

## **RICHARDSON'S BAY REGIONAL AGENCY**

### **Board of Directors Meeting Notice Thursday, April 8, 2021, 5:30 pm**

**Via Remote Zoom Meeting:** <https://zoom.us/j/4425459156?pwd=ZTRlHdCRDQ2dU1PcllXZHNRZkNIQT09>

Meeting ID: 442 545 9156  
Passcode: 520819

**Coronavirus (COVID-19) Advisory Notice:** In compliance with local and state shelter-in-place orders, and as allowed by Executive Order N-29-20 (March 17, 2020), the Agency will not offer an in-person meeting location for the public to attend this meeting. Members of the public may offer public comment remotely from a safe location as described below. Members of the Board of Directors or staff may participate in this meeting electronically or via teleconference.

**How to participate remotely:** Comments may be emailed to [chavel@marincounty.org](mailto:chavel@marincounty.org) in advance of the meeting; please write "Public Comment" in the subject line. Comments submitted at least one hour prior to the start of the meeting will be forwarded to the Board of Directors prior to the meeting start. Those received after this time will be shared with the Board members after the meeting.

The meeting will be available to the public through Zoom video conference. Those who do not have access to Zoom may access the meeting by calling one of the toll-free phone numbers below.

The Richardson's Bay Regional Agency (RBRA) is inviting you to a scheduled Zoom meeting.  
Topic: RBRA Board of Directors Meeting April 8, 2021  
Time: April 8, 2021 - 5:30 PM Pacific Time (US and Canada)

Join Zoom Meeting: <https://zoom.us/j/4425459156?pwd=ZTRlHdCRDQ2dU1PcllXZHNRZkNIQT09>

Meeting ID: 442 545 9156  
Passcode: 520819  
One tap mobile: 1 669 900 9128 US (San Jose)  
Find your local number: <https://zoom.us/u/ayYK5Oc1j>

The RBRA encourages that comments be submitted in advance of the meeting. Those members of the public using the Zoom video conference function who wish to comment on an agenda item for public comment may write "I wish to comment" in the chat section of the remote meeting platform, or click on "raise hand" when that item is underway. Those members of the public attending by telephone who wish to comment should press \*9 on their keypad. The Clerk will unmute the speakers one at a time at the appropriate time for public comment.

Any member of the public who needs special accommodations in advance of the public meeting to attend may email the Agency at [chavel@marincounty.org](mailto:chavel@marincounty.org), or phone (415) 971-3919, and we will use our best efforts to provide assistance. If assistance is needed during the meeting, you may email [jmalcolm@marincounty.org](mailto:jmalcolm@marincounty.org), and best efforts will be made to provide such assistance.

**RICHARDSON'S BAY REGIONAL AGENCY**  
**Board of Directors Meeting Agenda**  
**Thursday, April 8, 2021**

<https://zoom.us/j/4425459156?pwd=ZTRlHdCRDQ2dU1PcllXZHNRZkNIQT09>

**Zoom Meeting ID:** 442 545 9156

**Password:** 520819

PUBLIC COMMENT IS INVITED CONCERNING EACH AGENDIZED ITEM PURSUANT TO THE BROWN ACT.  
PLEASE LIMIT YOUR COMMENTS TO THREE (3) MINUTES.

Please see above meeting notice information about options to comment remotely in advance, during the meeting via Zoom by writing "I wish to comment" in the chat feature, or via phone by typing \*9 to raise your hand. You will be recognized to speak at the appropriate time during the agenda items.

**5:30 PM: CALL TO ORDER IN REMOTE OPEN SESSION**

- 1) Call to order and roll call.
- 2) Consent Agenda. The Consent Agenda reflects those agenda items with prior policy approval from the Board and/or are administrative matters. Unless any item is specifically removed by a member of the Board, staff, or public in attendance, the Consent Agenda will be adopted by one motion.
  - a) Approve minutes of March 11, 2021.
- 3) Presentation of the Draft Richardson's Bay Eelgrass Protection and Management Plan (EPMP) by Rebecca Schwartz Lesberg, Coastal Policy Solutions. Staff recommendation: receive presentation, open and receive public comment, and provide direction for preparation of a final plan for Board adoption.
- 4) Open time for public expression. Members of the public are welcome to address the Board for up to three minutes per speaker on matters not on the agenda. Under the state Brown Act, Board members may not deliberate or take action on items not on the agenda, and generally only may listen.
- 5) Reports/comments: a) Staff report; b) Board Member matters.

**ADJOURN TO CLOSED SESSION:**

- 1) CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION  
Significant exposure to litigation pursuant to California Government Code § 54956.9(d)(2).  
Number of potential cases: One.

**RE-CONVENE IN OPEN SESSION AND ADJOURN**

*AN AGENDA PACKET IS AVAILABLE AT THE RBRA WEBSITE* [rbra.ca.gov](http://rbra.ca.gov) and at the Marin County Community Development Agency, 3501 Civic Center Dr. Room 308, San Rafael, CA 94903 (415) 971-3919 [chavel@marincounty.org](mailto:chavel@marincounty.org)

# **RICHARDSON'S BAY REGIONAL AGENCY**

**DRAFT MINUTES OF MARCH 11, 2021**

**Board of Directors Meeting**

HELD REMOTELY VIA ZOOM

## **5:00 PM: CONVENE IN REMOTE OPEN SESSION**

### **1. Call to order and roll call.**

**MEMBERS PRESENT:** Steve Block (Belvedere); Stephanie Moulton-Peters (Marin County); Alice Fredericks (Tiburon alternate)

**MEMBERS ABSENT:** Jim Wickham, Chair (Mill Valley); David Kulik (Tiburon)

**STAFF:** Curtis Havel (Harbormaster); Jim Malcolm (Assistant Harbormaster); Jenna Brady (Legal Counsel)

## **5:05 PM: ADJOURN TO CLOSED SESSION**

### **1) CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION**

Significant exposure to litigation pursuant to California Government Code § 54956.9(d)(2). Number of potential cases: One.

## **6:15 PM: RE-CONVENE IN REMOTE OPEN SESSION**

Stephanie Moulton-Peters, Pro Tem Vice Chair noted that direction was given to staff and counsel, and there was nothing to report.

### **2. Consent Agenda**

- a. Approve minutes of December 10, 2020.
- b. Approve Resolution No. 01-21 authorizing execution of an agreement with the Ocean Protection Council to receive Coastal Resiliency Grant Funds to support an Eelgrass Protection & Management Plan.

No comment from public.

M/S Block/Fredericks, to approve the Consent Agenda. Motion passed unanimously.

**3. Election of Board of Directors Vice Chair.** Staff recommendation: Elect a Vice-Chair of the Board for the conclusion of the current term (through June 30, 2021).

Comment/question from David Schoenbrum.

M/S Block/Fredericks, to appoint Stephanie Moulton-Peters as Vice Chair of the RBRA Board of Directors through June 30, 2021. Motion passed unanimously.

**4. Information Item:** Presentation about the purview and work of the Richardson's Bay Regional Agency (RBRA) by Curtis Havel, RBRA Harbormaster. No action required and no questions from the Board (presentation available upon request).

**5. Information Item:** Presentations by Andrew Hening and Karen Strolia about ongoing outreach to individuals in the anchorage, including introduction of the two new Downtown Streets Team (DST) case workers deployed to Southern Marin through a grant program with Marin County Health & Human Services. No action required and no questions from the Board (presentations available upon request).

