

COASTAL CONSERVANCY

Staff Recommendation
September 28, 2017

The Brigantine *Matthew Turner*: The Bay Area's Educational Tall Ship

Project No. 17-023-01
Project Manager: Avra Heller

RECOMMENDED ACTION: Authorization to disburse up to \$100,000 to Call of the Sea to construct the *Matthew Turner* tall ship for the purpose of educating Bay Area students on coastal resources and maritime history, and to serve as model of sustainable design for the broader maritime community.

LOCATION: Bay Model, Sausalito, Marin County

PROGRAM CATEGORY: San Francisco Bay Conservancy

EXHIBITS

- Exhibit 1: [Project Location and Maps](#)
 - Exhibit 2: [Ship Designs and Photos](#)
 - Exhibit 3: [Project Letters](#)
 - Exhibit 4: [Secretary of the Interior's 2017 "Standards for the Treatment of Historic Properties"](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the Executive Officer to disburse \$100,000 (one hundred thousand dollars) to Call of the Sea to construct the brigantine *Matthew Turner* for use as an educational ship.

1. Prior to the disbursement of funds, Call of the Sea shall submit for the review and approval of the Executive Officer of the Conservancy:
 - a. A work program, including budget and schedule, and the names of any contractors to be hired.
 - b. A plan for public acknowledgement of Conservancy funding.

- c. Evidence that Call of the Sea has entered into any agreements determined by the Executive Officer to be necessary to protect the public interest in the project.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, regarding the San Francisco Bay Area Conservancy Program.
 2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
 3. Call of the Sea is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”
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PROJECT SUMMARY:

Staff recommends the disbursement of \$100,000 to Call of the Sea, an educational non-profit organization in the San Francisco Bay Area, to construct an educational tall ship, the brigantine *Matthew Turner*, to serve the San Francisco Bay Area and communities throughout coastal California. Call of the Sea’s purpose for constructing the brigantine *Matthew Turner* is to meet three critical goals: 1) provide increased opportunities for youth environmental education programs under sail; 2) construct the San Francisco Bay Area’s first operational, educational tall ship; and 3) create a new, innovative “green” ship design that will serve as a model of best practice in maritime construction and retrofitting. Call of the Sea has already begun construction but lacks sufficient funding to complete the ship.

For over 30 years, Call of the Sea has partnered with Bay Area community leaders, environmental institutions, nonprofits, and schools to provide opportunities for over 60,000 youth to access experiential environmental education field trips through sailing. Over the past four years the organization has been functioning at full capacity, serving around 5,000 youth participants annually. Call of the Sea awards scholarships to about twenty percent of their student participants (many from participating Title 1 schools). The need to expand on-the-water environmental education opportunities for Bay Area students has inspired Call of the Sea to construct the San Francisco Bay Area’s first educational tall ship, the brigantine *Matthew Turner*. The ship is expected to serve an additional 10,000 students, or more, annually. Topics and activities in Call of the Sea’s curriculum include plastic and plankton tows, marine wildlife observation, navigation, maritime history, ecological functions of wetlands and estuaries, the possible impacts that sea level rise and climate change will have in San Francisco Bay, and how students can become environmental stewards.

The *Matthew Turner*, a 132-foot long wooden ship, is being constructed based on designs by the late 19th century San Francisco Bay Area shipbuilder Matthew Turner. This ship, in addition to meeting an environmental education need, also serves to represent the region’s rich maritime

sailing heritage. Although San Francisco does have historic tall ships available for dock side tours (at Pier 45 and Hyde Street Pier), the necessity to preserve these historic vessels prohibits them from going out to sea. Additionally, due to their age, these vessels are also not in compliance with U.S. Coast Guard safety standards, and their historic status prevents major retrofitting. Upon its completion, the *Matthew Turner* will be the only operational educational tall ship based in the San Francisco Bay Area.

