




What's in your ditch bag?

THE TOP 14 ITEMS YOU SHOULD HAVE AND WHY, PACKED READY TO GO.

HEATHER FRANCIS

 **IMAGINE** that your worst nightmare has come true; a catastrophic equipment failure, irreparable damage due to a collision at sea or human error puts your vessel in peril. You find yourself getting ready to abandon ship; how prepared are you?

I recently read an abandon ship story that not only chilled me to the bone, as many of those stories do, but made me reconsider a few things about our own safety plan on board *Kate*, our Newport 41.

The vessel was on passage from Hawaii to Washington state when she ran into foul weather. The crew were veteran sailors and were just 150 miles short of

completing a 17 year, 70,000 nautical mile circumnavigation. The winds and seas increased and, although they had to alter course, they felt confident in their boat. However, within 24 hours they found themselves running down steep waves under bare poles.

All those years of experience and thousands of hours at sea still did not prepare them for what came next. At approximately 0300, when all bad things seem to happen on board, they were knocked down, or perhaps rolled, the crew still not sure.

The life raft and cradle were ripped from the deck and washed overboard,

the dinghy lashed up forward disappeared too. Down below in the cabin the water was ankle deep; floating in it was the contents of every cupboard, closet and hold, fridge included. Dive tanks became dangerous projectiles and dirty laundry threatened to wind its way around the steering cables. In the mayhem a library of paperback novels even became life threatening, the cheap paper turning into a wet sludge that clogged the bilge pumps.

Amazingly, the chart plotter and VHF were still operational and after setting off their EPRIB, the crew were able to communicate with the coastguard vessel that risked the weather to rescue them,

arriving four hours later. After successfully getting the rescue crewman dropped from a coastguard helicopter onboard, the decision was made to abandon ship.

Everyone was airlifted to safety, but they came away with little more than a waterlogged point-and-shoot camera and phone. No IDs, no cash, no documents. Their ditch bag, usually stowed with handle pointing out to make it easy to grab, could not be found when they prepared to abandon ship.

The author herself laments at the end of the story: "I'll be kicking myself forever for not having the IDs, passports, cash, hard drives and even the little bits of jewellery in a bag ready to go."

PACKING FOR THE IMPROBABLE

The chances of you finding yourself in a situation that requires you to abandon your vessel are slim, but that does not mean that you should not be prepared.

Although the liferaft has long been considered your best chance of survival in an abandon ship situation, it is the ditch bag that holds all the necessary tools for a speedy recovery. From electronic gadgets to signal devices that have been around since the golden age of sail, what you pack could mean the difference between life and death, so it is worth considering what goes into your ditch bag.

Nowadays, the emergency positioning indicating radio beacon (EPIRB) is standard kit on most boats. This emergency beacon is often mounted in an easy-to-reach spot near the companionway or in the cockpit, however it can also be stored in your ditch bag. It can be activated either manually or automatically if the vessel and its crew are in distress.

When activated an EPIRB broadcasts a coded message on 406MHz, the international emergency communications frequency, for at least 48 hours. Using a global satellite network, authorities are notified of your location; the unique information provided, when you register the beacon, allows them to identify the exact vessel that is in distress.

A standard EPIRB can locate your specific location within +/-3nm; however models that are equipped with a GPS are accurate to +/-50 metres. Some EPIRBs also broadcast simultaneously on 121MHz,

a lower frequency that can be picked up by a rescue vessel or aircraft in close range. It will also have a strobe light to attract visual attention.

An EPIRB is your first line of communication when trouble strikes. No vessel should be without one.

Search and rescue transponders (SART) are not, as yet, as popular as the EPIRB. A SART uses radar frequency. Designed to be activated when visual contact is made with a nearby vessel, a SART will emit a signal that appears on an X-band radar screen as 12 consecutive blips pointing to the location. This distinct radar signature is designed to grab the attention of the radar operator, allowing them to pinpoint the activated SART.

Considered secondary to the popular EPIRB, a SART is your primary means of communicating with a potential nearby rescue vessel, long after the EPIRB battery goes flat. Designed more for individual use rather than for a yacht there is no need to register a SART, unlike an EPIRB, so it can be carried from vessel to vessel; handy if you are a boat-hopping crewperson.

When active a SART emits both audio and visual cues to alert the user it is transmitting. Like any radar equipment, the higher the SART is located the further its broadcasting potential, so it is often recommended that the device is raised on a pole or, at very least, held aloft.



TOP TO BOTTOM: Two types of EPIRB; An emergency VHF radio and SART; Yes, these extra rations can be useful: honey, peanut butter and water rations.



TOP: Useful extras such as added medical kit, noise maker, glow sticks and camera.