Prior to item 6, Harbormaster Havel introduced the RBRA Board of Directors:

- Stephanie Moulton-Peters, Vice Chair
- Steve Block, City of Belvedere
- Alice Fredericks, City of Tiburon (alternate standing in for David Kulik)
- Jim Wickham, Chair (absent due to family matters)

**6. Open time for public expression.**

Comments received from Robbie Powelson, Robert Tillman, Jack McDonnel and Eva Crysanthe.

**7. Reports/comments.**

Harbormaster Havel introduced the new Assistant Harbormaster, Jim Malcolm

**8. Adjournment.**

The meeting was adjourned at 8:00pm

# **RICHARDSON'S BAY REGIONAL AGENCY (RBRA) STAFF REPORT**

For the meeting of: April 8, 2021

**To:** RBRA Board of Directors

**From:** Curtis Havel, Harbormaster

**Subject:** Draft Eelgrass Protection and Management Plan

## **STAFF RECOMMENDATION:**

Receive presentation on the draft Eelgrass Protection and Management Plan (EPMP), open and receive public comment, and provide direction for purposes of moving forward with the preparation of a final plan for Board adoption.

## **BACKGROUND:**

RBRA's 2020 Transition Plan provides policy direction to work with agencies, organizations, and other stakeholders to develop eelgrass protection measures and consider specific eelgrass restoration funding and projects.

To pursue this direction, RBRA contracted with Coastal Policy Solutions to draft an Eelgrass Protection and Management Plan (EPMP) and to assist with grant applications to fund eelgrass protection and restoration work.

At the October 8, 2020 meeting of the RBRA Board, Rebecca Schwartz-Lesberg from Coastal Policy Solutions presented a draft stakeholder engagement plan to the Board. On December 10, 2020, Ms. Schwartz-Lesberg presented a progress report on the stakeholder engagement, including a summary of comments to date. Both these meetings provided an opportunity for public comment on the development of the EPMP and an invitation to participate in EPMP stakeholder engagement sessions.

## **DISCUSSION:**

Coastal Policy Solutions has completed preparation of the draft EPMP for review, public comment, and direction from the RBRA Board for preparation of a final EPMP for adoption by the RBRA Board.

The primary policy direction in the draft plan is to establish an Eelgrass Protection Zone/No Anchoring Area and an Anchoring Zone. In the Eelgrass Protection Zone, recreational uses such as sailing, motoring, fishing, and kayaking would be allowed, but anchoring a vessel would not be allowed because of its associated damage to eelgrass beds. Any vessel wishing to anchor in Richardson's Bay would be allowed to do so in the Anchoring Zone.

The proposed areas of the protection zone and the anchoring zone were established through review and analysis of local, state, and regional policies, stakeholder comments, and data such as frequency and density in the location of eelgrass beds and herring spawning. Sources for this data included RBRA's Ecologically-based Mooring Feasibility and Planning Study prepared by Merkel & Associates in 2019, as well as herring data from the California Department of Fish & Wildlife. In summary, the protection zone has been an attractive habitat for eelgrass beds and herring eggs, but is damaged and diminished by the anchoring of vessels.

The proposed area of the Anchoring Zone comprises the area of the bay that is not eelgrass habitat due in part to its depth of six feet or more.

The proposed boundary between the two zones is a line extending from Channel/Day Marker Four to the southernmost tip of the Richardson's Bay Audubon Sanctuary (see Figure 9 in the attached draft plan), with the Protection Zone consisting of the area north of the boundary line and the Anchoring Zone the area south of the boundary line.

#### **ANALYSIS:**

Establishment of protection and anchoring zones is a significant step in supporting conditions under which eelgrass can thrive. The proposed plan would protect more than 90% of the Richardson's Bay eelgrass bed from damage from anchors, chain, and other ground tackle. Eelgrass is an important ecological resource for aquatic life, waterfowl, and the ecosystem and climate change protection as a whole - which drives the purpose behind protection measures. The protection zone allows both natural restoration and project-based restoration to occur with far fewer risks to eelgrass beds being damaged or otherwise compromised.

Adoption of the zones will diminish the current area designated by RBRA as an anchorage by approximately two-thirds. As the anchorage transitions to a 72-hour anchorage for temporary use, it is anticipated the anchorage area will be sufficient to accommodate the level of interest from visiting vessels.

In bringing a final EPMP to the Board, consideration will need to be given for timelines and implementation steps relative to the existing population of vessels on the bay; more than half of the current vessel census is anchored in the area designated for protection. It is anticipated that the necessary updates to RBRA Regulations, the United States Coast Pilot, and NOAA Nautical Navigation Charts would take approximately 1.5 years.

#### **FINANCIAL IMPACT:**

RBRA was recently awarded a grant from the Ocean Protection Council's Coastal Resilience Grant Program for implementing Phase 1 of the Eelgrass Protection and Management Plan for Richardson's Bay. The grant award allows RBRA to conduct Phase 1 Implementation Activities, which include: finalize the draft plan, pursue any necessary regulatory changes with the United States Coast Guard, perform monitoring and surveying of wildlife, habitat, eelgrass and bay bathymetry, conduct outreach and education, and manage the implementation of the plan. The

grant award is in the amount of \$ 324,681.31. With the exception of approximately \$2,000 in materials and supplies, the local match valued at \$89, 330.57 will be met with existing RBRA personnel and volunteer hours.

**NEXT STEPS:**

Following any RBRA Board direction on revisions, Coastal Policy Solutions will prepare a final EPMP for adoption by the Board, and work with staff on preparing for its implementation.

Attach: Draft Eelgrass Protection and Management Plan



# Richardson's Bay Eelgrass Protection and Management Plan

Draft date: April 1, 2021

Prepared for:

Richardson's Bay Regional Agency  
c/o Marin County Community Development Agency  
Planning Division  
3501 Civic Center Drive, Room 308

Prepared by:

Coastal Policy Solutions  
<http://coastalpolicysolutions.com>  
[eelgrass@coastalpolicysolutions.com](mailto:eelgrass@coastalpolicysolutions.com)



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## Preface

- [To be included in final EPMP]

## Executive Summary

- [To be included in final EPMP]

## Introduction

### Background

Richardson's Bay is managed by the Richardson's Bay Regional Agency (RBRA), a local government agency serving Belvedere, Mill Valley, Tiburon, and unincorporated Southern Marin County, in coordination with the City of Sausalito (Figure 1). In June of 2020, the RBRA adopted a "Transition Plan"<sup>1</sup> for the Richardson's Bay anchorage, which aims to protect the environment and public health, and support recreational use of the Bay, while reducing the number of occupied and/or abandoned vessels in the Bay.

