness of hull, boat loading and speed.

Always take extra fuel, usually calculated as 25% more than estimated consumption.

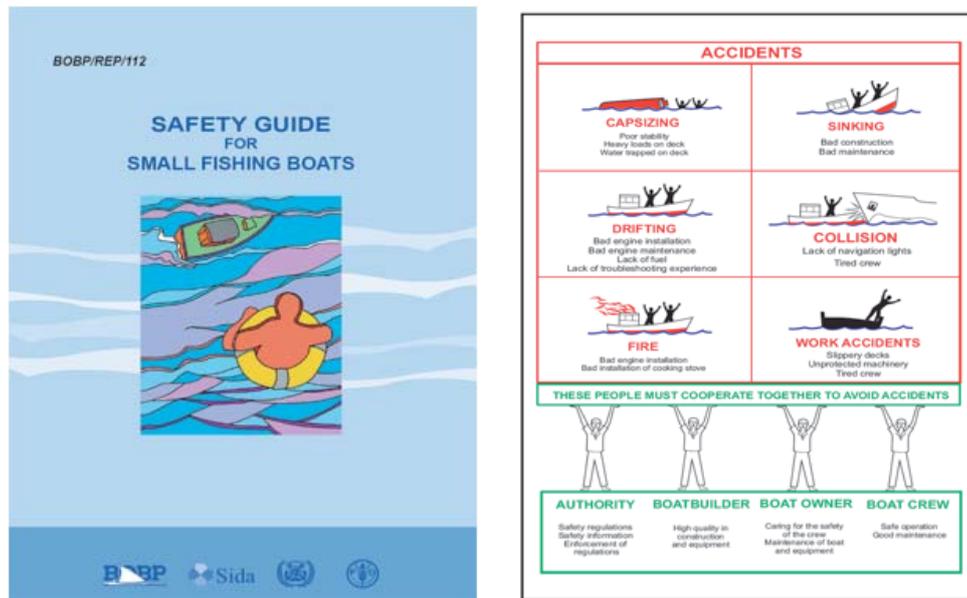


SPC
Secretariat
of the Pacific
Community

■ New safety guide for small fishing boats

The Food and Agriculture Organization of the United Nations (FAO), in conjunction with the Bay of Bengal Programme (BOBP), has produced a new safety guide for small fishing boats. The guide was written by FAO Consultant Naval Architect, Øyvind Gulbrandsen. The guide can be downloaded from FAO's website. The abstract below was taken from FAO's website as well.

www.fao.org/fi/oldsite/eims_search/1_dett.asp?calling=simple_s_result&lang=zh&pub_id=261572



