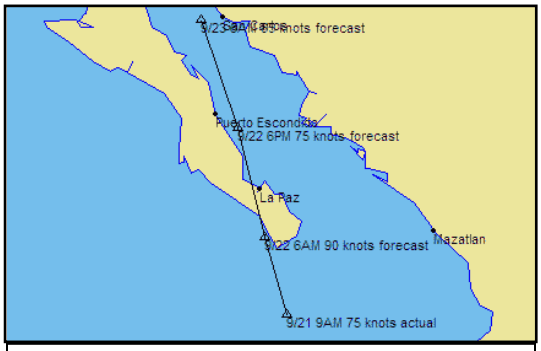
Dave Shearlock checks the chafe gear aboard *¿Qué Tal?* as Hurricane Marty's eye wall nears.

Hurricane Warning

Riding Out a Big Blow at Anchor

By Carolyn Shearlock

"Hurricane Marty has speeded up overnight and the eye is right now over La Paz. They reported having winds over 100 knots. For those of you in Puerto Escondido, you need to finish your preparations immediately. I think you'll see the winds increasing in less than an hour."



When we went to bed Sunday night, the forecast track for Marty called for the storm to be 40 miles SE of Puerto Escondido at 6 PM on Monday.

Cruising in the Sea of Cortez, Mexico, my husband Dave and I got a surprise when we listened to the Amigo Net weather on the morning of Monday, September 22, 2003. Overnight, Hurricane Marty had speeded up dramatically, from 4 knots to 20 knots. Don Anderson of Summer Passage Radio, the net's weather guru, reported at 8 AM that the eye was over La Paz, just 100 miles to the south of us in Puerto Escondido. Boats in La Paz were reporting winds over 100 knots, making Marty a Category 2 hurricane. Don thought that Marty's center would pass about 30 miles to the east of us, putting us on the edge of hurricane force winds. But, he warned, the path could easily shift and Marty could make a direct

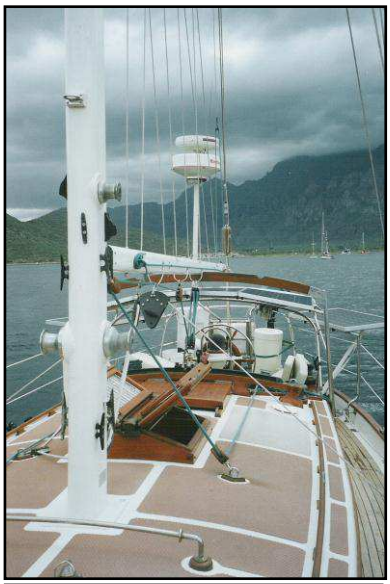
hit on Puerto Escondido.

The right hand track is the official NOAA storm track. The left branch shows where cruisers saw the eye.

Dave and I, aboard *¿Qué Tal?*, our 1978 Tayana 37, had spent the previous day moving into Puerto Escondido, a hurricane hole, and making our hurricane preparations. As we had worked, stripping sails and canvas, stowing the dinghy below and putting out our storm ground tackle, we talked about whether we should stay on board during the storm or go ashore. Within 15 minutes of Don's announcement, it was clear that we didn't have a choice. The storm was upon us and we were going to ride it out at anchor.

About 80 boats were in Puerto Escondido for the storm. Of these, 24 had people aboard; the others had been left in the care of boat watchers while their owners traveled to the US or Canada. High hills and mountains almost completely surrounding the inner harbor made cruisers consider this the best hurricane hole in the Sea of Cortez. Although wind could come through two low-lying areas known as the windows, waves would be totally blocked as the narrow entrance channel made a 90º turn. In fact, most cruising guides saw the number of boats here as the only detriment to Puerto Escondido as a hurricane hole. However, no one could recall a direct hit on the bay.

That test was about to happen. Were our preparations sufficient? Would we be fouled by another boat? Our insurance required our boat to be in a marina during a named storm; we thought that Puerto Escondido offered more protection and had elected to stay near there during hurricane season. Had we made the right decision?