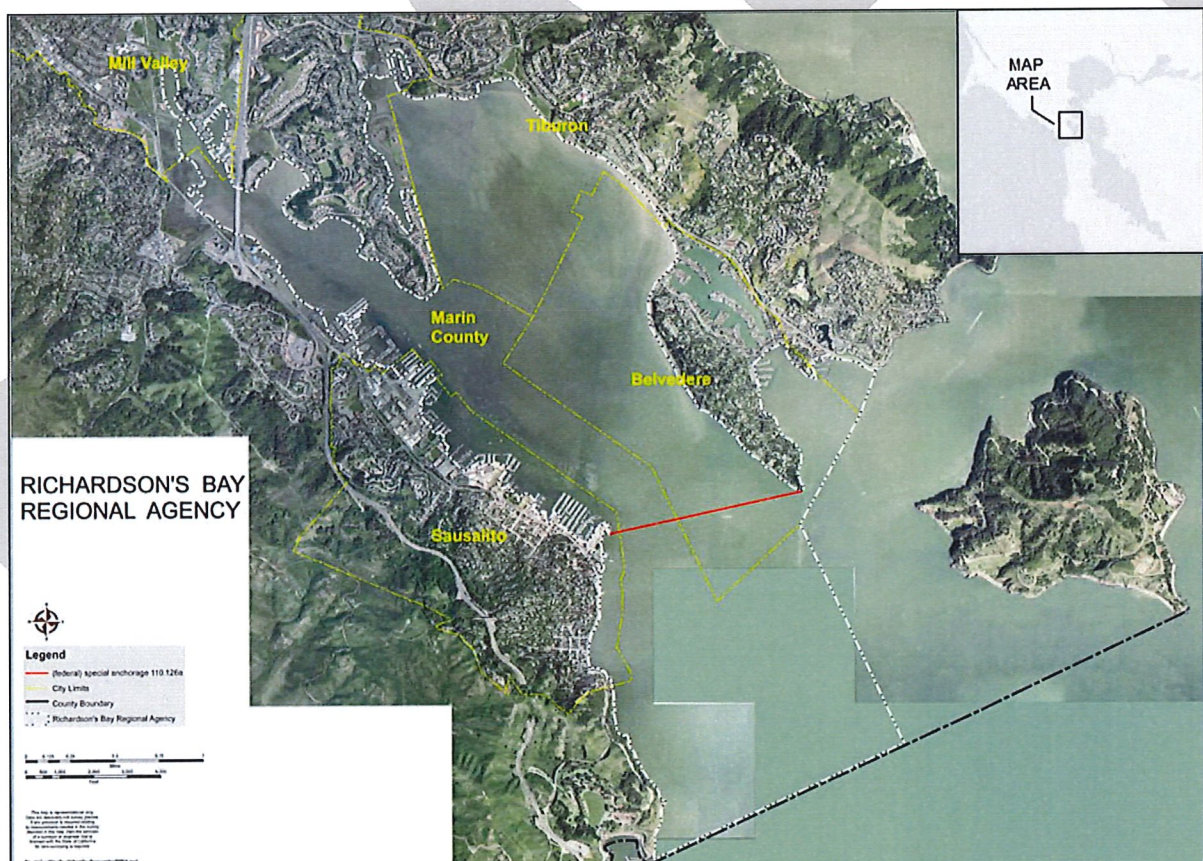


Figure 1 - Jurisdictional Map of Richardson's Bay

<sup>1</sup> Available here: <http://rbra.ca.gov/about-rbra/transition-plan/>

The Transition Plan explicitly affirms Richardson’s Bay as a temporary anchorage (*i.e.*, an anchorage with enforceable time limits for a visiting vessel’s length of stay), and includes initiatives aimed at increasing the seaworthiness of vessels on the anchorage and connecting vulnerable individuals living on the water with safe housing alternatives. Of the five Policy Directions included in the Transition Plan, four speak directly to issues relating to vessel enforcement, seaworthiness, and occupied vessels. The fifth Policy Direction relates to the protection and restoration of the Bay’s vital eelgrass beds, and reads as follows:

*5) Working with agencies, organizations, and other stakeholders, develop eelgrass protection measures and consider specific eelgrass restoration funding and projects.*

The full text of Policy Direction Five establishes “the potential designation of up to four zones in Richardson’s Bay for varying levels of vessel usage and eelgrass restoration and protection,” including the establishment of areas in Richardson’s Bay “where vessels would not be authorized to anchor or moor.”

The Transition Plan was adopted by the RBRA board on June 11, 2020 and RBRA retained Coastal Policy Solutions that July to implement Policy Direction Five. It was identified that the best way to implement this Policy Direction would be to develop and implement an Eelgrass Protection and Management Plan (EPMP), using a spatial planning approach to manage natural resource conflict in Richardson’s Bay. The draft EPMP was delivered to the RBRA Board of Directors in April 2021 and a final EPMP was delivered to the Board in [DATE TBD].

### About Richardson’s Bay

Richardson’s Bay is a relatively shallow embayment covering approximately 1,270 hectares (3,138 acres) of mostly open water habitat in Marin County, California. The Bay is located approximately 1.3 km (0.8 miles) upstream (northeast) of San Francisco’s Golden Gate Bridge and includes areas under the jurisdictions of the Cities of Sausalito, Mill Valley, and Belvedere, as well as the Town of Tiburon and the County of Marin. Richardson’s Bay has a long history of human use, dating back to pre-European settlement of the Bay Area when the land was part of Coast Miwok tribal territory for at least 13,000 years<sup>2</sup>.

Like much of the rest of California, the area ultimately came under Spanish, then Mexican, and finally United States rule through the 18<sup>th</sup>-19<sup>th</sup> centuries, with large ships anchoring in the Bay since at least the 1890s<sup>3</sup>. Through the late 19<sup>th</sup> and 20<sup>th</sup> centuries, the shoreline of Richardson’s Bay was extensively developed for commercial, residential, and maritime purposes. In addition to the floating homes in the marinas of Sausalito, many boaters continued to live on vessels in the anchorage of Richardson’s Bay. In response to the growing number of so-called “anchor out” vessels, as well as ongoing shoreline development pressure, local governments and the San Francisco Bay Conservation and Development Commission developed the “Richardson Bay Special Area Plan”.

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<sup>2</sup> See: <https://native-land.ca/maps/territories/coast-miwok/> and <https://www.marinmiwok.com/>

<sup>3</sup> Clinton, L. (2001) *Barging in: a short history of liveaboards on the Bay*. Bay Crossings, San Francisco, CA. [http://www.baycrossings.com/Archives/2001/07\\_August/barging\\_in.htm](http://www.baycrossings.com/Archives/2001/07_August/barging_in.htm). Accessed 15 Apr 2018

Finalized in 1984, the plan's goals were "protection of [the Bay's] natural resources; use of the water for water-oriented purposes; restoration and enhancement of degraded tidal wetlands; and provision of public access to and along its shoreline." To implement this plan, and provide coordination amongst the several municipalities with jurisdiction over the Bay, the Richardson's Bay Regional Agency was established in 1985 as a joint powers authority governing Richardson's Bay. Despite direction in the Special Area Plan to enforce time limits on boats anchoring in Richardson's Bay, the population of permanent liveaboards expanded from about 90 boats in the 1970s to over 240 boats in 2016<sup>4</sup> with many boats experiencing disrepair and abandonment. Though not the only thing impacting eelgrass in Richardson's Bay (see the section on eelgrass below), these boats have directly removed up to 80 acres of eelgrass from the bay floor as of 2019 due the scraping of anchors, chains, and other ground tackle<sup>5</sup>.