Cover and sample page from *Safety guide for small fishing boats*

Abstract

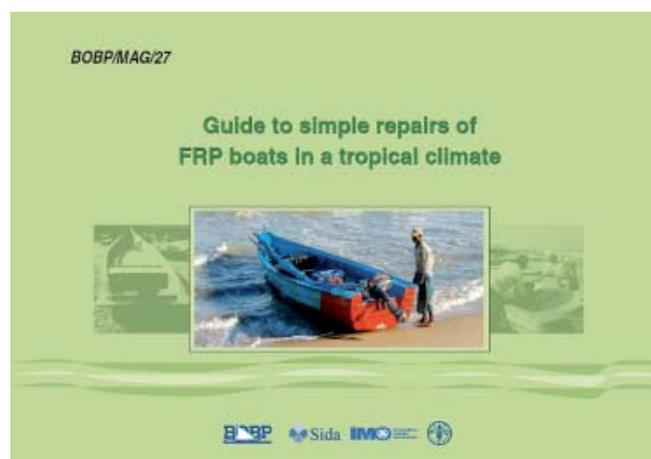
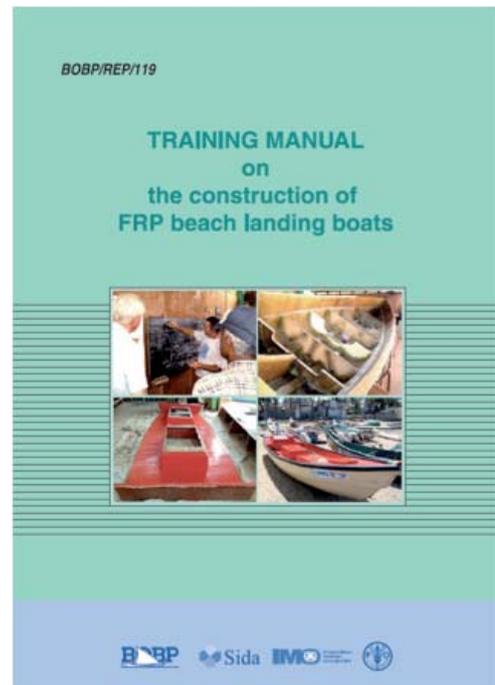
Fishing is a very dangerous occupation with a high accident risk. Experience has shown that it is often when a fishery develops from traditional sail-powered craft and nearshore fishing to motorised craft venturing further out to sea and with new fishing methods that accidents happen. In many developing countries, fibreglass reinforced plastic (FRP) boats are replacing traditional wooden boats and this new construction material requires new thinking when it comes to strength, stability and the ability to keep afloat when swamped. It is often difficult to do something about boats already in operation, but significant safety measures can be incorporated at relatively low cost in boats yet to be built. Close cooperation between the government departments responsible for safety legislation and the boatyards is required. The purpose of this safety guide is to present simple measures to ensure that new boats will satisfy internationally accepted safety standards. The target group consists of boat designers, boat builders, boat owners, skippers and government officials responsible for drafting new regulations and for safety supervision. This safety guide is not intended to be comprehensive, but it highlights the main problems and indicates what practical measures can be taken to avoid them. The guide mainly deals with small boats of less than 15 m in length, which are most prone to accidents. The Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO) and the International Maritime Organization (IMO) are working together to draft new safety recommendations for decked fishing boats of less than 12 m and undecked fishing boats of any length. This work is expected to be finalised by 2010. The present guide is a revision of BOBP/MAG/16: *A Safety Guide for Small Offshore Fishing Boats*, issued by BOBP in 1993. The main change is that in addition to small offshore fishing boats in the 10–13 m range, this publication also focuses on smaller coastal boats.

Other useful publications from BOBP and FAO

The Bay of Bengal Programme (BOBP-IGO) and the Food and Agriculture Organization of the United Nations (FAO) are trying to address one of the most common issues in small boat safety: the lack of small boat construction standards in developing countries. To that effect, BOBP and FAO have recently published two training manuals: *Training manual on the construction of FRP beach landing boats* (http://www.bobpigo.org/pdf/training_manual_bobp_rep119.pdf) and *Guide to simple repairs of FRP boats in a tropical climate* (http://www.bobpigo.org/pdf/guidelines_FRPboats_bobpP_mag27.pdf)

The *Training manual on the construction of FRP beach landing boats* was prepared for Tamil Nadu, India, but could also be used as a guide for making good quality FRP boats throughout the Bay of Bengal region and other regions where appropriate. Many of the applications are general and will apply to most kinds of FRP (fibre-glass reinforced plastic) boats. It should be used as a supplement to FRP boat building manuals and books already available from FAO and other international organisations. This FRP manual assumes that the boat builder has some FRP experience and will use good practices. Parts I and II contain general information on FRP boatbuilding and on mould and plug building, respectively. Part III describes the construction of an FRP beach landing craft, used for fishing. Part IV focuses on FRP maintenance and repair work. Finally, Annexes 1–4 provide a bibliography, glossary, drawings for the FAO IND-30 boat design, and draft recommended construction standards for FRP fishing boats, respectively.