Finally, the *Matthew Turner* will demonstrate a new hybrid propulsion system that is the first-of-its-kind in the maritime construction industry. With scientists in agreement that marine diesel engines contribute a substantial amount of harmful pollutants to the environment, there is a crucial unmet need to develop more eco-friendly solutions for this industry. The project aims to serve as a model of best practice for the sailing ship building community. The *Matthew Turner's* innovative design will allow the ship, when not propelled by wind, to be propelled by electric motors that draw energy from batteries instead of marine diesel engines. While under sail, energy generated from the propellers will charge the batteries. When the vessel is docked at the U.S. Army Corps of Engineers' Bay Model pier (Call of the Sea's long-standing partner on this project) solar panels will charge the propulsion system's batteries. In an additional sustainability measure, the ship was constructed using Forest Stewardship Certified (FSC) lumber, with eighty percent of the timber coming from the Conservancy-funded Big River and Salmon Creek Forests, operated by The Conservation Fund.

Call of the Sea expects to have a fully completed ship by April 2018. The hull of the ship was launched on April 1, 2017, and the final stages of construction are taking place at the U.S. Army Corps of Engineer's Bay Model's pier as well as at the project's temporary shipyard. The final construction aspects of the *Matthew Turner* consist of:

- *Eco-Hybrid Propulsion & Control System:* Installation of the hybrid propulsion system (described above) will serve as a best practice for maritime construction and retrofitting.
- *Masts & Rigging:* The ship's main mast will rise over one-hundred feet making the vessel one of the tallest in the San Francisco Bay. The *Matthew Turner* will have the ability to fly eleven sails at once; total square footage of sails will be nearly 7,000 square feet. Conservancy funding would support the completion and final instillation of the ship's masts, supportive rigging, and sails.
- *Interior:* construction of 38 berths, three cabins, galley, cabinets, and a large space for use as a classroom.
- *Wiring & Plumbing:* LED lights will be wired throughout the vessel and plumbing installation will include three showers, three heads, and a 1,000-gallon clean water storage container among other needs.
- *Navigation, Electronics & Safety:* installation of state-of-the-art electronic navigation and monitoring systems, and electronic safety equipment.

Call of the Sea has provided educational sailing programs to empower youth in the Bay Area for over 30 years. Call of the Sea's first educational sailing vessels were small boats often donated or borrowed from private individuals. Twelve years ago, the organization purchased the 82-foot sailing schooner the *Seaward*, which exponentially increased the organization's Bay Area educational programing to about 5,000 annual participants. Call of the Sea, and the *Matthew Turner* itself, has generated significant community support and investment (as illustrated further in the Project Financing section below). Over the past four years, volunteer skilled laborers have

contributed an estimated 150,000 volunteer hours, valued at nearly three million dollars, to the construction of the ship. A further \$750,000 has been donated in materials. The construction process is routinely inspected by the U.S. Coast Guard.

Site Description: In March 2013, the City of Sausalito provided a permit to construct a temporary shipyard for the construction of the brigantine *Matthew Turner* (see pictures in Exhibit 2). The facility is managed by Call of the Sea. Currently, the ship's hull is docked in the water at the U.S. Army Corps of Engineers' Bay Model pier (see Exhibit 1). Construction continues at both locations. Once completed the ship's home port will continue to be the Bay Model pier.

Project History: The Conservancy has a long history of supporting Tall Ship expositions within the Bay as well as throughout California. Since 2002 the Conservancy has spent over \$2.5 million in loans and grants supporting ship restoration and replica construction including for the San Salvador in San Diego. Additionally, the Conservancy has provided over \$500,000 in support of various festivals of sail in the San Francisco, Los Angeles, and San Diego areas.

