

Courtesy Norfolk Police Department



## From Locks to Lockdown

*Keeping the bad guys at bay*

by Lenny Rudow

***Thieves making off with a trailerable boat are caught on a security camera in Norfolk, VA on December 28, 2012.***

**W**HILE NO NATIONWIDE stolen vehicle registry exists as it does for autos, industry sources estimate that more than 12,000 boats worth more than \$300 million were stolen in 2012. Boat thieves are the lowest of the low, true bilge rats of society. Anyone who's walked down the dock to discover an empty slip, or arrived at the boatyard and found an empty space where the trailer was parked, can tell you that the theft of your boat is nothing short of heart-breaking. Fortunately, some simple precautions coupled with modern technology can keep your boat from becoming a victim, whether she's moored at a distant marina or sitting on a trailer in your driveway.

### CRIMINAL INTENT

To understand how best to combat boat theft in your neck of the woods, you first have to understand what you're up against. What type of boat you own has a direct

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## THE LAST OF SANDY?



I keep my boat (46 Viking) in Seaway Marina in Rockaway, New York. Everything I have ever read on storm preparedness says to take it out of the water and cover it, and tie down the straps and cradle. Because of the height of the surge with Sandy, the boats on the hard got lifted off their cradles and flooded with saltwater (plus drain plugs were out). My boat (after I storm-prepped it) went up and down with the tide with nary a scratch. In this photo, taken from my cockpit, you can see a boat on land that floated off its cradle and almost fell onto my transom. Sometimes even the experts get it wrong (go figure). Of course, the severity of Sandy surprised nearly everyone.

**Peter Galvin**  
Rockaway Park, NY

I have seen many pictures from Sandy where sailboats stored on land ended up piled up like dominoes. I don't understand why people insist on storing sailboats with the rig up. Even in normal winter storage situations, I have seen boats topple off their stands because their rig was up. Some folks just roll the jib and cover the main on the boom. Look at the potential hazard one has created. I'll bet the resulting damage from Sandy would have been much less had those masts been horizontal.

**Maynard Rupp**  
By email

*You are, of course, correct that the forces on a sailboat will be much less in high*

*winds with the rig out of the boat and stored on the ground. Unfortunately, there is the reality of time and logistics when a storm is approaching. There is a real limit to how many boats can be hauled and blocked per day, and most marinas have far more boats than they can get out of the water in three or four days. If you add the step of taking down the rig, you add the need for a crane for larger boats and for a great deal more time per boat. You also increase the logistical complexity, the challenge of moving additional equipment around in a small area, and the potential for damage to the rig caused by mishandling due to haste. For this reason, the Florida marinas have developed techniques for tying sailboats down to the ground, and those have proven remarkably effective at preventing sailboats from being blown over in high-wind storms even with the rig still in the boat.*

*Interestingly, our debrief of the CAT Team and analysis of the claims files shows that having the masts out in Sandy would not have made that much difference because this was a surge event, not a wind event. Sandy did not discriminate between sail and powerboats, sweeping both away in the high water of the storm surge. This was not the case in storms with hurricane-force winds like Charley, Frances, and Jeanne in Florida in 2004. These blew many sailboats over because of the windage of the mast while leaving powerboats nearby completely unscathed.*

*Not taking canvas off a boat before a storm is another matter entirely — see Alert for more.*

The online newsletter I received this morning with the extensive articles and photos about Sandy is a combination of real sadness for all of the folks whose boats were damaged or destroyed and

also puzzlement at first about the occasional boats that were unscathed. In the case of *Huff n Puff* with the boat's weight supported on the chines rather than simply on the keel, I imagine that 1) the boat was setting up a little higher, (the article mentioned that the owner requested the keel be up 14 inches off the ground), which would make the boat's flotation a little higher up, and 2) the jackstands under the chines widened the base of support so that the inflow of storm water wouldn't be able to "topple" or "wobble" the boat off its stands.

This article about *Huff n Puff* was helpful in substantiating careful consideration of one's boat design in setting up storage supports on land.

**Cecile Schwedes**  
Los Angeles, CA

*To see if you agree with this assessment, check out the online story about Huff n Puff at [www.BoatUS.com/Seaworthy/magazine/2013/april](http://www.BoatUS.com/Seaworthy/magazine/2013/april) and click on "Survival Story."*

## MORE SPRING SNAFUS

Out for my first Spring Fling and I thought I was stranded at the dock — the engine would not turn over. After sitting for five minutes or so trying to get her started, a fellow boater happened to ask me if the power switch on the tiller arm was on or off. Sure as heck, I had turned it off when I laid the boat up for the winter.

Once I turned it on, the engine fired right up. I was a bit red-faced, but was quickly told by my fellow boaters, "Hey, we've all done that." Lesson learned. I'll not make that mistake again.

**Randy Viars**  
By email

Good article. I would also recommend that you ask your marina techs to inspect your boat themselves, even after you have. Ask them to leave the boat in the sling for a few minutes as it sits in

the water. Start the engine as they do the inspection. Lift the engine hatch and have a close look. Make sure water is coming out the exhaust pipes. Make sure they check the “drip” on the drive shaft and the rudder stuffing box or bearing. When this is completed, buy the marina guys a case of beer and a pizza. And happy boating.

**Capt. Tony Denslow**  
Vermillion, OH

Thanks for point number eight of the spring checklist regarding dated gear (expired flares). However, this article, as well as every other one I have read, seems to omit an explanation of what to do with flares after they age out. Toss them in the trash? Keep them just in case they’ll work? Save them for the Fourth of July?

I have a collection from my 20-plus years of membership in BoatU.S., and I would love to know how to dispose of them properly.

**Dave Wilcox**  
By email

*BoatU.S. has been working with the Coast Guard and the flare manufacturers to come up with a solution for well over a decade. It gets complicated as many federal, state, and local agencies are involved, including the Department of Transportation and the Environmental Protection Agency.*

*As with many hazardous-waste disposal issues, flare disposal is handled differently county by county. Check with your local public works department to see if they will accept them at household hazardous waste collections days. Another option is to give them to the local fire department, Coast Guard Auxiliary, or Power Squadrons. I am aware of a few boating safety groups who have succeeded in getting one-time permits to discharge expired flares for educational purposes.*

*It isn't a bad idea to keep a few of your most recently expired flares onboard, in a separate container marked "expired." Unfortunately, the Fourth of July solution is not a legal one. Setting off a flare on or near the water can only be done in an emergency.*

*The Coast Guard has been exploring laser flares as an alternative, but there are issues with these as well — see Alert.*

### HAS JUSTICE BEEN DONE?

A write-up on the aftermath of the events described in the Bismark Dinius “A Strange Case of Justice” article would be of great interest to many (BoatU.S.) members/*Seaworthy* readers ...

**Alan Hyde**  
By email

According to documents listed from December 3, 2012 on Justia.com, the case has been dismissed voluntarily by Dinius and his attorney. Does anybody at *Seaworthy* know what happened?

**Ted Fautz**  
By email

Check out Small Stuff for an update.



### STAYING HITCHED

Once you get your hitch stolen, it wakes you up. Whether the problem is thieves or a loose pin, the solution to keeping the hitch on your truck where

it belongs is to buy a pin that will just fit into the holes cut into the hitch sides, with a drilled-out hole in one end and a bend in the other. These are available everywhere. Insert a padlock into the hole and lock it. Keep the key in your truck's center console. It's not perfect, but most thieves don't come outfitted with bolt cutters and it will never come out on its own.

