

The Creation of



A shoal-draft cruiser

Having a custom boat built was not something we ever considered doing. It was as far removed from our style of life as a villa on the French Riviera. For more than 20 years we had cruised for thousands of hours in our Albin 25, a diesel-powered pocket trawler, in the waters of the Southeast, the Florida Keys, and the Bahamas. In the past few years, however, we had been using the boat less and less, and noticed that fewer of our friends were willing to come with us.

Time had taken its toll, not on the boat, but on us and our friends. As we got older, the berths became smaller and harder, the lack of privacy and comforts harder to deal with. Roughing it, which adds to the fun when youthful, loses its appeal with the passage of years. In spite of the long accumulation of pleasurable memories associated with the Albin, she no longer suited.

As we began to look at other boats for the first time in many years, we were dismayed by the designs and construction quality of the powerboats available. Most were sloppily built and in design more suited to cocktail parties at the dock than the self-sufficient, shallow-water exploration to which we were accustomed.

Then, as I was leafing through the December 1994 issue of *WoodenBoat*, a drawing struck my eye. It was a new design, but one reminiscent of the classic motorboats of the '30s, like the old Elcos and Matthews I had cruised on with family friends in the '50s. Reading through the article, it was as if we had talked to the architect, Dave Gerr, listing our requirements: very shoal draft, light and open cabins, single diesel power. Although someone else had commissioned the design, it was our ideal boat, too. I also liked the wood-epoxy construction, being familiar with the superior qualities of wood as an engineering material and the durability of modern epoxy resins.

After three months of hesitation, I called Dave Gerr, expecting to be disappointed. I was sure that such a boat would be out of the question for us. But I was encouraged by our discussion and by his rough cost estimates. Only then did I tell my wife, Marie, about the idea. She expressed relief that my preoccupation and the paper I had been keeping secret were about a boat, not something more sinister, and she, too, was enthusiastic about the design. She was also skeptical that we could afford to have a custom-built boat.

A visit to Dave's office in New York in June quickly made us comfortable with our common viewpoint about what we liked in a boat and our ability to communicate easily. We had some suggestions about the interior arrangement, and I was happy to find that they were taken seriously and incorporated in the final design.

Having absolutely no experience with such a project, every aspect of the whole undertaking was a learning experience. We didn't even know anyone who had commissioned a custom boat. We had read about the horror stories: boats that were poorly built, years late in delivery, and disastrously over budget. In an attempt to avoid such troubles, our first thought was to have the boat built close at hand so that we could supervise the work. Finding no builders of wood-epoxy boats nearby, we decided to have the hull, deck, and cabin built and trucked to our city where the interior and finish work could be completed by people we knew.

After weeks of anxious waiting and disappointing

BELLE MARIE

by Mike Martin Photographs by Starke Jette

responses, we got a favorable reply from Covey Island Boatworks in Petite Riviere, Nova Scotia. We were delighted, having heard of their reputation, although a bit dismayed by the distance. In August we visited Covey Island accompanied by Dave Gerr. A meeting with builder John Steele quickly established that we were in good hands. Rapport among us all was immediate. The obvious quality of their work, the glowing recommendations, and the integrity of their business practices made us so comfortable that we quickly decided to have them build a completely finished boat. We would furnish the dishes and the linens; everything else would be completed there. This would allow the boat to be delivered on her own bottom rather than having to be trucked 2,000 miles.

Although initially concerned about the miles separating us and the architect from the builder, on reflection it was evident that a couple of thousand miles was no greater problem than several hundred. Internet e-mail helped overcome the problem of distance. It allowed us to communicate quickly and accurately without regard to schedules, time zone differences, or time of day.

Both Dave and John were endlessly patient with us as we agonized over choices we would have to live with for many years. What level of finish did we want? What engine should we use? What was the best way to address my desire for extremely quiet operation? Should we have heating? They shared with us their experiences and knowledge, always explaining why they recommended certain things. At least two messages a day were exchanged among us, sometimes many more. By the end of the whole project, my accumulated file of printed e-mail messages amounted to a couple of hundred pages.

