The Classic Yacht Symposium 2010







The Restoration of NELLIE: A Nontraditional Approach to Project Management Yields a Beautiful Result

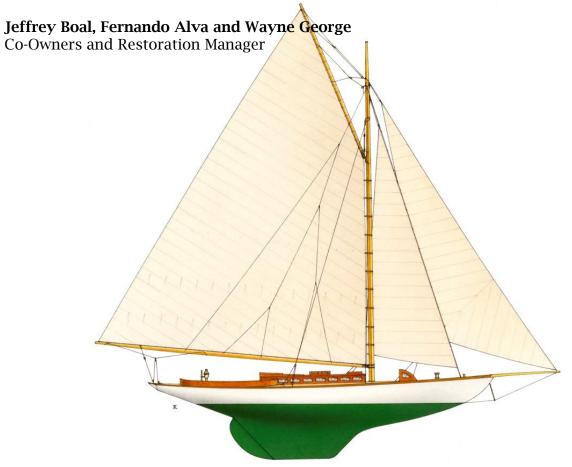


Figure 1 - NELLIE. (Drawing © Kathy Bray).

ABSTRACT

NELLIE is a 1903 NG Herreshoff-designed and -built 35-foot class racer/cruiser. This paper explores the real-world experiences and opportunities afforded to the authors in their two-and-a-half-year restoration of NELLIE. Attention is given to how this restoration benefited from the addition of a restoration manager to the project. The restoration manager coordinated the entire project, established design fit and finish standards and maintained clear lines of communication. By facilitating the review and selection of independent contractors and directly outsourcing higher-ticket material costs, he accelerated the project completion time by months, took advantage of unique knowledge and brought the project well within the projected budget. The financial transparency and trustworthy working relationship in the end built both friendships and an incredibly beautiful boat

INTRODUCTION

The Herreshoff Mfg. Co. built two virtually identical full keel yachts to the 35-foot racer/cruiser class in 1902 and 1903; both were based on the keel/centerboarder AZOR (HMCo #578) that had come out a few months earlier. The first named TRIVIA (HMCo #580), was built for Harold Sterling "Mike" Vanderbilt. The second was built for Morton Freeman Plant, which he named NELLIE (HMCo #586).





Figure 2 - Morton & Nellie Plant. (Courtesy University of Connecticut).

AZOR, originally a Naushon Island-based boat for J. Malcolm Forbes, was lost, but TRIVIA is at the Herreshoff Marine Museum and was featured in Halsey Herreshoff's 2009 presentation "Significant Yachts of the Herreshoff Marine Museum Collection." In the biography of his father, L. Francis Herreshoff wrote of the trio of AZOR, TRIVIA and NELLIE:

"... these three were among the nicest all-around sail boats of their size ever built."



Figure 3 - AZOR Reaching Across Buzzards Bay. (Courtesy Rosenfeld Collection Mystic Seaport).

Wealthy from the railroad business his father Henry Plant bequeathed him in 1899, Morton was quite busy making use of his inheritance. He commissioned his New York City home, the Italianate town house on the corner of 5th Avenue and 52nd Street, now The Cartier Building. In addition, he had Branford House constructed to wife Nellie's own design; this magnificent estate on Avery point in Groton, CT, today is a campus of the University of Connecticut. 1903 was also a busy year for NGH and the Herreshoff Manufacturing Co. There was great publicity and interest swirling about the new America's Cup defender RELIANCE and Plant's two other yachts also got their share of attention: INGOMAR the 127' steel schooner and PARTHENIA the 131' wooden-hulled steam yacht.



Figure 4 - NELLIE on Western Long Island Sound. (Courtesy Tom Rickenback).

NELLIE, named after Morton Plant's first wife Nellie Capron of Baltimore, Maryland, was only briefly known as NELLIE because 18 months after acquiring NELLIE, Plant sold her to Henry Parmalee who renamed her ISHKOODAH. Since 1903 NELLIE has also been known by the names EDIANA, MARIQUITA and BUTTERFLY. Except for a brief time in Narragansett Bay (1906 – 1908), she has been in western Long Island Sound all her life. In April 2010 she will once again sail in her home waters.



