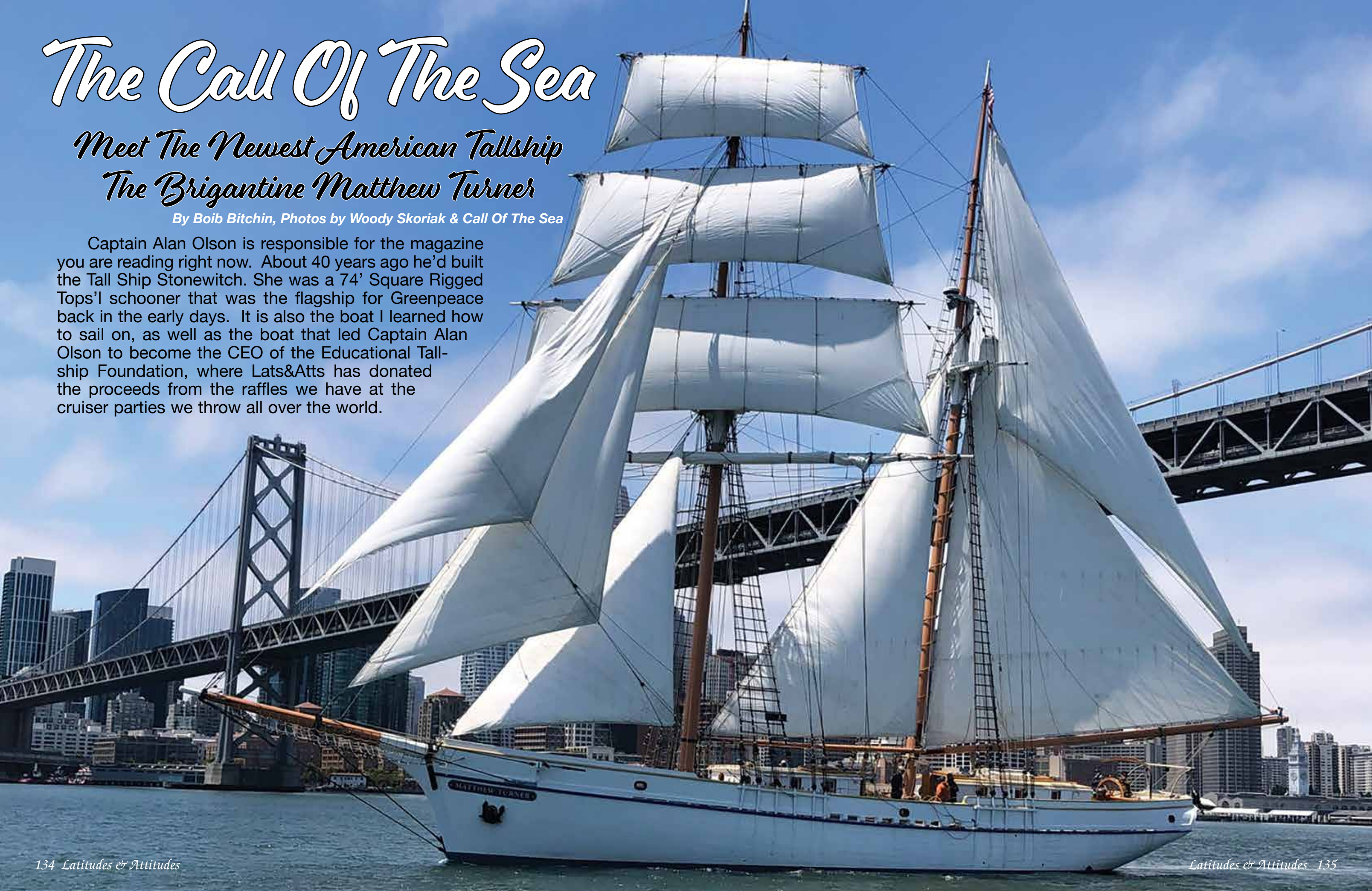


The Call Of The Sea

Meet The Newest American Tallship The Brigantine Matthew Turner

By Boib Bitchin, Photos by Woody Skoriak & Call Of The Sea

Captain Alan Olson is responsible for the magazine you are reading right now. About 40 years ago he'd built the Tall Ship Stonewitch. She was a 74' Square Rigged Tops'l schooner that was the flagship for Greenpeace back in the early days. It is also the boat I learned how to sail on, as well as the boat that led Captain Alan Olson to become the CEO of the Educational Tallship Foundation, where Lats&Atts has donated the proceeds from the raffles we have at the cruiser parties we throw all over the world.



An Idea Becomes reality

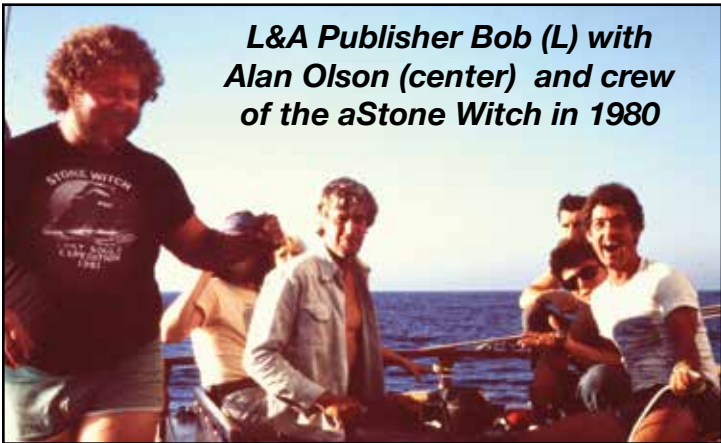
Call of the Sea was founded in 1984 by Alan Olson and a group of local sailors to provide Bay Area youth an opportunity to sail traditionally rigged vessels and to learn about the marine environment as well as maritime history — while inspiring them to be stewards of the sea and earth. In 2004, Call Of The Sea was re-founded with Ken Neal along with a new group of committed sailors who came together to purchase the schooner Seaward. Subsequently over the past 14 years, Seaward has served over 50,000 students and now sails with an average of 5,000+ students per year.

In 2012, a new non profit Educational Tall Ship was created to construct a historic and sustainable wooden 132’ wooden, hybrid propulsion system tall ship called Matthew Turner in Sausalito. This ship would serve as a floating classroom for students, extending their capacity to serve the Northern California community and beyond. In 2016 Educational Tall Ship and Call of the Sea were merged under the name Call of the Sea.