We quickly learned that if both John and Dave agreed on a particular subject, there was no doubt that their viewpoint was the correct one. I remember being appalled by the weight and expense of the ground tackle which included a high-torque electric windlass, 300' of chain, and a large plow anchor. Suggesting that we had successfully used a rope rode and a lighter anchor for years without a windlass got me nowhere. Both experts were adamant that the system as specified was necessary. They had frightening stories about ground-tackle failure. We have had two occasions since to learn that they were absolutely correct.

Some of the decisions we made affected the appearance. One was to have no varnished trim outside the boat. Another was to have what we called "refined workboat" finish for the interior. The bulkheads and doors are covered with an off-white laminate; the exposed hull inside is painted to match, and the wood trim is oil-finished cherry. We also selected aluminum-framed, commercial-style windows. We will be cruising in tropical areas and do not want the maintenance problems associated with

traditional wooden boat finishes. We know that a boat that is used in Southern waters 12 months of the year presents different maintenance problems compared to one that is used in cold waters and higher latitudes for only four or five months of the year.

It is difficult to express the feelings of unreality and excitement we had during the nine months it took to complete BELLE MARIE. We could hardly believe that we were doing it—actually turning ideas and lines on paper into our boat. Every few weeks, we would receive a videotape of the progress from John, and twice I flew to Nova Scotia for on-site visits. The daily e-mail communication and faxed drawings made more frequent visits unnecessary, although I could have happily lived at the yard and watched every plank and screw go into place.

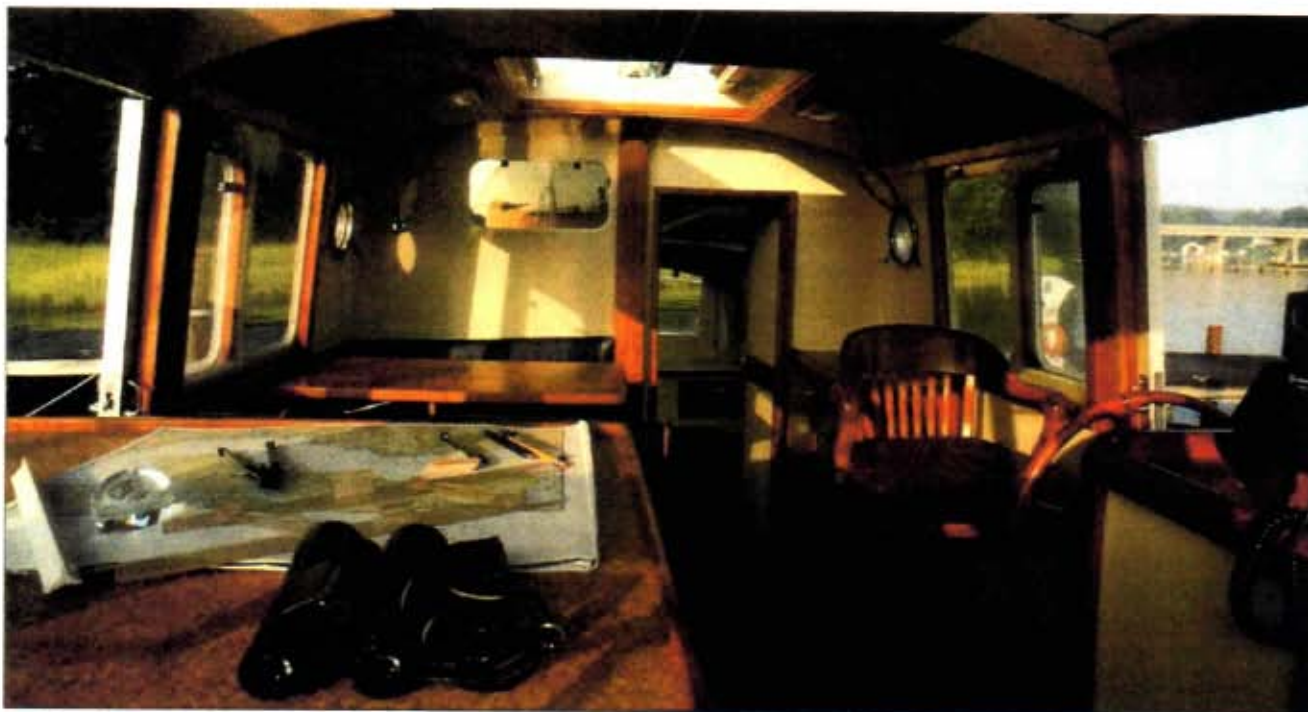
I had suggested that BELLE MARIE be put in the 1996 Wooden Boat Show at Mystic Seaport as an exhibit of the work of Dave Gerr and Covey Island Boatworks. This gave us a tight schedule in which to complete a new design. There were the usual last-minute delays and problems that seem to crop up in any complex project.