***¿Qué Tal?* ready for the storm. All we have to do is close the hatches and tie down the solar panels.**

A certain amount of luck was with us. While Marty did turn and hit Puerto Escondido directly, the storm had decreased to a Category 1 hurricane, with sustained winds around 70 knots and gusts to 82. More importantly, the storm moved quickly, lasting just 12 hours. And those hours were all daylight hours – just after 8 AM to about 8 PM.

Throughout the day, the 24 manned boats talked to each other on the VHF radio, periodically checking to make sure everyone was okay and to pass on news of dragging boats to watch out for. As the rigging howled and several boats took knockdowns, we couldn't help one another but we could provide moral support. Visibility decreased until conditions were a total white out. Suddenly, the winds lightened considerably. Had the storm passed? Most of the fleet thought that it was over.

Hurricane Marty's eye can be seen through *¿Qué Tal?*'s lazyjacks, stretched by the wind.

Unfortunately, it wasn't. The white out had been the eyewall, and we were now in the eye of the hurricane. For over half an hour, we had almost calm conditions. Cruisers called to one another and fixed problems in their ground tackle. Some were getting ready to launch dinghies and help friends. Then, the winds rapidly built back up from the opposite direction. Boats swung on their anchors and straightened out their chains once again. "Halftime" was over. We all hunkered down for another 4 hours of helping our boats protect us.

As the storm finally died down for real, we began to take stock of the damage. Of the occupied boats, two had broken rudders, one had torn loose its bow pulpit, many had dragged, and numerous others had minor problems or damage. But none had major damage or injuries to crew. Aboard *¿Qué Tal?*, we had virtually no damage.

Among the unattended boats, though, the story was different:

- 10 boats went aground
- 7 boats had sunk
- 3 boats had been swept through the entrance channel – one was found floating 3 miles away with substantial damage, the second was high on a beach 4 miles away, and the third had reset its anchor in the middle of the channel.
- Several had dragged and either hit or almost hit other boats, although none of these had major damage.

In the week following the hurricane, people who had been aboard 18 of the 24 occupied boats answered my questions about their ground tackle, how they had prepared for the storm, actions they had taken during the storm and what they would do if facing another hurricane at anchor.

Several of the boats had astounding stories. Bill, a single-hander aboard the 27' *Elusive*, had seen his anchor rode chafing through but could not replace it or pull it in. So he used a pair of Vise-Grips™ to clip the retrieval line for his kellet to the rode ahead of the chafe point. It held until the eye passed overhead and he could pull the rode in beyond the chafed spot. Several boats dragged significantly and had to re-anchor, deploy a second anchor and/or use their engines to stay off the rocks.

By no means did we do everything perfectly, but we did learn a number of lessons to pass to other cruisers. Virtually everyone said that they would make changes in their storm preparation for another hurricane; we had all learned where our weak points had been.

Cruising areas vary, and choosing the best hurricane hole, appropriate anchors and scope will depend on where you are. Still, a number of the lessons learned by the Puerto Escondido fleet are equally applicable in other areas.

Two Primary Rules

Rule Number 1: Assume the worst. Assume that the storm will turn and hit you directly. Assume that the storm will speed up as it travels toward you. Assume that it will stall while you're in the worst of it. Don't try to out-think the storm. Pick the very best hurricane hole you can and overprepare. While you're being pummeled by the eyewall – or pushed onto the beach – you don't want to be thinking "if only I'd . . . "

Rule Number 2: Prepare early! Remember that when a forecaster predicts when a storm will be in your area, he's predicting the center of the storm. Winds, waves and rain will be at storm force long before then. Gale force winds usually extend out over 100 miles from the center of a hurricane. So if a storm is 300 miles away from you and moving at 20 knots, you could be in a gale in just 10 hours. And once winds are at gale force, you can't do much more to prepare for the storm. Remember, hurricanes can speed up dramatically.