For a fuller description of the relationship between eelgrass and vessels anchored/moored in Richardson's Bay, see the 2019 "Ecologically-based Mooring Feasibility Assessment and Planning Study" prepared by Merkel and Associates for RBRA. Available here: [http://rbra.ca.gov/wp-content/uploads/2019/11/RBRA-Ecologically-based-Mooring-Study\\_11-11-19.pdf](http://rbra.ca.gov/wp-content/uploads/2019/11/RBRA-Ecologically-based-Mooring-Study_11-11-19.pdf)

### Eelgrass in Richardson's Bay

Historically, the shoreline of Richardson's Bay would likely have supported expansive native bayland habitats, including riparian areas, tidal marsh wetlands, mudflats, and, in subtidal areas, eelgrass beds. Though most of the Bay's shoreline has been developed, and much of these habitats lost, the area remains a critical natural resource owing in large part to its remaining eelgrass bed. The Richardson's Bay eelgrass bed varies in size, but has averaged around 197 hectares (487 acres) between 2003 to 2014, with over 800 acres identified in 2019<sup>6</sup>. The



Figure 2- Eelgrass covered in herring eggs.  
Photo: California Department of Fish and Wildlife

attributes that make Richardson's Bay attractive to boaters are also those that contribute to ideal habitat for California's native eelgrass, *Zostera marina*. Shallow depths, regular tidal flushing, and relatively low turbidity have made Richardson's Bay an eelgrass stronghold, even during periods of region-wide eelgrass decline.

<sup>4</sup> Fimrite, P. (2017) As more "anchor-outs" live on SF Bay, tension mounts on land. San Francisco Chronicle.

<sup>5</sup> Kelly, J. J., Orr, D., & Takekawa, J. Y. (2019). Quantification of damage to eelgrass (*Zostera marina*) beds and evidence-based management strategies for boats anchoring in San Francisco Bay. *Environmental management*, 64(1), 20-26.

<sup>6</sup> Merkel & Associates (2019). Ecologically-based Mooring Feasibility Study for Richardson's Bay. *Richardson's Bay Regional Agency*. Sausalito, California.

Eelgrass is critically important for the health of coastal estuaries as well as climate resilience for coastal communities. Eelgrass beds reduce coastal erosion, sequester carbon, reduce ocean acidification, and provide nursery habitat for commercially, recreationally, and ecologically important marine life (e.g., Pacific herring and Dungeness crab)<sup>7</sup>. The bays and estuaries of California are a stronghold for eelgrass, even as the species experiences significant declines along the Pacific Coast and abroad (at global decline rates of up to 30,000 acres per year<sup>8</sup>). Just five bays support over 80% of our state's remaining eelgrass<sup>9</sup>, with 50% found in San Francisco Bay alone<sup>10</sup>, and the Richardson's Bay eelgrass bed is the second largest in the San Francisco Bay estuary.

Beyond its size, the Richardson's Bay eelgrass bed is also disproportionately important in supporting commercial and recreational fisheries – in the 2019/2020 Pacific herring season, for example, 90% of San Francisco Bay's herring spawning biomass occurred in Richardson's Bay<sup>11</sup>. Tens of thousands of migratory waterfowl and shorebirds rely on Richardson's Bay eelgrass beds for feeding and resting during migration along the Pacific Flyway<sup>12</sup>. Without the eelgrass-herring ecosystem, species survival would be in jeopardy.



Figure 3- Birds using Richardson's Bay.

Photo: B. Hinz, Courtesy of Audubon California

Despite its importance, eelgrass faces myriad threats, both locally and regionally. Human activity (e.g., dredging, boating, and anchoring) and climate change (sea level rise and warming ocean temperatures) are leading threats to eelgrass. This is coupled with limited restoration success, and a lack of both formal valuation and community understanding of its benefits<sup>13</sup>. In Richardson's Bay, eelgrass is only able to survive in up to about 1.7 m (5.5 feet) of water<sup>14</sup>. Because of eelgrass's narrow depth limits, coupled with Richardson's Bay homogeneous

<sup>7</sup> Orth, Robert J., et al. (2006) "A global crisis for seagrass ecosystems." *Bioscience* 56.12: 987-996.

<sup>8</sup> Waycott, M., Duarte, C.M., Carruthers, T.J., Orth, R.J., Dennison, W.C., Olyarnik, S., Calladine, A., Fourqurean, J.W., Heck, K.L., and Hughes, A.R. (2009). Accelerating loss of seagrasses across the globe threatens coastal ecosystems. *Proc. Natl. Acad. Sci.* 106, 12377–12381.

<sup>9</sup> National Fisheries, West Coast Region, National Oceanic and Atmospheric Administration, 2014. California Eelgrass Mitigation Policy and Implementing Guidelines.

<sup>10</sup> Merkel & Associates (2009). San Francisco Bay Eelgrass Inventory: October - November 2009 (San Diego, CA).

<sup>11</sup> California Department of Fish and Wildlife report to the Director's Herring Advisory Committee Meeting (October 13, 2020)

<sup>12</sup> Audubon California. 2018. Eelgrass, herring, and waterbirds in San Francisco Bay: a threats and opportunities assessment. Report to the Gordon and Betty Moore Foundation. Richardson Bay Audubon Center & Sanctuary. Tiburon, California.

<sup>13</sup> *Id.*

<sup>14</sup> Merkel, K. (2004) Baywide Eelgrass Inventory of San Francisco Bay. Merkel & Associates, Inc., San Diego, CA

bathymetry (i.e., the bay floor is relatively flat), just a few inches of sea level rise will likely drown out the deepest areas of the eelgrass bed. Therefore, improved management of the eelgrass bed is required as part of the area's climate resilience and adaptation efforts.

Since January 2018, RBRA staff have removed more than 180 abandoned and derelict vessels from the Richardson's Bay anchorage. This, coupled with active enforcement of the Bay's 72-hour time limit for visiting vessels, has greatly reduced the impact of boats on eelgrass in Richardson's Bay. However, more specific action is needed to actively protect of eelgrass in Richardson's Bay. This is because existing regulations allow for boats to anchor almost anywhere in Richardson's Bay (including in areas of eelgrass), with the exception of the Audubon Sanctuary in northern Richardson's Bay, Sausalito's Dunphy Park, and certain channels. As long as boats are in compliance with time limits and seaworthiness, there are currently no anchoring location restrictions to protect the Bay's eelgrass beds.

### Regulatory/Policy Context

Richardson's Bay and its natural resources, including eelgrass, exists within an overlapping framework of laws, regulations, policies, and directives. While we do not intend to fully describe or unpack that framework here, several of these policies have significantly informed EPMP development and are described below.

- McAteer-Petris Act<sup>15</sup> (enacted 1965, amended many times since) – This is the key legal provision under California state law to preserve San Francisco Bay from indiscriminate filling. Established the Bay Conservation and Development Commission (BCDC) to plan for the long term use of the Bay.
- San Francisco Bay Plan<sup>16</sup> (adopted 1969, amended since) – Includes major policies and findings for the long term use of San Francisco Bay. Objectives: 1) Protect the Bay as a great natural resource for the benefit of present and future generations; and 2) Develop the Bay and its shoreline to their highest potential with a minimum of Bay filling. Several findings and policies are relevant here, including Subtidal Areas Policy #2: "Subtidal areas that are scarce in the Bay or have an abundance and diversity of fish, other aquatic organisms and wildlife (e.g., eelgrass beds, sandy deep water or underwater pinnacles) should be conserved."
- Richardson's Bay Special Area Plan<sup>17</sup> (adopted 1985) – Adopted a common set of policies, findings, and regulatory controls for managing Richardson's Bay. Several of these are relevant for the EPMP, including Aquatic and Wildlife Resources Policy #1: "Eelgrass beds, important to herring spawning and for production of detritus, should also receive maximum protection."
- California Eelgrass Mitigation Policy<sup>18</sup> (CEMP) and Implementing Policies (adopted 2014) – Established a National Marine Fisheries Service policy of "no net loss of eelgrass habitat function in California" and provided compensatory mitigation ratios for

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<sup>15</sup> Available here: [https://www.bcdc.ca.gov/plans/mcateer\\_petris.html](https://www.bcdc.ca.gov/plans/mcateer_petris.html)

<sup>16</sup> Available here: [https://www.bcdc.ca.gov/plans/sfbay\\_plan.html](https://www.bcdc.ca.gov/plans/sfbay_plan.html)

<sup>17</sup> Available here: [http://rbra.ca.gov/wp-content/uploads/2018/04/Special\\_Area\\_Plan-1.pdf](http://rbra.ca.gov/wp-content/uploads/2018/04/Special_Area_Plan-1.pdf)

<sup>18</sup> Available here: [https://media.fisheries.noaa.gov/dam-migration/cemp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf)

unavoidable loss of eelgrass habitat function. Note that this EPMP does *not* intend to serve as a Comprehensive Management Plan (CMP) as defined on page 17 of the CEMP, but may serve as a basis for future CMP efforts.