The inspiration for the tall ship design comes from Matthew Turner, who immigrated to the Bay Area from his home on the shores of Lake Erie in 1850. He came to California to try his luck in the gold fields and, finding success, he traveled back to the East Coast to purchase a ship, for he saw more potential in the shipping business than in the gold trade. He pulled together what he had learned from his father about ship design and building on Lake Erie, and his experience with contemporary vessels in the Pacific, to build his first ship, the Nautilus, in 1868. The Nautilus outperformed all other ships of the time, raising the bar in sailing ship design. On the West Coast, long distances, lack of coal and the industrial capacity to produce large steam engines gave sailing vessels the edge until the turn of the century. The Nautilus launched Turner’s career and he is considered the most prolific builder in history, with 228 vessels built by the end of his career in 1907. His ships moved between San Francisco and Hawaii at record speeds, making 13 round trips in one year, including loading and unloading. Only the largest and fastest modern sailing yachts can hope to beat the 8 days and six hours trip From SF to Hawaii by the Lurline and the 9 day trip



Tall Ship Stone Witch 1980's



L&A Publisher Bob (L) with Alan Olson (center) and crew of the aStone Witch in 1980



The New Matthew Turner



The Brigantine Galilee

from Honolulu to SF by the W.G. Irwin. Matthew Turner was more than just the most prolific builder of sailing ships in history, he was also responsible for one of the greatest innovations in commercial sailing vessel hull design. By moving the displacement of the ship aft, Turner was able to narrow the bow of the ship. This made for a sleeker entry through the water which gave his vessels more speed and stability. Matthew Turner design features helped propel his vessels to out-perform all other sailing ships of the era.