**Pete Smith**  
Surry, VA

*A simple solution ... for more ideas on theft prevention, see the article, “From Locks to Lockdown,” in this issue.*

### STILL MORE STABILITY

I took four passengers to see the Detroit/Windsor International Freedom Festival fireworks in June 1994 aboard my 21-foot Cruisers Incorporated Bonanza. After the show ended, the mad rush home was the worst display of “me first” I have ever encountered. I vowed that night to never take the boat to see the fireworks again. The combination of boats, drinking, darkness, and no lights on some vessels made this simply too dangerous. To this day, I have kept that vow.

**David Nagorsen**  
Van Buren Township, MI

We have a 26-footer with a flybridge. Multiple people on the bridge in calm water conditions is one thing; in rough water, it is quite another! I know this from experience — thankfully we did not take on water as we rolled over to a very dangerous angle; but it was close ... very close!

When we captain a vessel, those “souls” onboard are in our care, and we must behave prudently and responsibly. That includes staying sober and using appropriate caution when operating the boat.

**Alan Hanna**  
Spokane, WA



## ▶ ONLINE EXTRA

For other tips on avoiding theft, go to [www.BoatUS.com/Seaworthy/theft.asp](http://www.BoatUS.com/Seaworthy/theft.asp)

### **Theft, from page 1**

bearing on how likely it is that the thieves will target it. An analysis of BoatUS theft claims in 2012 showed that boats under 26 feet were three times more likely to get stolen than those over 26 feet. According to a National Insurance Crime Bureau (NICB) 2012 U.S. Watercraft Thefts and Recoveries report, PWCs are by far the number-one target, followed by runabouts, utility boats, cruisers, and sailboats, in that order. Nearly three times as many boats go missing in June as in December.

Where your boat is kept has an impact, as well. According to the NICB data, boats stored in the water at marinas are less likely to be stolen or burglarized than those kept on a trailer. Trailer boats, commonly parked in driveways or backyards, are prime targets for criminals since they're often shielded from view, and they come complete with wheels for a fast getaway.

Theft from your boat is even more common than theft of the boat itself. Electronics, gear like binoculars and fishing tackle, and even outdrives and outboard motors are all targets. Some thieves "specialize" in stealing specific boat parts, like lower units or propellers. Common as these crimes are, it's impossible to know exactly how many take place nationally because they're lumped in with other property thefts in crime statistics.

### **AN OUNCE OF PREVENTION**

Nationwide, recovery rates on boats are only about 40 percent, and most that

are recovered have been stripped of anything of value. That means that preventing a theft from happening at all is far preferable to detecting a theft in progress. For many boaters, especially those living in rural areas, basic crime prevention and a dose of common sense are enough to keep criminals at bay. Others will need to take some added precautions. The simplest precaution is also one of the most effective — a lock and key.

Well-designed, solid, purpose-specific locks can go a long way toward discouraging thieves. If possible, lock your trailer to something solid, such as a tree or metal fence post, just like you'd lock up your bike. Removable outboards can be chained to the boat's tow eye, or a through-bolted cleat. A purpose-built outboard lock makes it nearly impossible to loosen the mounting brackets. The nuts on through-bolted outboard motors and stern drive lower units can be removed and replaced with locking nuts similar to the locking lug nuts used on expensive automotive wheels. Gear that's susceptible to theft can be left in a locked cabin or taken home. And binnacle-mounted electronics can be removed and safely stowed under lock and key.

What about those items that aren't so easily removed or locked down, but might remain a target? In many cases, locks have been designed specifically for them. Trailer tongue locks, like those offered by Master Lock, Reese, and Steal Shield, will keep a thief from attaching a vehicle to the trailer. Some work by preventing the coupler

mechanism from opening or closing, some lock the coupler over a ball and secure a flat surface to the bottom of the tongue, and some completely enclose the tongue and coupler. As with most things in life, you get what you pay for: Inexpensive models in the \$10-to-\$20 range that merely lock through the latch can be removed with minimal tools and time, while more expensive, heavier-duty models that encase the coupler mechanism cost two to three times more but are far more difficult to defeat. If you have a removable tongue, you can remove it, but some thieves carry trailer tongues with them. One alternative is to find a way to lock the tongue to the trailer; another is a wheel lock like those made by Trimax or The Club.

Expensive propellers attract thieves; propeller locks can discourage them. Some propeller locks, like those made by McGard, work on the same principle as locking nuts and replace the prop nut. Others, such as those made by SecureProp and BSafe, secure and cover the prop nut to prevent tampering.

Boats kept in the water can also be "locked" by installing a kill switch. Placed in a hidden location, a kill switch will render the ignition inoperable until it's triggered. While this won't stop anyone from rummaging through your boat and removing items, it is an effective way to prevent someone from starting your boat up and driving it away.

One of the advantages of locks and kill switches is that they don't require power, so they can be used on both trailer boats and boats that don't have shore power. More advanced electronic systems, including some of those in the following sections, can draw down your batteries over time.

Finally, take some advice from a pro. Dan Rutherford of Ocean Marine



***A basic trailer lock (left) provides an inexpensive but easy-to-remove deterrent. The Master Lock and Steel Shield are much more effective — but they cost more.***

Specialties is a member of the International Association of Marine Investigators (IAMI), an organization made up of surveyors and law enforcement officials who specialize in investigating boat theft and fraud. He offers a word to the wise: “If you are like the thousands of boaters that leave your cabin and or ignition key ‘hidden’ in the dorade box, or cockpit winch coaming box, we all (and that includes the thieves) know it is there.”

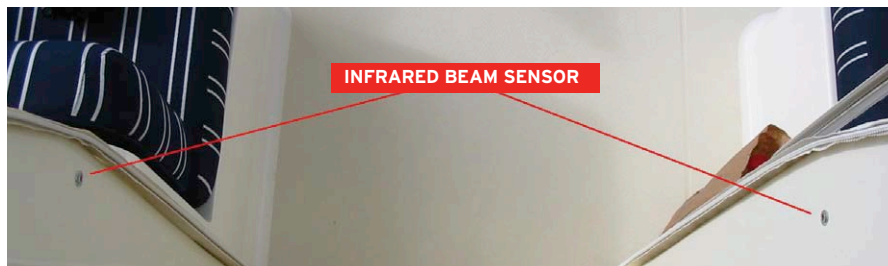
### STEALTH SOLUTIONS

Even though there’s a lock on your home’s front door, if it’s a tempting target, you probably have a security system as well. Larger, more expensive boats deserve an additional layer of protection. Modern technology provides a number of ways to digitally control what does or does not happen on your boat — even when you’re not there.

The most basic and inexpensive of these systems, like those made by Aqualarm, MarineGuard, and Sure Action, are just like many home alarms: When triggered, a series of sensors set off an audible alarm. A mix of wired and/or wireless sensors can be employed depending on your needs for the system, which costs a few hundred dollars. Slightly more advanced systems take the price range up a couple of hundred dollars more and employ GPS positioning and/or GPS-based trackers. The Spot HUG, for example, creates a virtual perimeter around your boat. If the boat moves through this perimeter, the HUG sends an unauthorized-movement alert to their asset monitoring center (along with the boat’s GPS coordinates), which then notifies the authorities. Global Tracking, SkyEye International Tracking, Blackline, and GOST (Global Ocean Security Technologies) all offer GPS trackers that use a combination of GSM cell networks or satellite communications and websites or text messaging to give position updates in near real time. Several of these systems also require a



**More sophisticated systems like GOST employ infrared beams and video cameras.**



small monthly monitoring and/or activation fee.

