



# ON POWERBOATS

BY ERIC SORENSEN

## A builder who's wedded to wood

Dick Pulsifer fashions functionality and beauty based on century-old tradition in his Maine shop



Do one thing really well is a mantra that fits Dick Pulsifer and his open 22-foot skiffs.

We're all, to a degree, products of our environment, and that is certainly the case with Dick Pulsifer, a wooden-boat builder from Brunswick, Maine. Dick grew up listening to the rhythmic sound of one-lunger — or single-cylinder — gas engines pushing small wooden fishing boats along Maine's New Meadows River in the wee hours of the morning. Think of the movie "Chitty Chitty Bang Bang," and you'll get an idea of the clattering cacophony the engines produced.

The inshore fisheries these boats worked were Dick's world as a child, and that's why he's spent decades building the boat that captivated him at an early age — a tried-and-true hull design that has served New England for well more than a century. Known as a Hampton-type boat, Dick's Pulsifer Hamptons are built to haul lobster traps or to take the kids out for a day on the water. Building strip-planked wooden boats is an art form, and it's gratifying to me that Dick is keeping it alive as he handcrafts a few 22-foot Pulsifer Hamptons each year.

It takes 450 hours to build a Pulsifer Hampton, and just a few years ago when things were booming Dick had five- and six-boat years. However, the market has thinned for these \$47,250 boats given the economy and the erosion of discretionary income.

I had the pleasure of visiting Dick at his workshop earlier this year, and it was a bit like taking a step back in time. The man and his boats are emblematic of the wooden-boat building tradition that is so much a part of our maritime history, and I'm happy to say he is hanging in there despite the tough economy.

"The boat in the back shed, the one I'll be taking to the Portland boat show, was built on spec, and so is this one I'm working on now," Dick says. "[Business] will pick up again, but right now it's very frustrating. However, it still pays to buy in volume, so currently I have \$5,000 tied up in shaft logs and shafts, which I get from Ron Thomas in Franklin."

Ron does beautiful work, according to Dick, who describes the shaft log as a piece of art. The shaft log is very heavily built, as you can tell as soon as you pick it up and swing it around the shop a bit.

### THE MAN BEHIND THE BOATS

You might say Dick stumbled into building traditional wooden boats. Back in the early 1960s, Dick wasn't interested in being drafted into the Army, so he joined the Navy and served from 1963 to 1967.



Pulsifer Hamptons slip through the water without digging a big hole and trying to drag the ocean with them.

When his enlistment ended, he went home to Brunswick, Maine.

Friends at Bowdoin College had come across an old one-lunger that had literally shaken the dory it was in to smithereens, and Dick acquired the engine and looked around for a boat to put it in. What he found — this was in 1969 — was a Hampton launch, which, as it transpired, served as a perfect platform for the engine.

He ran that boat for 18 years while building boats for a living. By 1987, the Hampton launch had given up the ghost, so he built himself a Pulsifer Hampton of his own, hull No. 27, specifically for the one-lunger. (That was one lucky engine, if you ask me.) The original Hampton's galvanized fastenings were gone, and he didn't want to fiberglass the boat, adding insult to injury, so he consigned it to the graveyard.

"It had archaeological value as a locally built boat [that] was never lobstered," Dick says. "The original owner messed around with some tuna fishing and general putting around, and he helped Charlie Gomes build it."

Charlie Gomes was one of the best-known builders in the Casco Bay area for years. As far as Dick knows, Charlie built his first Hampton-type hull in 1902 and continued building them into the 1950s. The Hampton-type hull was around before, of course, but Charlie made them famous in Southern Maine. For Dick, his old Hampton was a piece of history that he wanted to preserve, or at least not disfigure with fiberglass.

"You can't refasten strip-planked boats, since the planks are edge-nailed and you can't get to them," he says. "Some people fiberglass those old boats, which I guess is OK for them to do, as it keeps them going, but I sure won't do it."

Dick is stickler for tradition, and he's a bit of a throwback in other ways. If you want to communicate with him, you'll have to write him a letter or call him on the landline. He has no personal e-mail address or cell phone, though you can reach him via his website, a necessary nod to modernity. He does own an AM-FM radio, however, which was playing classical music when I walked into his workshop to see him shine in his element. "I listen to classical music on NPR all day long," Dick says.