The Call Of The Sea

Building the Boat

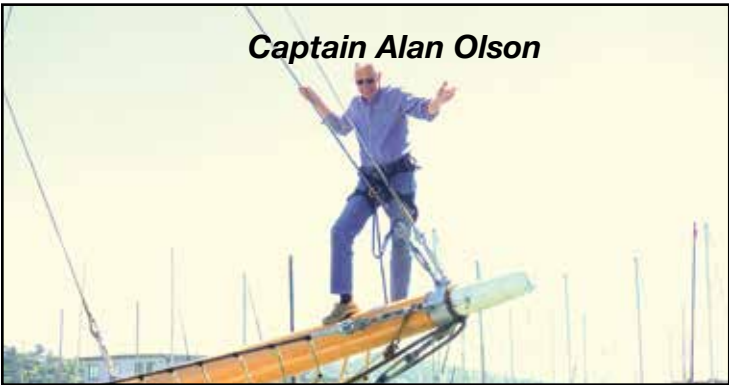
Brigantine Matthew Turner was designed by Tri Coastal Marine and inspired by shipbuilder Matthew Turner’s Galilee, which he completed in 1891. The Galilee held the San Francisco to Tahiti passage record of 19 days for many years. Matthew’s Turner’s keel was set in October, 2013 and the total cost of construction was \$6 million dollars. This cost covered the construction of the vessel and the development of educational programs. All the materials and methods used are of the highest sustainable and recyclable standards available. All wood used in construction is certified green forest stewardship certified (FSC). The majority of the lumber used to construct Matthew Turner was Douglas Fir. The Conservation Fund, a large international conservation organization, donated this lumber from their California forests. The hardwood was Oregon White Oak which was also FSC.

The construction techniques were both traditional and modern. The three inch thick planking was steamed bent to the shape the hull and fastened with 5/8 x 8 inch bronze lags. Over a mile of Douglas Fir planking was used.