If you own an expensive yacht or performance boat, it may be worth considering a more advanced security system from the likes of Boatwarden, Siren Marine, or GOST. These employ one or more of the measures used by simpler systems, along with GSM cell and satellite communications coupled with web and app (for cell phone or tablet) accessibility, 24/7. They can also incorporate much more advanced systems like motion-activated video cameras, detectors that are activated if a canvas snap is opened, and/or dedicated monitors of all major boat systems. These don’t just deter theft; SMS text messages sent from your phone can turn on or off pumps, lights, climate control, and battery switches. That makes it possible for you to monitor bilge water level, battery charge levels, and the like. If someone boards your boat, you can flip on the lights; if someone takes it off the dock, you can shut down the powerplants; and if there’s an issue not related to theft (such as high bilge water), you still get an alert.

### TOTAL LOCKDOWN

When it comes to large expensive boats and yachts, deterring thieves is the main goal even of these sophisticated systems. “Theft deterrence is huge,” said Brian Kane, director of research and development for GOST, “because it’s a lot easier to clean dirty boot marks

off the deck than it is to try to recover and repair a stolen boat.” And Kane should know — when it comes to complete deterrence, GOST produces some of the most advanced systems available for marine use. This is real James Bond stuff: A “GOST Cloak” which superheats triethylene glycol to fill a cabin with a nontoxic smoke screen in a matter of seconds to confuse a potential thief; infrared detection beams; acoustic barriers; strobe lights; and real-time video or night vision camera streaming to your phone, tablet, or computer are just a few of the high-tech systems they offer. Naturally, as the level of technology rises, so does cost. The basic alarm and tracking system can be had for around \$1,000; their most sophisticated systems run to over \$20,000.

The first and best deterrent is to make your boat a less desirable target. Anything that will increase the time to steal it will cause most thieves to move on. Parking a trailerable boat in a well-lit or well-secured area, installing locks, and removing valuables cost almost nothing and will go a long way toward discouraging theft. Whether or not you should invest in one of the higher-tech options depends on what type of boat you own, how much it’s worth, and where you store it. But one thing is for sure: You need to know your boat is protected from theft, because few things are worse than walking down the dock and discovering that some dirty bilge rat has just stolen your pride and joy. 🦏

# ESD Explained

What every boater needs to know about *Electric Shock Drowning*

by Beth A. Leonard

ONE YEAR AGO, over Fourth of July weekend, Alexandra Anderson, 13, and her brother Brayden Anderson, 8, were swimming near a private dock in the Lake of the Ozarks in Missouri when they started to scream. Their parents went to their aid, but by the time the siblings were pulled from the lake, they were unresponsive. Both children were pronounced dead after being transported to a nearby hospital. About two hours later, Noah Winstead, a 10-year-old boy, died in a similar manner at Cherokee Lake, near Knoxville, Tennessee. According to local press reports, seven other swimmers were injured near where Noah died. These were not drowning victims. In all of these cases, 120-volt AC (alternating current) leakage from nearby boats or docks electrocuted or incapacitated swimmers in fresh water. This little-known and often-unidentified killer is called Electric Shock Drowning, or ESD, and these deaths and injuries were entirely preventable. In just four months last summer, there were seven confirmed ESD deaths and at least that many near misses; in all likelihood, dozens more incidents went undetected. Every boater and every adult who swims in a freshwater lake needs to understand

how it happens, how to stop it from happening, and what to do — and not to do — if they ever have to help an ESD victim.

## FRESH WATER + ALTERNATING CURRENT = DANGER

Kevin Ritz lost his son Lucas to ESD in 1999, and he shared his story with *Seaworthy* in “A Preventable Dockside Tragedy” in October of 2009. Since his son’s death, Ritz has become a tireless investigator, educator, and campaigner dedicated to preventing similar tragedies. “ESD happens in fresh water where minute amounts of alternating current are present,” Ritz said.

What does “minute” mean exactly? Lethal amounts are measured in milliamperes, or thousandths of an amp. When flowing directly through the human body, these tiny amounts of current interfere with the even smaller electrical potentials used by our nerves and muscles. Captain David Rifkin and James Shafer conducted extensive testing of all aspects of ESD for a Coast Guard study in 2008, including exposing themselves to low-level currents in fresh water. “Anything above 3 milliamperes (mA) can be very painful,” Rifkin said. “If you had even 6 mA going through your body, you would be

in agonizing pain.” Less than a third of the electricity used to light a 40-watt light bulb — 100 mA — passing directly through the heart is almost always fatal.

Why fresh water and not salt? Saltwater is anywhere from 50 to 1,000 times more conductive than fresh water. The conductivity of the human body when wet lies between the two, but is much closer to saltwater than fresh. In saltwater, the human body only slows electricity down, so most of it will go around a swimmer on its way back to ground unless the swimmer grabs hold of something — like a propeller or a swim ladder — that’s electrified. In fresh water, the current gets “stuck” trying to return to its source and generates voltage gradients that will take a shortcut through the human body. A voltage gradient of just 2 volts AC per foot in fresh water can deliver sufficient current to kill a swimmer who bridges it. Many areas on watersheds and rivers may be salty, brackish, or fresh depending upon rainfall or tidal movements. If you boat in these areas, treat the water as if it were fresh just to be on the safe side.

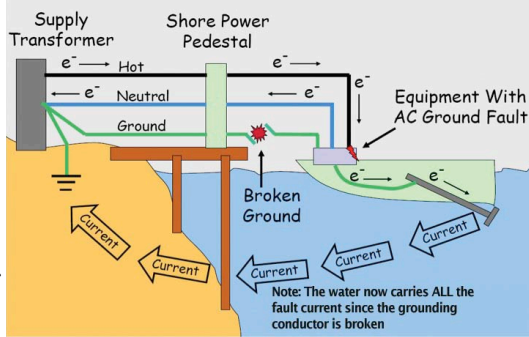
Why alternating current and not direct current (DC)? The cycling nature of alternating current disrupts the tiny electrical signals used by our nerves and muscles far more than the straight flow of electrons in direct current. “It would require about 6 to 8 volts DC per foot to be dangerous,” Rifkin said, or three to four times as much voltage gradient as with AC. “Regardless of the type of voltage, the larger the voltage, the larger the gradient over the same distance.” There have been no recorded ESD fatalities from 12-volt DC even in fresh water because there is less chance of the higher voltage gradient necessary developing with DC’s lower voltages.

How does that electricity get into the water in the first place? In a properly functioning electrical system, all of the 120-volt AC current that goes into the boat through the shore power cord

Current Level	Probable Effect On Human Body
1 mA	Perception level. Slight tingling sensation. Still dangerous under certain conditions.
5 mA	Slight shock felt; not painful but disturbing. Average individual can let go. However, strong involuntary reactions to shocks in this range may lead to injuries.
6-16 mA	Painful shock, begin to lose muscular control. Commonly referred to as the freezing current or let-go range.
17-99 mA	Extreme pain, respiratory arrest, severe muscular contractions. Individual cannot let go of an electrified object. Death is possible.
100-2,000 mA	Ventricular fibrillation (uneven, uncoordinated pumping of heart). Muscular contraction and nerve damage begin to occur. Death is likely.
2,000+ mA	Cardiac arrest, internal organ damage, and severe burns. Death is probable.

