

RICHARDSON'S BAY REGIONAL AGENCY

Board of Directors Meeting Agenda

Thursday, November 14, 2019

5:30 P.M.

Tiburon Town Hall, 1505 Tiburon Boulevard, Tiburon, CA

The RBRA Board of Directors encourages a respectful dialogue that supports freedom of speech and values diversity of opinion. The Board, staff and the public are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create a respectful atmosphere by not booing, whistling or clapping; by adhering to speaking time limits; and by silencing your phone.

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

5:30 PM CALL TO ORDER - ROLL CALL

1. Consent Agenda. The Consent Agenda reflects those agenda items that have 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 September 12, 2019 and November 4, 2019.
 - b. Approve Resolution No. 10-19 establishing contracting authority for the Executive Director
2. Information Item: Community Outreach Subcommittee report and presentation on Community Efforts
3. Follow-up to the Mooring Feasibility & Planning Study and adoption of modified vessel requirements and enforcement priorities. Staff recommendation: Initiate the establishment of a) an overall vision or plan for the anchorage; and b) direction on pursuing a mooring program and implementing adopted vessel requirements and enforcement priorities.
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 updates b) Board Member matters
6. Adjourn.

AN AGENDA PACKET IS AVAILABLE AT THE SAUSALITO LIBRARY AND THE RBRA WEBSITE <http://rbra.ca.gov>, WHERE WRITTEN COMMENTS MAY BE SENT. TO RECEIVE AN ELECTRONIC MEETING NOTICE, PLEASE EMAIL REQUEST TO DON ALLEE AT dallee@marincounty.org

RICHARDSON'S BAY REGIONAL AGENCY

DRAFT MINUTES OF SEPTEMBER 12, 2019

HELD AT TIBURON TOWN HALL COUNCIL CHAMBERS

MEMBERS PRESENT: Jim Wickham, Chair (Mill Valley); Marty Winter (Belvedere); Kathrin Sears (Marin County)

NOT PRESENT: Jim Fraser (Tiburon), excused

STAFF: Beth Pollard, (Executive Director); Curtis Havel (Interim Harbormaster)

Meeting called to order at 5:15 p.m.

Adjourn to closed session for conference with legal counsel regarding anticipated litigation pursuant to California Government Code Section 54956.9(d)(2). Number of potential cases: One.

Open session convened at 5:34 p.m.

Announcement from Closed Session.

No action to report.

Consent Agenda.

- a. Approve minutes of July 11, 2019
- b. Approve Resolutions accepting receipt of revenue from other agencies, and authorizing associated increases in revenue and expense appropriations in RBRA's fiscal year 2019-20 budget, as follows:
 - (i) Resolution No. 05-19 authorizing an increase of \$100,000 for mooring study, carried over from fiscal year 2018-19;
 - (ii) Resolution No. 06-19 authorizing receipt and expenditure of \$21,000 in revenue from Belvedere, Sausalito, and Tiburon for 2019 bathymetric and eelgrass surveys;
 - (iii) Resolution No. 07-19 authorizing receipt and expenditure of \$15,000 from the County of Marin to coordinate outreach services;
 - (iv) Resolution No. 08-19 authorizing receipt and expenditure of \$150,000 from the National Oceanic and Atmospheric Administration (NOAA)'s Marine Debris Removal Grant Program.

M/s, Sears/Winter, to approve the Consent Agenda. Motion passed unanimously.

Information Item: Community Outreach Subcommittee report and presentation on Community Efforts

No report.

Information item: Mooring Feasibility & Planning Study. Staff recommendation.

Executive Director Pollard reported that the purpose of the item was to receive a presentation from Keith Merkel, Merkel & Associates, on the findings and recommendations from the study commissioned by RBRA. A written report will be received at a later date.

Mr. Merkel made a power point presentation accompanied by verbal explanation with data, information, analysis and conclusions covering a range of topics including: study approach and methodology; eelgrass and bathymetry data from a Spring 2019 survey and prior surveys/data; eelgrass damage from anchor chain and vessel keels; wave conditions; avoidance model mooring locations; and conservation mooring

use, per attached power point slides. He solicited questions from those present so as to address those issues in his final report, which included:

Lewis Tenwinkle asked if the two-anchor system is best for the present time, did he take into consideration rising tides six years from now, and commented about the mooring equipment and boats being in water depth appropriate to their draft. Merkel said that the water depth at the demarcation between the eelgrass areas and Zones 1 and 2 was about six feet, which is the standard depth that is generally needed.

Gretchen Lang asked the distance of Avoidance Model Zones 1 and 2 from the Belvedere shore; Merkel said there was an arc to it but that it was 600 feet at the closest point.

Kevin Keifer asked about locating any sewage discharge pumps and why the Audubon Sanctuary was exempt from consideration.

Greg Baker commented that the dredging did not stop when the shipyards closed down, it was much later.

Kelly Darling asked on behalf of the Special Anchorage Association to present a compromise approach that would work with Merkel's ideas over the next five to ten years to get vessels away from eelgrass impacts.

Anne Libbin asked about eelgrass impacts on the bay floor from the pump out boat servicing moored vessels. Merkel said that the majority of eelgrass damage is from large vessels, including those that sit on the bottom, chase loose boats in insufficient depth or are other emergency response, salvage or pump out boats in insufficient water depth for their draft.

Open time for public expression.

Kelly Darling, representing the Special Anchorage Association, requested to present ideas

Greg Baker described an incident of a boat being taken from the Army Corps dock; and another incident where he assisted the Fire Department in locating someone on the anchorage in need of emergency services

Kevin Keifer said he does not respect the authority of the RBRA, and that the Audubon Sanctuary is not recognized in official documents of BCDC and the State of California.

Rev. Paul Mowry, Sausalito Presbyterian Church, thanked all those involved for their commitment, persistence and patience, holding up those for whom the system often seems loaded against them and that others think they know better than them, expressing disappointment and shock about the BCDC Enforcement Committee's reaction to RBRA this morning, and encouraging everyone to love their neighbor.

Comments/reports

None

Adjournment

The meeting was adjourned at 7:00 pm.

RICHARDSON'S BAY REGIONAL AGENCY

DRAFT MINUTES OF NOVEMBER 4, 2019

Special Meeting

HELD AT MILL VALLEY CITY HALL COUNCIL CHAMBERS

MEMBERS PRESENT: Jim Wickham, Chair (Mill Valley); Marty Winter (Belvedere);
Kathrin Sears (Marin County)

MEMBERS ABSENT: (None; Tiburon seat vacant)

STAFF: Beth Pollard, Executive Director

The meeting was called to order at 5:30 p.m.