ABOVE: The trusty V-sheet.

The space-saving inflatable radar reflector is needed because an inflatable liferaft is constructed almost entirely out of PVC and has no hard edges or reflective surfaces that easily show up on radar. In fact, the only large metal object onboard is the tank used to inflate the raft, which when the raft is upright, is located underwater. This means that, although your liferaft is designed to be highly visible, it can only be seen by the human eye, not the machines we rely on.

An ideal solution to this problem is to carry an inflatable radar reflector like the Echo Max EM2301. No bigger than a book when deflated, it is compact and light-weight, adding just 730 grams to your ditch bag. Visible on radar, due to the Du Pont metallised, lacquered and spun-bonded fabric panels that are housed in the inflatable PVC structure, you do not have to worry about sharp edges that might puncture your liferaft. Approved by the Royal Ocean Racing Club, as well as the US and Canadian Coast Guard, Echo Max inflatable radar reflectors come with a test certificate to comply with the stringent regulations of many round the world rallies and are now standard kit on the current Golden Globe race boats.

With the variety and economy of handheld GPS models on the market today it is silly not to include a small handheld GPS in your ditch bag. Not only will you be able to communicate your exact location to potential rescuers, you can use it to determine your set and drift, which will take the guess work out of a contingency sail plan.

Although most boats carry a waterproof, handheld VHF for daily use it is important to remember to keep the batteries charged if it will be a part of your ditch bag. An alternative is to have a dedicated emergency VHF in your kit, ensuring you always have a means of close range communication during an emergency.

If you chose to use your daily handheld radio as part of your emergency ditch bag, investing in an inexpensive waterproof bag for it is good insurance so it stays operational even during heavy weather. Keeping a spare battery fully charged is also a good idea.

Many sailors carry a satellite phone for emergency purposes but the prohibitive cost, both for the equipment and airtime, can be discouraging. Newer devices with lower price points, like the Spot or the more recent In Reach, are becoming popular alternatives. However, nothing beats making an instant two-way connection. You can not only relay important details about your situation but also ask questions, which may be lifesaving during a medical emergency.

As we have tragically seen in the recent past, not all service providers are created equal. Test your phone periodically and, before any major offshore passages, make sure your service is still active and there is credit on the account. Since they are not designed specifically for marine use it is recommended that you invest in a waterproof box to protect your satellite phone while not in use.

A basic medical kit is standard equipment in a liferaft, however surplus medical supplies will never go astray. By including an extra medical kit in your ditch bag, you can be assured that supplies for any existing medical conditions are with you, including necessary daily prescription medications.

Basic waterproof medical kits are widely available at outdoor or camping stores and make a great base to add to and customise to better suit the marine environment and individual crew members. One invaluable item that should be included in your medical kit is a space blanket for each crew. Super compact and lightweight these foil-like blankets are designed to conserve body heat, important when hypothermia due to exposure in water is a serious consideration.

The med kit is also a great place to stash an extra pair of eyeglasses or contact lenses, which if you have a heavy prescription, could mean the difference between living in a blur for a few days or being able to read fine print instructions.

Like the onboard medical kit, you should inspect the contents regularly, check expiry dates and replace items as needed. This is especially important for boats sailing in the tropics as basic items like plasters will perish more quickly in the heat.

“WITH ROUTINE PRACTICE SAFETY PROCEDURES BECOME FAMILIAR, ALLOWING YOUR BRAIN TO FUNCTION ON AUTOPILOT.”

Also consider a noise maker, heliograph and V-sheet. These low-tech solutions may seem old school in today’s digital world but they could prove essential when trying to get the attention of a passing ship or aircraft. The glint of sun off a heliograph signal mirror or the conspicuous orange of a V-sheet, will quickly catch the eye of passersby. The ‘blart’ of a simple-to-use noisemaker could prevent an accidental collision between you and your rescuers in fog or inclement weather.

The great thing about these pieces of equipment is that you never have to worry about charging batteries or learning to use complicated equipment during times of stress. These easy-to-use safety devices are still a must have in your ditch bag.

Humans can only survive for three days without clean drinking water, which makes carrying a manual water filter a no-brainer. In fact, during the 2015 Volvo Ocean Race Team Dongfeng found a use for its emergency water filtration system when their onboard desalinator required a repair that took 12 hours to complete. Although keeping up with the water demands of the whole crew at sea was a laborious task, that simple manual water filter kept them in the race.

Now affordable and widely available at camping supply stores these easy-to-operate devices ensure that you have safe drinking water wherever you end up. Make sure to pack extra filters and spares as there are no handy stores when you need them.

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LEFT: An Echo Max inflatable radar reflector.