When all was done, John Steele and I (along with two of my friends) left the Le Havre River in Nova Scotia with only seven hours of engine time showing on the hour meter. I was apprehensive about making a 300-mile open-water passage in a new, shoal-draft boat, but Dave's confidence in the seaworthiness of the design and John's experience at making this same crossing in many other boats were reassuring.

The trip was much rougher than we anticipated. There were winds of 25 knots generating 6' beam seas. We learned that BELLE MARIE is extremely stable in spite of her shallow draft, both because of the hull shape and the weight distribution. The small steadying sail, that I had considered



Pushed by a well-protected propeller and able to float in 19" of water, BELLE MARIE can cruise just about wherever she chooses. PETITE BELLE, a 9'6" Nutshell pram, rides comfortably on the housetop.



Looking aft in the pilothouse: good visibility and plenty of room for working up the charts, snacking, or simply loitering.

eliminating, was surprisingly effective in damping rolling.

Guided by GPS and electronic charts, we found the tip of Cape Cod with radar at three o'clock in the morning in the midst of a howling squall line, making us truly appreciate modern marine electronics. By afternoon we were in Newport in time to see the finish of the OSTAR transatlantic sailboat race and learned that several of the participating boats had capsized in the same weather system that had hit us. Although happy to be in protected waters, the experience really gave us tremendous confidence in the design and construction of the boat. The only time we ever got green water onboard was when I drove her off the top of a Buzzards Bay roller into the trough.

In the months since BELLE MARIE's launching, we have explored the lower Chesapeake Bay and have found that BELLE MARIE suits us perfectly and attracts a good deal of attention. We are frequently asked how old she is and were even singled out by a harbor tour guide as a good example of a well-maintained old boat! A surprising number of people recognize her as the Summer Kyle design from Joel White's review in *WoodenBoat*.

Many of the details of the design function even better than we had anticipated. The living spaces on the boat are well proportioned. The light finishes and large opening windows and hatches make the boat feel larger than she is and allow us to stay comfortable in hot weather. The forward well-deck has proved to be a comfortable outside space in which to sit and enjoy the view.

Dave's design allows us to carry a large, hard dinghy on the after cabin top, and the mast and boom make launching and recovering the dinghy an easy operation. It is far more convenient to anchor off and take the dinghy ashore than to find dock space. Having a hard dinghy is a luxury we have never had before. We settled on the 9'6" version of Joel White's Nutshell Pram, which also was built for us in Nova Scotia. It comfortably carries four adults. Having an ultra-shoal-draft boat always puts us within easy rowing distance of our destination, eliminating the need for an outboard motor.



The shape of BELLE MARIE's hull, lull protection of the propeller and rudder, and the stainless-steel plate on the bottom have made us bold about exploring shallower places, so we have already discovered the best ways to get off after a grounding. Being able to take the ground with confidence has led us to venture into areas off limits to most cruising boats.

After almost 300 hours of cruising, there is little we would change. We indeed have our dream boat, a boat that did not exist except in a custom design. Our only regret at having finished the building project and begun

the cruising, is that we are no longer working with Dave and John and the crew at Covey Island Boatworks. We not only have a new boat now, but some new friends as well. 📍

Michael Martin, a surgical-device designer, and his wife, Marie, an environmental lobbyist, have explored the coastal waters of the Southeast and the Bahamas for the past 30 years.