Resolution No. 09-19 declaring a local emergency for Richardson's Bay, due to wind events commencing October 27, 2019.

M/s, Sears/Winter, to approve Resolution No. 09-19. Motion passed unanimously.

Adjournment

The meeting was adjourned at 5:33 p.m.

RICHARDSON'S BAY REGIONAL AGENCY

STAFF REPORT

For the meeting of: November 14, 2019

To: RBRA Board

From: Beth Pollard, Executive Director

Subject: Resolution No. 10-19 establishing expenditure limits of the Executive Director

STAFF RECOMMENDATION:

Approve Resolution No. 10-19.

BACKGROUND/DISCUSSION:

The RBRA does not have a policy adopted by the Board of Directors setting contract expenditure authority for its Executive Director. Such policy for staff is common in the member agencies of RBRA and other local governments to enable operations to run efficiently within established parameters.

The proposed policy would allow the Executive Director to execute contracts for up to \$30,000 for goods and services within the funds authorized by the Board in the adopted budget. This level of expenditure is within the limits established by member agency legislative bodies.

FINANCIAL IMPACT:

Adoption of the policy would have no impact on the Board's adopted budget. It enables operations to be implemented in accordance with the budget.

Attach:

Draft Resolution No. 10-19

RICHARDSON'S BAY REGIONAL AGENCY

RESOLUTION NO. 10-19

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE RICHARDSON'S BAY REGIONAL AGENCY ESTABLISHING A \$30,000 SIGNATURE AUTHORITY LEVEL FOR THE EXECUTIVE DIRECTOR TO CONDUCT TIMELY BUSINESS FOR THE JOINT POWERS AGENCY

WHEREAS, the Richardson' Bay Regional Agency ("Agency") was established to maintain and improve the navigational waterways, open waters, and shoreline of Richardson's Bay; and

WHEREAS, Section 18 of the Joint Powers Agreement authorizes the Agency to make and enter into contracts; and

WHEREAS, professional services contracts and purchase orders require approval from the Board of Directors and delegation of signature authority to the Executive Director or designee; and

WHEREAS, the Board of Directors believes that a \$30,000 or less signature authority to the Executive Director for Professional Services Contracts and Purchase Orders is prudent and allows for timely conduct of Agency business where such contracts relate to purposes previously approved and budgeted by the Governing Board; and

WHEREAS, a \$30,000 signature authority for the Executive Director for Professional Services Contracts is within the range of authorization contained in the contracting policies of the member agencies of the Agency,

NOW, THEREFORE, BE IT RESOLVED that the Executive Director of the Agency is authorized to enter into and execute on behalf of the Agency any contract for professional services up \$30,000, which relate to purposes previously approved and budgeted by the governing board.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Richardson's Bay Regional Agency held this 14th day of November, 2019, by the following vote:

AYES:

NOES:

ABSENT:

Comments – RBRA public meeting – October 10, 2019

The Richardson’s Bay Regional Agency conducted a public work session, in lieu of a regular meeting of the Board of Directors, for public review and comment on the mooring study, a presentation from the Special Anchorage Association’s ideas for a compromise mooring solution, and information on vessel requirements, responsibilities and enforcement.

Executive Director Beth Pollard reviewed information from the Mooring Study presentation of September 12, 2019 from Merkel & Associates.

Kelly Darling, representing the Special Anchorage Association, presented its proposal to: Locate vessels along the margin of the channel towards the center of the anchorage. These vessels would serve as safety and assistance for visiting vessels. Grants would be sought for funds to offset any impacts to eelgrass to help protect and preserve eelgrass there and elsewhere in the anchorage. She said persons at the Division of Boating & Waterways were excited about it, and that it would take some work to explore and submit grant proposals. Rebecca Schwartz-Lesberg, Audubon California, said she was hoping to see eelgrass restored and expanded in addition to protecting existing eelgrass beds, and that there was a lot to work out. She pointed to Newport Bay as a place that has been working on the issues of conflicts between vessels and eelgrass.

Lewis Tenwinkle said that the ground tackle most appropriate to protect eelgrass should be utilized, whether it was the conservation moorings, two-point anchoring system, or other. He thought 75 moorings would be about right. He noted that Angel Island is using screw moorings. He suggested experimenting with the conservation mooring to learn about its feasibility for this bay.

Interim Harbormaster Curtis Havel distributed and reviewed a new handout containing information on vessel responsibilities and requirements, and explained his work on the Board’s enforcement priorities.

Greg Baker distributed a flyer with information about preparing vessels for winter.

General comments received on flip-chart paper from those present:

- Please address impacts to the other natural resource values identified in the RB Special Area Plan; Now that you have narrowed the field regarding impacts on eelgrass, make sure the area identified aren’t of environmental concern with regard to the other ecosystems and values (there are many listed)
- How ill mooring field as floating fill?
- How will shade impact?
- How many boats are you planning for? 75?
- Have you overlaid the areas 1 & 2 with the need for mariner experience?

- Must see studies of best practices of successful mooring fields
- Recommend ONLY mooring balls, no individual ground tackle
- Maximum of 30-50 allowed balls/vessels
- Place all moorings in Areas 1 & 2, outside all eelgrass beds (Really like Ecological Impact Avoidance Model)
- Rental of balls: Procedure for non-payment/non-compliance
- Maintenance of balls: Include in cost estimates
- Choosing tenants: Longevity/priority?/Lottery/Cruisers/Special balls
- Attrition/empty balls: Waiting list?/Lottery/Not replace tenant?
- No rafting up: One skiff or kayak/maximum length less than 17 feet
- Illegal activity: Grounds for eviction?
- Vessels must be occupied
- Shore access – distance/waves
- Pump-out: Monitor & certify compliance
- No subletting of balls: Different vessel or tenant/family/friends
- Death of tenant? What happens to lease?
- Enforcement for continued anchorouts/non-compliant

RICHARDSON'S BAY REGIONAL AGENCY
STAFF REPORT

For the meeting of: November 14, 2019

To: RBRA Board of Directors
From: Beth Pollard, Executive Director
Subject: Follow-up to the Mooring Feasibility & Planning Study and adoption of modified vessel requirements and enforcement priorities

STAFF RECOMMENDATION:

Initiate the establishment of:

- a) An overall vision or plan for the anchorage; and
- b) Direction on pursuing a mooring program and implementing adopted vessel requirements and enforcement priorities.

