Mitigating Terrain Risks

How you and your passengers fare after a survivable off-airport landing depends on what you're wearing and what's in the airplane.

BY WALTER ATKINSON

There we were in a friend's F33A Bonanza at 9000 feet in radio darkness from Houston, Jacksonville, and Miami Centers. That put us plus or minus six feet from the geographical center of the Gulf of Mexico. We were droning along under a full moon at about 10 pm, listening to Jimmy Buffett on the CD player. The in-cockpit conversation mainly focused on debating which Key West bar we were going to grace as soon as we landed.

Then the radio came to life and ruined the mood. "Baron 12345, this is American 3743, are you on the frequency?"

My friend paused, then answered, "Uh, yep; we're IFR to KEWY, niner thousand with Buffett on the CD player, 345."

"Okay; Miami asked us to see if you were on the radio. They're expecting you to check in."

"Yeah, we can't get 'em yet—too low," he explained and gave a position report and ETA for the fix where we would report in before adding, "By the way, we're a Bonanza."

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Long pause.

Then came one more question from FL310, "345, you're a B-o-n-a-n-z-a ? Out *here*?"

We looked at each other quizzically. The engine doesn't know it's over water. The airframe doesn't know it's over water. We've sailed across the Gulf a dozen times and there are no drug runners or pirates to shoot at us at 9000 feet.

"Flying over the Gulf isn't dangerous," we thought.

And it's not more or less dangerous, *per se*, than simply orbiting one's home plate for the same amount of time. But flying over water and out of gliding distance from land does mean if something happens, the challenges we'll face on emerging from our cozy airplane cabin will be different than the green, green grass of home. The same is true when operating over snow-covered mountains in winter or the rural southwest in summer.

NO DIFFERENCE?

I've had a dozen more birthdays since that mind-numbing trip to Key West. I've become friends with Doug Ritter, one of the foremost authorities in being Equipped to Survive (*www.equipped.org*). I've tried to pay more attention.

It costs me 20 minutes extra on a 3+45 flight to go through Cross City, staying over land on my way to Key West. That's how I do it now in a single. Might do it that way in a twin, too. But Key West is an island and sooner or later you're going to cross some water.

So, how do we mitigate the risks of flying over dangerous terrain or water? Not counting all of the wise things we should do in the form of pre-flighting, what should we do for the unexpected post flight if we have to put it down where we didn't plan to

Before launching on a long, overwater flight, you'll want to ensure you have a life raft appropriate to the number of passengers. For example, a four-person raft will be cramped with that many bodies; consider a six-person raft for your four-seater. Skimping on life-saving gear—omitting an entry ladder or overhead shelter from your life raft, for example—can literally mean the difference between life and death after a ditching.

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FOOTWEAR

Never wear anything in the airplane that you're not willing to be wearing if you have to walk/swim out. For overwater flights, that would be top-siders. I can kick those off easily to swim. For mountainous terrain, it would be heavy hiking boots. To cross the pine trees in the South, it would be, at the very least, good walking shoes or light hiking boots.

If you think wearing hiking boots in the cockpit is uncomfortable or inconvenient, try walking out of rough or swampy terrain in a pair of loafers.

EMERGENCY SUPPLIES

Nothing in the airplane is available to you unless you can reach it from your seated position. Sleeping bags in the baggage compartment are camping supplies, not part of your emergency equipment. The same goes for a raft, or a medical kit, or that nice, new PLB you got for Christmas. If you can't reach it, consider it unavailable in an emergency.

You may survive the crash and not be able to move. For this reason, a geeky, pocketed vest is not a bad concept. Get the things you need where you can reach them if you need them. If you have back seat passengers, they can reach a larger area than you can, but get the items you might need within your reach before you touch down.

RAFTS OR TENTS

There are all levels of quality of rafts available, and some that might be acceptable in warm water will only prolong your death in cold water. The good ones are expensive, but what would you pay for one when you find yourself treading water in the middle of nowhere?

Another great use for a raft for those who seldom fly over water, but do fly over mountains, is use as a shelter. A raft does great double duty. It can keep you out of the snow, rain or sun. A tent isn't of much use when you're treading water, but a raft can work as a tent. Doug Ritter's demonstration in a swimming pool about how difficult it is to get into a raft is an eye-opener. The more expensive rafts have ladders. What would you pay for a ladder if you're in the water and can't get into your bargain raft? For a North Atlantic crossing, you will definitely want to wear a survival suit.