Dick loves the lobstering exhibit at the Maine Maritime Museum in Bath. "It's the fishery I knew as a child — wooden boats with automotive engines," he says. "It puts you in touch with boats as they were, not these huge plastic boats you see today."

Along these same lines, Dick recoils if you associate his 22-footers with picnic boats. "The Pulsifer Hamptons are made to fish; haul lobster traps, firewood, dogs and camp supplies; to swim from; tow

kids on floats; or to just cruise around," he says. "They're not picnic boats."

Dick mostly works alone, but once in a while he gets a little help building his boats from Bowdoin College students. The college is located quite close to his workshop. "I run a sort of daycare for the students," Dick says.

His building philosophy is to use whatever materials are available. (He's actually more selective than that makes him sound.) At least this is how the original builders, who fished boats they built themselves, operated. "There weren't professional boatbuilders," Dick says.

From the 1860s to the early 1900s there was an

identifiable hull type for these inshore New England fishing boats, which originated in the area of Hampton, N.H., hence the name. The hulls were fitted with sailing rigs and were double-ended to better take following seas, but when there was no wind, you had to row. By about 1915 the Hampton-type boats had switched mostly from sail to one-lungers, and that meant the fishermen could go out farther and catch more fish. Engines opened up range and increased profits. They also influenced the hull design.

"A fellow named Sennet on Bailey's Island built a square-stern Hampton so he could carry a couple of traps back aft," Dick says. "The boat just evolved."

Dick says he builds wooden boats in part because he doesn't know how to work with fiberglass. "I repaired a snowmobile cowl 35 years ago and that was it," he says. "I like the tradition of working with a material that's been used to build boats around here for hundreds of years. It's already too easy to make something ugly. Canoes used to be pretty boats, and then fiberglass came along."



Home-grown materials and traditional skills produce a boat that is handsome, long-lived and functional.

### A VERSATILE SEA BOAT

The Pulsifer Hampton is a Down East design with a fine entry, round bilges, a hollow (built-down) keel, plumb stem and flat buttocks aft to provide the lift needed to plane. The built-down keel is produced by a radius in the ribs, so the hull curves down to meet the bottom half of the keel, rather than ending at a hard angle at the garboard. This adds buoyancy down low that reduces the hull's immersion at the bilge and adds weight-carrying capability.

Though the boat's full keel resists the rudder in a turn, it stops several feet forward of the stern, diminishing its propensity to keep the boat going straight ahead. At the same time, the round bilges provide little resistance to the rudder in a hard turn, letting the stern slip sideways more easily than a hard-chine boat would, a handy attribute for a boat working traps. Built-down boats are known for their seaworthiness, if not their speed.

The other popular Maine-style hull is the skeg design, which has a hard inside corner where the garboard strake meets the keel. This design planes more efficiently than a built-down hull since there is more bottom-lifting surface.

The Pulsifer Hampton has a modest beam, which helps make it an efficient and comfortable sea boat. The Hampton-type design differs greatly from the designs of more modern boats, which are often not as fuel-efficient and easy in a seaway. As Dick says: "The wide barges they're building today drag along half the bay with them." (I knew I liked this guy!)

Riding a semidisplacement hull with the center of

gravity farther forward, the boat can run comfortably at any speed up to its 13-knot top end. There's really no hump speed — the boat will just slide along a little faster each time you nudge up the throttle. The round bilges, modest beam/length and fine ends give it a comfortable motion.

"The rudder is balanced, so [the boat] steers easily," Dick says. "You can back it any way you want once you have a little way on, or leave the rudder hard over and back and fill." Dick makes the barn door rudder from 1-1/8-inch-thick oak, drifted together with 3/4-inch silicon bronze rods.

Power is a 290-pound, 29-hp Yanmar diesel with a deep 3.22-to-1 gear turning a 1-1/4-inch stainless-steel shaft (that's one heavy shaft for 29 hp) and a 17-inch-diameter by 16-inch-pitch four-blade Michigan DQX wheel. "[It's] a marvelous blade shape, with no cupping," says Dick, who finds the props work well right out of the box.

The boat, which weighs 2,200 pounds launched, gets on plane easily at about 11 knots and, as previously mentioned, does just over 13 knots wide open. Fuel consumption — this is the good part — maxes out at 1.5 gallons per hour.