BACKGROUND:

On April, 5 2018, the Richardson's Bay Regional Agency Board of Directors (Board) considered a range of options to direct the agency towards the goal of a safe, healthy and well-managed bay. The direction of the Board was to modify requirements for vessels in Richardson's Bay, with the range of potential requirements including vessels being registered, attached to a secure mooring rather than being anchored, seaworthy, free of debris, and compliant with waste management regulations.

In pursuit of that option, the Board has:

1. Conducted a Mooring Feasibility & Planning Study by ecologist Keith Merkel & Associates to advise the component of the direction to require secure mooring rather than anchoring of vessels.
2. Adopted Ordinance No. 19-1 updating vessel requirements to more specifically define and require registration, seaworthiness, operability, and waste management practices.

The Board also has expanded its enforcement priorities, through adoption of Resolution No. 10-18 and Resolution No. 03-19, to also include unattended and unoccupied vessels and time limits on new vessels entering Richardson's Bay.

It is also worth noting that there is elevated attention and interest by the Bay Conservation & Development Commission (BCDC), through its Enforcement Committee, for Richardson's Bay to become compliant with the San Francisco Bay Plan - most notably by RBRA enforcing time limits that prevent ongoing residential use of the bay.

DISCUSSION:

With the completion of the mooring feasibility & planning study and the adoption of the ordinance modifying vessel requirements, the Board is at an inflection point in establishing further and/or alternative direction. Such action encompasses:

- Whether to pursue a mooring program, and if so, its elements, purpose, and use;
- The timing or other circumstances for enforcement of vessel requirements on occupied vessels in the anchorage; and
- Resource support for enforcement priorities.

To inform components of the Board direction, it would be useful to establish an ultimate Board vision or plan for the anchorage. The establishment of a vision or plan would proactively inform interested parties about expectations and desired outcomes. Presently, RBRA has the goal of a safe, healthy, and well-managed bay. Now that the Board has information about some factors to consider in placement of moorings, has established expectations for the condition and other requirements of vessels on the bay, and has ventured further into enforcement action to minimize the number of vessels, it is timely for the Board to begin to identify the overall context for the Agency's goal of a safe, healthy, and well-managed or to revise that goal.

Some questions to consider in developing a vision or plan include:

- What is the desired magnitude of eelgrass protection and preservation?
- What is the role of RBRA in taking proactive steps to minimize vessels that anchor on the bay from breaking loose/running adrift?
- How do anchor outs/occupied vessels factor into the overall vision or plan? (Recognizing that such use is incongruent with adopted state and local regulations)
- To what extent does RBRA wish to accommodate and regulate the location of transient vessels/cruisers?
- What access will persons on vessels in RBRA waters have to the shore, facilities, goods, and services?
- To what extent will the anchorage be financially self-supporting or subsidized? How actively will the anchorage be managed?

To further inform the overall vision and begin establishing direction on its components, attached is a summary of information and variables from the Mooring Feasibility & Planning Study, vessel requirements from the adopted ordinance, and implementation of enforcement priorities. Key policy items are:

- Whether and/or to what extent to pursue a mooring program; and if so, for what purpose and related features
- Timing/circumstances for applying vessel requirements to occupied vessels
- Supporting additional resources to accomplish enforcement priorities

FINANCIAL IMPACT:

Mooring Program: The cost to implement and maintain a mooring program varies greatly depending on its size and scale, mooring equipment, impact mitigations, and other elements. Grant funds would be sought for installation of the moorings themselves. Other resources and staff time would be needed for planning and permitting processes including seeking regulatory and/or legislative authority; effecting the transition of vessels to moorings and/or to conformance with time limits; establishing a registration, inspection, and maintenance system; and related measures in addition to ongoing management.

Carrying out vessel requirements for occupied vessels: For RBRA, there would be additional staff time and expenses for notification and other communication with vessel owners or occupants, and abatement. For vessel owners/occupants, there are costs to improve vessel conditions that will present challenges to low-income anchor outs. There is staff time and public costs to the consequences of vessels that are unable to withstand weather/bay conditions.

Implementing enforcement priorities: Successfully accomplishing the Board's enforcement priorities requires additional resources for:

- Vessel abatement beyond the capacity of the state and federal funds granted to RBRA. The Agency is projecting to receive approximately \$200,000 from the State Division of Boating & Waterways Surrendered Vessel Exchange Program (SAVE) and \$150,000 from the National Oceanic & Atmospheric Administration's Marine Debris Removal Program. It is not a precise science to predict the Agency's costs because of the uncertain variables; abatement costs vary widely depending on the size and type of vessel, and necessity for raising and/or towing it, storage, and demolition. Staff will seek additional support from SAVE, BCDC's Bay Fill Clean-up and Abatement Fund, and any other possibilities. However, the Board should be aware there are capacity limitations and financial risks to the abatement costs of enforcement priorities.
- Assistance with patrol, database maintenance, administrative support, and enforcement. An immediate RBRA step that staff can take is requesting of NOAA repurposing of \$9,500 for personnel costs in the marine debris removal grant, and allocating with the required match of \$9,500 from the \$25,000 contingency added to RBRA's 2019-20 budget, in order to fund assistance.

NEXT STEPS:

The Board may wish to indicate any additional information needed to establish a vision or plan and direction, and additional time to review the mooring study document.

With adoption of an overall vision and direction on key components of the vision, staff can bring back options, steps, opportunities, and challenges in achieving that vision and implementing the direction.

Attach:

Summary: Mooring program, vessel requirements, and enforcement

Mooring Feasibility & Planning Study summary

Mooring Study (Under separate cover/posted on rbra.ca.gov, upon availability)

Richardson's Bay Regional Agency
Next Direction Issues

Mooring Program

Components:

The Mooring Feasibility & Planning study by Merkel & Associates (summary attached) makes findings and recommendations about placement of moorings in the bay in a manner that minimizes conflict with bay ecology resources. The report reflects study and analysis of bay conditions to advise about mooring locations, equipment/technique, and related considerations.

Location

A significant feature of the study is the analysis of ecological impact factors informing the location of moorings. The study utilizes a Spring 2019 eelgrass survey, and earlier surveys, to illustrate location, density, and frequency of eelgrass. It also contains avoidance modeling not only for eelgrass but also water use, waves, distance, and bathymetry elements - with the latter utilizing data from a 2019 bathymetry survey.