BELOW: The Aquamate solar still in action.



The Aquamate Solar Still is a basic watermaker not designed for everyday use but would be worth its weight in gold in case of an emergency. Although solar water purification is not innovative technology, the military have been including such units in the emergency kits for over 50 years, I was surprised that until recently I had never seen nor read about these emergency watermakers before.

Using the age-old science of evaporation as a means of purification and distillation, the Aquamate Solar Still is designed to make clean drinking water using a non-potable water source such as the ocean. Deflated, it fits into a bag that is slightly thicker than a tablet. The bag, which doubles as a water scoop, has detailed instructions written in six languages; however, setting it up is so easy even the youngest crewmember could be left in charge. Simply inflate, fill with impure water, float and let the heat of the sun do all the hard work.

The solar still is able to produce between 0.5 litres to two litres a day, depending on the water source and weather conditions. Complete with an inspection number and endorsement by NATO this is a serious piece of kit and one that now has a permanent place in our ditch bag.

Like the extra medical supplies, carrying extra food and water rations off the boat with you is never a bad idea.

When we last had our liferaft serviced we chose to keep the water rations that were replaced to use as additional water in our ditch bag as they are compact, portioned survival rations. You could simply stock a reserve of bottled water in case of emergency.

We also carry a jar of natural peanut butter and a bottle of honey. The peanut butter is an easy to eat food that is high in fats and energy, perfect for eating alone, masking flavours like fish or making those dusty ration biscuits palatable.

Honey is not only great to dissolve in water to give you a boost, it can be used to treat minor cuts and burns.

You could also consider packing some high quality energy bars or gels, items that are small, easy to eat and do not require cooking. They can provide a needed protein boost when some energy and clear thinking is needed.

It should be general practice to store the passports and documents of all people on board together, this includes any visiting crew or guests. Keep these and other important documents such as boat registration and insurance papers in a waterproof box in or close to your ditch bag. It is also a good idea to include some cash or travellers cheques so that you are able to pay for hotels and purchase clothing or plane tickets home once you are rescued.

In today's day and age, where virtually everything seems to be stored on a digital device, we have to consider personal electronics when talking about the ditch bag. Phones and tablets have replaced the paper cruising log and address book, memory cards and hard drives contain our photographs and important documents. Often scattered around the boat it is good practice to consolidate, back up and store any items you do not want damaged, or hope to take with you, in a waterproof box before going to sea. Stored near or in your primary ditch bag they will be in reach during an emergency and you will not be stuck looking for your memories when you feel like you are losing everything.

Finally there are the cheap and cheerful extras. These are various other bits that I keep in our ditch bag, things that are not essential but could come in handy.

For instance inexpensive glow sticks, when worn, allow you to quickly identify the location of each crewmember, or use a small waterproof flashlight that could be used as a signal light.

I carry a waterproof camera so that I might be able to record the events, which could come in handy for an insurance claim. To conserve space I allow only a small Ziploc bag of these non-essential extras.

TESTING, TESTING, 1 2 3

Investing time in your ditch bag now means that you will have everything on hand when an emergency strikes.

What you pack, however, is only as important as maintaining the items that you choose to carry.

Your EPRIB, SART and other electronic devices should be tested annually and/or before you set out on passage. You will find the manufacturer instructions on how to test each device next to the activation switch. A visual and audio alarm will indicate if the device is functioning properly or if it needs to be serviced. For items like a small GPS that use regular batteries be sure to pack spares.

Safety drills are just as important as inspecting your equipment. With routine practice safety procedures become familiar, allowing your brain to function on autopilot when chaos surrounds you. If you have guests onboard for an extended cruise, or if you take additional crew for passage, it is a good idea to familiarise them with the location and contents of your ditch bag. Although they may be seasoned sailors they may not be acquainted with your vessel, safety procedures or the type of gear you carry.

Remember you could be relying on this person to save your life.

The ditch bag is as vital a piece of kit as the liferaft and should be regularly inspected, updated and reviewed so that all crew members know what is inside and how each item functions. You do not have to be far from shore to find yourself in a dire situation and chances are you will have little, if any, warning when disaster hits. No sailor likes to think about abandoning their vessel, but a prudent mariner must consider and prepare for all possibilities.

As the old saying goes: 'better looking at it than looking for it.' ≈



HEATHER FRANCIS

Heather Francis is originally from Nova Scotia, Canada. For over a decade she has travelled the world living and working on boats. In 2008 she and her Aussie partner Steve bought *Kate*, a Newport 41' sloop and have been sailing her full time since. They plan to do a lap around the planet, albeit slowly. Follow their adventures: www.yachtkate.com.

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