Source: OSHA

Courtesy David Rifkin



**For stray AC to get into the water, there must be an electrical fault and a fault in the safety ground.**

returns to its source — the transformer ashore or on the dock where it originated. For any of that current to wind up in the water, three things have to occur.

- **Electrical fault.** Somewhere current must be escaping from the system and trying to find another path back to its source ashore.
- **AC safety ground fault.** The AC grounding system must be compromised so that stray current cannot easily return to ground through the ground safety wire. Any stray electricity then has only one path back to its source — through the water.
- **No ground fault protection.** Any current returning to its source through the water will create a slight but detectable difference between the amount of current traveling to the boat and returning from it through the shore power cables. Ground Fault Protection (GFP) devices, like Ground Fault Circuit Interrupters (GFCIs) required in bathrooms ashore, are designed to detect differences measured in milliamps and to shut down the electricity within a fraction of a second. If the circuit does not have one, then electricity will continue to flow into the water.

If all of these conditions exist, then some or all of the boat's underwater metals, such as the propeller, stern drive, or through-hull fittings, will be energized, and electricity will radiate out from these fittings into the water. If the boat is in saltwater, the current will dissipate without doing damage unless a diver grabs hold of the energized metal. In fresh water, 120-volt AC will set up a dangerous voltage gradient that will pass through any swimmer who bridges it.

## FINDING OUT IF YOUR BOAT IS LEAKING CURRENT

Figuring out if your boat has a problem requires two specialized tools — a basic circuit tester and a clamp meter — that together cost about \$150. If you keep your boat in a freshwater

marina, the marina operator should have both and be using them to check the boats on their docks.

To determine if your boat is leaking AC, start by checking the dock wiring. Plug the circuit tester into the shore power cord receptacle you use on your pedestal. The lights on the circuit tester will tell you whether or not the shore power system is functioning as it should. There are situations where those lights can mislead you, but as a first approximation, assume all is well if the circuit tester says it is. If you find any problems, alert your marina manager or call an electrician certified to ABYC (American Boat and Yacht Council) standards.

Once you have established that the dock's electrical system is sound, take the clamp meter and put it around your shore power cord. Most electricians use a clamp meter to measure the current flowing through the neutral, hot, and ground wires separately, but we are interested in whether or not all of the current entering the boat is leaving it. If that is the case, the current passing through all of the wires will sum to zero, and that's what the meter will show when the clamp is put around the entire shore power cord. If the clamp meter shows anything but zero, either some of the current going to your boat is entering the water, or current leaking from the dock or another boat is returning to its source ashore through the metal fittings on your boat. To determine which, turn off the power at the pedestal. If the clamp meter continues to show the same reading it did when the pedestal was on, the current is coming from somewhere else. If any or all of the current goes away, then your boat is leak-

ing some current into the water.

Unfortunately, that's not quite all there is to it. Many of the most dangerous AC loads on a boat, like air conditioning and refrigeration, are cycling loads. A fault in one of these will only show up if that equipment is running when you clamp the cord. To be sure your boat is not leaking AC into the water, you must run all your AC loads while clamping the cord and look for any reading but zero. If you find a problem, unplug your boat and don't plug it in again until you get an electrician trained to ABYC standards to figure out what is wrong and fix it.

## ELIMINATING CURRENT LEAKAGE

That your boat is not leaking AC into the water right now is no guarantee that it never will. Electrical faults and ground faults develop in the marine environment all the time. There are two ways to eliminate the risk altogether.

The first — and best — alternative is to completely isolate the AC shore power system from the AC system on the boat. Then any stray AC on the boat will return to its source on the boat and will not enter the water. An isolation transformer transfers electricity from the shore to the boat and back again using the magnetic field generated by the electrical current rather than through shore wires physically touching the boat's wires. If you want to be absolutely certain your boat

cannot leak alternating current into the water, install an isolation transformer.

The second alternative is to install ground



**Top: An inexpensive circuit tester. Bottom: This clamp meter shows a 7-amp difference between the current going into the boat and coming out.**

Courtesy David Rifkin




## ▶ ONLINE EXTRA

To read Kevin Ritz's heartbreaking story, and for a more technical discussion of ESD, go to [www.BoatUS.com/Seaworthy/ESD](http://www.BoatUS.com/Seaworthy/ESD)

fault protection in the boat's and the dock's AC system that will shut off the current if the amount of electricity going out differs by a certain amount from that returning. "The European, Australian and New Zealand standards require ground fault protection on a marina's main feeders and power pedestals," Rifkin said. "They've had zero ESD fatalities in the nearly 30 years they've had this in place." In the U.S., NFPA (National Fire Protection Association) 303 (Fire Protection Standard for Marinas and Boatyards) requires GFP devices that trip at 100 mA or lower on all docks. But these devices can be expensive to retrofit and maintain in a large marina, need to be tested monthly to keep them working properly, and are subject to nuisance trips in the marine environment, so the requirements have not been adopted or enforced uniformly at the local level.

The ABYC made ground fault protection on boats part of the E-11 electrical standard this year. Equipment Leakage Circuit Interrupters (ELCIs) that trip at 30 mA are to be installed on all new vessels built to ABYC standards, but very few older boats are equipped with them. Companies like North Shore Safety have started to offer easy to retrofit ELCIs and UL-approved cords with integrated ELCIs — these run from \$200 to \$400. Home building suppliers like Lowe's sell 15-amp pigtailed cords equipped with GFCIs for around \$30. Either of these could be used with a shore power cord from a house to a private dock to charge a boat's batteries.

Since his son died 14 years ago, Kevin Ritz has comforted dozens of families who have lost children as he has, and he has encouraged them to join forces with him to educate others. His goal is to put himself out of business. If each and every boater takes responsibility for his or her boat, Ritz could get his wish. 

## Electric Shock Drowning: What You Need To Know

### IN GENERAL

- ESD victims are good candidates for successful Cardiopulmonary Resuscitation (CPR). Learn to perform CPR and maintain your training.
- To retrieve a person in the water, reach, throw, and row, but don't go.
- Tell others about ESD. Most people have never heard of it and are unaware of the danger.
- Make sure your children understand the importance of not swimming anywhere there could be electricity. Don't let them roughhouse on docks. Tell them what to do if they feel a tingling or shock in the water (see below).

### IN MARINAS

- NEVER swim within 100 yards of any freshwater marina or boatyard.
- Talk to marina owners or operators about the danger of ESD. Ask your marina operator to prohibit swimming at their facility and post signs.
- Ask marina operators if they are aware of and following the guidelines from NFPA 303 (Fire Protection Standard for Marinas and Boatyards) and National Electric Code (NEC) 555.