PROJECT FINANCING

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| Coastal Conservancy | \$100,000 |
| Call of the Sea fundraising breakdown below | \$5,619,500* |
| Major Private Donors | |
| Terry Causey | \$3,100,000 |
| Strauss Hawkins Fund | \$410,000 |
| Christopher Johnson | \$315,000 |
| Angie Lackey & Alan Olson | \$180,000 |
| Alec Shaw | \$115,000 |
| Other | \$380,000 |
| Foundations | |
| Hearst Foundation | \$50,000 |
| William Dhonner Foundation | \$30,000 |
| Springcreek | \$26,000 |
| Mary Crocker Trust | \$20,000 |
| Other | \$219,000 |
| Corporate Donors | \$88,500 |
| Individual Contributions and Campaign Appeals | \$686,000 |
| Project Total | \$5,719,500 |

The source of Conservancy funds for the proposed project is the “Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006” (Proposition 84, Public Resources Code (PRC) § 75001 et seq.). These funds are available for San Francisco Bay Area Conservancy Program projects under PRC Division 21, Chapter 4.5 that promote access to and enjoyment of coastal resources. (PRC § 75060). The proposed project will provide and enhance public access to San Francisco Bay, consistent with Proposition 84. The proposed project will be undertaken pursuant to the San Francisco Bay Area Conservancy Program (Chapter 4.5 of Division 21 of the PRC), as described below. Accordingly, the proposed project is an appropriate use of Proposition 84 funds.

To date, the construction project has included an additional estimated \$3,000,000 (150,000 hours) in volunteer labor, and \$750,000 in donated materials. **About \$370,000 of the private funding is not yet fully secured.*

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project will be undertaken pursuant to Chapter 4.5 of Division 21 of the PRC, Sections 31160-31165, regarding recreational and resource goals in the San Francisco Bay Area.

Pursuant to Section 31165, the Conservancy may undertake projects to benefit the San Francisco Bay region “that are compatible with the preservation, restoration, or enhancement of ocean, coastal, bay, or watershed resources, or that facilitate environmental education related to these resources.” Such projects may include those emphasizing coastal, watershed, or ocean resources education, or maritime history. The construction of the *Matthew Turner*, along with its intended educational uses, will facilitate environmental education regarding ocean and bay resources and maritime history. When construction of the ship is complete, Call of the Sea will provide experiential environmental education to thousands of Bay Area students. Students will learn about plastic and plankton tows, marine wildlife observation, navigation, maritime history, ecological functions of wetlands and estuaries, the possible impacts that sea level rise and climate change will have in the Bay and environmental stewardship.

Under Section 31162(d), the Conservancy may provide grants to promote, assist, and enhance projects that provide open space and natural areas that are accessible to urban populations for recreational and educational purposes. The completion of the *Matthew Turner* and use for its intended purpose will help to ensure access to the bay and coastal ocean for thousands of Bay Area students.

This project satisfies all of the criteria for determining project priority under 31163(c), since the project: 1) is supported by adopted regional plans including: the San Francisco Bay Plan’s educational findings; the Richardson Bay Special Area Plan; and the Sausalito General Plan; 2) serves a regional constituency by creating access to open space and natural areas with on-water educational facilities to be used by regional school children; 3) can be implemented in a timely manner as project partners are nearing completion on the project, and expect to have the ship ready to sail by April, 2018; 4) provides benefits that would be lost if the project is not quickly implemented, in terms of recreational and education opportunities for the region; and 5) include significant matching funds, in the form of cash, in-kind services and volunteer labor (see Project Financing section above for more detail).

**CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 9, Objective B**, the proposed project will support the design and installation of interpretive or educational displays and exhibits related to coastal, watershed, and ocean resource education, maritime history, and climate change

Consistent with **Goal 12, Objective M**, the proposed project will also create, expand, or improve environmental educational or interpretive programs, especially those that are available to urban populations in the San Francisco Bay Area.

Call of the Sea expects that with the completion of the brigantine *Matthew Turner*, they will be able to provide a unique maritime and marine experiential learning opportunity to an additional 10,000+ students annually. Call of the Sea provides scholarships for about 20% of the participating students and classrooms, the majority from Title I schools. (See Exhibit 1 for a map of schools served within the Bay as well as partner organizations throughout California.) Not only will the ship itself serve as a spectacular experiential exhibit, there will also be a permanent exhibit explaining the significance of the *Matthew Turner* at the U.S. Army Corps of Engineer's Bay Model, where the vessel will be docked.