Part of the secret to reliable running is clean diesel. "We suggest that [owners] fill a container with fuel, let it settle out, then pour the contents into the tank," Dick says. "Too often they get a slug of sludge or water in the fuel if they fill [the tank] directly from the nozzle."

As to average running time during a season for these boats, Dick says 100 hours is about the norm, since most owners don't launch their boats until the middle of June. "The water is just too cold," he says. He adds that the engine will burn around 20 gallons of fuel in 60 hours of running time.

Lately, many owners have been young families with children. The design lends itself to practical functionality and to playtime with the kids, depending on the desire of the owner, Dick says. "One of my boats is owned by a real boat nut in Bainbridge, Wash., and he uses it year round. Now his kids know how to run an inboard boat," he says.

### THE MAKINGS OF A PULSIFER

When I visited Dick at his workshop, I got a clear picture of just what goes into making a quality wooden powerboat, and I want to share that view with you here. Although you may not be familiar with some of the more esoteric lingo, just a glimpse at the building process will show you a tradition that reaches far back in time, a tradition I, for one, value immensely.

All of the wood that goes into a Pulsifer Hampton — white pine, cherry, cedar, and red and white oak — is local, and a good bit of it comes from Dick's 25-acre property on the water. The stem, knee, keel, deadwood, horn timber and sternpost are all of good-quality red oak. Dick likes it because it's porous and soaks up wood preservative like a sponge. He built a boat with a white oak stem a few

boats ago, but the wood was a real bear to work with — hard and gnarly.

Dick knows wood better than most people, of course. "Cedar is very stable with varying moisture content. Pine is fine, but it dries up more," he says. "As soon as the weather permits, we leave all the doors open in the shed so the wood doesn't dry out. All the wood is air dried on sticks for a couple of years. Cedar doesn't need to be dried for very long, but pine does."

Dick also knows how to run an efficient operation.



All the ingredients for a lovely day on the water.

He builds six stern sections (transoms) at one time to get some economy of scale. The transom has a piece of cherry across the bottom and oak across the top and on the sides — all steam-bent to shape. He also planes and strips a lot of pine — for 18 months worth of boats. "So we make a big mess only once in a while," he explains.

The strip planks are ripped from clear, knot-free pine boards to ensure that the planks will curve reliably. This is important because the strip planks initially serve as battens, as we'll see. All the wood is cut and air dried before use. "We get the wood winter cut when the sap is out of it," says Dick. "It's already partially seasoned when it's cut. Half of the weight of hardwood is the moisture."

As is typical of building wooden boats, the backbone is bolted together, temporary molds are set up, the transom is built and braced in position, and then the planking goes on. Dick has a piece of plywood that's marked for the location of the keel bolts, molds, floor timbers and frame pockets (the notches in the keel that the ribs mate into). He starts with the stern, keel and deadwood, which are made from 3-1/2-inch oak. The building process then involves work on the sternpost and horn timber, which are made from 4-1/4-inch oak to give them more strength, and the rudder post that goes through the horn timber. Once the keel is bolted together, he cuts a rabbet to receive the planking, manually cutting it from the sternpost forward to the stem.

Next, he starts fitting the knee to the stem, the

horn timber to the sternpost, and the sternpost to the keel. He shapes the deadwood to improve water flow to the prop and rudder, and he beds (bonds) it all together with 3M 5200 death-grip adhesive. There are five half-inch keel bolts in the deadwood, two in the stem and two more in the keel for the knee. All are back-bored and bunged. There's also a pine stopwater between the stem and the keel.

The oak members do not swell very much, unlike pine. So he takes a 3/8-inch block of pine, planes it into an eight-sided plug, sands it smooth and round,

and then drives it through a heavy mandrel to make it a cylinder. This gets dipped in pine tar and driven through the 3/8-inch hole where the knee, stem and keel join together. When the boat is in the water, the pine swells up in the hole, creating a watertight joint.

Once the boat's backbone is assembled, Dick sets it up on the building stock, or foundation, on the shop floor. The horn timber is fixed in place, the stem set vertical (using a 4-foot level) and braced to the over-head, and then the sternpost is set vertical and braced. Next, he fastens the stern section to the horn timber, making sure it is level side-to-side and that it's even fore and aft, using a tape measuring forward to the bow nail.