### IF YOU HAVE A BOAT

- Have your boat tested once a year to see if it is leaking electricity, or buy a clamp meter and test it yourself. If you find any problems, have your boat inspected by a qualified electrician trained to ABYC standards.
- Have a qualified ABYC electrician install an ELCI on your boat (refer them to the ABYC E-11 Standard) or use an ELCI in the shore power cord. As an alternative, install an isolation transformer on the boat.
- Test the GFCI/ELCI at least once a month or per the manufacturer's specifications.
- DO NOT do your own 120-volt AC electrical work on a boat or hire an electrician who is not familiar with ABYC standards to do it. Many of the problems that lead to electrical faults result from the differences between shore and boat electrical systems and standards.
- DO NOT use common household extension cords for providing shore power to your boat. Use, and encourage other boaters to use, shore power cords built to UL standards.
- NEVER dive on your boat to work on underwater fittings when it is plugged in to shore power, even in saltwater.

### IF YOU HAVE A PRIVATE DOCK

- NEVER swim within 100 yards of ANY dock using electrical power!
- If you have not electrified your dock or put an AC system on your boat, weigh the risks carefully before doing so.
- If you need electricity on your dock, hire a licensed electrician and make sure the wiring meets the requirements in NFPA 303 and NEC 555. If your dock is already wired, hire an electrician to check that it was done properly. Because docks are exposed to the elements, their electrical systems should be inspected at least once a year.
- Exercise your GFCIs/ELCIs as recommended by the manufacturer.
- If you normally run a power cord from your house or garage to charge your batteries, make sure the outlet has a GFCI and include an ELCI somewhere in the shore power cord.
- NEVER swim off your dock without shutting down all shore power to the boat and the dock.
- Even if you adhere to all of these rules, nearby docks can still present a shock hazard. Educate your neighbors and work together with them to make the waterfront safe.

### IF YOU'RE IN THE WATER AND YOU FEEL TINGLING OR SHOCKS

- DO NOT follow your instinct to swim toward the dock!
- SHOUT! Drowning victims cannot speak, let alone shout. Let everyone know what's happening so they'll understand the danger and react appropriately.
- Try to stay upright and back out of the area the way you came, warn any other swimmers in the area of the danger, and then head for shore 100 yards or more from the dock.
- Alert the dock or marina owner and tell them to shut the power off to the dock until they locate the problem and correct it.
- Go to the hospital to make sure there are no lingering effects that could be dangerous.

### IF YOU HAVE TO RESCUE AN ESD VICTIM

- Know how to distinguish drowning from ESD (see Alert for how to recognize "normal" drowning; tingling, numbness, or pain all indicate ESD).
- Fight the instinct to enter the water — many rescuers have died trying to help ESD victims.
- Call for help. Use 911 or VHF Channel 16 as appropriate.
- Turn off the shore power connection at the meter base and/or unplug shore power cords.
- Get the victim out of the water. Remember to reach, throw, row, but don't go.
- If the person is not breathing or you cannot get a pulse, perform CPR until the Fire Department, Coast Guard, or ambulance arrives.





## Inspecting Older Sailboats

*Looking out for these problem areas can save you time and money*

by Charles Fort

**T**O HIGHLIGHT POTENTIAL problem areas to look for when inspecting a boat you own or one you're considering buying, *Seaworthy*, with its warehouse of Marine Insurance claims, has teamed up with BoatU.S. Consumer Protection, with its 10,000-complaint database. In the October issue, we looked at center consoles. This month, we went back to the files to see what we could learn about problems specific to older sailboats. Because many of these issues involve rot, corrosion, or manufacturers' defects and are therefore not covered by insurance, finding them early can avoid expensive headaches later.

### RIG AND MAST

The 28-foot sailboat was sailing along in a fresh breeze, when the skipper heard a faint "pung." The skipper glanced up — and then watched helplessly as the top of the mast started tilting awkwardly to leeward. A mere second or two later, it crashed over the side (Claim 98372712).

To a neophyte's eye, a sailboat's mast and rigging looks like a delicate web of

cables and aluminum (or wood), hardly up to the task of propelling the boat to hull speed. A sailboat's rig, however, is carefully engineered to withstand all the various forces on it. A single failure can bring the whole thing tumbling down. In this case, the cause of the dismasting turned out to be a chainplate that had broken below deck level. The top was still clean and shiny but the rest of it, the part that had been hidden from

sight, was a black, corroded mess. Chainplates tie the rig into the structure of the hull. On most boats, they are made of stainless steel, which is susceptible to crevice corrosion when exposed to saltwater in the absence of oxygen. On an older sailboat, corrosion often begins where the chainplate passes through the deck or down below where it ties into the deck structure. Inspect chainplates for corrosion and



**Left: A cracked swaged fitting like this can bring the whole rig down. Top right: A stay broke on this mast in light winds, but fortunately the rig stayed up. Bottom right: Replace cotter pins with welding rod to avoid snagging lines.**

cracks, above and belowdecks — you may have to remove a liner and some trim to get to it.

Moving to the rig, inspect turnbuckles for cracks and make sure there's at least 3/4-inch of thread visible inside. Make sure all turnbuckles are locked in place with cotter pins or, better yet, 316 stainless steel welding rod. Welding rod can be removed quickly and easily in the event of a dismasting and doesn't snag sheets or passing legs. Carefully check terminal fittings (use a magnifying glass), especially those near deck level, which are more likely to stay wet and corrode. Stays should be inspected for "fishhooks" by wrapping some tissue paper around the wire and carefully running it up as far as you can reach — shredded paper indicates a broken strand. Inspect rivets on the mast and boom. If you spot any that are loose or broken, all of them in the area

will need to be replaced. Bubbles on a painted mast are an indication that corrosion is at work, as is white powder on bare aluminum, especially where stainless steel is in contact with it. After repairing the corroded area, the barrel of stainless steel fasteners should be coated with a lubricant/anticorrosive like Tef-Gel, and the head isolated from aluminum with plastic spacers available at marine stores.

Most people have a natural aversion to hanging from a rope at the top of a swaying mast, but unless the mast is off, there's no other way to inspect it. Only go up the mast if you have some experienced hands below to help, you're confident of the halyards and shackles that will haul you up, and you can rig a second safety halyard. You can hire a rigger to take a look, but learning how to go up yourself could serve you well in an emergency.

Run the tissue paper up each shroud to find fishhooks. Check the spreaders for damage where they meet the mast and at the ends, and make sure each spreader bisects its shroud. Inspect the tangs used to attach the stays to the mast, looking for cracks and corrosion. Make sure no cotter pins are missing or damaged. At the top (breathe, and don't look down), inspect the sheaves for cracks or excessive wear. Spin each sheave and make sure it moves freely (you'll need to switch your weight from one halyard to another).

Check the tangs for corrosion or cracks and look for missing or broken cotter pins or rings. On the way back down, check the rivets or screws used to secure the mast track. When you're back on deck — and less wobbly — inspect the mast step if the mast is deck-stepped. If it appears to be sunken, the deck support may be corroded or have shifted. Keel steps are prone to corrosion because water usually finds its way into the bilge. Look for pooling water or white powder and cracks at the base of the mast.

Look for cracks around where the goosenecks for the boom and vang at-

tach to the mast and around the fitting where the vang attaches to the boom. These may need to be replaced or reinforced on older boats.

If the boat has a bowsprit, don't forget that the bobstay is part of the rigging. Inspect it and its attachment points for any signs of damage or stress. A bobstay that has been rammed into docks repeatedly will fail sooner or later, and if a headsail is flying at the time, the whole mast could come down.