Before the Hurricane Season

If you are going to be cruising in a hurricane area, there are several things to do before hurricane season even starts:

- **Weather information.** Learn where to get the best possible weather information while on board your boat, whether it is via television, radio, VHF, SSB or ham nets, weather fax or e-mail services. If you have Sailmail or Winlink e-mail, both offer numerous ways to get NOAA and other weather reports. If you'll be getting information over the radio, an inexpensive tape recorder is a good investment as it is hard to record position information as fast as it is read. Once hurricane season begins, monitor the weather every single day.

- **Investigate hurricane holes.** What are the pros and cons of each? If possible, spend a night or two and see what the holding is like. What anchor works best? Is there anything to watch for as you enter the anchorage? If you're hurrying for a hurricane hole, you'll feel a lot better entering an anchorage where you've been before.

- **Create a checklist.** Take an afternoon and develop a checklist for preparing for a hurricane. *¿Qué Tal?*'s is shown on page 9 – but don't just copy ours, make one that is specific for your boat. Plan where sails and other deck items will be stored. Is there anything that you need to get out of lockers first? I remember my frustration in discovering that all our canned foods and chafe gear were in the locker under the sails and dinghy.

- **Plan your storm anchoring.** Spend some time reading any of the various excellent reference books on storm anchoring. Buy any extra equipment you need – a different anchor, longer or different rode, new snubbers, material for chafe gear, shackles – whatever.

- **Prepare your chafe gear.** We made our own chafe gear of double layers of reinforced hose. Forcing one piece inside the other took me the better part of a day to make as many pieces as we needed for all our lines, plus spares. If you have a bob stay on your bow, be sure to figure out a way to keep your snubbers from chafing on it.

- **Buy supplies.** You'll almost certainly need some Liquid Wrench to take something apart in your hurricane preparations, and it helps to put things back together with some Never Seize. You'll need seizing wire, too. And we seem to average losing one shackle overboard each time we prepare for a storm. If chandleries aren't nearby, stock up as it's likely that you'll have to prepare for more than one storm each year – although, hopefully, none will make a direct hit on you.

Preparing for the Storm

This is where having prepared a checklist in advance will pay off. You won't have to try to think of what you need to do, just go down the list. See *¿Qué Tal?*'s checklist (page 9) for the specifics of how we prepare for a hurricane. Following are more general things we've learned.

- **Use your time wisely.** Start preparing the boat on the way to the hurricane hole. If you are motoring, maybe you can start taking your sails down. Canvas can be taken down. Run the watermaker and fill the tanks. Rig your jacklines. Secure items below. If any lockers leak in heavy seas, see if you can relocate items that could be damaged (we put many of our reference books in dry bags and stowed them on the floor under the salon table). Prepare your ditch bag (see below). Don't spend your time on non-essential tasks.

- **Start by laying out things you'll need so that you don't block access to them.** Food, life jackets, jacklines, harnesses, snorkel masks, warm clothes, chafe gear, new snubbers, foul weather gear or wetsuits, extra lines, first aid supplies and anything else you'll need. Make sure your tools are where you can get to them easily. Have several waterproof flashlights available, along with plenty of spare batteries. Keep several sharp knives available in case you have to cut lines in an emergency.

- **The first priority is to anchor well.** If you are using a mooring, dive on it to make sure it is large enough and does not need repair. Follow your ground tackle plan and make sure your anchor is well set – power back on it as hard as you can. The storm will generate far more force than your engine. If you drag now, you won't stay put through the storm. As you drop your anchor, record a GPS waypoint. During the storm, you can use this waypoint to determine if you are dragging; if you should lose your anchor in the storm, this will help you find it afterwards. Be sure to have room to swing 360º at the full extent of your rode.

- **Take all sails down.** This is crucial. Many cruisers in La Paz found that their insurance would not pay off because they had left sails on the boat. Tying them down simply is not sufficient. It is better to spend half a day putting them back on after the

storm passed you by with nothing more than gale force winds than to spend a week figuring out how you're going to get your boat off the beach.