Figure 5 - ISHKOODAH Ex-NELLIE Half Hull at NYYC. (Courtesy Fernando Alva).

Owner Jeff Boal was introduced to NELLIE back in 2005 by Bill Cannell. At the time, Bill thought that the Independence Seaport Museum of Philadelphia, which had begun NELLIE's restoration at D.N. Hylan & Associates, might be interested in selling her as a project boat to an interested buyer.



Figure 6 - NELLIE Spring Commissioning. (Courtesy Tom Rickenback).

Two years later, in the spring of 2007, Bill called Jeff for the second time about NELLIE and this time indicated that she was legitimately on the market for the right buyer. At the time of the purchase, D.N. Hylan and the Independence Seaport had completed major work on the yacht in two distinct phases.



Figure 7 - NELLIE Early Restoration. (Courtesy Maynard Bray).

In 2003, during the first phase of this work, NELLIE's modified house, bulwarks, cockpit furniture and all of the non-original parts and pieces were removed. A full appraisal of her condition was performed and a multi-year, multi-phase program was identified.



Figure 8 – Yard Fire Damage. (Courtesy Tom Rickenback).

Little of her original Herreshoff exterior remained due to a yard fire in the 1950s, which necessitated major cosmetic and some structural rebuilding. Her original Herreshoff cabin house was replaced with a house from the style of the time. Credit should be given to Tom Rickenback (owner of NELLIE and at one point TRIVIA) who after the fire saved NELLIE. As it turned out the insurance company had deemed the boat a total loss and paid the insurance claim. Rickenback then went back to the insurance company just before they were to have her destroyed and persuaded them that she was of historical significance and should be saved. As a result of that discussion they gave NELLIE to Tom for free so long as he restored her.



Figure 9 - Yard Fire Repair. (Courtesy Tom Rickenback).

Despite more than a century of owners, NELLIE's interior was largely intact. Many of her interior parts and pieces would later prove to be helpful not only as a guide for construction technique, but also for the many design choices yet to be made. Original intact interior components included her matching sets of mahogany chests of drawers, raised panel bulkheads, storage drawers in the main salon and much of the original hardware. Maynard Bray should be credited for putting together a photographic catalogue of the interior as it was removed and placed in storage. These pictures were an excellent source for construction reference and are featured throughout this paper.



Figure 10 - NELLIE Interior. (Courtesy Maynard Bray).

Under the ownership of the Independence Seaport Museum, D.N. Hylan & Associates proceeded to remove all the historically appropriate and structurally sound parts. After the process of gut and removal was complete, attention was redirected to structural needs.

CENTERLINE

Overall, NELLIE was in remarkably good structural shape for a boat of her age. Much of that was due to long periods of in-water storage and one notable span of 19 continuous years in the water. This benefited the boat by reducing moisture cycling as well as maintaining support across her entire waterline. Despite her basic structural integrity, much of the centerline needed attention or replacement entirely. The following centerline components were replaced: stem; fore keel; keelson; horn timber; quarter knees and transom.



Figure 11 - Centerline Work. (Courtesy Maynard Bray).

True to the enduring qualities of the wood, the long leaf yellow pine deadwood was in remarkably great shape and was cleaned up and refitted on top of the ballast keel. Similarly, much of the topside planking and both sheer clamps were in solid shape and did not warrant replacement, as was the ballast keel, which was only wasted away on its topmost portion. NELLIE's floor timbers and many frames seemed at the time to be worthy of keeping.

After a hiatus of about a year, the Independence Seaport management commissioned a second round of structural work on NELLIE.



Figure 12 - New Floor Timbers. (Courtesy Maynard Bray).

At this point the decision was made to replace all the frames and the floor timbers. Despite the integrity of some of the frames and floors, it seemed to be false economy to essentially build a new boat around structural parts that were a century old. Therefore, all the floor timbers, the bilge stringers and every frame on the boat were replaced. This concluded the work commissioned by the Seaport and was our starting point.