With respect to eelgrass, the study shows that prior, current, and potential eelgrass habitat exists in the majority of Richardson's Bay, due to its attractive depth, salinity, and lack of significant turbidity. The growth of eelgrass is most compromised by two factors: Anchor chain laying on the bay floor and dragging with vessel movement; and vessel keels dragging on the bay floor when the vessel is in motion at anchor or moving through the anchorage at low tide in locations not suited for the vessel's draft.

The study identifies five zones that have the greatest avoidance of conflict with eelgrass, water use, waves, distance and bathymetry, two of which (Zones # 1 and #2) are in RBRA's jurisdiction. Two of the other zones are in Sausalito waters and one is in Belvedere Cove. Data modeled in the study showed that currently and historically, the majority of vessels anchored or moored in the bay are outside these five areas, with more vessels gravitating to the center of the anchorage over time.

Merkel advised that all seaworthy vessels could be moored in Zones #1 and #2; however, the smaller and/or less seaworthy the vessel, the rougher the conditions. A location closer to the shore, such as shown in Zone #5 off Marinship, would be more well-suited for more vulnerable vessels. Currently, Zones #1 and #2 tend to be used by cruisers/visiting vessels.

Zones #1 and #2 are further from the primary shore access now being used in Sausalito, raising safety concerns for accessing the shore on a non-motorized skiff in inclement weather or by persons with compromised physical ability.

In reaction to the study, comments about location received to date include:

1. Strong concern from Belvedere residents, notably those on West Shore Avenue, about the proximity of Zones #1 and #2 to its shoreline; the docks associated with their houses are especially in harm's way during inclement weather.
2. A proposal from the Special Anchorage Association to allow some vessels to moor nearer the center of the anchorage and closer to the channel ; such vessels would be strategically placed to enable seasoned bay mariners to provide assistance to other/visiting vessels, and grant funds would be sought to support eelgrass restoration efforts as an offset to impacts.

Equipment/technique

Eelgrass

The Merkel study recommended the use of what are known as "Conservation Moorings" for the greatest protection against conflict with eelgrass. The typical configuration of such a mooring utilizes a helical anchoring screw or equivalent attached to an underwater buoy that connects to an elasticized anchor line/rode leading to a mooring buoy and pendant line and float; however, alternatives to a helical anchoring screw can be employed. Its benefits are eliminating ground tackle scour impacts; improved rode and pendant elasticity; and reduced potential for cleat pull-out. It also has a smaller radii – allowing for tighter packing ratios; and lower maintenance costs than other types. Its drawbacks are that it is not necessarily ideal for all bay floor conditions, there is less familiarity with it, and it has a higher initial capital cost.

In his presentation, Keith Merkel noted that the two-point - or twin-point - anchoring system, which is being utilized by some vessels on the bay, is significantly less impactful on eelgrass than a one-point anchoring system. In the two-point system, two lines from the anchor are connected to a float, which connects with the vessel. It results in less vessel rotation and disturbance to eelgrass beds, although not to the full extent of a conservation mooring.

The Agency is not limited to using only one mooring type for all locations it may wish to pursue. Some concern has been expressed by those on the bay about the extent to which the conservation mooring is well-suited for all areas potentially under consideration.

Safety

In addition to eelgrass, benthic, and related ecological considerations for moorings, safety benefit is another key factor in the Board exploring moorings as an alternative.

The present system of vessels anchoring in the bay means their occupants utilize their own anchor, line/chain, and related equipment that they carry on board, and deploy it within the limits of the mariner skill and knowledge they personally have or obtain on their own from others. The security of the equipment must be consistently checked, especially in advance of storms. It is common for anchoring to be insufficient to the task due to poor equipment/lines or placement, causing vessels to break loose. Vessels adrift threaten vessels and their

occupants (themselves and others), shoreline properties – notably West Shore Avenue and Sausalito marinas, and the environment of the bay when they get damaged or sink.

Requiring vessels to attach to designated moorings that are of the type suitable for the location and the particular vessel, are certified to be installed to regulated standards and are regularly inspected and maintained does not just control their location, it controls the security of the vessel against creating hazardous conditions on the bay. The importance of appropriate and secure mooring or anchoring cannot be understated for the safety of the anchorage – especially in light of recent wind events.

Capacity and accessing the shore

The Merkel study indicates that the bay can accommodate the existing number of vessels from a marine ecology standpoint. However, there are other factors that enter into the overall capacity of the anchorage for moorings such as the final dimensions of the permitted mooring area(s), size/type of vessels being moored, management approach, and finances. Not within the scope of work for the Merkel study was the financial feasibility for Agency ownership, inspection, maintenance, and management of moorings, which could impact decisions on numbers to pursue. If the Board were to pursue a mooring program, staff would conduct financial modeling for the projected installation, management, and maintenance costs. This analysis would inform the fiscal advantages and disadvantages of fewer or more moorings, and potential fee schedules. Funding could be sought for placement of moorings.

Another issue informing capacity is shore access and associated facilities and services. The study scope included addressing any ecological factors that affect how transit occurs from vessels to shore. The study noted eelgrass and other impacts of gouging in the bay floor from vessel keels in low tide or shallow conditions, but this would not be typical from the skiffs used to access the shore from moored vessels.

Presently the Turney Street pier and Galilee dingy dock in Sausalito shoreline are the primary shoreline access points utilized by persons on vessels anchored in the bay. Concern has been expressed by marina operators, Sausalito officials, and others about the seemingly increasing number of anchor outs using these access points who participate in disruptive and potentially illegal behavior. Consequently, and/or for other reasons, there has been decreasing interest in providing tie-up space for shore access.

Currently there is no general public shore access for vessels on the bay other than in Sausalito. Sausalito officials have urged RBRA to look elsewhere for shore access for vessels in RBRA waters, such as the unincorporated County area north of the Sausalito boundary (such as Gates 5/6), and Belvedere and Tiburon. In Belvedere and Tiburon, the San Francisco Yacht Club and Corinthian Yacht Club offer some short-term accommodations for certain cruisers/transient vessels, and Sam's Anchor Café has dock space for patrons, but there are no other public or private tie-up facilities. The shore area in Mill Valley is too shallow. As Merkel has noted, the northern area of the bay has the challenge of being shallow; it is also a fair distance from Zones #1 and #2, if those were chosen as mooring sites. Additionally, there is not a publicly owned

area to designate for such use. Belvedere and Tiburon have similar ownership challenges to providing shore access in their jurisdictions.