- **Get everything below decks that you can.** We took all our canvas down, although some boats did leave dodgers up to give them some protection when watching from the cockpit during the storm. We also put empty jerry cans below, but left full ones on board, not wanting fuel below. Reducing windage will significantly reduce the strain on your ground tackle. Also, there's less chance you'll lose items, and less chance they will hit and damage someone else's boat. Tie down anything that you have to leave on deck VERY securely. Secure things down below so that they won't be flying projectiles if the boat gets knocked down.

Sails, dinghy, cushions and more made a massive pile on *¿Qué Tal?*'s port settee. With our first roll to starboard, everything ended up on the floor. Luckily, we were both in the cockpit and weren't injured.

- **Dinghies.** The best place for your dinghy is down below, with the motor stowed as for passage. If you have an inflatable dinghy and don't have room for it below, deflate it and tie it down as securely as possible. Some boats with hard dinghies tied them on deck as they would for a passage. Others sunk them and tied the painter to their boats – if you do this, be sure to put some sort of a buoy on the dinghy in case the painter chafes through.

- **Leave a place to sit and sleep.** It will be several days before your boat is back to "normal," particularly if you are assisting damaged boats.

- **Top up with diesel and water, fully charge batteries.**

- **Tie off all lines and sheets – away from mast.** In a storm, loose ends of lines can be lethal – don't forget things like the boom vang and main sheet that are led to the cockpit. We pulled out the furling line for our genoa (the sail was already down) and tied it off so that it could not unwind on its own. We led both ends of all halyards away from the mast to belaying pins attached to the shrouds. Once we removed the main sail, we put up the lazyjacks so they wouldn't beat against the mast.

- **Prepare a ditch bag.** This is somewhat different from an "at sea" ditch bag. If you do go aground and have to leave the boat, you'll need your boat documents, passports, money, handheld VHF, warm clothes, spare shoes, canned or dry food (and a can opener!) and water.

- **Roll call.** If there are more than just a few boats in the harbor, have someone make a list of boats and the number of people on board.

During the Hurricane

Only you can make the decision as to whether you should stay on the boat or go ashore. It will depend on the forecast strength of the storm and the availability of hurricane proof shelter ashore. If you do stay on board, here are a few things to keep in mind.

- **Once the storm starts, you're on your own.** No one can help you, and you can't help anyone else. You are responsible for your own safety.

- **Jacklines, harnesses and life jackets.** Wear your life jacket and harness whenever you are not down below – and when you are below, keep it where you can grab it instantly. The situation can change in a heartbeat. We used our harnesses even in the cockpit.

- **Clothing.** It's wet, windy and cold during a hurricane. Our foul weather gear just didn't keep us dry. We finally got smart and put on our wetsuits! Other people wore long pants to protect their knees as they crawled around on deck. Nearly everyone in the fleet used snorkel masks to be able to see in the driving rain and spray.

- **Keep watch; use your radar and GPS.** Holing up down below and trying to ignore the storm is foolhardy. Keep watch, both on deck and electronically. As the storm first hits and you stretch out your rode, use the GPS waypoint you recorded when you dropped your anchor to determine whether you are dragging or just stretching out the rode. If you start to drag, you can take action. If another boat appears to be dragging toward you, you can try to maintain clearance by motoring.

- **Check chafe gear.** Until the storm becomes so violent that you can't go forward, keep checking your chafe gear and reposition or replace it as necessary.

- **Bilge pump.** As the waves built to 4 to 6 feet, we took on water though our chain pipe even though it was stoppered. We had to run the bilge pump every hour or so.

- **Motoring.** Motoring is really a desperation move, something to do if you are already dragging or to maintain clearance with another boat. Otherwise, we felt that it actually increased the strain on the ground tackle as slack would develop in the rode and then the bow would fall off hard and stop with a jerk. As winds rose over 50 knots, however, many boats ran their engines in neutral so that if they needed to use them, they could do so immediately.