Figure 13 - Frames Replaced. (Courtesy Maynard Bray).

COMMITMENT

To be clear, the authors are not professional boat builders, nor are we financially independent; with the world teetering on financial chaos, one could say that we were not in a position at the time to have taken on a project of this magnitude. But nonetheless we jumped in with Teddy Roosevelt's words stapled to our foreheads: "Far better to dare mighty things, to win glorious triumphs, even though checkered by failure, than to take rank with those poor spirits who neither enjoy much nor suffer much because they live in the gray twilight that knows not victory, not defeat." Theodore Roosevelt – 1899

What we lacked in knowledge and resources at the time we made up for in our commitment to figure it out. Commitment is a powerful tool. We all know that when one is authentically committed to something, the word NO is meaningless. It's a rare and powerful place to generate possibility, and that's where we were with NELLIE...all possibility. So in the early part of January 2008 we brought NELLIE out of storage and into D.N. Hylan's main work shed in Brooklin, Maine. The plan, similar to that developed under the Seaport's ownership, called for restoring her in stages with the first stage being the completion of the deck and cockpit. Then, pending the availability of long leaf yellow pine, we could begin to re-plank her below the waterline.

Critical at this point was a decision we had to make regarding the size, shape and configuration of her cockpit and deckhouse. After reviewing the drawings for both NELLIE and AZOR from the MIT Hart Nautical Collection and all the available photos from the Rosenfeld Collection, we determined that NELLIE's sister ship AZOR had a more interesting and unique cockpit. It featured a rounded aft section and stand-up-proud rounded coaming great for Sunday fun.



Figure 14 – AZOR Sunday Fun. (Courtesy Rosenfeld Collection Mystic Seaport).

We kept referring back to this great photo in making our choice as to whether or not to stray from NELLIE's original classic Herreshoff slotted cockpit with ogee coaming configuration. We loved the look of the rounded cockpit, and those who have sailed with us know that we enjoy the social hour, so the choice was

made to adopt AZOR's cockpit for NELLIE. As we would learn throughout the restoration process, making a choice in one area leads to a cascading set of ramifications in other areas, and restoring a boat is really a matter of inches, not feet. So in short order we discovered that to build AZOR's rounded cockpit meant that we had to build her house as well – a foot wider than on sister ships NELLIE or TRIVIA.

In the end we reasoned that we could bridge the authenticity gap because we would be borrowing from a direct family member rather than from a distant cousin. We built NELLIE's house and cockpit directly from Herreshoff's AZOR drawings.



Figure 15 - NELLIE's New Rounded Cockpit. (Courtesy Wayne George).

When we consulted with Maynard Bray in Brooklin one Saturday morning, he agreed with our choice and felt that, since we were adopting a directionally accurate restoration rather than a curatorially accurate restoration, the house and cockpit substitution was okay and to his eyes the aesthetically more interesting choice. So in January of 2008 Hylan's crew got off to a fast start with shaping and installing the deck beams to accommodate her new house and cockpit. The beams were shaped to their final dimensions and the diagonal bronze strapping was let into the top of the deck beams accordingly.

On top of the deck beams, v-grooved pine planking was installed to the original dimensions. Atop the pine was placed a layer of brunzeel plywood to improve structural rigidity and reduce hull twist. The deck installation was followed by the necessary framing and structural supports for the rounded cockpit. It was determined at this point that the traditional Herreshoff quarter berths would be sacrificed for auxiliary fuel

tanks and cockpit storage. This was a disappointing but necessary modification to balance fuel capacity, weight location and the needs of a modern diesel auxiliary.



Figure 16 - Deck Beam Construction. (Courtesy Doug Hylan).



Figure 17 - Deck Completion. (Courtesy Doug Hylan).

RESTORATION MANAGEMENT

Until this point in the project the owners had largely been independent of the process and had let the yard move forward with occasional consultations. Things like steam bending, forming deck beams and deck substrate material do not require significant owner input. However, we were soon to begin the more collaborative process of building out the interior and all of the finish details, and we thought it appropriate to

begin to manage the restoration with more direct control.