With the keel, horn timber, stem and stern in place, the No. 1 mold (a temporary form shaped like the hull in section) goes in. It is fastened to the keel and to the ceiling of the shed; the No. 2 and No. 3 molds go in later. Dick uses little molds initially that allow him to strip plank out a foot or so from the keel, while making it easy to get in and out of the hull as he's building it.

"Then you start stripping," he says, referring to the planking process that starts up around the turn of the bilge, which is the first waypoint. Each strip is beveled on the bottom while it's still on the bench to conform to the edge angle of the last strip. Then he comes up around the turn of the bilge and goes out 12 strips away from the keel.

At this point, Dick sets up the big molds because he

doesn't need to be climbing in and out of the hull anymore. The strip planks are edge-nailed to each other with silicon bronze ring nails (ring nails hold pretty much like screws), and at every fourth or fifth plank they are also nailed to the ribs and floor timbers.

"At the turn of the bilge we nail every two or three planks, since the bend is tighter and the wood is stressed more," Dick says. The nails are bent over or clinched on the inside.

Once the hull is planked far enough out from the keel, the oak floor timbers go in. They are fastened

coaming is used to stiffen the side deck. There is more to it than that, but you get the idea.

"Before the cockpit sole goes in, we start filling and finishing the hull," Dick says. "The decks and washboards go in with countersunk screws, and there's lots of bunging to do with the cedar and pine. We fill all the holes on the outside of the hull and fair it up. We take half a day to Bondo — it's actually Evercoat lightweight autobody filler; we call it Hampton in a can — and another half a day to sand. Then we grind the outside of the hull with 24-

36-grit paper to fair everything up, which gets rid of the excess Bondo and high spots. Then the secret process of raising the grain occurs."

The "secret process" Dick is referring to involves spraying the hull and decks with 5 gallons of hot water to "relieve" the grain. The water raises the grain back up to where it was originally if it

Dick uses several coats of Epifanes Oyster White 24 oil-based enamel as a finish coat on his boats. He says the bottom gets Hydrocoat Pettit, which is water-based so it won't "stink up the shop."

### TENDER LOVING CARE

Like most wooden boats, Pulsifer Hamptons will last for decades if they are taken care of. "The first boat I built in 1973, called Walrus, is still in good shape," Dick says. "If they're in salt water and reasonably well looked after, which means keeping them salted, they will last and last. It's the freshwater boats that are a worry or the boats that just sit. Boats rot from the top down."

"Salted" means keeping a layer of salt on the boat while it's in use during the season, with the salt acting as a preservative. "Keep the boat salted," says Dick. "Use a 5-gallon bucket full of salt water to wash the boat off, not a freshwater hose."

Preventing rot is a key reason why Dick doesn't glue the strip planks. Not gluing allows the salt water to wick up the hull between the plank seams, while the adhesive would act as a moisture barrier. He says it's critical to allow lots of air circulation in wooden boats, which is why there's a triangular hole in the top of the bow spray dodger that acts as a chimney. The venturi vent back on the stern deck also helps pull air through. The cedar deck hatches have beveled edges and gaps, so there is plenty of space for air to circulate.