- **If you're going aground, try to pick your spot.** If it becomes inevitable that your boat is going aground, you probably still have a little steerage as you slide backwards. Try to aim for a spot without rocks, and try to avoid other boats. Boats that went into mangroves generally had the least damage.

- **Too good, too fast.** As the storm hits, it's unlikely that you'll really know where you are in relation to its center. If the storm seems to die out too quickly for the amount of wind that you had, assume that you are in the eye and get ready for very strong winds from the

opposite direction. Use the calm at the eye to quickly fix any major problems that threaten your safety in the second half of the storm, but be prepared to abandon those repairs as the first puffs hit you.

After the Hurricane

- **Call roll.** As the storm dies down, the most important thing is to make sure that all boats and people are accounted for and safe. Does anyone need immediate assistance?

- **Check all your gear and fix things ASAP – another storm could be coming.** Even if your ground tackle held well and you had no problems, examine your ground tackle carefully in the days after the storm. Repair or replace anything that isn't perfect. Chances are, you'll have discovered a few changes that you want to make in your hurricane preparations – talk these over with others on your boat and change your check list accordingly.

- **Allow sufficient time to raise anchor.** If your anchor held through the storm, chances are that it's buried deep. It took most boats 2-1/2 to 4 hours to raise their anchors after the storm.

- **Watch out for floating debris.** All sorts of stuff can be in the water! Be sure to check your salt water strainer frequently on your engine and water maker. Water maker prefilters can plug up quickly, too, if there is a lot of mud in the water.

About the author: Dave and Carolyn Shearlock rode out both Hurricane Marty and Tropical Storm Ignacio in the Sea of Cortez. In the photo, their boat *¿Qué Tal?* is on the right. Hurricane Marty was about halfway to its full power when this photo was taken. They are back in the Sea of Cortez again this year.

Sidebar: *¿Qué Tal?*'s Hurricane Checklist

Tanks
Make sure batteries and water are topped off prior to the storm
Make sure there is sufficient diesel
Remember to freshwater flush the watermaker every 2 days if the water is too dirty to use the watermaker

Sails and Spars
Genoa down and sheets off
Pull roller furler line out and cleat off
Staysail down
Main down
Reef lines off – mark which is which, take photos of how rigged
Center boom
Boom gallows on and bolted
Boom brake on
Vang on
Vang control line, staysail sheet and main sheet tied off to traveler
Lead all halyards to belaying pins
Lazy jacks up, control lines to belaying pins

Anchoring
Chain around Samson post
Long chain snubbers on
Heavy duty chafe gear on
Chafe gear on spare anchor
Spare chafe gear out
Danforth out of lazarette and ready to go
Spare anchor ready to go – on rode and tied with line, not shackled

Dinghy
Dinghy rolled and below
Dinghy engine mounted on transom and tied down

Canvas
Dodger down
Bimini down

Cockpit and Deck
MOB pole down
Propane cushion down
Tie down spare propane locker
Transom zinc into lazarette
Duct tape over seams to stern door into lazarette, propane locker and lazarette
Little anchor light in
Horseshoe buoy in
Fenders in lazarette
Grill below
Buckets below
Teak cockpit table and drink holder in
Plastic drink holders in
VHF holder in
GPS in
Shoes in from cockpit
Cockpit cushions in (do this BEFORE the first rain hits!)

 "Hurricane Warning—Riding Out a Big Blow at Anchor" was originally published in *Blue Water Sailing*, September 2005, as "Riding Out Marty at Anchor" and was featured on the cover as "100 Tips for Weathering a Hurricane"– this is the original manuscript, not necessarily exactly what was published. Available as a .pdf on TheBoatGalley.com

Courtesy flag and US flag in
Air Line (hookah) below and tube deflated
Key in diesel ignition; plexiglass over instruments
Tie down solar panels
Tie jerry cans extra well
Empty jerry cans stowed below
Swim ladder and dinghy step below
Sunshower below (but take shower right before it gets bad)
Bungees and clothespins below
Lightning chain in place
Chain snubber bag off bow pulpit
Sunscreen bag out of cockpit
Binoculars in
Screens out of port holes
Winch handles in