At a total of 220 miles from Brooklin, Maine, we were physically distant from the process and feeling a bit removed. So we felt that we needed help – someone who could guide us through all the pending choices and someone who was better located to visit, inspect and collaborate with the yard. In short, we needed a restoration manager. We found him in the form of a college-trained engineer and self-proclaimed wooden boat addict. A Herreshoff devotee who courted his wife while they restored his H-12½ and then named his first-born son Nathanael Greene...How perfect!

Wayne George agreed to take on the responsibility of overseeing NELLIE's restoration. He was an ideal fit given his interest in Herreshoff yachts, his engineering background, his aesthetic sense and his experience running similar multifaceted projects within the software industry.



Figure 18 - Restoration Manager Wayne George. (Courtesy Wayne George).

Wayne acted as an agent of the owners and I am certain that he saved us a minimum of six to eight months of time, reduced the number of errors and inefficiencies inherent in restoration of this sort, saved us tens of thousands of dollars, and produced a staggeringly beautiful boat. His attention to details was as important as his ability to keep us involved and excited about the process. The idea that very busy people could restore a fantastic yacht without physically being there and still enjoy every part of the process, learn about how Herreshoff did things and come out at the end feeling indulged was a fantastic result of his involvement.



Figure 19 – Builder Plate. (Courtesy Tom Sitterly).

Wayne's first challenge was to accurately evaluate vards where the balance of the work would be done. Several well-known yards, including D.N. Hylan & Associates, were on our short list to take on the balance of the work. Proposals were gathered and we were ready to pull the trigger with a highly respected yard when a final proposal was obtained from shipwright Bob Egar (Warren Pond Boatworks) and Terry Whiting (Whiting Marine Services) of South Berwick, Maine. We had heard that Bob's work on the schooner MARIGOLD was top drawer, but he was essentially a standalone shipwright and we presumed he did not have the inhouse support to pull off a fully integrated restoration. This situation and what might be considered a weakness turned out in our case to be a benefit. We had the opportunity to assemble our own best-in-class tribe of craftsmen, all focusing on what they did best. After discussions with Bob, a plan began to emerge to hire specific people for specific applications with Wayne acting as the steward of the process.



Figure 20 - Hanging Lockers. (Courtesy Tom Sitterly).

Bob Egar and Terry Whiting gave us permission to select and bring on subcontractors as needed and to more directly manage quality and cost. We were on to

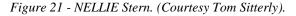
something a little different than we had originally envisioned because, under this arrangement, we would be buying the labor directly and sourcing many of the construction materials ourselves. With a competent restoration manager who was under hire directly by the owners, we could take more control in the restoration process and all the costs became transparent.

In addition to these more rational reasons for our choice to go with Bob and Terry, there was another key reason – chemistry. Their personalities were a great fit with our team and, in a word, we trusted them. And that, in the estimation of the authors, is the critical element in our restoration's successful outcome.



Figure 22 - Hardware. (Courtesy Tom Sitterly).





The following is a partial list of the contractors that were independently chosen by the restoration manager for the project: layout and design (Dieter Empacher Naval Architect & Design); hull/interior/topside/deck installation and subcontracted material installation (Warren Pond Boatworks); cabin house construction (French & Webb); sails and rigging (Nat Wilson); spar construction (French & Webb); scuttle hatch construction (Taylor & Snediker); systems design and integration (Whiting Marine); paneled bulkheads construction (Fred Wildnauer's Panel Maker); powertrain components (Hansen Marine Engineering); hardware casting (Jim Reineck, Historical Arts & Castings and Lowe Hardware); and soft coverings and upholstery (Anita Rosencrantz). Ultimately, this unbundled approach gave us the opportunity to competitively price the work and source the best talent for the application



Figure 23 - Hand-Built Sails. (Courtesy Wayne George).