Designing BELLE MARIE

by Dave Gen

I like to think that my small design office draws up more different kinds of boats than any other office in the world. Right now, we're finishing up a 35' police patrol boat, and a 44' high-performance, ultra-modern, cruising, sailing catamaran—one just launched, the other nearly so. In the mid-stages of design are a 44' express-type motor cruiser for a California yard, and a 57' voyaging motor cruiser. For new projects, we've got a 67' voyaging motor cruiser; an ultra-ultralight, lifting-bulb-keel flyer of a sloop; and a 58' clipper-bow, center-cockpit ketch. And all this in just the past year or so! Am I equally fond of all these projects? Well...when it comes to boats, I'm much like the lyrics of the old rock-and-roll song: "If you can't be with the one you love, love the one you're with." All these different designs are fascinating, rewarding, and challenging; and the broad variety keeps things—to say the least—entertaining!

Still, there are some designs that stand out as special.

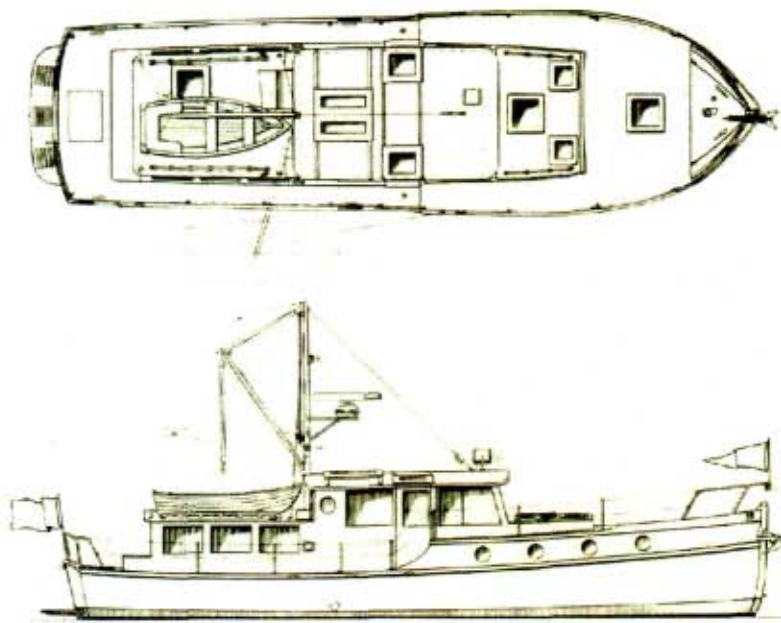
Summer Kyle was born when John Perretti stopped by my office. A consummate sculptor in wood and a world-renowned martial-arts champion, John wanted an economical cruiser that he and his wife could live on for a month or two at a go, and cruise extensively. At the same time, he hankered for classic styling and—the kicker—he required less than 24" of draft. Why? Because the berth behind his Long Island home had as little as 22" of water at extreme low tide. Besides, like me, he finds the most interesting part of cruising to be poking into all those diminutive shallow bays and inlets, nosing up creeks, and squeezing over sandbars. Some rough sketching and discussion of arrangement and machinery led to the conclusion that John needed a vessel a bit over 40' LOA. But how to get such shallow draft in a 40'-plus cruiser? There was much pleasant discussion back and forth, with John making a host of sensible and valuable contributions.

It was then that I recalled reading about a tunnel-drive hull form developed by naval architect William (Billy)

Atkin. Dreamed up between the two world wars, the hull is a modification of the Jersey Sea Bright skiff. For some reason, Atkin's tunnel-drive has nearly been forgotten, which is a real shame. Billy designed and built at least seven different boats on this model (perhaps as many as two dozen), and all were extremely successful—fast, comfortable, seakindly, safe, and economical. You can see how the tunnel is arranged by looking at the after half of the sections and at the inboard profile. It is, though, hard to visualize if you're not used to reading lines drawings. Basically, instead of a single centerline tunnel directly in line with the propeller, two semi-tunnels flank the keel aft. These sweep up and astern toward the centerline, funneling water efficiently to the prop. At the same time, the full Sea Bright Skiff box keel is retained for maximum propeller and rudder protection.

It's even more of a challenge than usual to work up a design based on a radical and long-forgotten hull

form. I spent many hours gathering all the data I could from Atkin's writings. I had to analyze the shape to ensure I understood its workings. Enlarging the published lines from two different Atkin designs, I scanned them into the computer and used that to construct a mathematical model. From there, I could investigate the hull's principles, paying careful attention to the distribution of volume, the shape of the



BELLE MARIE'S timeless, classic profile hides modern engineering and construction.

buttocks in the run (essentially the whole tunnel), the size and location of the propeller and rudder, and the relative cross-sectional areas of the tunnel at various stations. Eventually, I had a model that described the form accurately enough for me to strike off on my own to design a totally new boat—different size, arrangement, powering, and construction method—and still have a firm handle on performance.