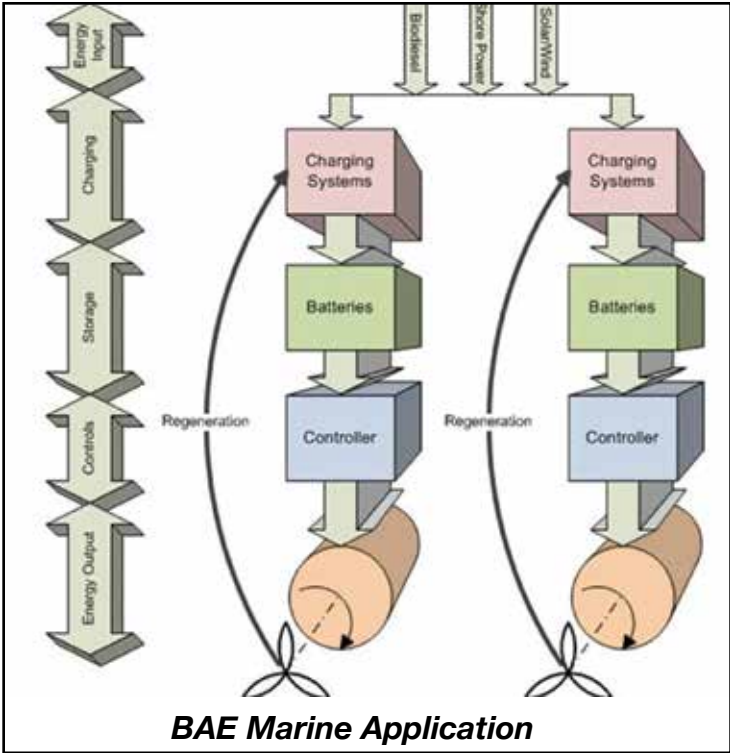
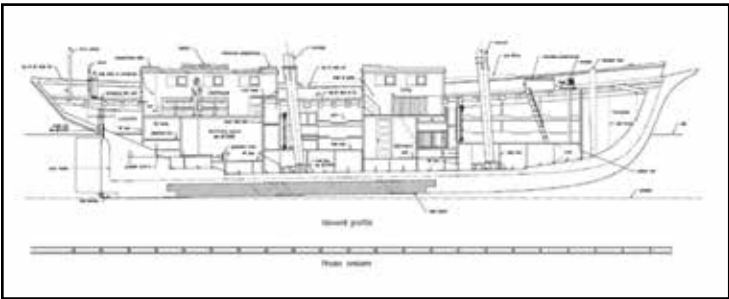
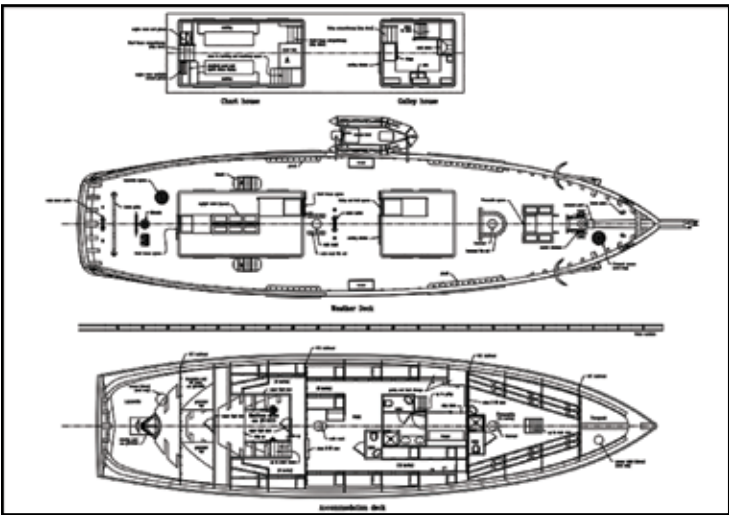
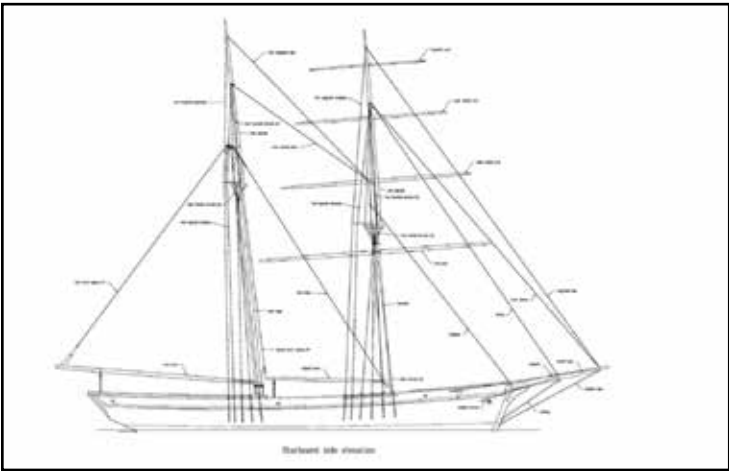
We chose to laminate the keel, frames, shear clamp, deck, and all spars which increased the strength and allowed full length structural members to secure the deck to the hull and the full length laminated keel to the frames. Bronze plating was shaped and welded to attach the frames to the keel. Bronze was used throughout the ship for its structural value and very long life. There is a 44 foot lead keel weighing 44 tons that’s bolted through the wooden keel to the bronze fitting holding frames together. We built the Matthew Turner to last a hundred years when maintained. The building of the ship brought together an amazing group of people who donated their time, funds, or talents. This community is active and growing and have come together to support our mission for generations to come. Join us!