If the Board were to pursue a mooring program, considerations for capacity and shore access would need to be given to:

1. The feasibility of any alternative shore access locations other than Sausalito. As representatives of other jurisdictions, Board members may have insight into such viability.
2. Shore impacts from moored vessels using Sausalito as their point of access. Some impacts are considered positive (e.g. dollars spent on goods and services on shore, cultural diversity, upholding local mariner tradition), while others are viewed with concern (tie-up space, conflicts on shore from or between moored individuals; public safety response on or off the bay; need for showers and restrooms/waste management). An analysis of impacts would be needed to inform capacity, mitigating measures and/or discussions with Sausalito for moored vessels in RBRA waters using Sausalito for shore access and related facilities and services.

Mooring program directional step options:

Among the potential options for direction and steps related to moorings, and a preliminary summary of pros and cons are:

1. Decline to pursue a mooring program. Options could include:
 - a. Continue enforcement priorities as they current exist, towards the goal of removing all except occupied vessels that were on the anchorage at the time of the August 2019 survey.
 - b. Add occupied vessels that are in marine debris condition to the enforcement priorities.
 - c. Add vessel requirements under Ordinance 19-1 to enforcement priorities.
 - d. Enforce time limits on all vessels.

Pros: No resource allocation to develop and establish a mooring program; could move towards congruence between regulations and practices.

Cons: Vessels anchoring in the bay will use their own ground tackle/equipment, which may not be adequate or appropriately placed to prevent vessels from breaking loose; lacks obvious parameters for locating vessels outside eelgrass habitat, thereby potentially the continuation of eelgrass damage; lacks obvious parameters for number of authorized vessels; a less organized system for registration/permits and fee collection; enforcement against “legacy anchor outs” will have logistical and resource challenges depending on its scope.

2. Pursue a “pilot project” mooring program:
 - a. Apply to BCDC for a modest number of moorings in specified locations for a trial period. BCDC previously approved five RBRA moorings in Sausalito waters, but they were removed in 2018 after Sausalito withdrew from RBRA.
 - b. Seek outside funding to install and monitor marine ecology advantages and disadvantages of mooring equipment and various locations.
 - c. Evaluate the opportunities and challenges from a mooring program to inform whether to move forward with proposing a longer-term and more expansive program; and if so, the elements of such a program (location, number, equipment, shore impact mitigation, and other requirements)

Pros: Allows agencies to analyze and evaluate pros, cons, and features/requirements in establishing a mooring program; informs best practices for protecting eelgrass with implications for San Francisco Bay and beyond; informs best practices to prevent vessels from breaking loose/drifted, registering and monitoring vessels, and inspecting and maintaining mooring equipment; provides analysis on advantages and disadvantages of various locations; evaluation of the existence/extent of impacts that may require mitigation; lower capital cost investment means greater funding feasibility; less upfront analysis and evaluation with more limited scope; greater likelihood of permitting agency success than a larger program.

Cons: Requires staff and/or other resources to develop, seek funding and implement project; requires funding to implement; need to determine location, number, and type of equipment; decisions on eligibility/assignment for vessel use of pilot moorings; does not address the vessels that will not be on moorings and will require continued management and enforcement; and program management.

3. Pursue a comprehensive mooring program:
 - a. Develop a proposal to establish location(s), number, type, eligibility for use, and other conditions and requirements for a mooring program.
 - b. If proposal is adopted/approved, develop an operations system and fiscal plan for management, registration, inspection, and enforcement.
 - c. Seek outside funding for installation.

Pros: Establishes a long-term framework for improving the health, safety, and management of the bay; framework would likely address all of the vessels – whether allowed or not allowed to moor; clearly designates how many vessels can be on the bay and in what location; if only permitted vessels on permitted moorings are allowed to stay beyond a designated time limit, it clearly distinguishes what vessels are allowed and what are not allowed; use of authorized mooring equipment only would afford greater protection against vessels breaking loose; allowing vessels to stay only on designated moorings and in mooring locations designed with eelgrass habitat in mind would afford greater protection for eelgrass growth.

Cons: Resource investment in designing program, analyzing and evaluating impacts and any necessary mitigations; investment effort in pursuing uncertain BCDC permission and/or state legislative support; obtaining funding to install moorings; decisions on who/what vessels are allowed to be on moorings, in what location, what number, type of moorings and layout of mooring area(s) for mix of vessel sizes; funding and ongoing program management (registration, fees, vessel and mooring inspections, etc.); designation of restrooms and waste management facilities.

4. Establish eelgrass-protection zones

- a. Establish a limited time for anchoring (e.g. 10 hours like Belvedere & Sausalito) in high priority eelgrass zones
- b. Establish a no-anchoring regulation in priority-designated zones for eelgrass protection
- c. Require two-point only anchoring in protected zones unless combined with a mooring program approach

Pros: Protects the growth of eelgrass, which is a significant concern among Audubon and other organizations; helps balance whatever other anchoring/mooring activity that may be occurring elsewhere in the bay.

Cons: Sanctioning from U.S. Coast Guard, most notably for any no-anchoring restriction; resource investment in patrol, communication, notification and enforcement of zone rules; intensifies anchoring activity to limited areas, which could be more difficult to manage in the absence of designated moorings

Vessel Requirements

With adoption of Ordinance No. 19-1, the Board clarified and refined the requirements for vessels anchored on the bay; most notably the ordinance defines and requires vessel seaworthiness and operability. These requirements are being applied to permit requests from incoming vessels seeking to stay more than 72 hours.

A question remaining for Board direction is the timing and circumstances for applying the seaworthiness and operability requirements to occupied vessels. Occupied vessels that are not seaworthy and/or operable can be hazardous to those on the vessels as well as other vessels, their occupants, and shoreline properties - particularly in inclement weather. The extent of hazard depends on the skill, knowledge and ability of the vessel occupant, and the scale of the vessel's unseaworthiness and inoperability.

There are some vessel occupants who, individually or through the Special Anchorage Association, offer assistance to others to improve and better prepare their vessels for inclement weather, and/or attempt to rescue vessels during storms. In fact, members of the Special Anchorage Association have proposed that over the long term, experienced anchor outs be situated in strategic locations on the anchorage to assist transient vessels unfamiliar with Richardson's Bay.

With vessel ownership and use comes responsibility for maintaining it to safe and healthy conditions for themselves, others, and the environment. In inclement weather, the knowledgeable and responsible mariner will ensure their vessel is secure or relocate to a safe spot elsewhere. Lack of operability or other compromised condition can minimize the ability to complete this action.