The *Guide to simple repairs of FRP boats in a tropical climate* was developed to address simple repairs that can be carried out by fishing boat owners or others who do not have in-depth expertise. A great deal of repair work is done by boat owners, including work that should be carried out by FRP experts, because the owners have difficulties finding a skilled FRP boat builder or taking the boat to a boatyard for proper repair work. This booklet gives simple guidance to owners or laminators on how to carry out simple FRP repair on the beach, including pitfalls and dos and don'ts. It also advises when a skilled FRP expert should be contacted because of the complexity of the repair work. The guide was developed under the FAO project Safety at Sea for Small-scale Fisheries in Developing Countries, funded by the Swedish International Development Cooperation Agency (SIDA) and IMO.





Accidents and incidents

Fatal boat accident in Atafu Tokelau – February 2010

A tragic boat accident claimed the lives of three young men on 10 February 2010 on Atafu, Tokelau. It was reported that at about 08:00 a work boat was on its way to offload cargo and passengers for Atafu from the vessel M/V *Tokelau* when it capsized in the channel going from the lagoon to the open sea. Weather conditions were very rough, with strong wind and rainfall. Of

the seven young men on the workboat, four managed to swim to safety. The M/V *Tokelau* immediately conducted a search for the three missing men. At about 11:00 two of the three bodies were recovered. One of the bodies was found on the reef and another floating in the open sea. The search was called off in the afternoon due to deteriorating weather.

Vanuatu, Tonga, Tokelau: a series of accidents at sea

SUVA, Monday, 11 October 2010 (Oceania Flash) – The number of search and rescue operations has increased since the end of last week in order to provide assistance to small boats in difficulty at sea in Vanuatu, Tonga and, just under a week ago, Tokelau.

At the end of last week, the French Army based in neighbouring New Caledonia was called upon in an attempt to recover any remaining survivors amongst the 13 passengers aboard a small seven-metre aluminium craft which capsized in the early hours of Thursday, 07 October (GMT+11 local time) in the southern part of Vanuatu, not far from the island of Tanna.

Half of the passengers were able to swim to the closest shore but search operations continued this weekend with the assistance of the Noumea Maritime Rescue Coordination Centre, which deployed both CASA and Guardian Jet Falcon aircraft to perform aerial reconnaissance operations over the search zones.

The Vanuatu Government's only patrol boat, the RVS *Tukoro*, is also taking part in these search operations.

One body was recovered but three other passengers are still reported missing.

In the meantime, the resources deployed by the New Zealand Maritime Rescue Coordination Centre, alerted by the Tokelauan authorities at the end of last week (Tokelau is a territory of New Zealand), have failed to find any trace of the three boys reported missing at sea on Tuesday, 05 October 2010.

At the end of three days of search, both by air from an Orion military aircraft and at sea (using local patrol boats), operations were suspended this weekend.

The three missing persons were Tokelauan teenagers, two of whom are 15 years old and the third, 14 years old.

Four people recovered after one week adrift

TARAWA, Monday, 08 November 2010 (Oceania Flash) – The New Zealand Rescue Coordination Centre (RCC-NZ) conducted a maritime search and rescue operation all last week, which allowed them to locate and rescue, on the open sea off Kiribati, four people reported missing for over a week who had been aboard a small four-metre aluminium skiff.

A Royal New Zealand Air Force Orion was deployed this weekend to spearhead the operation in the zone and rapidly conducted a grid-wise search of this extensive area covering some 15,000 square kilometres.

The four people, who are now safe and sound, were a 54-year-old man, a 53-year-old woman and two children aged 7 and 8.

They left Tarawa on 31 October 2010.

The Kiribati authorities raised the alarm on 04 November and requested assistance from the New Zealand authorities, who are responsible for rescue operations in that zone.

A small American Coast Guard vessel, the "Rush" (which has a Dauphin HH-65 helicopter on board) located in

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the zone was diverted to assist in the search and rescue efforts, the New Zealand authorities reported.

Once the four survivors had been retrieved, they were evacuated to a medical centre, where they were rapidly treated for hypothermia and malnourishment before being taken back to their village, Butaritari, where they were welcomed as heroes by the population, along with the Minister of Education, the local MP and the mayor.