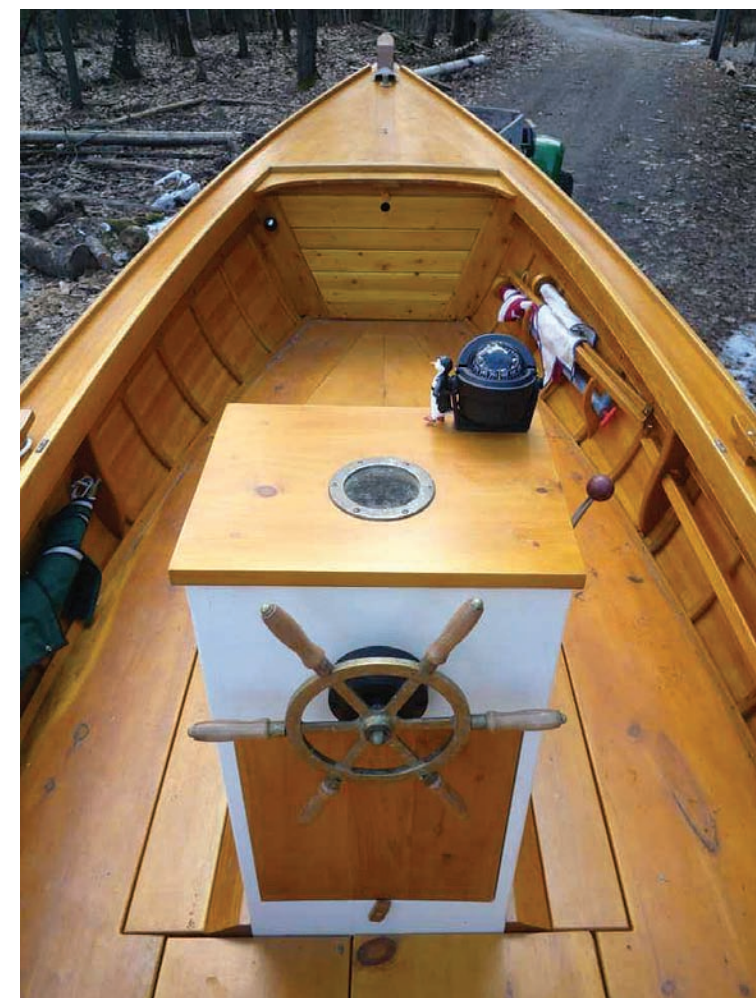
The bilge coating is a recipe that Hamilton Marine calls "schooner deck finish" because it's used on the decks of schooners in Penobscot Bay. It's a mix of pine tar, turpentine, linseed oil and a little Japanese dryer. You buy the ingredients and mix it according to the recipe. Dick lathers it on as he builds a boat, an open pot always at the ready. A final coat of wood preservative goes on right before the deck goes down. The wood preservative goes right through the schooner deck finish.

The Pulsifer's deck is right at the waterline, so water drains directly into the bilge, which means the bilge pump has to pump the water overboard. The outer sections of the deck are screwed and bunged in place, but a series of hatches in the middle of the deck and around the engine box give good bilge access. Ventilation is provided by air gaps around the deck perimeter, as well as the vents and hatches, as previously mentioned. The aft deck is made up of wide, tapered cedar boards that are sledgehammered into place, so the deck itself is as tight as a drum once completed.

If you're wondering how much work it takes to maintain a wooden boat such as a Pulsifer Hampton, it is interesting to note that Dick maintains 50 of the 107 boats built to date. He refinishes the boats and then brings them to the storage shed for the winter so they're ready to launch in the spring. The fall treatment usually consists of a fresh coat of paint on the hull bottom and topsides, and a clear Armada alkyd coating on the side decks, interior and transom, producing a natural wood finish.

For wooden-boat lovers, Pulsifer Hamptons are great little 22-footers easily pushed along by a fuel-sipping diesel, so if they take a little more work to

continued on next page



Dick figures about 450 hours go into each of his boats. "Keep the boat salted," the builder advises. "They will last and last."

with 2-inch-long by No. 14 silicon bronze screws and 3M 5200 adhesive. Once the planking is up to within a foot or so of the sheer, he puts a sheer batten on to mark out a fair curve. He then continues planking right up to the sheer, adjusting the width of the pine strips so the last one meets the sheer evenly. Dick then removes the molds, except mold No. 1, which is used to hold the hull's shape until the deck is framed.

He sands the interior of the hull and nails the steam-bent oak ribs in place. The ribs follow the curvature of the planking and are 1-1/2-inch by 3/4-inch good-quality oak that is straight-grained and clear, with no knots. As with the strip planks, this is important so that they will bend fairly around the molds; a knot would put a crease in the bend. Once the planking is completed, the sheer clamp goes in and is molded to follow the shape of the hull at the gunwale.

In addition, the process requires the mechanical installations in the bilge, including the shaft log, and putting in the big deck beams, the knees in each corner, the side deck beams and the side deck. The deck beams go in forward, with the king plank notched into them, and next comes framing the foredeck and stern deck followed by the king plank and side deck planking. A knee in the midships area under the





# KNOWHOW

BY MIKE SAYLOR

## Mistakes from fatigue can put you at risk

I remember hearing about a couple in their late 50s to mid-60s who decided to follow their dream while they still could. They sold their home, put some of their more precious and sentimental belongings in storage, and bought a boat.

They'd sailed San Francisco Bay for years and were competent sailors. Then they took off on their adventure of a lifetime. The problem was that they had never been out of sight of land — *really* out of sight of land. Not prepared for the phenomenon of being cut off from the familiar, they eased their boat back east until they could glimpse the California coast.

