



WHERE THERE'S A WIND, THERE'S A WAY

BY AIMEE WELCH

Sailing invokes images of warm, windy summer days and colorful, full sails quietly gliding across open waters, spattered with lightly wind blown whitecaps. Just the peaceful quiet of the water, the seabirds, and the wind, moving the boat along at its own pace across the horizon. Or, if you're an Arizonan, maybe a pack of wild burros amidst a plateau of towering century-old saguaro cactuses in the brush along the shoreline of the lake. No...seriously!

Either way, it's July in Phoenix and cruising across a cool lake with the wind in your sails, surrounded by an amazing desert landscape, is an incredible way to escape the "dry heat" for an afternoon. Sailing is a well-represented recreational activity in Arizona, with the support of many clubs, marinas and local businesses throughout the state. And green living isn't just for landlubbers—the sailing community works determinedly to limit the sport's carbon footprint and maintain the pristine marine environment present in those picture-perfect sailing images.

SAILBOATS, THEN AND NOW

A wooden hull, a giant cloth sail, a dozen Vikings rowing, and a brisk wind—what carbon footprint? Well...almost. Evidence of the first sailboats date back to before 5000 BC, but over the years they have changed dramatically in size, form and function. From the square sails of the Egyptians and Romans, to the Vikings' invention of the keel (that is found on boats today to prevent tipping), to the Arabs' agile Lateen (triangular) sails, the early evolution of the sailboat made it a history-shaping vehicle of transportation, exploration, trade, cargo and war.

Fast-forward to modern day. Improved technology over the years has continually enhanced sailboat functionality and performance, and today's sailboat designs range from simple to extravagant. Modern sailboats (often called "sailing yachts") range from approximately 20 to 100 feet, and are now primarily used for recreation. While many boaters still enjoy images of a black sky painted with stars and nothing but the sound of the waves gently brushing against the boat's hull, "roughing it" is no longer mandatory. Gas and diesel combustion engines, batteries and generators afford today's sailors many of the luxuries of home, like navigational and communication devices, stoves, refrigerators, hot water, plumbing and lights.

Sailing today is definitely less treacherous than in times past—scurvy, starvation, and being capsized by angry sea monsters

are no longer major issues—relief! But with all of sailing's modern-day perks, some new challenges have surfaced—green challenges.

KEEPING THE DEEP-BLUE "GREEN"

The health of our environment is becoming an increasingly popular and necessary subject across the globe, and the sailing community is no exception. Sailors are looking for ways to create less of an environmental impact, while still enjoying the sport they love.

Author Dieter Loibner explains in his book *Sustainable Sailing: Go Green When You Cast Off* how the modernization and increased complexity of the sailboat has made it less "green" than it could be, and offers advice to sailors on creating positive changes, on and off the water, with regard to bottom paints, engine use, sail and hull recycling, waste disposal, "green" shopping and more.

Specific to energy consumption, Loibner suggests, "As a sailor, you always have the chance to use wind and solar, at least to partially cover your energy household." And where sailing is concerned, taking advantage of the wind—which happens to be the world's fastest-growing energy source, according to the U.S. Department of Energy—makes perfect sense.

THE WIND IN YOUR HAIR...AND YOUR ROTORS

Southwest Windpower in Flagstaff is part of the solution. Founded in 1987, the company's AIR series wind turbines are among the best-selling battery-charging wind turbines in the world, powering off grid homes, industrial applications like remote monitoring stations and, quite fittingly, yachts and sailboats.

For ocean sailors who spend days to months at sea, plugging into an onshore power grid to recharge batteries isn't always a convenient option, but sometimes it's the only one. Not if there's a wind turbine or two mounted to the sailboat, though! Brilliantly straightforward, right?

"In remote places where there is no power, wind is a great resource to take advantage of," said Miriam Robbins, marketing director at Southwest Windpower. "The low-cost, easy-to-install wind systems can help provide power for equipment on



a boat.” The company’s AIR Breeze wind turbine is a 13-pound wind generator that can be easily mounted to a sailboat mast or another suitable location on the boat. Producing up to 38 kilowatt-hours a month in an average 12 mph wind, it can power a remote cabin in the Arizona desert, or a sailboat thousands of miles at sea. All it takes is a little wind. Its three blades spin when the wind blows, creating electricity on the spot, or to be stored in batteries until it’s needed. That means less engine time, and no need to head to shore to recharge. And, because wind turbines produce 100 percent clean energy, they’re becoming an increasingly popular option among environmentally conscious boaters.

While nearly all larger sailboats come equipped with engines, in the spirit of keeping things green (not to mention quiet and convenient), more and more sailors are looking to renewable energy sources like solar and wind to charge onboard batteries for longer stretches at sea. But Robbins says many sailors are still relying on diesel and gas generators, unaware of renewable back-up systems. “We’ve found that many sailors rely on word of mouth, so we anticipate more penetration (in the wind turbine market) over the next 5 to 10 years,” she said. Wind energy systems for boats are becoming increasingly quiet, durable and efficient with each new generation, and are often combined with solar to create more powerful hybrid systems for larger boats requiring more electricity and/or longer trips.

BJ Porter of Rhode Island, enjoys his 1997 Hallstar-Rassy 53 and has installed wind and solar power on his boat. “So far I like it; sitting at anchor on Block Island between the wind & solar on the boat I was charging my batteries with the fridge & freezer running. It makes noise, but not an unbearable amount and it actually gets quieter as the wind picks up. It’s noisier at 8 knots than it is at 20 knots, go figure.” Porter said.

But no matter the size of the boat, or the length of the trip, the sun, the wind and the water can help make for smoother sailing, outside and inside of the boat.

TRIPLE DIGITS — BRING IT!

For many boaters, prickly pears and javelina may not be common elements in an ideal sailing scenario, but for desert dwellers who love the water and the outdoors, these heat-loving

plants and critters are familiar, and welcomed, parts of the boating experience.

And with more than 300 days of sunshine every year, and magnificent lakes like Lake Pleasant, Lake Havasu and Lake Powell stretching across the state, Arizonans are indeed sailing...in the desert! Bon Voyage! ■

SOURCES
 Southwest Windpower: windenergy.com
 On passage.com: onpassage.com/Alternative_Energy/Wind_Generators.htm
 Three Sheets Northwest: threesheetsnw.com/blog/archives/7390
 U.S. Sailing: cruising.sailingcourse.com/electrical_system.htm

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ARIZONA SAILING RESOURCES

- Arizona Game and Fish Department: azgfd.gov/outdoor_recreation/boating.shtml
- Arizona Yacht Club: arizonayachtclub.org
- The Boater’s Guide (Arizona Handbook of Boating Laws and Responsibilities): boat-ed.com/az/handbook
- Lake Pleasant Sailing Club: lakepleasantsailing.com
- Pleasant Harbor: pleasantharbor.com
- Tucson Sailing Club: tucsonssailingclub.com
- White Mountain Sailing: whitemountainsailing.com/default.aspx

Photography provided by Southwest Windpower and B.J. Porter



“SOLAR AND WIND ARE AN IDEAL COMBINATION, AS BOTH RESOURCES ARE AVAILABLE ON THE OPEN SEA, AND THE SYSTEMS CAN EASILY BE COMBINED,” SAID ROBBINS.