A reception was held in honour of Captain James McCauliey, the Coast Guard vessel's commanding officer.

A few days earlier, on Friday, 05 November 2010, another regional maritime search and rescue operation had to be suspended off the coast of Cook Islands.

The Royal New Zealand Air Force had announced the suspension of search operations initiated to locate a New Zealander who had fallen overboard the previous day while sailing on the yacht "Wild Goose" with two other people.

The Royal New Zealand Air Force had deployed one of its Orion aircraft on Thursday, 04 November 2010 over a maritime zone close to the capital of Cook

Islands after the 15-metre yacht sent a distress call reporting a man overboard. The accident appeared to have taken place approximately 150 nautical miles to the west south-west of Rarotonga. The man who had fallen overboard was a New Zealand citizen, the NZ Maritime Rescue Coordination Centre reported.

The *Wild Goose* had just left Rarotonga bound for New Zealand. After a second day of unsuccessful search by the Orion with the assistance of a reconnaissance aircraft (a Gardian from the French Navy, which is similar to a Jet Falcon) from neighbouring French Polynesia and a container vessel from the merchant navy, which had made a detour, the Royal New Zealand Air Force qualified the missing person's chances of survival after more than 24 hours in the water as "slim". The missing man was not wearing a lifejacket when he fell overboard. "We have not seen any sign of the missing person, despite an extensive search above this zone (...) After carefully reviewing the search effort, in the absence of any new information, the difficult decision has been made to suspend the search," said Kevin Bannaghan, search and rescue mission coordinator. The Orion has since returned to its base in New Zealand, as has the French aircraft, which has arrived back at base in Papeete.

French citizens rescued in Tonga

Similarly, at the end of the week, Tongan authorities were called upon to provide assistance to two French citizens on board a yacht which appeared to have struck a reef.

The two French nationals had recently met two other French citizens, who were already in Tonga, and taken them onboard.

They appeared to have escaped unharmed from the wreck and were recovered by local authorities aboard an inflatable dinghy but their yacht apparently sank.

A distress beacon originating from the yacht, "La Tortue", was received on Friday, 08 October 2010 at about 6:15 p.m. local time (GMT+12), the Tongan police reported in a press release on Saturday.

The accident happened off the Island of Kelelesia in the Ha'apai Islands group (situated between the main island of Tongatapu and the Vava'u Islands further north).

The French sailors initially used their satellite telephone to raise the alarm with the New Zealand Regional Rescue Coordination Centre, which, in turn, relayed the information to the Tongan police, who mobilised their Defence vessel, the VOEA Neiafu.

The four French citizens were first taken to the capital, Nuku'alofa, where they were to be rapidly interviewed by the police, Deputy Police Commissioner Faletu of the Tongan National Police reported.

Three Tokelauan boys still alive after 48 days lost at sea

By Lance Polu & Unumoe Esera, Talamua, Samoa, November 2010 – After 48 days floating at sea, the 3 Tokelauan teenage boys that went missing before White Sunday in early October have been found.

The Head of the Government of Tokelau Kuresa Nasau, said his Office was advised by the New Zealand Rescue Coordination Centre yesterday evening that a New Zealand flagged Fishing Vessel the San Nikunu had rescued all the 3 boys close to Uvea in Wallis & Futuna at about 5pm local time.

“We are very pleased that after about 48 days floating in the vast ocean, we have been told that all of them are well,” said Nasau.

“They have been treated with food and water and likewise support and encouragement from the crews of the FV San Nikunu. We understand that the vessel should be in Fiji around tomorrow and we are working towards making contact with the Government of Fiji for their support to the boys and quick return to Tokelau via Samoa.

“It would be wonderful to get the boys back to their families, friends and communities in Tokelau before Christmas,” he said.

He also addressed the issue of safety at sea as quite important and needed to be dealt with urgently. The Government of Tokelau is currently working towards a framework which will ensure safety at sea of their communities.