Vessel owners/occupants on Richardson's Bay have varying financial wherewithal (and interest) in achieving conformance with the vessel requirements. For those with limited means and alternatives, meeting the requirements will be economically challenging. RBRA Board Members have indicated support for the Special Anchorage Association's efforts to help improve the safety and conditions of vessels on the bay. The Association is a 501c(3) non-profit organization able to accept contributions to support this work.

A pending policy question for the Board is at what juncture to go beyond encouraging voluntarily compliance from occupied vessels and enforce such compliance. Key components of the enforcement challenge are those circumstances where the occupant is unable or unwilling to pay for vessel upgrade, the consequence of non-compliance, and alternative arrangements.

The City of Sausalito is pursuing a "Safe Harbor" program to place occupied vessels into marina slips, subsidized by funds from grants and the City's Tidelands account. RBRA does not have a known source of revenue to establish a similar program; nevertheless, it will be useful to learn from this approach and whether BCDC approves Sausalito's proposal to expand the percentage of liveboards in marinas from 10 percent to 15 percent.

A policy issue related to vessel condition is whether imposing time limits on new vessels in the bay applies to the vessel itself or the individual on the vessel. Staff anticipates circumstances where persons on the anchorage are able to acquire vessels in better condition than the ones they now occupy, which has the advantage of improving health and safety but it is unclear whether this is within the intent of the Board's direction on enforcing time limits on new vessels entering the anchorage.

Enforcement priorities implementation

The Board's current enforcement priorities for vessels on the bay, as reflected in Resolution No. 03-19, are unoccupied marine debris, unattended and unoccupied vessels, unattended/unused mooring balls and floats, registration, and time limits on new vessels entering Richardson's Bay.

Responsibility for enforcement falls on the RBRA Harbormaster, with focused assistance from the Marin Sheriff's Office two-member Marine Patrol Unit; this unit is available 40 hours per week over three to four days, and is responsible for patrolling all of Marin County's shorelines (including Tomales Bay and the western coastline). Consequently, the unit's time on Richardson's Bay is primarily focused on work that law enforcement must perform.

Drawing on the Board's direction, and comments from the BCDC Enforcement Committee, the Executive Director's management direction to the Harbormaster for enforcement work has been the priorities in this order:

1. Time limits on new vessels entering the bay. The purpose behind this priority is to stem the tide of vessels settling in for a time not allowed under the code, in order to prevent an increase in the number of vessels at risk of breaking loose or sinking that threaten personal safety and property; reduce future patrol, enforcement and abatement costs; moving to a more manageable number of vessels on the bay now and in any potential transition to a mooring program; and also to shift the reputation of Richardson's Bay away from being an unrestricted anchorage.
2. Unoccupied vessels/unoccupied marine debris vessels. Vessels that are unoccupied are particularly unsafe in windstorms and other inclement weather because there is no one on board to maneuver the vessel out of harm's way. Furthermore, if persons start living aboard the unoccupied vessels, they add to the number of occupied vessels – which runs afoul of regulatory compliance. Marine debris vessels increase health and safety concerns of unoccupied vessels.

The Harbormaster is implementing the above direction, as follows:

Time limits on new vessels entering the bay.

The baseline for determining a vessel new to the anchorage is the survey taken by the Marin County Sheriff's Marine Patrol Unit in August, 2019. The Harbormaster performs regular patrols of the anchorage and checks vessel information against this survey; his regular patrols enable him to more readily recognize new vessels. Vessels new to the anchorage are given a notice about the 72-hour limit for anchoring without a permit as well as how to apply for a 30-day permit.

Since the completion of the August 2019 survey, 28 new vessels have been given a 72-hour notice, with follow up compliance by 22 leaving the anchorage or obtaining a 30-day permit.

Unoccupied vessels/unoccupied marine debris vessels

Vessels are unoccupied for a variety of reasons, such as: As an alternative to paying a slip fee in a marina; for storage of materials and supplies, or otherwise serving as an additional vessel by persons on the anchorage; they are being marketed for sale by persons either on or off the anchorage; they are being repaired by persons either on or off the anchorage for future use or sale.

Most of the unoccupied vessels are in a state of marine debris. Accordingly, the vessels are posted with a notice that the vessel must be removed from Richardson's Bay within ten days or it will be removed by RBRA and destroyed. If there is a registration number on the vessel, this notice also is sent to the registered owner. If there is no response, the vessel is towed and destroyed. If there is a response, the Harbormaster discusses options with the owner for their voluntary removal of the vessel from the bay, which includes voluntarily turning the vessel over to RBRA under the State's VTIP/Vessel Turn-in Program. Before vessels are demolished, the Harbormaster works to accommodate arrangements with the owners for retrieval of personal property upon request.

Vessels that pose an immediate hazard because they have sunk, run aground, or are in similar peril are posted and noticed with a notice of summary abatement, and are subject to being destroyed within three days of posting and noticing.

Since August, 2019, 24 vessels have been posted with abatement notices; in seven cases, they were voluntarily removed from the anchorage; 10 were ultimately abated/destroyed; and seven are pending the outcome of the notification period.

Some persons have multiple vessels on the anchorage. The Board has directed that unoccupied vessels are a priority for abatement. Staff's interpretation of this direction is to identify the primary occupied vessel and prioritize abatement of secondary vessels that are not occupied full-time (but may be periodically used by an individual for storage purposes).

Challenges

There are approximately 175 vessels on Richardson's Bay; the number is subject to fluctuation on a daily basis as boats enter and depart.

It is challenging for a one-person operation to perform the range of duties assigned to the Harbormaster. Historically it has been challenging just to try to maintain a relatively steady/small increase in the census of vessel by abating between 75 and 100 vessels per year. The additional assignment of preventing any new vessels from settling in and removing unoccupied vessels adds an additional workload to an already stretched position. Some of the particular challenges include:

- The safety hazards of a one-person crew on RBRA's vessel related to:
 - Wave/weather conditions on the bay; as was clearly evident in the wind events of October 27, it is hazardous and untenable for the Harbormaster to go out solo in

such conditions.