State Of The Art Hybrid Propulsion

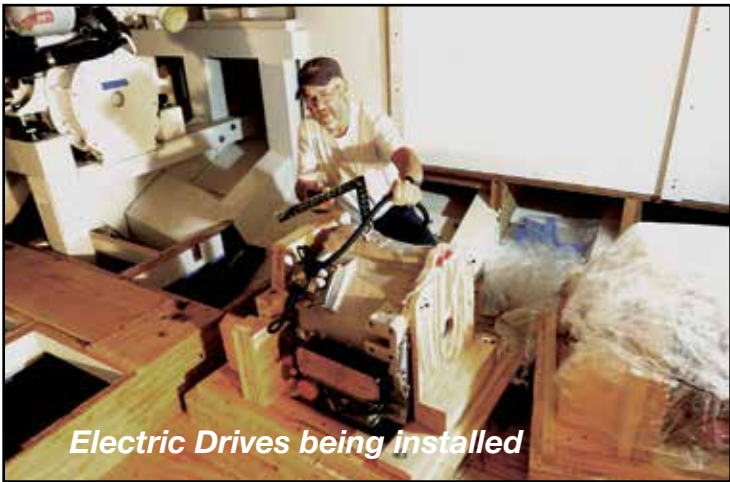
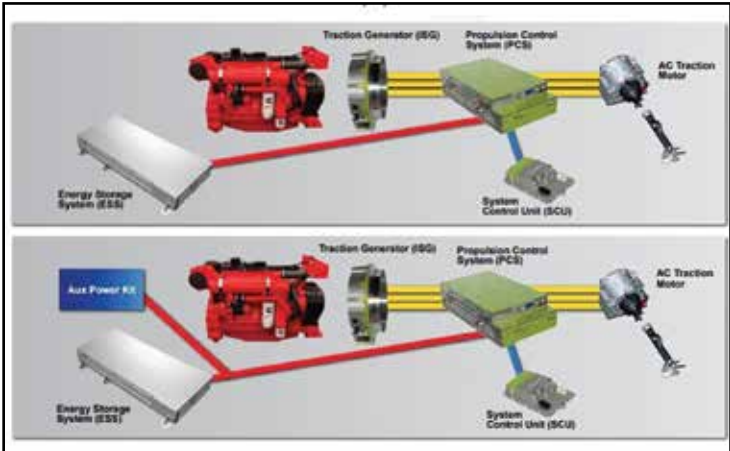
Traditional methods were used to build the ship, honoring the knowledge, skills and master craftsmanship historically used in nineteenth century San Francisco shipyards. The ship can produce her own energy needs through a state-of-the-art hybrid system using wind power to generate electrical power while sailing. When the ship is sailing, the energy of the passing water causes the propellers



Captain Alan Olson



BAE Marine Application



Electric Drives being installed

The Brigantine Matthew Turner

to rotate, which, in turn, causes the electric motors to become generators that recharge the batteries onboard. New advances in propellers, electric propulsion/regeneration motors, battery technologies and electronic controllers make this possible. Matthew Turner can potentially operate on a carbon-neutral basis by using LED lighting, induction cooking and low energy navigation and appliances. The two six-cylinder Cummins generators fueled with biofuel create 265 KW each which are stored in the lithium battery banks. The ship carries two electric propulsion motors which each produce 200 KW of electric power creating 265 Horsepower. The electric motors receive their energy directly from the two lithium battery banks, located in steel cabinets, each have a holding capacity of 45 KWH. Port and starboard propulsion systems operate independently so each side alone can power the ship if necessary. Electric traction motors and batteries allow for silent and emission free cruising.