BOTTOM PLANKING BEGINS

In the late spring of 2008 we moved the boat from Brooklin, Maine, down to Bob and Terry's location at Warren Pond Boatworks in Berwick, Maine. Our first task was to source the long leaf yellow pine (LLYP) bottom planking. Albeit a superb planking material, it proved to be the most elusive and the most difficult single sourcing hurdle in NELLIE's restoration. We had heard that there were plans to selective cut old-growth dead standing LLYP trees in Georgia. This was an onagain off-again rumor for the balance of the summer and into early fall. Bob Egar did not want to move forward with the interior build-out until the bottom was planked, so we were entirely dependent upon a source for the wood or the project would stall.



Figure 24 - Port Planking. (Courtesy Wayne George).

After following two more leads in Florida and another in western Connecticut, we learned that Taylor & Snediker was acquiring a significant amount of high-quality long leaf yellow pine and it would be shipping to Connecticut in weeks, not months. Good things come to those who wait and, once secured, the LLYP was dressed and air- dried to a consistent moisture level.

Planking NELLIE's bottom was a fairly straightforward process. Approximately nine strakes on port and nine on starboard below the waterline were added. All were of the single plank Herreshoff style. Many of the double-planked strakes above the waterline were in solid shape and did not require replacement. The garboard was the only tricky plank due to its shape and curve, which was ultimately backed out of 8/4 stock. Given its density and extraordinarily high resin content, planking and fairing a bottom made with long leaf yellow pine takes a good deal of time, all the while making the sandpaper companies profitable.



Figure 25 - Planking Complete. (Courtesy Wayne George).

INTERIORS

As was the case for NELLIE and most of the yachts from the turn of the century, she was crewed by a paid staff. However, NELLIE was somewhat rare for her period because of her midsize. At 60ft LOA she is not an enormous yacht but she was also not a daysailer. Herreshoff, as it turns out, reflecting the commissions he was securing at the turn of the century, built few yachts to this midsize racer/cruiser form and size. As a design consequence of her intended use, NELLIE carries her beam fairly far forward and her resulting displacement is 27,700 lbs. As members of the 35-footer class, NELLIE and her two sister ships differed from the one-design classes of the period. They were to be bigger racer cruisers for some of Herreshoff's high-profile clients: Vanderbilt, Plant and Forbes. As such, they had more developed interiors with built-in chests of drawers, writing desks and liquor cabinets. For these boats Herreshoff made use of wood that lent itself to being finished bright, like butternut. While the one-design racers were largely painted out below, these boats had a higher level of varnished finish work below decks.

NELLIE's size is critical in this context because it allowed us to think of her interior space in a way that was more consistent with how we intended to use her.



Figure 26 - Early Bulkhead Installation. (Courtesy Wayne George).

But bigger isn't necessarily better, and having space can lead to distraction, so we were particularly mindful of her origin and "What would Nat do?" was an often-referenced theme that preceded much of our interior decision-making. Overall, our goal was to blend an interior that met the needs of modern Corinthian sailing but did so with the design aesthetic and sensibilities of Herreshoff.

Wayne enlisted naval architect Dieter Empacher of Marblehead to draw the plans and make all the numbers work for the Warren Pond team to execute. We felt it appropriate to have all drawings and layouts fully discussed and problems worked out prior to turning on the saws. Changes are expensive. Dieter was extremely helpful and understood the goals we set out before him; with his guidance we blended modern function with Herreshoff form. For example, we incorporated wine storage within one of her two original sets of mahogany chests of drawers.



Figure 27 - Leaded Glass & Chest of Drawers. (Courtesy Wayne George).

We added double pullout sliding berths in the two main salon upper berths without compromising the clean look and feel of that portion of the interior. We expanded the size of the head slightly and added cabinets above the sink area, continuing the visual identity of the raised panels. We invisibly integrated the comfort and convenience of forced hot air heat and pressurized hot and cold water systems, effectively lengthening the sailing season.



Figure 28 - Sliding Double Berths. (Courtesy Wayne George).



Figure 29 – Head Cabinets. (Courtesy Tom Sitterly).

We built significant storage and were able to add a full galley adjacent to the companionway with dry food storage compartments and a large icebox. Our galley would also include a three-burner Paul Luke stove with the capacity to easily hide the raised panels that surround the stove when it is in use. The results are pleasing to the eye as she looks her period, but acts like today.



