Danger on Deck

It often seems that diving and boating are inseparable. No matter how great the shore diving may be, divers always seem to be drawn offshore in search of grander underwater adventure.

With most predive planning focused on underwater safety, it's easy to overlook the dangers that lurk on the surface. Whether we're passengers (paying or otherwise) on someone else's boat or piloting our own, every now and then it's important to review some of the basic tenets of boating safety.

Gearing Up

Any time we venture out of our home port, we should be well prepared to meet the challenges of planned and unplanned circumstances. Coast Guard regulations identify the basic contingent of safety equipment, including personal floatation devices (PFDs) for each person aboard, visual distress signals (VDS), fire extinguishers and devices that produce sound.

According to the regulations, the PFDs must be Coast Guard-approved, of the proper size for the wearer, in serviceable condition, and readily accessible – NOT stowed in plastic bags, locked in lockers or buried beneath piles of dive gear. Although divers might be perfectly adapted to water survival when they are geared up, once they put on dry clothes, they should have PFDs readily available. Coast Guard data reveals that 90 percent of the boating-related drownings occur in inland waters – most within a few feet of safety. This suggests that the use of PFDs could have saved the lives of 80 percent of the victims of boating fatalities.

Coast Guard regulations also require that boats be equipped with approved VDSs. Vessels less than 4.8m long (US) need not carry day signals, but they must carry night signals when operating between sunset and sunrise. Even when they aren't required, many skippers consider VDSs essential. Should the boat capsize, experience an engine failure, or run aground, VDSs remain the key element in summoning help.

While we don't usually think of a boat as being a fire hazard, Coast Guard-approved fire extinguishers are required on all boats where a fire hazard could be expected from the motors or fuel system. This regulation applies to boats with closed compartments, as well as those with compartments under seats where portable fuel tanks may be stored. Considering that our only other option may be to abandon ship, it pays to have a serviceable fire extinguisher (or two) at the ready.

Sound-producing devices are required as essential communication equipment, typically used when operating in blind waterways (obstacles in the way) or in fog. A portable, hand-help air horn is usually the product of choice for meeting this requirement.

Beyond those mandated by the CG are the myriad items to prepare us for independent operation in a sometimes-hostile environment, to resolve situations that arise unexpectedly, and to prevent such problems from occurring in the first place. Such items might include sufficient fuel to reach the destination and return, as well as a reserve fuel supply to meet a diversion or other unexpected need.

When things go wrong, having a working bilge pump, an anchor and a few essential tools and spare parts can make the difference between a bad day and much worse one. Finally, a well-equipped dive boat should be provisioned with oxygen and first aid equipment, water and other survival rations, navigation gear, communications equipment, and both people and knowledge to use these resources effectively.

Boating Know-How

When it comes to seamanship, there's little substitute for experience. For fledgling boaters and those who want to fill in the gaps in their knowledge, safe boating course are offered by many European Countries Coast Guard, Auxiliary Services, Yacht Clubs and similar organizations . Most of the time, our passages are peaceful, but on that rare occasion that something goes awry, it's essential to have our proverbial ducks in a row. By taking a few simple precautions, we can help ensure the safety of ourselves and of those who dive with us.

Boating Safety Tips

- Before leaving port, always ensure the vessel is properly maintained, fueled, and stocked with the necessary emergency equipment.
- Always file a float plan with friend, relative or other responsible party.
- Know your boat, its systems and handling characteristics.
- Always maintain a high degree of situational awareness: know where you are and what are surrounding or nearby hazards.
- Keep a keen eye out for weather changes.
- Know and practice navigation rules.
- Know and obey all state and federal regulations and waterway markings.
- Never overload the vessel. Overloading lowers the distance between the water line and the top deck (freeboard) and hampers performance, increasing the risk of a boating accident. Never exceed the limits posted on the vessel's placard.

Navigational Needs

Above the sea or below, it is important to know where you are at all times. While modern global positioning systems and moving maps make quick work of the normal navigation tasks, there are times when a nautical chart and compass are your best friends – if you know how to read them. For those unfamiliar with the rudiments of coastal navigation, it's worth the time to learn the basics. Start with a nautical chart of your "home waters," and then consider a coastal piloting or safe boating course.

Communications

Communications equipment can be essential to filling the needs on the open seas. Close to shore, a cell phone can be a great way to call for help, but out at sea, service is limited at best. A marine VHF radio is probably the best form of communication, allowing direct contact with both the Coast Guard and other vessels in the area. In addition, a vessel needs a recall siren or some other way to alert divers, in an emergency, that's it's time to return.

Regardless of whether we're equipped with ship-to-shore communications, filing a float plan with a responsible party on shore will help ensure that if a disaster strikes, someone has an idea of where we went, and when to expect us home. The float plan identifies the vessel, the persons on board, the destination and planned route of travel, and the expected time of return. If the vessel doesn't return as expected, the float plan can help rescuers initiate an effective search.

Changing Weather

Where I grew up in New England, the saying went: "If you don't like the weather, just wait a minute, it will change." For the boater, changing weather conditions are things to consider carefully. They not only can affect dive conditions, but they also can quickly bring about dangerous conditions on the surface.

Seasoned skippers know that weather radio, weather reports and radio traffic between vessels can alert us

to changing conditions. It pays to keep an eye on the weather. Be alert to changing barometric conditions, wind shifts (speed or direction) and temperature changes. Increasing winds and rapidly dropping temperature or barometric pressure can indicate deteriorating conditions. When it comes to visual cues, keep an eye to the west, as weather systems in the northern mid-latitudes approach from the west.

Fog formation can pose a particularly serious threat, since it can make it difficult or impossible to navigate and detect hazards. Any time air cools to the dew point, fog is likely to form. Relatively warm, moist air moving across cooler water can cause fog to form very rapidly.

Thunderstorms are perhaps the most dangerous weather condition encountered by boaters. Beyond the lightning, hail and reduced visibility in heavy precipitation, the strong, gusty winds quickly translate to high sea conditions. The recipe for thunderstorms includes relatively warm, moist unstable air combined with a lifting force. What often start as innocent-looking cumulus clouds can rapidly transform into truly malevolent storms.

Any time the unstable air rises to an altitude above the freezing level (typically 3,000 to 5,000 meters), ice crystals form, exchanging charges through mechanical collisions, much the same way that we become "charged" when shuffling across a carpet on a crisp, winter day. When lightning begins, the storm has reached maturity, and with it comes whipping winds, blinding rains and stormy seas.

A Buddy on Board

Any time we're exploring the world below, it's important to have a "watch" or lookout – a responsible person to stay on board to manage the safety scene. Many years ago I did not leave such a person on board. It was a night dive, and after surfacing, we found that the dark colored hull and dimly lit anchor light formed perfect camouflage against the night sky and sparsely lit coastline. Fortunately, while swimming for shore we bumped into the boat (quite literally) and were spared the embarrassment – or worse – of losing our boat. Still, the lesson was not lost on us.

The watch has primary responsibility for keeping an eye on the weather, manning the radio, watching for things like a dragging anchor and keeping an eye out for surfacing divers. This person should be trained not only to safely operate the boat, but in first aid and accident management.

Another important responsibility of that "buddy on board" is to ensure that nobody is left behind. The DAN Diver IDentification System (DIDS) is a great tool for keeping track of divers, but other strategies can also be effective depending on the size of the boat and the number of crew and divers.