There was a problem. The prevailing winds are westerlies and that placed them off a lee shore. They knew their position was potentially dangerous, so they kept their watches. The stress of being off a lee shore and starting their adventure took its toll. Emotionally, they were incapable of making an offing beyond the north-south traffic patterns.

They soldiered on, but lack of sleep — restful sleep — caught up with them. They lost their boat, their savings and, perhaps worst of all, their dream. Despite eating properly, fatigue caused by fear-induced stress and lack of sleep had them running on empty. Fatigue robbed them of their dream and almost their lives.

A friend of mine — a fine seaman and excellent sailor who has switched to power — had prepared his 27-foot British cruising sailboat for his first solo

passage to Bermuda. Retired, he worked tirelessly to ready the boat for the voyage. His boat was ready and able to go. He, however, was not.

In his rush to beat hurricane season, he neglected to prepare himself. As soon as the boat was ready, he cast off. He didn't give himself time to acclimate to the motion of the boat. He'd sailed her for years, but in this instance he didn't even sleep aboard at the dock before taking off. He went into the standing waves off the east end of Long Island, N.Y. The combination of rough water and light wind on the nose forced him to motor, and he exhausted more than half of his limited fuel capacity.

Moving farther east to make more of an offing from Long Island would have eliminated the problem, but he was tired and his thinking was not as sharp as normal. Like his boat, he, too, was running on empty.

Fortunately, he was sharp enough to realize that he was in trouble. He made an intelligent choice: abort the passage to Bermuda. After resting in the Great Salt Pond of Block Island, R.I., he sailed the New England coast, which, in my opinion, is a greater challenge to seamanship than going to Bermuda. Fatigue did not become an issue because he recognized the symptoms and exercised proper judgment.

Fatigue is different from drowsiness. Drowsiness is the feeling that you need sleep. Fatigue is a lack of energy and motivation. Drowsiness and apathy can be symptoms of fatigue. Fatigue can be a response to physical exertion, emotional stress or lack of sleep. Allergies, depression, grief and a host of other

things also can bring about fatigue.

I once suffered from sleep deprivation for several days — or was it more than a week? To this day, I don't know the duration of my ordeal. After several days without being able to sleep, I had no idea where I was or what I was doing. That was an extreme situation, but it shows what can happen when fatigue sets in.

Regardless of the cause, it's not a good thing to be suffering from while boating.

Fatigue can put you in harm's way. It can cause you to make mistakes, and even small mistakes have a way of cascading into major problems on a boat. Relax. Your Type-A personality is what enabled you to afford a boat in the first place. Have the good sense to take advantage of your opportunity.

You can avoid fatigue by getting enough sleep, eating well and keeping a low-stress environment. Normally, time afloat is a low-stress environment, though not if you are psychologically, physically or emotionally not ready to be on the water.

For me, spending time on the water is relaxing — except, of course, for the occasional bout of bad weather, or a tricky entrance to a harbor at night, or berthing or getting under way under difficult conditions. I learned the wisdom of waiting for improved conditions whenever possible. So can you.

If fatigue is chronic despite attempting to sleep and eating properly, etc., it may be time to see a doctor. Get your rest and try not to put yourself under stress. In particular, don't cruise to a tight schedule. Avoid running on empty, enjoy yourself and stay safe. ■

### ON POWERBOATS *from previous page*

maintain than a fiberglass boat of the same size, that's OK. They'll last a long time, given proper care, and they're versatile, enabling owners to use them as workboats or as a boat the family will enjoy. Perhaps most important of all, they're beautiful creations built in a traditional way. And did I forget to mention that the boat is also perfect for teaching your kids about life on the water? Last I knew, Dick does not offer iPod connections or flat-panel televisions on his boats, so your kids will be away from the video games and loud music for at least a few hours at a time.

For more information, contact Dick at (207) 725-5457 or visit [www.pulsiferhampton.com](http://www.pulsiferhampton.com). ■

*Eric Sorensen is a consultant to boat- and shipbuilders and to the government. He was founding director of the J.D. Power and Associates marine practice and is the author of "Sorensen's Guide to Powerboats: How to Evaluate Design, Construction and Performance." A longtime licensed captain, he can be reached at [eric@sorensensguide.com](mailto:eric@sorensensguide.com).*

LEE WILSON



Contemporary dayboating in a design that dates back more than a century.