- Executing notification and enforcement actions. Being notified that your vessel is subject to regulation and enforcement will not bring out the best in a person; some persons react in a threatening manner. Furthermore, it is not always evident in approaching a vessel as to whether it is occupied or unoccupied, and the temperament of those who may be aboard.
- Keep the boat safe and steady while performing other duties that can include boarding another vessel, idling alongside another vessel while communicating with occupants, etc.
- Maintaining a continually current vessel database that tracks those vessels on an ongoing basis that are new, have departed (voluntarily or through abatement), or have been posted and noticed for time limits marine debris.
- Communicating and coordinating with vessel owners/occupants; determining ownership; reviewing options with owners/occupants; arranging for and standing by during retrieval of personal belongings; and other communication related to emphasizing individual responsibility among vessel owners/occupants and seeking voluntary action to achieve compliance
- Contracting arrangements for towing and destruction of vessels
- Monitoring Craigslist and other marketing avenues for vessels for sale from the anchorage
- Performing the range of administrative work associated with enforcement (e.g. preparing and mailing notices, contractor invoicing, grant reimbursement forms and tracking, etc)
- Securing impound locations for vessels pending completion of the abatement process. There have been instances of vessels being removed from where they are tied up at the Army Corps dock after being towed/impounded.

Opportunities

To address the challenges, staff has/is pursuing:

Arranging with the member cities to assign a sworn officer to accompany the Harbormaster on the RBRA vessel, on a rotating basis. Each of the cities would designate an officer who could be available for a two-to-three-hour shift once every other week. The officer would assist with certain enforcement processes (such as impoundment, for example), and would add an additional layer of safety to enforcement operations.

Seeking voluntary assistance, targeting in particular persons with nautical experience. A challenge to this avenue is ensuring the time to train and supervise does not exceed its assistance value, and that the work is performed in an objective and lawful manner.

Contracting out all vessel demolition. Until his retirement in July, the prior Harbor Administrator demolished some of the vessels requiring abatement, with some assistance from referrals from County probation. Such an operation has its safety, regulatory, and logistical considerations and requirements. It also detracts from Harbormaster patrol time on the bay. Contractors can perform the work more efficiently with their own equipment and staff.

However, it does have cost impacts from not charging that staff time towards the SAVE grant.

Utilizing the \$9,500 match designated for personnel in the NOAA grant towards part-time hired or contracted assistance, and allocate RBRA's \$9,500 match from the \$25,000 allocated in RBRA's 2019-20 budget for mooring study follow up work. When the grant application was written, the intent was to use those funds for overtime for the Sheriff's Marine Patrol Unit. However, with the shift to support from member agency law enforcement, funding non-sworn regular time/contract assistance is more cost effective.

Investigating other possibilities/funding possibilities for enforcement assistance. RBRA staff has asked BCDC staff about an allocation from the agency's Bay Fill Clean Up and Abatement Fund; since abatement/removal of vessels on Richardson's Bay appears to be a high priority for BCDC. Other regulatory agencies and environmental organizations tend to focus their funding on capital projects.

Exploring alternative locations for vessel impound sites. Potential cost related to alternatives are unknown at this time.



**Ecologically-Based Mooring
Feasibility and Planning Study
Richardson's Bay Regional Agency**

Issue: Moorings and Vessel Activities in Richardson's Bay Are Impacting Valuable Ecological Resources – Principally Eelgrass



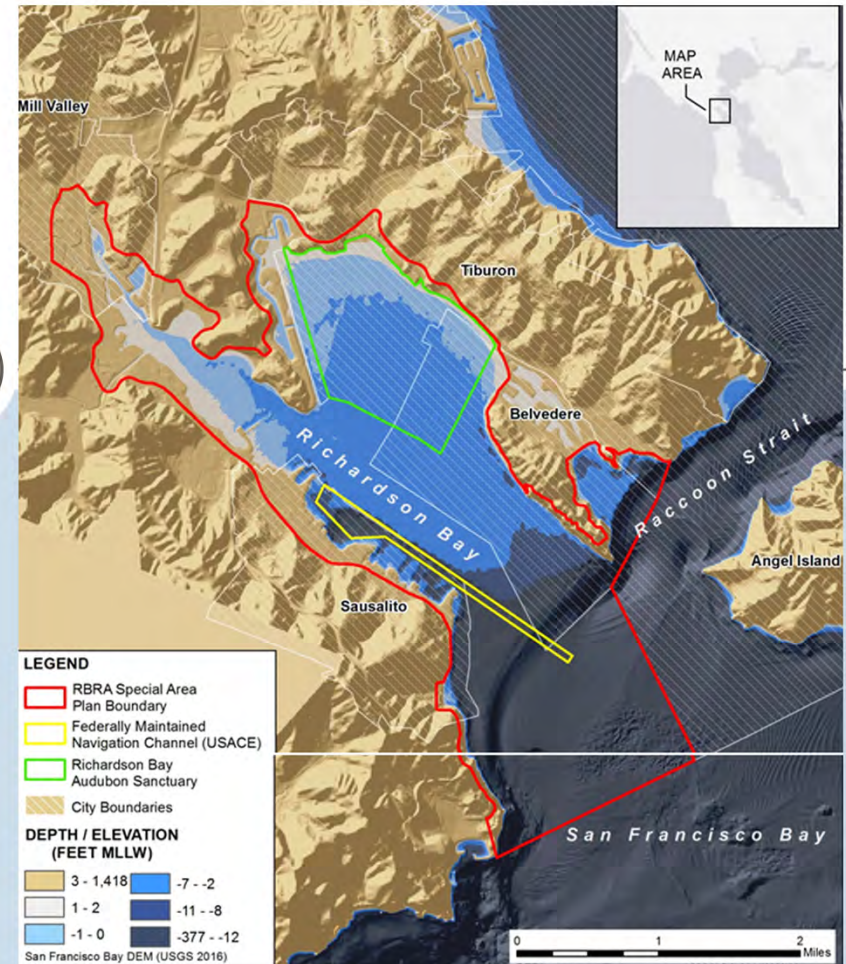
Planning Study Area

AREAS OF STUDY

- ❑ RBRA ADMINISTERED WATERS
- ❑ SAUSALITO WATERS
- ❑ BELVEDERE COVE

AREAS EXCLUDED

- ❑ SHALLOWS OF MILL VALLEY
- ❑ WATERS OF RACCOON STRAIT
- ❑ RB AUDUBON SANCTUARY
- ❑ FEDERAL NAVIGATION CHANNEL



Study Purpose



- ❑ IDENTIFY ECOLOGICAL CONFLICTS WITH MOORINGS
- ❑ QUANTIFY IMPACTS WHERE PRACTICAL
- ❑ ASSESS POTENTIAL MEANS TO REDUCED IMPACT LEVELS
- ❑ EVALUATE FEASIBILITY OF RETAINING MOORINGS
- ❑ ASSESS CARRYING CAPACITY OF MOORINGS
- ❑ MAKE RECOMMENDATIONS ON MEANS TO RESOLVE CONFLICTS
- ❑ PROVIDE SCIENTIFIC/TECHNICAL INPUT TO DECISION MAKERS