### FIBERGLASS ISSUES

Nearly all sailboats built in the 1980s or later have a deck comprised of a core made from balsa or some sort of



**Water that leaks into the core can eventually cause rot.**

composite material sandwiched between two fiberglass skins with a layer of gelcoat on the outside to make the hull shiny and fair. Problems frequently arise with the core and with the gelcoat. The deck doesn't take its strength from the fiberglass, but from the stiff inner core. Over time, water can leak into the core through deck fittings, such as cleats, chainplates, and stanchions, which causes rot that can eventually turn the core into mush. A mushy core compromises the deck's structural integrity, and if large sections of the core are rotted, it can be all but impossible — and very expensive — to fix. Professionals use the handle of a screwdriver or small plastic hammer to tap on the deck, listening for signs of softness, something you can do as well. Pay care-



ful attention to the area around fittings that penetrate the deck; a dull thud often signals a soft spot while a solid “thunk” usually means a healthy core.

A spongy feel as you walk the deck may be a sign of larger rotten areas. If you suspect a problem, contact a professional. Extensive core repairs are generally above the skill level of do-it-yourselfers.

Chainplates are all but impossible to make watertight, so pay special attention there. Not only can a leaking chainplate destroy deck coring, it can rot the structural bulkheads to which they attach below. A rotten bulkhead can give way, releasing the chainplate and bringing the whole rig down. In the case of the 26-foot sailboat above, a leak caused the chainplate to corrode, which made it fail under load. After you finish your deck inspection, go below and look for stains or other evidence of leaks through the deck, keeping an eye out for water-damaged bulkheads.

Consumer Protection receives the most complaints about gelcoat problems including crazing, cracking, and blisters. Gelcoat is a thin coating over fiberglass and easily cracks. Gelcoat crazing is common on some makes of sailboats like Islander and Ericson from the 1970s when gelcoat was applied in a much thicker layer than today. It looks like spiderwebs embedded in the gelcoat that don't penetrate the surface. Though unsightly, these are not structural, and it is not worth the cost of repair.

The thinner gelcoat on newer boats is less likely to craze but more likely to crack. Though rarely structurally serious, cracking can indicate excessive flexing and often occurs on unsupported decks or cabin roofs, around stanchion bases or cleats, or where the boat structure makes a sharp angle — at cockpit corners, for example. Gelcoat cracks around deck winches, cleats, genoa tracks, or a windlass mean the area should be further inspected. The fitting may need a backing plate to spread the load, or the area may need to be struc-

turally reinforced.

Fiberglass hulls blister when water passes through the gelcoat layer and combines with materials in the resin to create an acidic mixture that expands, pushing the gelcoat into a dome. Though unsightly, blisters on older boats are rarely a structural issue and can be dealt with relatively easily. A new boat with a “pox” of blisters, however, should be avoided as this could indicate problems with the quality of the fiberglass layup.

### HULL FITTINGS

Consumer Protection has received complaints about underwater fittings on some sailboats. Brass fittings contain zinc, which can leach out of the fitting over time, causing it to become brittle and porous and eventually break. Head discharge fittings tend to be par-



***A plastic fitting will eventually turn brittle and crack in the sun; if the boat is overloaded, it could sink.***

ticularly susceptible. Look for fittings that have a pinkish color or patches of white fuzz. Plastic fittings are also not suitable for underwater use and while few manufacturers would install them, a previous owner may have. Bronze and Marelon (a type of glass-reinforced composite) are the most durable materials for underwater fittings.

Also check fittings that are above the waterline when at rest, but which may be underwater when the boat heels. These fittings are sometimes plastic and will degrade in the sun. A cracked fitting close to the waterline can leak when the boat takes on extra weight (snow, gear, extra passengers, and so on) and can sink the boat.

### KEELS AND CENTERBOARDS

Keels tend to take a lot of abuse in shal-



***A large crack, like this, means a hard grounding, which may have caused structural damage.***

low waters. Damage on the leading edge and the bottom indicates some pretty hard groundings. Often the interface between the hull and keel has some filler in it that is easily cracked, but unless the crack is substantial, it's usually not a problem.

Centerboards are subjected to heavy loads, and the cable, pins, sheaves, and fittings that support them spend much of their time underwater. The serviceable life of the wire and fittings is affected by many factors: whether the boat is being used in salt- or freshwater; the salt- or number and severity of groundings; the compatibility of the metals used; and the weight/configuration of the keel/centerboard.

A cable that fails suddenly can be much more than an inconvenience; the centerboard can bash a hole in the hull and sink the boat. Swing keels and centerboards should be lowered completely (usually this is only possible while a boat is in the slings and positioned over a pit) so that the wire can be inspected for broken strands. Centerboard trunks should be opened and inspected when the boat is out of the water. Fittings at either end of the wire should be replaced if you see rust, cracks, or distortion.

If you're buying a boat, doing your own inspection can save you the cost of a survey by ruling out boats with common faults. But an inspection is no substitute for a marine survey, so hire a professional after you've done your own checkout. ⚓



## SANDY REMINDER



With enough advance notice, people usually prepare their boats well for a coming storm. That includes stripping the boat of as much windage and gear as possible. Furled jibs have a tremendous amount of windage, though some people think they can simply be wrapped up and they'll be fine. But anyone who's ever been at a marina during strong winds knows that all it takes is a corner to work loose and the wind will

find a way to unwrap the sail, as happened during Sandy to this boat. In this case, only the sail got damaged. Once a sail comes loose, the force of the wind can shake the rig to pieces, or if your boat's on the hard, it can shake it hard enough to move it off the jackstands and topple it. A loose sail can get stuck in your neighbor's boat, too, which can damage it. Anytime there's a chance of heavy wind, whether a tropical blow or a strong nor'easter, take down your jib. Also remove it if you're storing your boat for a while, since you might not be able to get to the boat when a storm approaches.

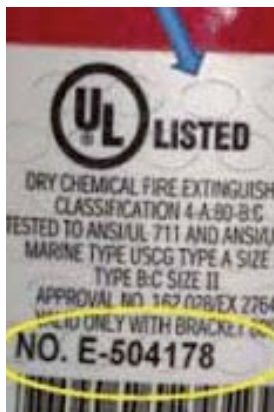
## BEWARE COUNTERFEIT FIRE EXTINGUISHERS

If you carry a fire extinguisher aboard, check and see if it was manufactured by Amerex Corporation or Buckeye Fire Equipment. Both companies are major producers of genuine approved fire extinguishing equipment, but the Coast Guard has recently become aware of counterfeits of U.S. Coast Guard-approved portable fire extinguishers using those brand names. These counterfeit extinguishers present a significant safety hazard. Their capability to extinguish a fire is unproven; they may be charged with a powdery substance that is not a fire extinguishing agent; the pressure cylinder is not DOT-approved; and the pressure gauge

may not function or may give false readings. The dry-chemical counterfeit extinguishers are size B-II and may be identified by several distinguishing features:

- Printed logos without a security imprint/texture behind the UL LISTED logo
- A rounded, curved lip on the bottom of the extinguisher
- Welded seams on the sides of the canister

If you suspect you have a counterfeit unit, please contact the Coast Guard Office of Design and Engineering Standards. For complete details, go to the Coast Guard Auxiliary website: [bdept.cgaux.org/wp/?p=1262](http://bdept.cgaux.org/wp/?p=1262)



## KNOWING WHEN A SWIMMER NEEDS HELP



With summer in high gear and the whole family enjoying fun on — and in — the water, it's a good time to make sure you know how to tell when a swimmer is in trouble. Most people assume they'll be alerted to danger when a person in the water starts yelling or waving his or her arms. But when someone is drowning, they lack the lung capacity to speak, let alone yell, and their actions become entirely reflexive.