Figure 30 - Hidden Conveniences. (Courtesy Tom Sitterly).

Following our model of outsourcing where appropriate and advantageous, we hired a local cabinet shop to build all the raised panels, cabinet face frames and cabinet doors off the boat while other work progressed. This allowed for faster installations and a consistent high-quality output. Bob Egar was diligent in working with the panel shop to ensure that the Herreshoff design standard was maintained throughout the interior

construction. We referenced many of these construction details from NELLIE's remaining original parts. We had excellent examples of her original raised panel bulkheads, which maintained a flat interior panel and had a stile and rail width of 3.5 inches and a simple ogee edge shape.



Figure 31 - Hanging Locker Storage. (Courtesy Tom Sitterly).

All of the interior paneling was built from cypress as originally specified. Other Herreshoff design standards were adopted from recent restorations; most notably the three BB30s that came out of French & Webb. In a few select areas interpretation was required and we had to apply the "What would Nat do?" rationale to our decision-making. Overall the construction of the interior took the team the better part of eight months to complete and we believe that it strikes the right balance – a layout built for our time, but done with an aesthetic that is all Herreshoff.



Figure 32 - Traditional Herreshoff Salon Storage. (Courtesy Tom Sitterly).

HOUSE

Herreshoff cabin houses are a defining part of both the era and the manufacturer. Recognizing that considerable research into Herreshoff house construction and finishing techniques had been done, we hired French & Webb to build NELLIE's house. Again our ability to outsource portions of the project gave Wayne the flexibility to hire the best possible talent for the task.



Figure 33 - NELLIE's Bigger House. (Courtesy Todd French).

NELLIE's house, while similar to those of her other Herreshoff sisters, was larger in width and slightly longer. These expanded dimensions resulted from our choice to build her sister ship AZOR's rounded cockpit. The resulting larger house has the standard Herreshoff look and feel as well as all the standard parts and pieces, including a relatively flat camber, fixed rectangular glass on port and starboard, shaped beams, nesting companionway covering boards, simply constructed skylights and an all-mahogany bright finish.



Figure~34-Installed~House.~(Courtesy~Tom~Sitterly)

Once the interior was completed, French & Webb trucked the house down to South Berwick to be installed and to have the canvas deck applied.

CANVAS DECK

Bob Egar found a source and secured extra-wide 12'+ cotton duck canvas for the traditional Herreshoff deck material. Fortunately, because of the width of our source canvas we did not need to create a seam down the middle of her decks. We were keen that NELLIE's decks have a soft foot feel and be as forgiving as possible.



Figure 35 - Ironing Canvas. (Courtesy Wayne George).

As with every Herreshoff restoration, the obligatory "What are you going to bed the canvas in?" debate ensued. We had our own ideas and enlisted the opinions of just about everyone else we could lure in! From Thad Danielson on the traditional end of the spectrum to the epoxy converts on the other end, we considered them all. The epoxy and Awlgrip solutions felt too brittle and unforgiving; the linoleum tile cement option reportedly has mildew issues. And then we heard the folklore about the acids in the old standard - white lead paste - eating up the canvas fibers. We knew what we wanted: a deck that had an ever- so-slight give and soft foot feel. To end the debate, we had Bob create test samples, which helped to make the decision in a more informed way. We ultimately chose to bed the canvas in Sikaflex. In our estimation it provided the best combination of softer feel and durability.



Figure 36 - Installed Deck. (Courtesy Tom Sitterly).

After the deck was installed, Bob could permanently attach the house to the deck as well as final fit the cockpit coaming and other deck joinery and furniture. Herreshoff apparently used a simple and somewhat weak installation technique of fixing the house to the deck with wood screws. Bob felt that a more durable solution was required and used six-inch threaded bronze rod into threaded holes. The rod was installed through the bottom of the deck beams and up into the stiles in the house. Using this fastening technique, the house was firmly locked to the deck.

BOOBY HATCH

NELLIE will be utilizing two different foredeck hatches. The original round bronze manhole hatch was not installed as we favored a square foredeck hatch. We will be using a flat hatch for racing situations and when a low-profile foredeck is required.