One feature in particular proved a real poser. Atkin's tunnel opened directly to the air at the transom. Conventional wisdom (which I believe to be generally correct) says that tunnel-drive hulls should have

Designing BELLEMARIE

their tunnels immersed at the transom; otherwise, the boat will suck air and fail to back down or even to stop as it should. However, my experiments with sloping the Atkin-type tunnel down enough to close it off, radically altered the buttock angles aft. This configuration would have created unacceptable bow-down trim underway; it wouldn't work. What to do? Well, I figured that Atkin would hardly have drawn so many different designs over more than a decade—all with open tunnels—if the darn things wouldn't back or stop. Decision made; I would stay with the original Atkin configuration exactly.

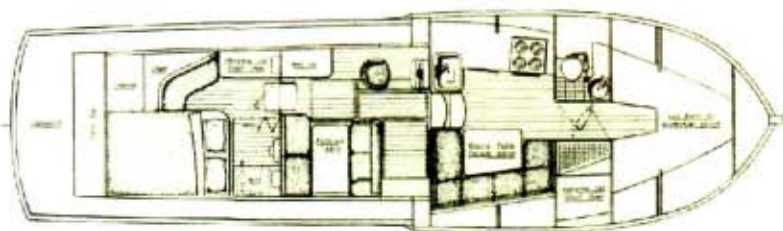
Using the information I'd gained from the model, I soon had preliminary sketches and calculations with surprisingly robust stability numbers and with promising performance figures.

John was enthusiastic and gave the go-ahead to finish up the detail drawings and to query builders. Another consideration was light and air below. None of that dark-cave feeling for Summer Kyle. Almost every window throughout the boat opens, and there are plenty of these and plenty of hatches, too. The wheelhouse opens wide with both a sunroof and two athwartship companionway slides above

port and starboard sliding doors. Further, all the front and side wheelhouse windows open. Kortchmar & Willner, in Greenport, Long Island, was selected as the builder.

Soon, I was immersed in the lines drawing—always one of my favorite tasks, and particularly challenging with this hull form. I still do these the old-fashioned way, by hand, believing firmly that it's faster and gives me more control of unusual shapes than using computer fairing programs. (I use the computer extensively for mathematical modeling, engineering, hydrostatics, performance predictions, and such.) At any rate, presumably the offsets came out nice and fair, as I never heard a peep about them from the yard; and builders

Particulars	
LOA	41'3"
Beam	12'0"
Draft	1'9"



An extraordinarily comfortable arrangement for a couple with occasional company.



The hull's bottom, a full 2 1/2" of plywood sheathed with 60-oz biaxial E-glass and epoxy, can take the ground without problems.

are sure to bend my ear if there's a problem. Then, with the drawings nearly complete, we hit a snag. Through no fault of his own, one of John's chief clients went Chapter 11. It's always a disappointment when funds run out on a project, and it's even worse when it's one of those designs that you're especially proud of!

Luckily, we'd sent out press releases on Summer Kyle, which generated more interest than any other single boat I'd ever drawn. *WoodenBoat* reviewed the design in issue No. 121. Mike and Marie Martin saw the piece. Summer Kyle was just right for the sort of cruising they'd been enjoying for years in a smaller boat. They knew what they wanted and needed, yet understood when to compromise. Mike suggested that we rearrange the wheelhouse and put a

raised settee aft, so you could sit and look out of the windows. This provided the pleasant option of having breakfast or coffee in a wheelhouse with nearly 360° unobstructed visibility all around. With binoculars resting at hand, you could take a sip and easily admire swooping cormorants or passing boats. What's more, this moved the wheelhouse side doors forward right next to the helm, so you could steer standing on the

side deck (particularly handy during docking). All in all, they are wonderful improvements.