- Recent direction from the BCDC Enforcement Committee to “address eelgrass damage and restoration.”<sup>19</sup>
- RBRA Transition Plan (adopted June 2020) – Policy Direction #5 states, “Working with agencies, organizations, and other stakeholders, develop eelgrass protection measures and consider specific eelgrass restoration funding and projects.”

## EPMP Framework

### Development of the EPMP

This EPMP was developed in three parts: policy review, stakeholder engagement, and spatial analysis/planning. During the policy review, relevant laws, regulations, policies, and directives were analyzed to identify appropriate actions for protecting and managing eelgrass in Richardson’s Bay (see Regulatory/Policy Context section above).

Following the policy review, stakeholder engagement was conducted during fall 2020 and winter 2021. Stakeholder engagement included the following:

- Five 1.5 hour facilitated listening sessions were held via Zoom, targeting environmental groups, scientists, elected officials, marina operators, resource/regulatory agencies, and Richardson’s Bay mariners. These sessions engaged 40+ participants representing 20+ organizations (Figure 4).

Organizations Represented		
Audubon CA	Marin Audubon Society	Regional Water Quality Control Board
Bay Conservation and Development Commission	Marin Conservation League	San Francisco Bay Joint Venture
Belvedere City Council	County of Marin	San Francisco State University - Estuary and Ocean Science Center
California Department of Fish and Wildlife	Marina Plaza Harbor	Sausalito Yacht Harbor
California State Coastal Conservancy	Merkel and Associates	US Army Corps of Engineers
City of Sausalito	NOAA Fisheries	Waldo Point Harbor
Galilee Harbor	Pew Charitable Trust	

Figure 4- Organizations represented during stakeholder engagement listening sessions.

- During these sessions, participants were provided with an overview of the EPMP process and information about eelgrass, and were then taken through a series of facilitated

<sup>19</sup> Described here: <https://bcdc.ca.gov/enforcement/2021/20210324-ITEM-7-Richardson's-Bay-Staff-Presentation-FINAL.pdf>

questions addressing threats to eelgrass in Richardson's Bay, key uses to consider during EPMP development, and time for additional thoughts/questions.

Despite repeated, targeted attempts to reach the community of individuals living on the water in Richardson's Bay (Figure 5), none participated in this stakeholder engagement.

Unfortunately, this community is notoriously hard to reach using virtual engagement strategies, and in-person outreach was severely limited due to the COVID-19 global pandemic. Links for participation were shared at three RBRA meetings, posted to social media, and shared directly with key members of the mariner community. Mariner-focused Zoom listening sessions were held on three separate occasions (two during the day, including during and after the free lunch provided by Sausalito Presbyterian Church, and one in the evening). Additionally, an email address was set up where people could email their thoughts directly to project consultants. No emails were received.

Fortunately, significant stakeholder feedback from the mariner community was generated during the 2018/2019 RBRA meetings held during the development of the Ecologically-based Mooring Feasibility Assessment and Planning Study as well as the Transition Plan. This feedback was reviewed during the EPMP development process. Additionally, a draft EPMP [THIS DOCUMENT] is being shared with the RBRA Board of Directors and the public, all of whom will be encouraged to provide feedback prior to the adoption of a final EPMP.

### Summary of Stakeholder Feedback

A full presentation describing stakeholder feedback was presented to the RBRA Board of Directors during their monthly meeting on December 10, 2020. A recording of that meeting is available here: <http://rbra.ca.gov/meeting-archives/>. A summary of stakeholder feedback by theme is described below.

**Mariners of Richardson's Bay:  
Provide input on RBRA's Eelgrass  
Protection & Management Plan**

**Wednesday, March 10  
12:30-2pm**  
Join via Zoom to make sure the EPMP reflects  
your lived experience on Richardson's Bay

**Stakeholder Listening Sessions**  
The Richardson's Bay Regional Agency (RBRA) is currently developing an Eelgrass Protection and Management Plan (EPMP) to protect eelgrass in Richardson's Bay in compliance with local and state regulations - and we want your input!

The EPMP is in fulfillment of policy direction outlined in RBRA's June 2020 Transition Plan for the anchorage. The plan is looking at opportunities to create "zones" in Richardson's Bay with various degrees of allowable use, to make sure the environment is protected while supporting maritime use of this historic anchorage. Join us on Zoom to share your thoughts on how this can best be achieved.

**Meeting info: Wednesday, March 10**  
• Time: 12:30-2:00PM  
• Meeting ID: 961 7291 8604  
• Passcode: 136378

**Directions to join:**  
• Go to <http://zoom.us> and click "Join a meeting" at the top. Follow prompts to enter the meeting ID and passcode.

• The meeting will include an overview of the EPMP (information about eelgrass in Richardson's Bay and why the EPMP is being developed), policy guidance from the RBRA's Transition Plan, and facilitated questions to get feedback from participants about how to best protect eelgrass in Richardson's Bay. There will also be time for open ended Q&A.  
• If this time doesn't work for you, email your thoughts to [eelgrass@coastalpolicy.com](mailto:eelgrass@coastalpolicy.com)

For more information about RBRA's June 2020 Transition Plan, visit <http://rbra.ca.gov>

Figure 5- Example flier for targeted outreach to mariners



### Theme 1: Threats to Richardson's Bay to consider during EPMP development

- Sea level rise and other impacts of climate change
- Public safety
- Damage from anchors, chains, and other ground tackle
- Marine debris
- Stormwater runoff/water quality
- Shading and other impacts from docks
- Loss of maritime culture (not just liveaboards), including herring/fishing culture
- Regulatory burdens on marina operators
- Natural fluctuation in eelgrass determining static boundaries
- Lack of awareness about importance of eelgrass to communities

### Theme 2: Uses to consider during EPMP development

- Richardson's Bay is an anchorage
- Recreation, especially non-motorized
- RB as a sailing destination for cruisers/visiting vessels
- Education
- Marinas
- Science/research
- Eelgrass restoration and bed migration with sea level rise
- Birds and wildlife
- Beneficial reuse of sediment/dredge material
- Opportunities for deeper water off Belvedere/Tiburon

### Theme 3: Additional feedback

- Vessel enforcement will be key to success
- Partnerships important
- Should include monitoring on ecological scale (10 years+)
- Don't make marina operation harder
- Keep zones as simple as possible (anchoring/no anchoring)
- Include an alternatives analysis
- Mooring program: safer, better for eelgrass; should be considered now rather than a separate planning process down the line; visitor-serving, revenue generating
- Need for spatial analysis, not just planning

## Spatial Analysis

To plan for and mediate natural resource conflict in Richardson's Bay, the following data layers were analyzed and mapped using geographic information systems (GIS) mapping software:

- NOAA Nautical Chart #18649 – This navigational chart was used as the base layer for the spatial analysis so that any recommendations for zoning were based on how the space is being used by mariners on the water.
- Eelgrass Frequency Distribution (Figure 6) – Based on data collected in 2003, 2009, 2013, 2014, and 2019, this data layer exhibits the average extent of eelgrass in Richardson's Bay during the contributing years, regardless of cover class (*i.e.*, percent cover or density). This provides insight about where eelgrass is most frequently

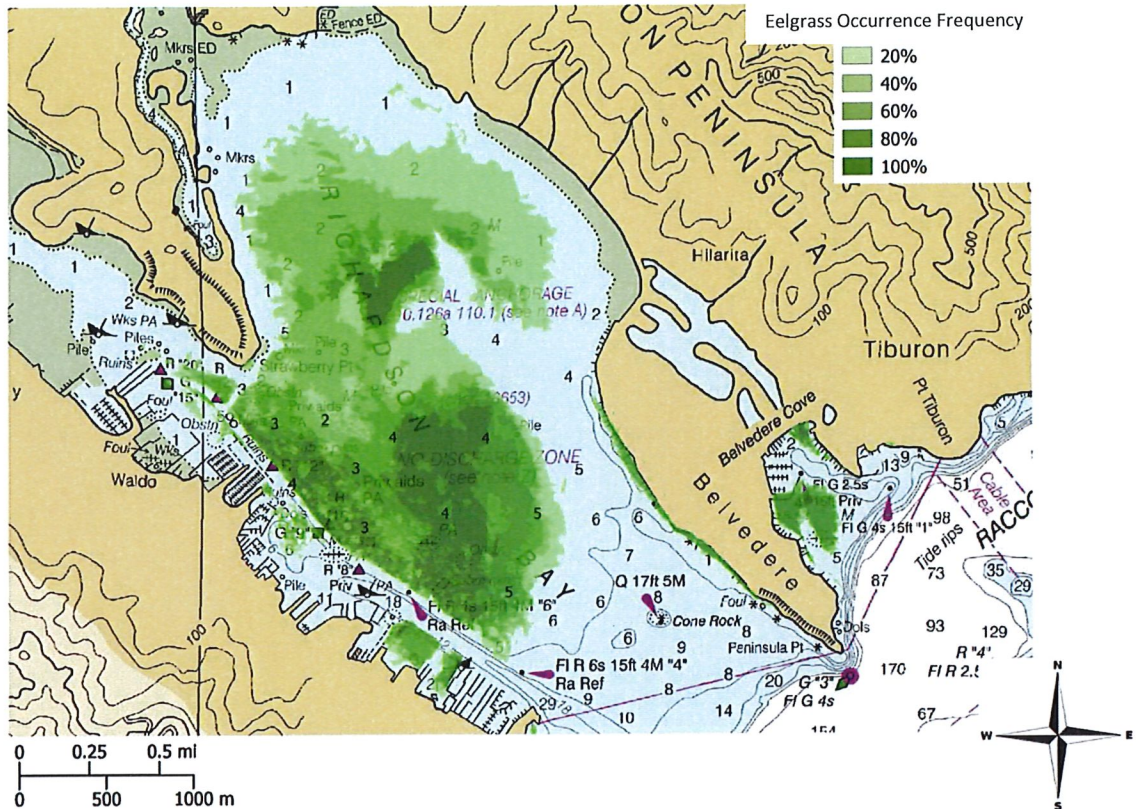


Figure 6- Eelgrass frequency distribution in Richardson's Bay (2003-2019)  
 Data are derived from side-scan sonar surveys conducted by Merkel and Associates in years 2003, 2009, 2013, 2014, and 2019. The data layer exhibits the average extent of mapped eelgrass during survey years, regardless of cover class (percent cover/density).

occurring in Richardson's Bay and provides a way to manage for the spatial variability of eelgrass across years. These data were provided by Merkel and Associates.

- Herring Spawning Occurrences (Figure 7) - Herring spawn deposition spatial data for the years 2013-2020 were mapped. This provides insight regarding how the eelgrass resources are being used by other species in the ecosystem to ensure that areas proposed for protection adequately encompass how the system functions. These data were provided by the California Department of Fish and Wildlife.
- Combined eelgrass frequency distribution and herring spawning occurrences (Figure 8) – The same eelgrass and herring data layers as used in the individual analysis were combined to be viewed simultaneously to better understand combined spatial use of the Bay.

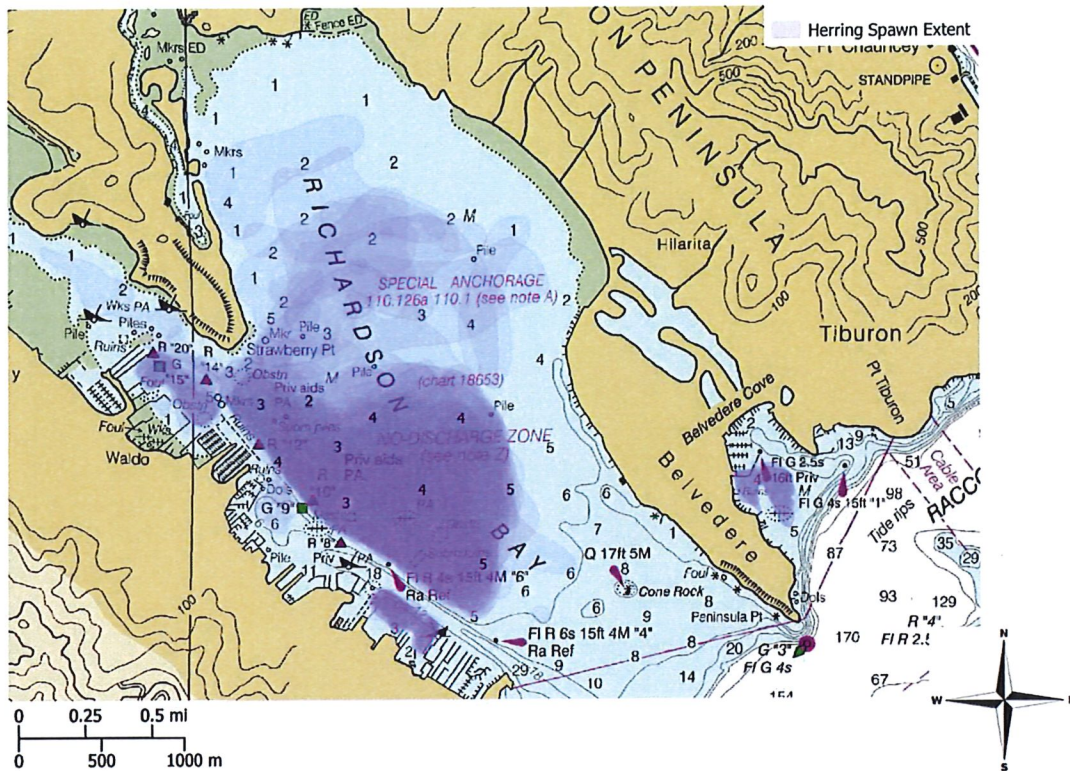


Figure 8- Herring spawning events, depositional data (2003-2020)  
 Each purple polygon represents one spawning event. Note: multiple spawning events occur during each year. Areas of darker purple indicate repeated spawning events.