WATER

Many pilots carry water over the desert. The weight would be worth it if you made a nice, smooth touchdown and had to walk

PHONE HOME

Given the February 2009 end of satellite-based listening for conventional (121.5/243.0 MHz) emergency locator transmitters (ELTs), sister publication *Aviation Consumer* recently looked at personal locator beacons (PLBs) as an alternative to pricey 406 MHz ELTs. The GME AccuSat at left was a top choice. At right, newcomer SPOT offers e-mail-based tracking and 911 capability through a commercial satellite network. Though less expensive to buy than a PLB, SPOT requires an annual service contract; PLBs don't.

out. It would be good to have in the middle of the Gulf, too. The savvy pilots carry this water in plastic containers that can be filled or emptied based on the need for the flight. The empty container weight is negligible when you don't need the water but it is easy to fill when you are preparing for a flight where it would be a good idea.

MEDICAL KITS

There are a number of very good medical/emergency kits available and if you're so inclined you can make your own less expensively. Sporty's (*www.sportys.com*), Equipped to Survive, and Brent Blue's Aeromedix.com (*www.aeromedix.com*) have kits ranging from minimal to comprehensive. Being in the healthcare field for 30 years, I decided on the big kit from Aeromedix.

I've opened Doc Blue's Emergency Medical Kit on several occasions that weren't emergencies and have found it very useful to have onboard. Of all of my goodies, that kit has been the most useful. Doug Ritter's smaller kit is a reasonable choice. You can even build your own...but get one in the airplane.

SURVIVAL/PROTECTION

When flying over Alaska or the remote areas of Canada, I've taken an appropriate firearm. You might have to eat or keep that Grizzly away. I take a 12-gauge shotgun with birdshot, buckshot and slugs.

There are those who might suggest that if you fly over large metropolitan areas you should take a handgun. Regardless, if you add a handgun to your gear, be sure its caliber starts with a "4" and make yourself aware of the local, state or federal laws apply to carrying firearms. There is no better source of this information than fellow pilot and outdoorsman Tom Gresham's GunTalk (*www.guntalk.com*).

WHAT TO TAKE?

You can have enough survival gear so as not to be able to take the Aflac duck with you without being over gross. For certain flights, flares, saws, folding shovels, etc., all come to mind as items that could be of use. But are they worth the weight?

Only you can decide that. Taking everything you might need is obviously not reasonable for most, but being prepared with the items that are appropriate for your survival in and around the terrain you frequently traverse should always be present in your airplane. I have a supplementary kit I can add in a flash to the things that are always with me, which includes things that would be good to have when crossing the more inhospitable areas. That way I make it easy—otherwise, I might not slow down my Type A self long enough to get it all ready before the trip that materializes on short notice.

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Strategizing Survival

Because most of us fly over hospitable terrain in temperate climes, we don't need to load down our airplanes with a lot of survival gear. Too, throwing in a bunch of food, water and other "just in case" stuff every time we launch tends to ensure already-nervous passengers will stay that way. Finally, at least in the lower 48, it's rare for a survivable crash to go unnoticed. Elsewhere—and except for Europe, perhaps—not so much. Nevertheless, being prepared for an off-airport excursion is far preferable to the alternative. In a survival situation, some things you need to worry about include:

FOOD/WATER

Humans can do without food for extended periods but water is essential. And heavy. Consider alternatives like purification tablets, solar stills and collection devices. Foodstuffs should be selected for their low bulk and high energy content.

SHELTER

As discussed in the main text, a life raft can be used as a tent. The opposite isn't true, however. Staying warm/dry on land helps conserve needed energy while awaiting rescue. Don't count on being able to use what remains of the airplane.

COMMUNICATIONS

Your ELT may not work even if it survives the crash. And if your cellular provider is like mine, there still are many locations where cellphones can't get signals. A handheld com radio could come in handy but consider also a PLB or other satellite-based option along with a signaling mirror. If flying outside the U.S., a 406 MHz ELT may be mandatory soon. Check the rules where you intend to fly.