Mike also asked me to think of a way to add an after head. This had stumped me first time around, but—to my surprise—it turned out to be easy. (Nothing like a fresh look at an old problem.) The original starboard hanging locker was removed, and a head fitted under a bench built out from the hull in its stead. For privacy, the queen-sized berth's headboard was equipped with a drop-slide panel, which (when raised to the overhead) formed part of an enclosure, and a tri-fold door closed off the remaining inboard side. This "Pullman" head has worked superbly in practice. It takes no

more than 30 seconds to raise the headboard panel and close the door, forming a totally private head compartment.

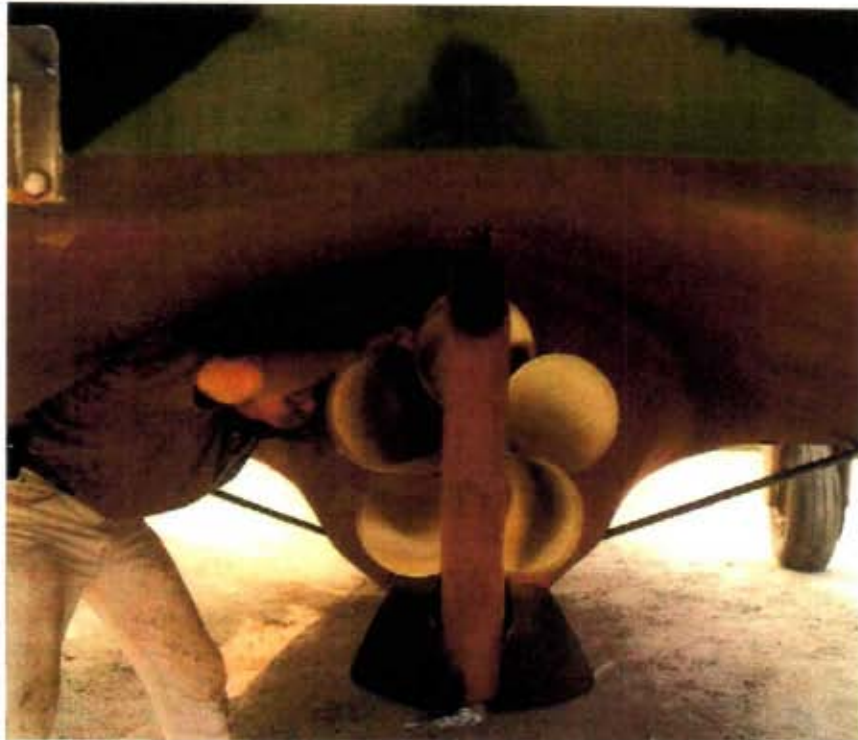
Mike selected Covey Island Boatworks as the builder, and, after a pleasant visit, the contract was signed. Both John Steele of Covey Island and I had independently come to the conclusion that the most cost-effective method for building robust, low-maintenance, finely shaped hulls was wood-epoxy strip-plank, sheathed on the outside only with biaxial E-glass laid in epoxy. Covey Island has built over 70 boats this way, and I've designed quite a few as well. Because our methods were so similar, it felt like we'd been working together for years.

This construction, by the way, can be lighter than most other methods for high-performance craft; and, for cruising boats, it can be incredibly tough with no increase in weight compared to more conventional construction. Indeed, BELLE MARIE'S scantlings make her about as strong and tough as a robustly fashioned aluminum hull, of about the same weight. Yet, BELLE has the warmth and appeal only wood can provide. Her bottom—designed to take ground regularly in all conditions—is even stronger than comparable aluminum. With extremely heavy, closely spaced internal framing of fir, her grounding bottom is three layers of 3/4" plywood sheathed with 60-oz of biaxial E-glass, with an overlay of 1/4" -thick stainless-steel plate, bedded on 3M 5200, and through-bolted. This "overbuilding" was the source of some good-natured ribbing at Covey Island, but it'll be an even greater source of comfort when BELLE takes the ground full-tilt on coral or granite.

The crew at Covey proceeded at a great pace and delivered BELLE MARIE on time and within budget. She was solidly and carefully crafted and her systems all functioned about as they should right out of the box. I've never worked with a more dedicated and cheerful yard.