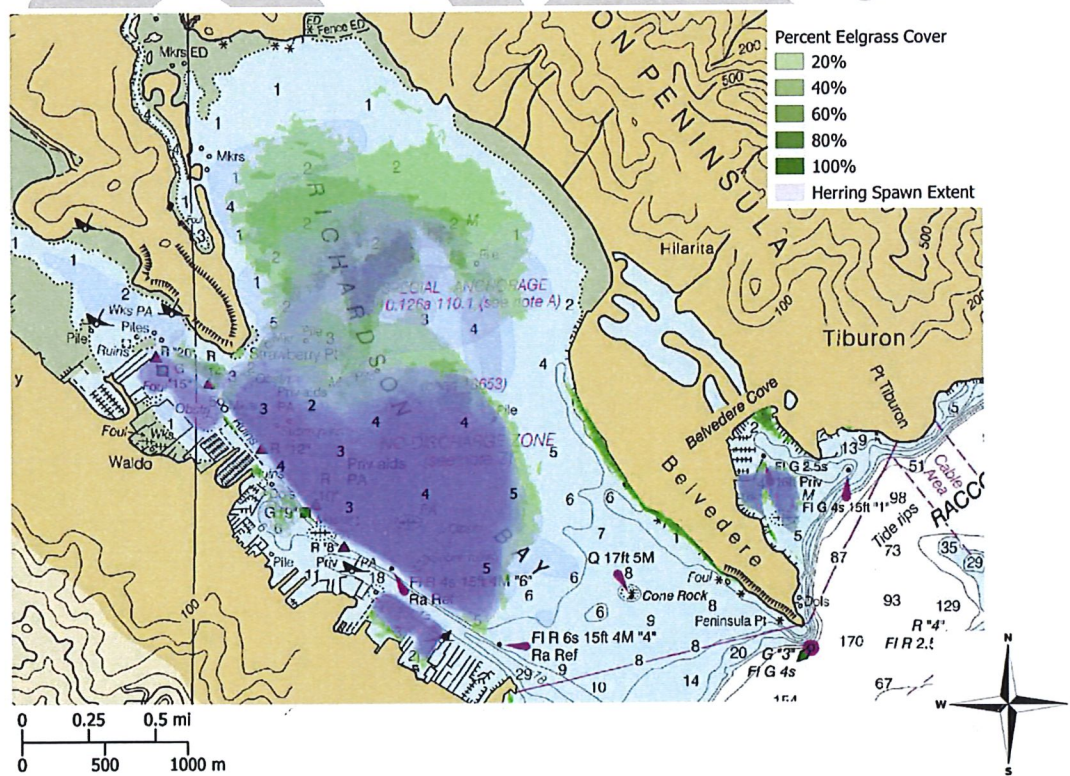


Figure 7- Eelgrass and herring data layers combined.

## Plan Elements

### 1. Proposed Eelgrass Protection Zone/No Anchoring Area

Based on the policy review, stakeholder engagement, and spatial analysis, the following is proposed – an “Eelgrass Protection Zone/No Anchoring Area” be established northwest of a line extending from Channel/Day Marker Four to the southernmost tip of the Richardson’s Bay Audubon Sanctuary, shown in the image below as “Proposed Boundary A” (Figure 9). This would protect the >90% of the Richardson’s Bay eelgrass bed from damage occurring from anchors, chains, and other ground tackle, regardless of a vessel’s length of stay.

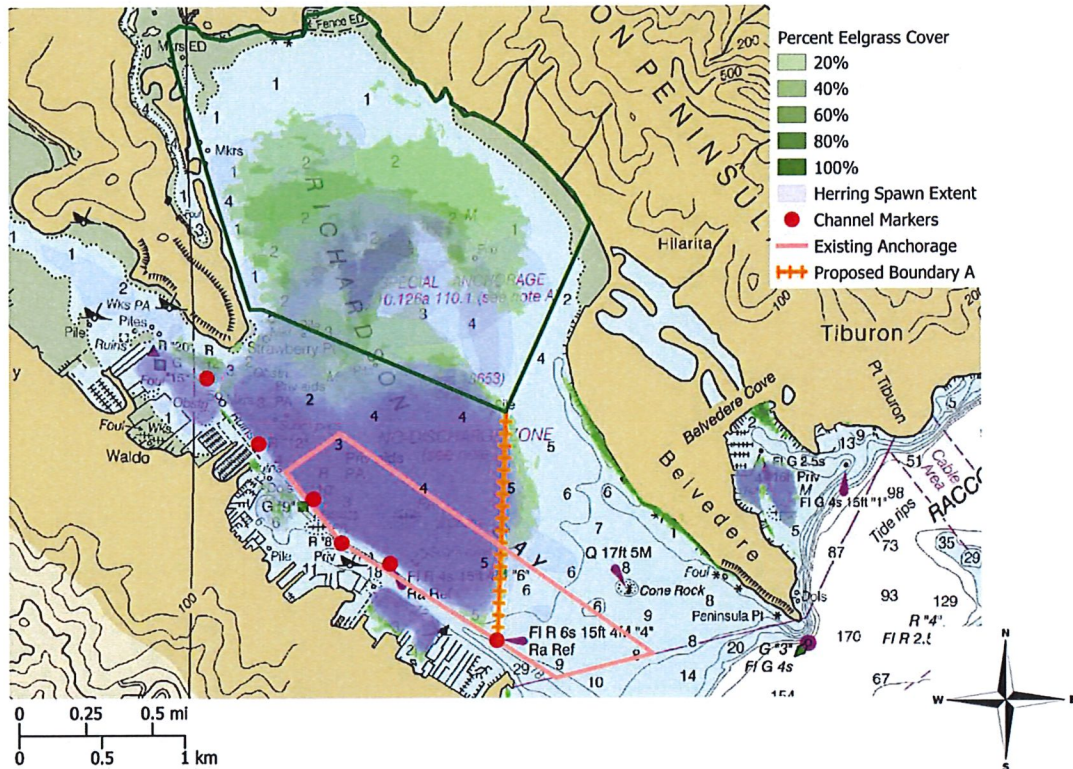


Figure 9- Eelgrass Protection Zone/No Anchoring Area (Proposed Boundary A)

To protect eelgrass in Richardson’s Bay from damage associated with anchor scour, an “Eelgrass Protection Zone/No Anchoring Area” is proposed. The proposed area extends northwest of a line running from Channel Marker Four in the south to the southern tip of the Audubon Sanctuary in the north (the orange dashed line in the figure above). This area would be off-limits for anchoring, but available for all other activities allowed in Richardson’s Bay (e.g., sailing, motoring, kayaking, etc.).

By using existing boundaries (Audubon Sanctuary) and existing channel markers (Day Marker Four), and creating one clear Eelgrass Protection Zone/No Anchoring Area, this proposal is consistent with stakeholder feedback requesting fewer, simpler zones as compared to the draft zones described in the Transition Plan. This proposal is also consistent with the CEMP’s no-net-

loss policy as described in the Regulatory/Policy Context above, as well as eelgrass-protection policies in other relevant guiding documents.

This proposal would prohibit only anchoring from occurring northwest of the boundary line. All other activities currently supported in Richardson's Bay (kayaking, sailing, motoring, fishing, etc.) would be unaffected by the proposed changes. In fact, it is likely that the removal of anchored vessels from this area would support expanded recreational uses by opening space that would otherwise be occupied by vessels. This proposal has no foreseen consequences on local marinas and does not change regulations affecting their operations.