Drowning victims move their arms as though climbing a ladder, take quick gulps of air, and then slip underwater. The struggle is quiet, and often looks "playful." This behavior lasts about 60 seconds with an adult — and only 20 seconds with a child — before the victim disappears beneath the surface. If you have any doubts about whether someone in the water is in trouble, ask if they're OK. If they can't answer, they need your help immediately.



## UPDATING YOUR MMSI INFORMATION

Electronic devices like a VHF radio with Digital Selective Calling (DSC) or an AIS (Automated Information System) transponder require a Maritime Mobile Service Identity (MMSI) number. Search and rescue authorities use this nine-digit number to identify boats signaling they are in distress through the DSC system. It is also broadcast over your AIS transponder, providing other vessels with your vessel information in order to avoid collisions. Since your MMSI records could be critical to a distress response, you should access your MMSI account and verify the accuracy of your information at least annually.

If your boat will never be operating outside United States waters, you can register with BoatU.S. for an MMSI. The information you provide is forwarded to the Coast Guard's database, which is updated weekly. If you were to issue a distress transmission, that information would be used to identify you, your vessel, your emergency contacts, and (assuming the radio is connected to a GPS) your location — critical information —

without you having to say a word.

If your boat ever operates in foreign waters, including Mexico, the Bahamas, and the Caribbean, or communicates with foreign stations, you must obtain a ship station license from the FCC, and the FCC will also issue an MMSI that is recognized internationally (Google "FCC ship station license"). What would happen if you had an MMSI not issued by FCC and used the DSC function to broadcast a distress alert outside of U.S. waters? The equipment would work, but the MMSI would not be recognized, and it's possible that no rescue attempt would be made. If you have a non-FCC-issued MMSI, make sure to get a ship station license and an FCC-issued MMSI before leaving U.S. waters.

Should you ever need to be rescued, your MMSI records would be critical. If you have a BoatU.S.-issued MMSI, you can access your account at any time by logging in at [www.BoatUS.com/mmsi](http://www.BoatUS.com/mmsi). Click on Login/Update/Cancel MMSI, select View MMSI Registration Information or Edit MMSI Registration Information, and review or update any of the data.

## LASER FLARE CAUTION

As mentioned in Mailboat, traditional flares have some serious problems associated with them. Some are hard to spot during the day, they are difficult to dispose of, and they can be dangerous if not handled properly — after all, they are pyrotechnics (like fireworks). FCC-approved laser signaling devices, often referred to as laser flares, avoid these problems, but they have four serious drawbacks.

First, laser flares are not a recognized distress signal, so others may not realize you are asking for help. Second, they don't meet U.S. Coast Guard carriage requirements, so they don't replace any of the officially recognized and required equipment. Third, laser flares aimed directly at someone's eyes may lead to laser dazzle where an after-image of spots makes it difficult for a pilot to see. The current Coast Guard policy is that if a pilot gets hit with a laser flare in the eyes, he/she should abort the mission, though in practice



each pilot would make his/her own decision. Fourth, pointing a laser at an aircraft is a federal crime with severe penalties EXCEPT in a search and rescue situation. If someone onboard, like a child or a guest, points one at an air-

plane, you could be held responsible.

The Coast Guard is working to identify alternative types of laser devices that do not cause laser dazzle. The BoatU.S. Foundation for Boating Safety and Clean Water has been asked to test one such device now available in the U.K. and share its findings with the Coast Guard. We will report on their findings as soon as they are available. For more information on visual distress signals, check out Foundation Findings #45 at [www.BoatUS.com/Foundation/Findings/findings45/](http://www.BoatUS.com/Foundation/Findings/findings45/)

If you do decide to carry a laser signaling device aboard, remember that you must still carry a Coast Guard-approved visual distress signal as well. Don't buy a laser pointer from an office supply store as these have a much more concentrated beam that is even more likely to affect a pilot's vision. And remember that pointing the device at a rescue aircraft when it is close may cause it to break off its approach.



**A**S WE MENTIONED in the April issue, the article, “A Strange Case of Justice,” was the most popular ever published in *Seaworthy*. You can find the complete article online, but here’s a very brief synopsis:

On the night of April 29, 2006, a 24-foot Baja Outlaw driven by Lake County Deputy Sheriff Russell Perdock slammed into a 27-foot O’Day sailboat with five people aboard on California’s Clear Lake. Shortly before, the boat’s owner (and BoatU.S. insured), Mark Weber, had handed the tiller to his friend, Bismark Dinius. The Baja was doing at least 35 mph and maybe as much as 60; it ramped over the sailboat, crushing the cabin top, shearing off the mast at the base, and injuring everyone on board. Lyn Thornton, Weber’s fiancée, subsequently died of her injuries. Dozens of irregularities marred the investigation; these were the subject of the *Seaworthy* article in October 2008. Eventually, Dinius was charged with felony boating under the influence causing great bodily injury or death; Perdock was not charged at all.

The sailing community, spearheaded by *Latitude 38* and Sailing Anarchy, took a huge interest in the case. Paige Kaneb of the Northern California In-

nocence Project was part of Dinius’ defense team in that trial. “The sailing community has been amazing,” she said in an interview with *Seaworthy* in May. “The trial was being tweeted by someone for Sailing Anarchy, and at one point a witness said something about a light they had seen and whether it had been red or green. The Sailing Anarchy web feed just lit up with people saying, ‘That’s wrong, that can’t be.’ None of the attorneys would have known that.” The team got more than just technical assistance from the sailing community. “Victor [Haltom, Dinius’ attorney], Bismark, and I went to the Sailing Anarchy website whenever we needed comedic relief or shared outrage.”

In August of 2009, after seven hours of deliberation, a 12-member Lake County jury found Bismark Dinius not guilty. *Seaworthy* printed an interview with Dinius and his attorney, Victor Haltom, in the October 2009 issue, which we have reposted online. At that time, Dinius said he was not sure whether he would pursue a lawsuit against Perdock and the county. In fact, Dinius did file a Federal Civil Rights Action in San Francisco District Court in August 2009. Lake County and its officials, with the exception of Perdock, have settled with Dinius. The suit is proceeding against Perdock and Lt. Charles Slabaugh of the Sacramento County Sheriff’s office (who was brought in as an independent investigator) for violations of Dinius’ civil rights, including malicious prosecution, fabrication of evidence, and improperly documenting witness statements.

In May of 2010, Perdock was fired from his job though the Sheriff’s department refused to say why. In the fall 2010 elections, District Attorney Jon Hopkins, who prosecuted the case against Dinius, and Sheriff Rod Mitchell, who put that case together, were

both voted out of office at least in part due to the publicity surrounding Dinius’ trial. Kaneb continues to be part of Dinius’ legal team, and she reports that after being heavily in debt, losing his job, and almost losing his house, Dinius is working again and doing better. We will let you know how this strange case of justice is eventually resolved.