Combining technologies from the 19th and 21st centuries—skipping over the petroleum era—Matthew Turner is a unique teaching tool that can inspire appreciation for past boat building designs while utilizing innovative technology solutions for a truly green sailing ship.

Certifying & Operating Matthew Turner

Brigantine Matthew Turner has now transitioned from construction to operation to perform its vital mission of educating young people in the Bay Area and beyond.

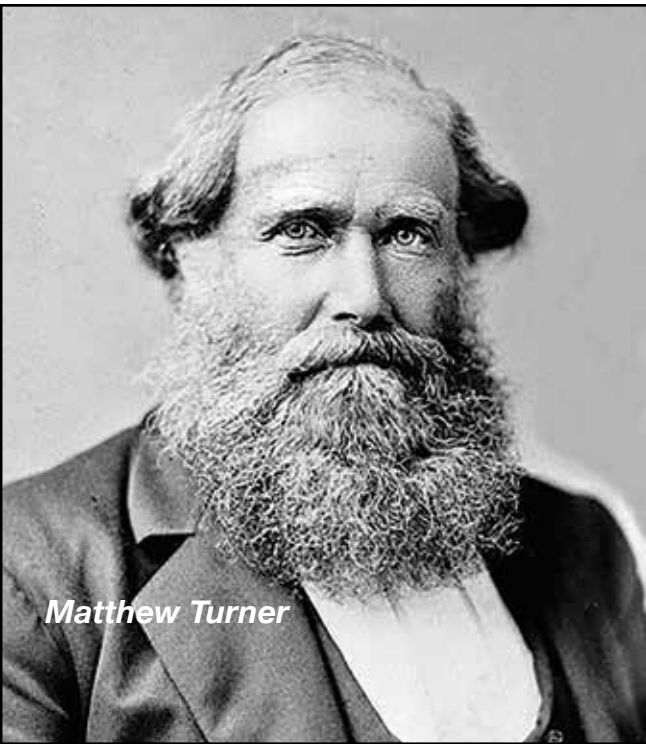
The United States Coast Guard ensures that any new vessel that carries passengers has the equipment, documentation and the training to successfully operate the vessel. In early 2019, the Coast Guard first reviewed and certified Matthew Turner’s unique Hybrid Marine propulsion system. The Coast Guard reviewed all construction documentation to ensure all systems are documented accurately and comply with all relevant Coast Guard standards. During the third quarter of 2019, the ship successfully passed its stability test to validate its ability to respond to the demands of an ocean-going environment. In the first quarter of 2020, Matthew Turner’s crew readiness was tested in their ability to respond to a variety of emergencies including

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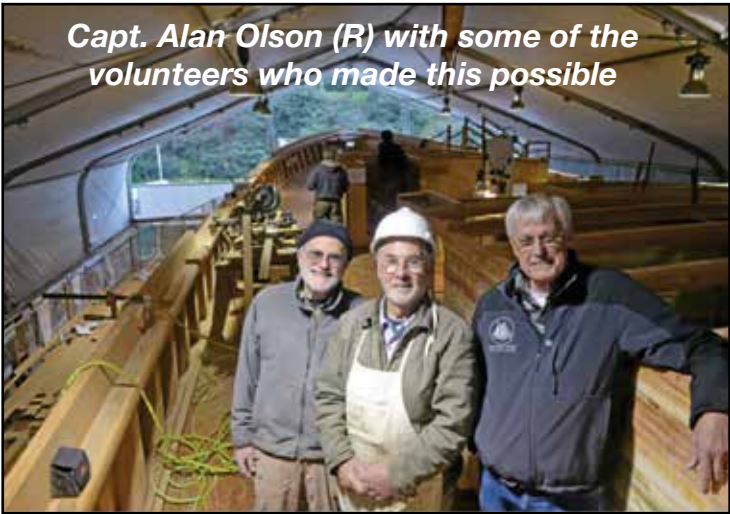
fire, flood and man overboard. Following this successful test, Matthew Turner was issued its Certificate of Inspection (COI) by the Marine Safety Division of the United States Coast Guard. The vessel began service in the Spring of 2020 and operated throughout the 2020 sailing season.