Of course, the payoff is always on launching day, and BELLE MARIE floated exactly where I'd instructed the yard to paint her boottop. Even better, she handled superbly: turning in just 1/2" times her own length at any speed. (She can just about be spun around in place

during docking maneuvers—once you learn how.) Initially, steering response had been a tad more sluggish than ideal, but a fence added to the bottom of her rudder corrected this completely. Response is now so positive you can almost dispense with the bow thruster; however, the thruster is really necessary—as she does skate sideways at docking speed in a crosswind. (She doesn't skate at all at cruising speed.) Atkin did, indeed, know what he was about, and BELLE stops and backs positively and has shown herself to be not just a good seaboat but a superb one. She's experienced quite rough going offshore, and has proven exceptionally stable, soft riding, and comfortable. Her steadying sail—small as it appears—does an admirable job of damping roll.



BELLE MARIE's five-bladed propeller operates in a tunnel on the fence on the rudder improves steering response.

I didn't get everything just right. Like many designs, BELLE MARIE grew heavier as she matured. This was no surprise—I had calculated her true final displacement dead on, well in advance—but greater weight when ready to cruise, combined with her special tunnel configuration, meant that my original speed estimate of 14 knots plus wasn't achievable. BELLE cruises at a solid 10 to 11 knots, topping out at 12.2. At 11 knots, she consumes about 3 gallons per hour, which (with her 330-gallon diesel capacity) gives her a range of 1,100 nautical miles, with a 10% reserve.

I can tell you from a delightful voyage on BELLE, on the Chesapeake this past summer, that she is almost too comfortable to leave. After a wonderful five days, Mike and Marie almost had to pack up our duffel and hurl it onto the dock. Oh well, I can take a hint! Barbara and I did, after all, have a plane to catch.

Even better, John Perretti long ago resolved his client problems, and his original Summer Kyle is being planked up at Kortchmar & Willner. Soon, there'll be two of these boats—and I'll be able to thumb rides on both of them!

Naval architect Dave Gerr is the author of *Propeller Handbook* and of *The Nature of Boats*. He is working on a new book, *Boat Strength*. You can contact him at Gerr Marine, 838 West End Ave., Ste. BB, New York, NY 10025.

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Building BELLE MARIE

by John Steele

Years ago I was told that boatbuilding has one of the highest inquiry-to-contract ratios of any industry in North America. I've never counted how many inquiries we answer every year. Through all the letters, phone calls, and folks I've chatted with at trade shows, I've developed a sixth sense that lets me know when I'm talking to a real customer.

This project began with a typical call filled with questions about what our shop had done, what we were doing, what we would like to do. My sixth sense told me the caller, Mike Martin, had arrived at a tentative "yes." Truth be told, the boat he was interested in building, the Summer Kyle design by Dave Gerr, was right up our alley—a unique design of strong character.

Mike Martin's original phone call became a visit. In September of 1995, he and his wife, along with designer Gerr, arrived in Nova Scotia for our first handshake. Nova Scotia is lovely any time of the year, but it's especially lovely in September—so that was on our side. Try as I might, I can't help feeling a little like I'm about to sit for a final exam whenever I meet prospective clients. This time I needn't have worried. When they arrived, our shop was humming with several exciting projects. Dave and I saw eye-to-eye on building methods and materials. The owners, experienced and knowledgeable boat people, were clearly pleased with what they saw.

Their Summer Kyle would be called BELLE MARIE. Like most of the folks we build boats for, the Martins knew just what they wanted and brought their life's boating experience to the table. Dave's original layout was modified, and detailed written specifications were developed to answer the Martins' particular needs. We had discussions about every piece of gear—always trying to fit the piece exactly to the intended use. Being avid birdwatchers,