**A**FTER SANDY CAME calling on Long Island, Gary Maksym ended up with some unexpected visitors. “We did everything right, but our neighbor left his two boats tied



side by side and we ended up with his mess. He stopped taking our calls. Anyone want a boat ... or rather, two? We are having a two-for-one sale! You have to take both.” We’ve got Gary’s phone number if you’re interested.

**M**EMBER AND POLICYHOLDER Jim States sails a Dana 24, and last summer he took it from Seattle to Alaska via the Inside Passage. He wrote in with an observation and some advice: “I saw many large trawler- and tug-type boats with the crew [probably spouse] on the outside deck trying to help dock or leave the dock. Most were from the Seattle area, so many were likely insured by BoatU.S. The person on deck rarely wore a life jacket while they moved around pulling fenders and lines. Some struggled with these tasks as they leaned over the railing. In Anacortes in 2011, I had to rescue one person who was nearly crushed by her boat when



she fell overboard while docking. As a sailor I want everyone on deck to wear a life jacket.

“Big boats aren’t safer if the skipper doesn’t follow safety protocols. It is sad that some skippers are careless with their crew and allow them to move around deck, lean over the railing, ‘jump’ to the dock (not recommended), all without a life jacket. When on the dock and helping a new boat come in, I often have to remind the crew not to jump and tell them to toss us their lines. It’s not heroic to risk the lives of others. Caring about your crew means having them wear a life jacket on deck at least when docking.”

**W**ITH PARTS OF New Jersey and New York still digging out from under Sandy, it’s hard to believe that we’re into another hurricane season. Sandy’s long reach is still being felt even beyond storm-damaged areas. In April, the National Hurricane Center announced a number of changes in the way it was going to report on tropical storms and hurricanes, and some of those are meant to address shortcomings in the reporting system uncovered by Sandy.

Here at BoatU.S., many of us are hurricane geeks. We have alerts for watches and warnings sent directly to our smartphones and track every tropical storm even when it is not forecast to come anywhere near us. If you’re like us, you’ll want to read the full

press release on the NOAA website: [www.nhc.noaa.gov/news/20130405\\_pa\\_2013productChanges.pdf](http://www.nhc.noaa.gov/news/20130405_pa_2013productChanges.pdf)

But if you just want to know how what you’re going to hear on the radio or see on the Internet when a storm is coming your way will be different, here’s the bottom line:

### 1. Post-tropical cyclone reporting.

The National Hurricane Center (NHC) will now issue hurricane warnings and watches for storms that are no longer considered tropical. In the past, the NHC only issued advisories on tropical cyclones, so it did not issue any hurricane watches or warnings after Sandy moved north of North Carolina and became “post-tropical.” The lack of warnings led to confusion in some areas and may have contributed to some people’s decision to stay in their homes or in low-lying areas. CEO of AccuWeather.com, Barry Myers, tried to get the NHC to reverse their decision at the time: “To refuse to issue hurricane warnings clearly can cause confusion.” Starting in 2013, you can expect to hear watches and warnings issued for any tropical, subtropical, or post-tropical cyclone that could affect the U.S. coast.


### 2. Smaller tropical forecast cone.

The cone represents the probable track of the center of a tropical cyclone, and is formed by enclosing the area swept out by a set of imaginary circles placed along the forecast track (at 12, 24, 36 hours, and so on). The size of each

circle is set so that two-thirds of historical official forecast errors over the previous five years (2008-2012) fall within the circle. As forecasting continues to improve, the cone continues to get smaller.

### 3. Better storm surge forecasting.

Much of the devastation from the worst storms in recent years, like Katrina and Sandy, has resulted from surge — not wind. Historically, the NHC has provided forecasts based on the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model, which provides a point prediction of surge at any given location. In some cases, those have conflicted with the forecasts put out by the National Weather Service based on models like the Probabilistic Hurricane Inundation Surge Height (PHISH) model. That inconsistency has led to confusion over the need to comply with evacuation orders. Going forward, only the probabilistic models will be used for surge forecasting.

**A**FTER READING ABOUT Murphy in *Small Stuff* in April, Bill O’Neil wrote to tell us about his namesake: “As a boater and a person of Irish heritage, it was refreshing to see you quote Murphy’s Law. However, you may not have heard of O’Neil’s Law. It states, quite simply, that Murphy was an optimist! Especially when it comes to boating.” Remind us not to take an O’Neil out on the water. 

## SANDY WEBINARS ONLINE

In the wake of Superstorm Sandy, the *Seaworthy* team and the BoatU.S. claims department debriefed the Catastrophe (CAT) Team to see what lessons we could learn. That information was shared with marinas around the country in a three-part webinar series in March: Sandy Overview, Securing Boats On Land, and Securing Boats In The Water. Those webinars are now available on the BoatU.S. website for members and policyholders. Though the material was specifically developed for marinas, it details how various ways of securing boats fared during Sandy’s high surge, and it provides useful information if you’re thinking about where to keep your boat and how to store it during this hurricane season. You can access the recordings at [www.BoatUS.com/Seaworthy/webinar](http://www.BoatUS.com/Seaworthy/webinar).

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## The Nonrenewal Renewal

**T**HERE HAVE BEEN some interesting phone calls in our underwriting department of late. “I just got a letter saying I’m not being renewed,” Member Smith says. “This is outrageous. I’ve always been a good customer, never had a claim. How dare you do this ...”

“We didn’t, Mr. Smith,” says Underwriter Jones. “Really. There’s a copy of your new policy right in the same package.”

“Oh.” Pause. “So there is.” Longer pause. “So why did I get this letter? This is a nonrenewal renewal? Or a renewal of nonrenewal? I don’t get it. What’s going on?”

What’s going on is that BoatU.S. has a new insurance partner, National Liability & Fire Insurance Company (NL&F), and we’re gradually converting our Continental Casualty Company (CNA) policies to our new underwriter. To do that, we are required to officially nonrenew your policy with CNA and then issue a new policy with NL&F. We are converting policies state by state, and the entire process will take some time. At some point you will receive a nonrenewal notice from us — but we still love you and value your business. So at the same time, you will also receive a new insurance policy with the new insurance carrier.

Why do we have to do it this way? Because the insurance industry is highly regulated, and we are required to nonrenew one policy before issuing you a new one with a different company. We’re also required to give you an official notifica-

tion of nonrenewal, even if we immediately turn around and offer you another policy.

Why are we changing underwriters? In 2007, BoatU.S. was acquired by Warren Buffet’s Berkshire Hathaway, Inc. NL&F is also a Berkshire Hathaway company. Partnering with them allows us more flexibility and greater control of our insurance business, which in the end means we will be able to serve you better. BoatU.S. Marine Insurance Vice President Mike Pellerin said, “With an A.M. Best Rating of A++, National Liability & Fire Insurance Company provides our BoatU.S. members with the highest possible rating for financial strength and security.”

We know it can be more than a little disconcerting to open something from BoatU.S. Marine Insurance and find a notice of nonrenewal inside. But take a deep breath, read through the papers, and you’ll find your new policy from NL&F. Boats are what we know, and boat insurance is one of the key things we do. We don’t do it to get your auto insurance or homeowner’s policies. We do it because we are committed to our members, and, as long as our members need it and want it, we will continue to offer comprehensive boat insurance coverage in all areas of the country.

But if it makes you feel better to call our underwriters to discuss your policy, just to be sure, they’ll be delighted to hear from you.

### **Seaworthy**

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