Regular educational operations of the ship will occur in the Pacific Ocean as well as the Bay, including in many near-shore areas of coastal California. Ocean areas where project activities will take place include: Drakes Bay, the Greater Farallones Marine Sanctuary, Half Moon Bay, Monterey Bay, Catalina Island, and Santa Cruz, San Pedro, Newport, Long Beach, and San Diego harbors.

**CONSISTENCY WITH CONSERVANCY'S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies:**

California @ 50 Million: The *Matthew Turner* and the subsequent environmental educational programs aboard the vessel will support the California @ 50 Million project (2013) initiative in a number of ways including: demonstrating a new greenhouse gas reducing hybrid propulsion system, the first of its kind, that can be replicated in maritime ship construction; empowering youth with hands-on environmental education to promote

long term eco-sustainability in California; and linking various stakeholders through environmental partnerships in the nine counties that make up the greater Bay Area.

CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan: By utilizing innovative technology to construct a truly ‘green’ ship, the *Matthew Turner* will demonstrate to youth the goal of the California Climate Adaptation Strategy (2009) to “avoid, prevent, or minimize climate change impacts” through onboard environmental education programs that “improve preparedness for climate change impacts” (p. 13).

CA Wildlife Action Plan: The *Matthew Turner* educational tall ship will fulfill the California Wildlife Action Plan (2015) by providing “Outreach and Education” programs that inspire “attitudes, and values [for individuals] to become better stewards of natural habitats and resources” (p. 404 & 4-14). The new vessel will provide conservation curriculum that educates youth about wetlands, estuaries, marine life, and conservation efforts. In addition, these on-the-water educational programs serve youth from urban and suburban areas that meet another objective of the Wildlife Action Plan (p. 4-14, 2015).

4. **Support of the public** This project has received broad public support, including support from Congressman Jared Huffman; California Assemblymember (10th District) Marc Levine; Marin Supervisors Kathrin Sears and Damon Connolly; Sausalito Mayor, Ray Withy; as well as significant support from the US Army Corps of Engineers’ Bay Model, private foundations including the Hearst and Crocker Foundations, ports across California, and various community volunteers. See “Project Letters,” Exhibit 3.
5. **Location:** The *Matthew Turner*’s permanent dock, and home port, will continue to be the U.S. Army Corps of Engineer’s Bay Model property in Sausalito, CA. The ship will make regular trips around the Bay, and annual trips to Mexico and back, serving various communities throughout California along the way. (See Exhibit 1 for communities currently served by Call of the Sea programming, and docking location.)
6. **Need:** Support from the Coastal Conservancy is instrumental for two reasons. The monetary support will enable the final stages of the ship’s construction, in particular supporting other contributors and foundations in matching this grant request to finish the *Matthew Turner* by April 2018. Without Conservancy funding the project will experience significant delays resulting in substantial ongoing costs (i.e., employees and shipyard facilities) that must continue to be paid while fundraising continues, which could curtail operations on other educational vessels or result in fewer scholarship opportunities for underserved schools and Bay Area.
7. **Greater-than-local interest:** Unlike the ports of San Diego and Los Angeles, northern California does not have an educational tall ship that can provide life changing at-sea experiences under sail that promote maritime history and environmental stewardship. The *Matthew Turner* will provide the San Francisco Bay Area with its first operating educational tall ship, and will serve communities in the surrounding urban, suburban, and coastal areas. Furthermore, the vessel will provide new environmental education opportunities linking the region’s various conservation institutions and facilities such as museums, aquariums, parks, and advocacy groups. Partners include the U.S. Army Corps of Engineers’ Bay Model, the San Francisco Maritime National Park, Aquarium of the Bay, Bay.org, among others. The

ship's innovative wind and solar powered propulsion system will also serve as a model of best practice for the maritime construction community.