Below Decks
Canned good out (BEFORE sails are on table)
Spare lines out (BEFORE sails are on table)
Books in dry place
Tools in dry place and accessible
Computer in dry bag
Snack foods available
Drinks accessible (BEFORE stowing everything in quarterberth)
Split up where the toilet paper is stowed
First Aid stuff accessible
Everything secured as for leaving harbor
Seacock for manual bilge pump open
Handle for manual bilge pump out
Rags out to wipe up leaks and rain blown in companionway

Personal Things
Take seasick medicine
Foul weather gear accessible
Harnesses accessible
Head lamps ready
Masks and snorkels accessible
Wet suits accessible

Miscellaneous
Clean strainer for engine salt water pump – have spare pump accessible

If it looks really bad . . .
Engine blower plate in
Solar vent plates in
Dorade plates in
Drop boards in
Close seacocks for head, sink, watermaker
Have extra bungs and hammer ready
Cut wires to solar panels and take them below

Sidebar or Online Supplement: What Happened to the Puerto Escondido fleet

The inner harbor has a mud bottom and few areas with less than 42 feet of water. Most boats anchored in 42 to 45 feet on 250 to 300 foot rodes. The Waiting Room has a sand bottom, but is deep. Most boats there used moorings left from when The Moorings had its charter base in the harbor. Other moorings have been created in the inner harbor. About a quarter of the boats in Puerto Escondido for Hurricane Marty used moorings, the rest were on anchors.

The experiences of the 18 boats that I talked to can be summarized as follows:

- **Moorings.** Of seven boats on moorings, 2 dragged. Both put out additional anchors and motored to stay off the rocks; neither was able to totally halt the dragging. One other boat had a swivel fail on the mooring, but a safety line that they had added held them. Another boat dove on their mooring before the storm and found a pin that had to be replaced. The morning after the storm, another boat that had been on a mooring was found floating free. Also, several of the unoccupied boats that were swept out of the harbor, went aground or were sunk on the jetty had been on moorings; the exact number is not known.

- **CQR/Plow/Delta anchors.** Of five boats with this type of anchor, three dragged. One could not deploy a second anchor, the Plow never reset, and their engine wasn't powerful to stop the drag. The couple thought that they were within a minute of going on the rock jetty when the eye came and the wind diminished.

- **Bruce/Claw anchors.** Six boats used Bruce or similar anchors. Two dragged; one quickly reset and held for the remainder of the storm, the other deployed a second anchor.

- **Two anchors on one rode.** Two boats employed a Delta or Plow anchor in line with a Danforth-type anchor on a single rode. One dragged 150 feet early in the storm; they pulled up both anchors, motored further from shore and re-anchored with the same setup. They had no further problems, nor did the second boat. Another boat very carefully set two anchors in a "V" pattern and had no problems.

- **Fouled anchors.** Four of the five boats that used a second (or third) anchor during the storm to stop dragging had problems with tangled rodes and fouled anchors.

- **Motoring.** Many boats tried motoring at one time or another to reduce the strain on their ground tackle. Most concluded that motoring might actually cause more strain as slack with develop in the rode and then the bow would fall off with a sharp jerk on the anchor. Everyone agreed that motoring was really a desperation move – good only if the boat was already dragging or to maintain clearance with a boat that was dragging past. However, several boats did leave their engines running – particularly as the storm neared its height – so that if they needed to motor, they could do so instantly. Two boats that motored because they were dragging discovered that they didn't have enough horsepower to make headway – they could only slow their rearward progress.

- **Crew size.** The storm was definitely harder on single-handers. They had no one to help prepare for the storm and no one to help during it – even to hand them a bottle of water or provide moral support. Another boat that was dragging discovered that the wife didn't have the strength to handle their tiller steering to try to avoid the boats behind them, nor could she deploy a second anchor.

- **Kellets.** Three boats used kellets; all thought they had helped the anchors hold better and the boats ride better.