The Education Program

The Brigantine Matthew Turner will join the Schooner Seaward to provide access and educational programming with a focus on empowerment, stewardship and community building. Building on these foundations, our lessons in Seamanship, Science and History are provided in varying combinations to serve different student groups. In 2020, Call of the Sea developed a seamanship “Aloft” program. The Girls Aloft and Coed Aloft programs are 4 hours long. The initial two hour lesson is conducted at the dock and teaches our students how to safely climb the rig, raise and lower sails and how to handle lines safely. In the final 2 hours, participants apply these skills and actively sail the brigantine around San Francisco Bay. Each student takes turns operating the helm, learning about the hybrid propulsion system and supporting the safe navigation of the vessel. The eleven sails of the ship’s brigantine rig offer a perfect opportunity to engage many students in an exciting and meaningful hands-on experience. The students must use team work and communicate effectively to sail the ship safely. Brigantines have square sails on the fore mast for downwind and can sail 60 degrees off the wind. They were the most advanced design and a technologically superior rig in the late 19th century for both ocean passages and coastal sailing. Going aloft into the rig to set and take in the square sails is a right of passage and an experience that is never forgotten.



Matthew Turner



Capt. Alan Olson (R) with some of the volunteers who made this possible



Positioning the lead ballast to start the project



Forming the rudder planks



Painstaking work brings beautiful results. The boat taking shape.



Heading for the launch ramp



The first milestone met.. launch day!