8. **Sea level rise vulnerability:** Due to the *Matthew Turner's* innovative construction practices, if properly maintained, the vessel is expected to be in service for the next one hundred years. Assuming sea level rises within the projected range of 16 to 55 inches, the vessel should not be impacted, as its home port at the Army Corps of Engineer's Bay Model Pier, is built to accommodate rising sea levels.

Additional Criteria

9. **Urgency:** See the "Project Need" section above
11. **Leverage:** See the "Project Financing" section above.
13. **Innovation:** BAE Systems and Corvus Energy Inc., have already designed and begun installation of the ship's custom hybrid propulsion system. Once finished, the new eco-friendly method will be published in maritime publications such as "Ship & Bunker" magazine. The *Matthew Turner* will also participate in numerous sailing events throughout California and the Pacific to demonstrate the design to the maritime community.
14. **Readiness:** The *Matthew Turner* has been under construction for over four years and the hull was launched in early 2017. If Conservancy funds along with anticipated final match are attained, the ship is expected to be fully complete in April 2018.
15. **Realization of prior Conservancy goals:** "See "Project History" above."
16. **Return to Conservancy:** See the "Project Financing" section above.
17. **Cooperation:** There is remarkable community and organizational support and engagement in this project. As illustrated in the Project Financing section, millions of dollars in private funding has been contributed to this project. Additionally, the majority of the ship has been constructed by hundreds of volunteer skilled laborers, who have donated over 150,000 hours of their time - a value of roughly \$3,000,000 to date. Another key partner in this project is The Conservation Fund, which donated eighty percent of the FSC certified lumber used to construct the ship. Call of the Sea also has extensive relationships with the US Army Corps of Engineers, and organizations such as the Bay Institute /Aquarium of the Bay and the San Francisco Maritime National Park Association.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

This project satisfies the Bay Plan's recreation finding (v.) that "education, interpretation and community service opportunities can be provided in water-oriented recreational facilities ... [and that] these activities can increase appreciation and stewardship of the Bay and improve public safety (pg. 61)." This project will grow Call of the Sea's capacity to educate and increase appreciation and stewardship of the Bay for the thousands of students the *Matthew Turner* will serve in coming years. This project would help to fulfill the Richardson Bay Special Area Plan's Public Access, Views, and Vistas Policy 1 (pg. 30), that "a continuous unified public access system should be provided around the entire periphery of Richardson Bay." While docked at the San Francisco Bay Model, the *Matthew Turner* will provide a unique addition to the existing public access to Richardson Bay. Additionally this project is in line with Sausalito General

Plan's Waterfront Access (LU-4.1, pg. 2-13) and Marinship Waterfront Use (LU-4.2, pg. 2-13) policies, in that the project will promote and enhance public access and enjoyment of the Sausalito waterfront, and that its construction is compatible with Marinship Waterfront's marine industrial oriented uses.

COMPLIANCE WITH CEQA:

Construction and display of the *Matthew Turner* at the Bay Model in Sausalito is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) under the following sections of 14 Cal. Code of Regulations:

Section 15303. New Construction or Conversion of Small Structures

The proposed project consists of the construction of a ship that will be docked at an existing, developed pier in an urban area (the U.S. Army Corps of Engineers Bay Model facility in Sausalito). This ship will have approximately 3,000 square feet of deck space. This is akin to construction of a commercial structure in an urbanized area. Section 15303(c) explicitly exempts commercial buildings not exceeding 10,000 square feet of floor area in an urbanized area. Consistent with this subsection, the proposed project will not involve the use of significant amounts of hazardous substances, and will be located in an area with necessary public services and facilities and which is not environmentally sensitive.

Section 15331. Historical Resource Restoration/Rehabilitation

The proposed project is exempt under this section because it consists of the reconstruction of a historical resource in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, 2017 (Exhibit 4).

Upon approval by the Conservancy, staff will file a Notice of Exemption.