Figure 37 - Booby Hatch. (Courtesy Tom Sitterly).

For cruising, we wanted something a bit more special. Once again Wayne took advantage of our outsourcing model and we consulted with Taylor & Snediker about building a traditional Herreshoff booby or scuttle hatch. Bill and Dave had done significant research on Herreshoff hatch construction techniques for their commission to build hatches and other deck furniture for the SPARTAN project, so they were the logical choice to do the work. NELLIE's final booby hatch is somewhat smaller in scale than the SPARTAN hatch

but otherwise retains all the characteristics and elements of a Herreshoff booby hatch: rolled bronze top and slides; double opening doors and accompanying hardware. It is a beautiful complement to her foredeck with its antique, stand-up-proud character.

SPARS

All the rigging and the sails were artfully created and built by Nat Wilson. We took advantage of the proximity and collaboration between Nat and Todd French in building the spars, the standing rigging and the sails.



Figure 38 - Mast Detail. (Courtesy Todd French).

At a total square footage of 1,400, NELLIE has a slightly larger sail plan than the BB30s and much was learned in their first two seasons on the water. Modifications made to their rigging and sails have been factored into NELLIE's and we look forward to a great fit and finish from these craftsmen.

LAUNCH

NELLIE's launch was spectacular. It was perhaps the coldest and nastiest day of the fall with a full Nor'easter coming down on us. Despite the 36-degree weather, more than 160 hardy New Englanders, including two former owner families (Rickenback and Sitterly), attended. With bagpipers playing and wind howling, NELLIE was re- launched on October 18, 2009, at 1038 hours.



Figure 39 - Wet Again. (Courtesy Tom Sitterly).

CONCLUSION

There were several important decisions we believe made this project a runaway success. First and foremost was the choice to hire a restoration manager.



Figure 40 - House Detail. (Courtesy Tom Sitterly).

Having an owner advocate as well as an independent voice allowed us the opportunity to make choices that benefited both NELLIE and the owners. Second, we chose a primary contractor who shared our sensibilities and quality standards and was willing to let us subcontract specific elements of the project as we deemed necessary. This gave us the flexibility to choose both quality and cost. Third, we chose contractors who had knowledge of specific Herreshoff construction techniques and utilized that knowledge to reduce mistakes and spend the research time necessary to produce an accurate product. Lastly, we had clearly defined functional and aesthetic goals that we maintained throughout the two-and-a-half-year process. The result is a spectacular boat that speaks with a single voice by carrying on the traditions of her past with a nod toward today.

ACKNOWLEDGEMENTS We would like to thank the following people who were an integral part of the NELLIE restoration effort:

Robert Baird Jim Reineck Maynard Bray Nate Russell Mark Drummond Jim Russ Bob Egar Anita Rosencrantz Dieter Empacher Dave Snediker Todd French Bill Taylor Wayne George Bill Thomas Richard Fischer Terry Whiting Paul Giroux Fred Wildnauer Doug Hylan Nat Wilson Elliot Lowe Jon VanCampen Paul Luke Tom Voss

ABOUT THE AUTHORS:



Jeff Boal and Fernando Alva have been fast friends since they met over a croquet mallet and bottles of red wine. They have been champions aboard Jeff's former Concordia - FEATHER. Prior to owning FEATHER Jeff built HONEYDEW, a Haven 12 ½. Jeff is the President of PlowShare Group a social issue marketing firm based in Stamford, CT. He is a member of Stamford Yacht Club. Fernando is Chief Operating Officer of the Connecticut division of T. Edward Wines of New York, NY and is a member of the New York Yacht Club.



Wayne George is a trained engineer who spent 15 years

McDonnell working for Douglas Aerospace. He has also worked with Team Prada for both the 2000 and 2003 Americas Cup campaigns. Wayne is currently proprietor of FL Woods and sails SKYE, a 1956 Concordia yawl. Wayne George lives with his family by the boatyards in Marblehead, MA.



Figure 41 - Bristol. (Courtesy Tom Sitterly).