“On behalf of the Government and people of Tokelau I would like to thank the Captain and the crews of the FV San Nikunu vessel that picked up our boys. You have brought happiness into our hearts and we thank you as a people,” he said.

He also acknowledged the support from the Government of New Zealand through the Royal NZ Air Force and the Rescue Coordination Centre. Likewise, the support from the Government of Samoa through the Samoa Police Force for the use of the MV Nafanua to assist in the search and also acknowledge the support from the Governor of American Samoa.

“Finally I would like to thank all the villages especially from Fakaofu and Nukunonu for their unwavering support and prayers. To our families and communities abroad we thank you for the support and prayers during those dark moments. Fakafetai lahi lele,” he said

The villages in Tokelau and their communities in Samoa, New Zealand, Australia, American Samoa and abroad are relieved to hear the good news.

“Our prayers and hopes have been answered. We will continue to thank God for His protection to these young boys,” he said.

Source: http://www.talamua.com/index.php?option=com_content&view=article&id=922:tokelau-boys&catid=24:latestnews

Hope is fading for 17 missing fishermen after a South Korean trawler sank in the Southern Ocean, claiming at least five other lives

By Amelia Wade, NZHerald – Three Korean fishing vessels continued to search for the men overnight and a decision on whether to continue the operation will be made this morning.

The boat sank in international waters but was in New Zealand’s search and rescue region - meaning the Rescue Co-ordination Centre New Zealand (RCCNZ) controlled the search for the No.1 Insung vessel.

Two New Zealand fishing boats working for seafood company Sealord were called to assist with the rescue of the 42 sailors, but were later stood down.



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Five of the sailors' bodies have been recovered, 20 have been rescued and 17 are still missing. But hopes are fading for the missing men, who would not have survived more than 10 minutes in the water.

RCCNZ search and rescue controller Dave Wilson yesterday said it was not known what caused the vessel to sink or why no distress communication was received before it went down.

The rescue vessel and fishing company said the boat sank quickly and those able to abandon ship jumped directly into the water without lifejackets or immersion suits.

"At the moment everyone is focusing on saving as many people as possible and finding all those who are missing. Causes can be worked out after," said an RCCNZ spokesman.

The owners of the ship said the boat may have collided with an iceberg.

Insung Corporation spokesman Ryan Kim said the company was trying to understand what happened.

"The boat sank in about 30 minutes. We are trying hard to find the reason why it sank so quickly," he told AFP.

"We believe the vessel might have been hit by an iceberg or a strong wave, although we have yet to secure any evidence of this. We are now collecting information from the surviving crew."

The 58-m longliner sank about 06:30 yesterday 2700 km southeast of Bluff.

Eight South Koreans, eight Chinese, 11 Indonesians, 11 Vietnamese, three Filipinos and one Russian were on board.

The dead included two Indonesians, one South Korean and one Vietnamese, a Foreign Ministry official said.

The 20 rescued men are on board the fishing vessel No. 707 Hongjin and are reported to be in a comfortable condition, with none requiring medical treatment. The five deceased are also on board.

Searchers considered calling in an Air Force Orion to help at one point, but it would have taken at least eight hours to get to the area from the time it left New Zealand.

"Unfortunately, given the short survival times in water of those temperatures and the length of time it would take for the Orion and Hercules aircraft to reach the search area, it was not a viable option," Mr Wilson said.

There is a light westerly at 10 knots and a 1-m swell in the search area today.

Coastguard New Zealand chief of operations Richard Bray said the rescue was a category two.

"That's our highest and most serious alert for search and rescue operations. It means it's very serious."

It is the second time this year a Korean fishing vessel has sunk quickly, resulting in deaths in waters near New Zealand. In August six men died and 45 were rescued after their boat sank in just 15 minutes in calm waters 400 nautical miles from Dunedin.

Source: <http://www.weatherwatch.co.nz/content/22-feared-dead-after-ship-sinks>

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