As RBRA regulations currently stand, there is an official "Anchorage Area" in Marin County waters where boats are permitted to anchor for up to 72 hours (shown as the salmon-colored rectangle in Figures 9 and 10, which approximates jurisdictional boundaries between the Marin County Anchorage Area and the City of Belvedere waters to the northeast). The proposed "Eelgrass Protection Zone/No Anchoring Area" would reduce the size of the official RBRA Anchorage Area by approximately two-thirds. The Protection Zone would also include (and, therefore, prohibit anchoring in) approximately one third of the Richardson's Bay waters within the City of Belvedere's jurisdiction. City of Belvedere waters outside of the Protection Zone would retain time limits according to Belvedere regulations (currently 10 hours).

In making these changes to areas available for anchoring in Richardson's Bay, it would limit the number of boats the anchorage could support at any one time. However, the following factors were taken into consideration when developing this proposal:

- The proposed "Eelgrass Protection Zone/No Anchoring Area" aligns closely with the five foot mean lower-low water (MLLW) contour in Richardson's Bay, meaning most of the area is five feet deep or less during low tide. Many cruising/visiting vessels, especially sailboats with keels, are unlikely to choose to anchor in such shallow water.
- The majority of vessels currently enrolled in RBRA's Safe and Seaworth Program are located outside of this proposed "Eelgrass Protection Zone/No Anchoring Area".
- Boats currently anchored in Richardson's Bay could be anchored more closely together than is seen under current conditions, so the functional carrying capacity of the official Anchorage Area is likely to still meet demand for a 72-hour anchorage.

An alternative boundary for the "Eelgrass Protection Zone/No Anchoring Area" was considered (Figure 10), which followed the six-foot contour shown on the nautical navigation chart for the area, shown below as "Proposed Boundary B".

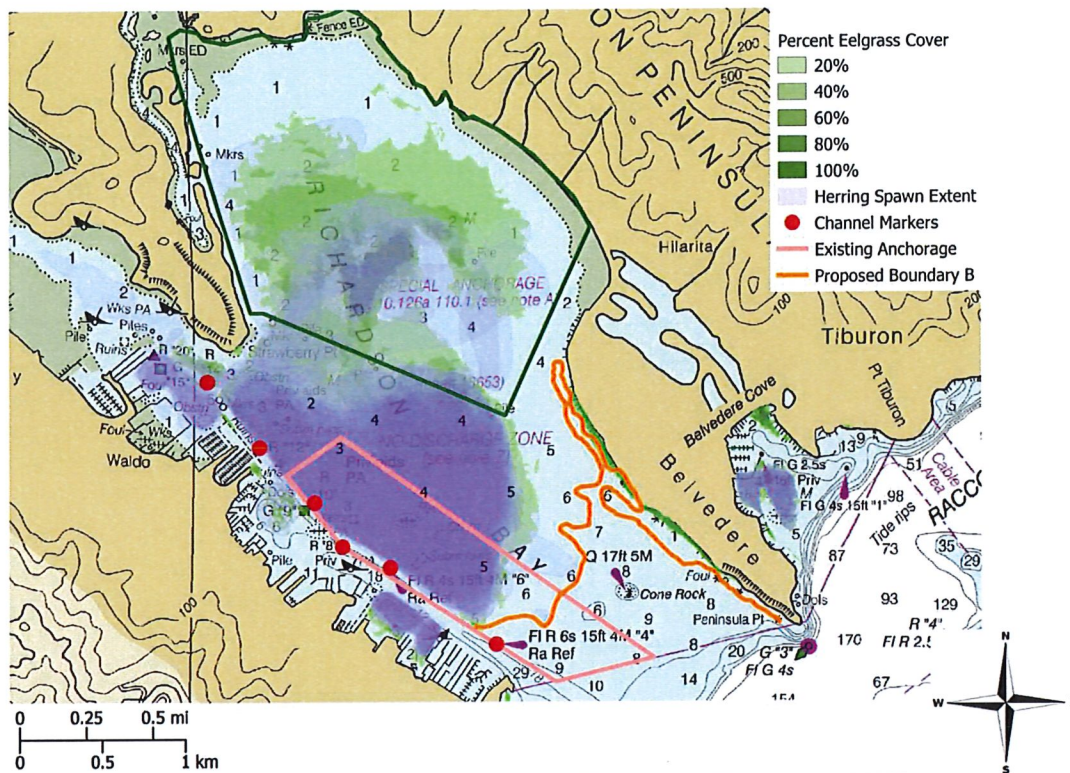


Figure 10- Eelgrass Protection Zone/No Anchoring Area (Proposed Boundary B - Rejected)

An alternate boundary for the Eelgrass Protection Zone/No Anchoring Area that followed the existing six-foot navigational contour was considered, depicted as the orange line in the image above. While this boundary more fully protected the full extent of eelgrass in Richardson's Bay, with room for bed expansion, the enforcement of such a boundary was deemed infeasible and it provided too little area for anchoring.

While Proposed Boundary B had the benefit of aligning with an existing contour on the nautical chart, explicitly protecting eelgrass in the deeper water off of the City of Belvedere, and provided area for potential eelgrass bed expansion, the logistics of conveying the zone boundaries to visiting vessels was determined to be infeasible. Additionally, it would provide even less area for anchoring as compared with Proposed Boundary A. Therefore, Proposed Boundary B is NOT being proposed for implementation.

## 2. Monitoring and adaptive management

The following monitoring and adaptive management actions are proposed, pending the availability of funding:

- Annual monitoring – Aerial (UAV or similar) photography and GIS analysis of the anchorage area to quantify anchor scour damage and/or recovery of eelgrass for ten years or until at least 80% of the damage has been recovered (whichever occurs later). After 80% recovery, discontinue annual aerial photography monitoring.

- Tri-annual (every three years) monitoring – Bathymetric mapping of Richardson’s Bay using sidescan sonar or equivalent technology to document eelgrass density and spatial extent of the bed, to be continued until the damage from anchor scour is been at least 80% recovered. After 80% recovery, decrease to mapping once every five years as part of an ongoing monitoring program.
- Water quality monitoring – Continue working with the Regional Water Quality Control Board to conduct at least twice-yearly water quality testing and reporting.
- Five year adaptive management review – Every five years, compare changes in the eelgrass bed with the area of the “Eelgrass Protection Zone/No Anchoring Area”. Consider amending the Protection Zone if it no longer serves the intended needs. For example, if eelgrass has migrated northward in the Bay (which may occur with sea level rise) and the deeper portions of the Protection Zone no longer contain eelgrass, consider shifting the Protection Zone accordingly and increasing areas open for anchoring. Alternatively, if the bed has expanded and the Protection Zone no longer encompasses at least 90% of the eelgrass bed, consider expanding the Protection Zone and reducing anchoring area accordingly.

### 3. Possible future mooring program

Nothing proposed in this EPMP should be considered as inconsistent with the potential future implementation of a mooring program for Richardson’s Bay, consistent with visiting time limits in the anchorage and in consideration of the results from the 2019 Ecologically-based Mooring Feasibility Study. In fact, transitioning to a mooring program for Richardson’s Bay would accomplish several beneficial objectives: this would allow a higher density of boaters to use the anchorage, thereby expanding recreational access to the Bay. It would enhance public safety by further reducing the instances of vessels going adrift. A mooring program could be a revenue-generating enterprise for the jurisdiction overseeing its operations. Finally, a mooring program would further protect the bayfloor from the impacts of anchor scour. Though no monitoring program is proposed here, it is encouraged for future consideration.

### Acknowledgements

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- [To be included in final EPMP]