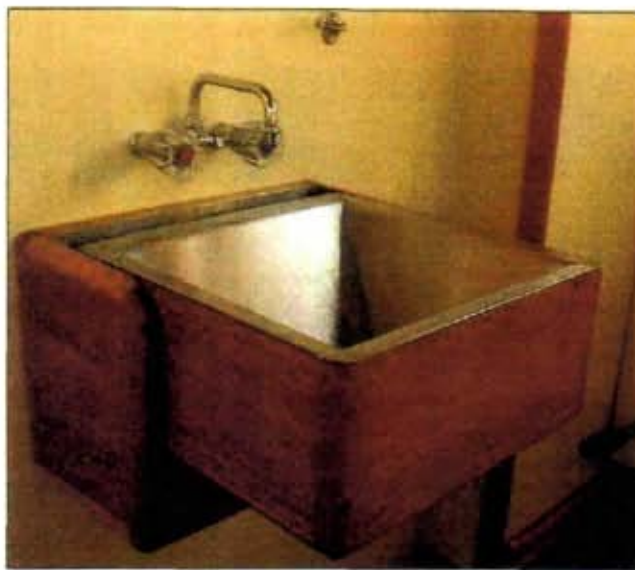
they planned to use their new boat much like their last: to wander around shallow coastal estuaries. Their love of light, and a desire to be part of their surroundings, made the wheelhouse almost a solarium. All through the process of planning and building, small modifications continued

to customize the vessel. The Martins were particularly concerned that BELLE MARIE be as quiet as possible. Wood is one of the best materials for controlling noise levels. Still, additional attention was paid to the engine and drive systems. Mounts, couplings, bearings, and sound-proofing all received careful thought.

Throughout these discussions of practical matters, the "owners" became our friends. This is one of the best parts of custom boatbuilding. It's impossible to build peoples' dreams without knowing who they really are. As a boat grows in the shop, it stops being "hull number 73" and becomes "the Martins' boat." The owners' character begins to influence everything that we do. By the time we're down to the finish work, all of us feel that we know just how they would want things done. After more than two decades building up this yard, constantly immersed in questions of technology and method, I realize the most important thing is to know whom you're building for. All the clever marketing in the world is

meaningless if the owners of the boats you build aren't your best salespeople.

Dave's design had received considerable exposure in the boating press before we started building. Being such an unorthodox hull, skeptical comment was inevitable. Among the onlookers who looked and left shaking their heads were a couple of designers who knew a thing or two as well as several experienced builders and scores of lifelong boaters. We're used to this sort of thing at Covey




When not in use, the sink in the after "Pullman" head folds flat against the bulkhead.



Looking aft in the owners' cabin: plenty of light and a good view out. The drop-slide panel at the foot of the queen-sized berth raises to help enclose the "Pullman" head.

Island. Nova Scotia is steeped in tradition, a place where newfangled ideas like epoxy and building hulls upside down don't easily gain acceptance. Although we, too, had some questions, we were sure of the boat. After all, Billy Atkin was no fool, and years ago he had designed many boats with tunnel sterns. We weren't losing any sleep over her, but I admit our curiosity did grow as launching day approached.

BELLE MARIE was launched in June 1996, only two weeks behind schedule. She floated on her lines, and everyone pronounced her a pretty boat. Sea trials began immediately and she handled well. The hull was more easily driven than anyone might have expected—anyone except Billy Atkin. After a minimum shakedown time, it was off to the WoodenBoat Show in Mystic. We set off down the coast of Nova Scotia and across the Gulf of Maine, with a chorus of skepticism verging on doom ringing in our ears. We were taking a shoal-draft gunkholer on a route that would put us over a hundred miles offshore crossing the mouth of a bay that not only boasts the world's largest tides, but is also renowned for fog. The Gulf of Maine has also seen a breeze or two.

Eight hours out from the secure lee of Cape Cod it breezed up to 25 knots and the seas grew to 6' right on our beam. BELLE MARIE took it all in stride with a solid comfortable motion. Even in these conditions we continued to bunk down in the forward cabin. Later, on the other side of Cape Cod where the canal empties into Buzzards Bay, things were just a tad nastier. The same wind was now on our nose, and the waves were close together and steep—bad enough to shake up any boat. Square seas 8' tall marched at us right up the middle of the narrow channel. BELLE MARIE really showed her stuff by putting her shallow draft to work and slipping into the shallow water just outside the channel. We proceeded down the bay in a civilized manner and, as I recall, even enjoyed a cup of tea. Our maiden voyage had clearly established this as an able, well-mannered, and very comfortable boat. 

John Steele is president of Covey Island Boatworks, Petite Riviere, NS, BOJ 2PO, Canada. This September John will begin a year-long sabbatical with his wife and daughters aboard MARGUERITE T, his restored Bristol Channel pilot cutter.