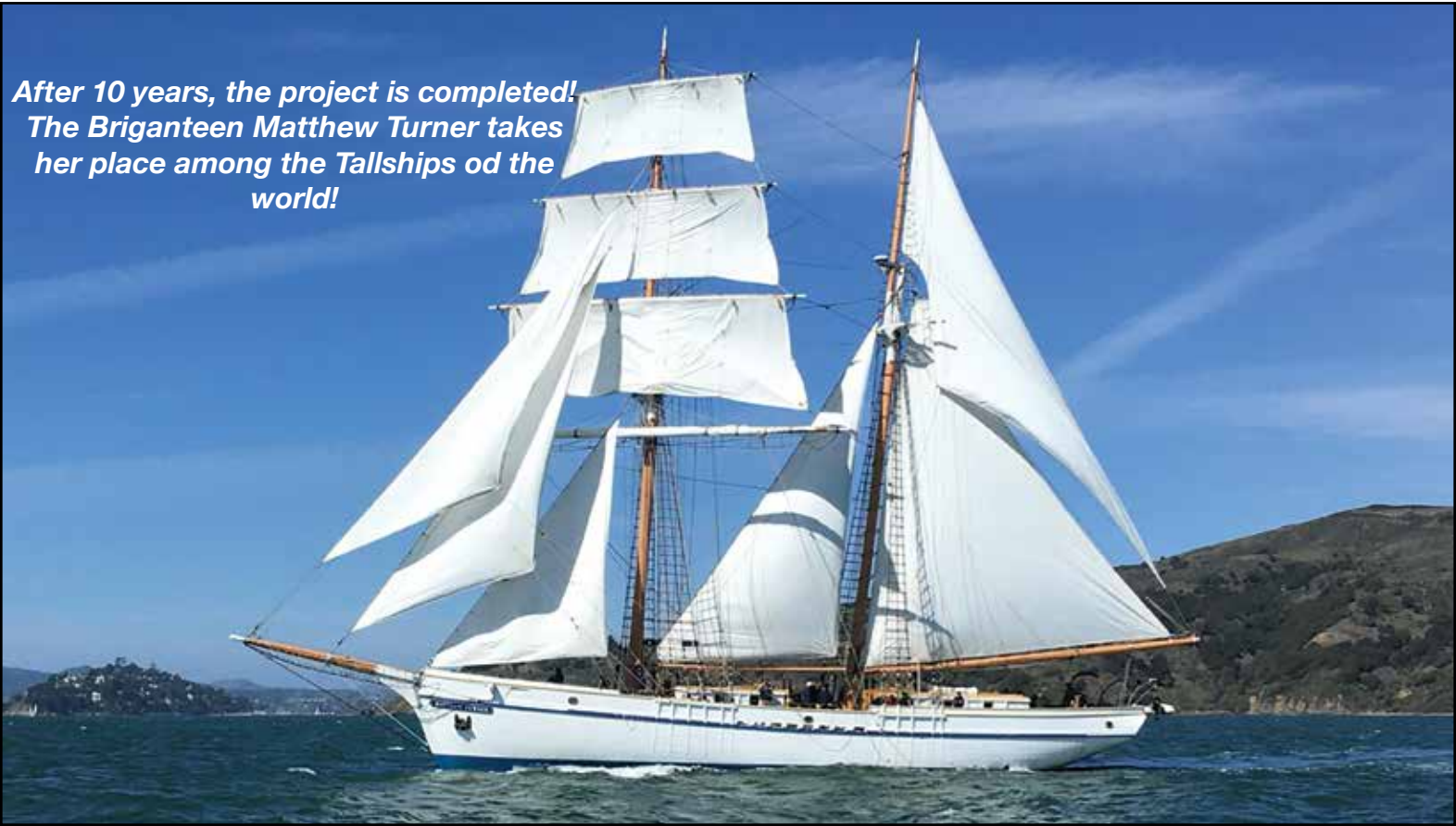
The Brigantine Matthew Turner

Other programs planned for 2021 include providing Community sails, Sunset Sails and educational sails for students and community organizations. We are also excited to begin voyaging along the California coast and expect in the future to follow in wake of Galilee and sail from San Francisco to Tahiti and return. At Call of the Sea, we serve all ages and backgrounds with a focus on ensuring underrepresented and underserved communities are provided the benefits of this education. Expanded programming will enable Call of the Sea to more than double its capacity to serve students.



Another big day. Stepping the masts.





*After 10 years, the project is completed!
The Briganteen Matthew Turner takes
her place among the Tallships od the
world!*

**Connecting the Past with
the Future**

40 years ago I first set foot on a sailboat. That boat, The Stone Witch, was built by Captain Alan Olson. It changed my life, and I know that hundreds, maybe even thousands of lives have been changed by that day as well. Many by sailing with Call Of The Sea, and some maybe by even reading Lats & Atts, but lives have been changed. The vision of The Matthew Turner by Capt. Olson has come to fruition after thousands of man hours, millions of dollars, and the pure determination of a group of avid sailors who thought they could bring the 18th century into the 21st Century. They were right. Combining the futuristic power system that runs the new Tallship Mathew Turner with the traditional sailing brigantine rig will bring even more people into this lifestyle.

Getting involved

If you'd like to get involved with Call of the Sea go to CalloftheSea.org or email them at info@callofthesea.org and when the pandemic ends stop by their office at 60C Bridgeway in Sausalito and volunteer and help. You can also help financially or join a Community educational sail. Call Of The Sea is a 501 3 (c) non-profit, and can always benefit from your financial assistance. 🇺🇸

Barqentine Matthew Turner

Length Overall:	132'
Length on Deck:	100'
Beam:	25'
Draft:	10'
Sail Area: (11 Sails)	7,200 sq ft
Height of main mast:	100ft
Displacement:	175 tons
Berths for voyaging	38
Constructed	Douglas Fir, Oregon White Oak, Bronze Fastenings
Power	Two 200 KW electric motors
Battery storage	Two 50 KWH banks Lithium Batteries
Power Generation	Two 265 KW bio-fuel generators