Recommendation Guidelines



- ❑ STUDY RECOMMENDATIONS SHOULD BE VIABLE
 - ❑ Must be safe
 - ❑ Must be fundable and sustainable
 - ❑ Must be permissible
 - ❑ Must be manageable and enforceable long-term
 - ❑ Must accommodate transition
 - ❑ Must be widely acceptable

NOT the Study Purpose



- ❑ LANDSIDE SUPPORT FACILITIES FOR MOORINGS
- ❑ SOCIAL AND SOCIAL JUSTICE ISSUES
- ❑ POLICY ISSUES RELATED TO MOORINGS

Additional Steps



- ❑ AGENCIES AND PUBLIC CONSIDERATION OF STUDY RESULTS
- ❑ AGENCY FORMULATION OF A PROJECT
- ❑ PROJECT DESIGN AND MANAGEMENT PLAN DEVELOPMENT
 - ❑ Moorings or no moorings
 - ❑ Moorings - how many, what size, and configurations
 - ❑ Management and operational and enforcement plan
 - ❑ Financing plan (capital and operational funding)
 - ❑ Transition or phasing plan
- ❑ FUNDING STRATEGY AND SECURE FUNDING
- ❑ ENVIRONMENTAL REVIEW AND PERMITTING

Data Collection Approach



- ❑ REVIEW EXISTING DATA ON ECOLOGICAL RESOURCES
- ❑ COLLECT NEW EELGRASS AND BATHYMETRIC DATA
- ❑ REVIEW MOORINGS DISTRIBUTION THROUGH TIME
- ❑ COLLECT ADDITIONAL INFORMATION THROUGH INTERVIEWS

Data Analysis Approach



- ❑ PREPARE SPATIAL DATA FOR ECOLOGICAL RESOURCES
- ❑ PREPARE SPATIAL DATA FOR CONSTRAINING FACTORS
- ❑ SUMMARIZE CONDITIONS THROUGH TIME AND TODAY
- ❑ PREPARE A SPATIAL MODEL OF MOORING SUITABILITY

Data Summary Approach



- ❑ DETERMINE IF RETAINING MOORINGS IS FEASIBLE
- ❑ IDENTIFY CAPACITY OF BAY FOR MOORINGS
- ❑ MAKE RECOMMENDATIONS FOR A PATH FORWARD

Bay Bathymetry

1859

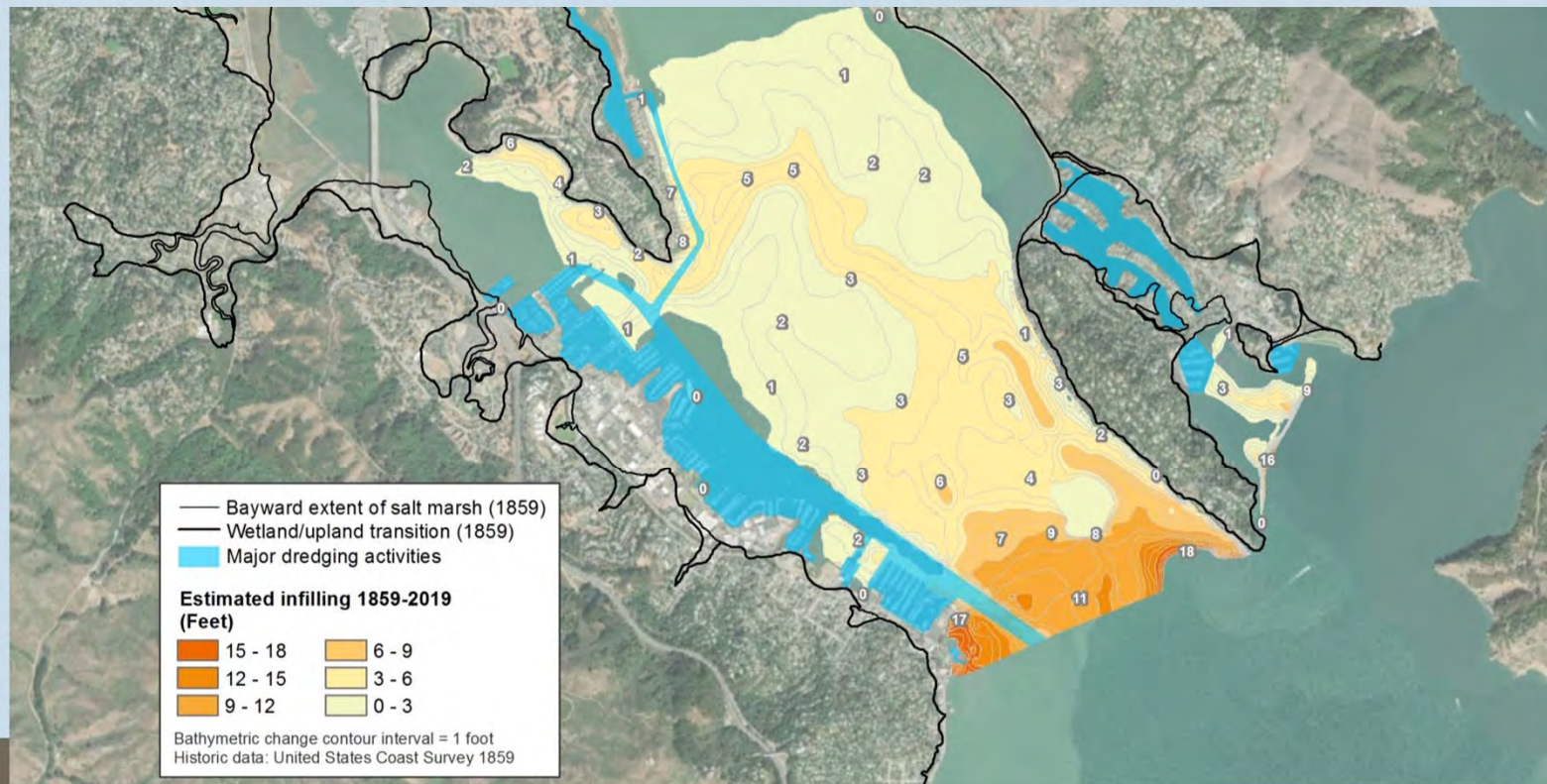


2019



Change in Bathymetry (1859-2019)

□ AVERAGE OF 0.15 INCH/YEAR



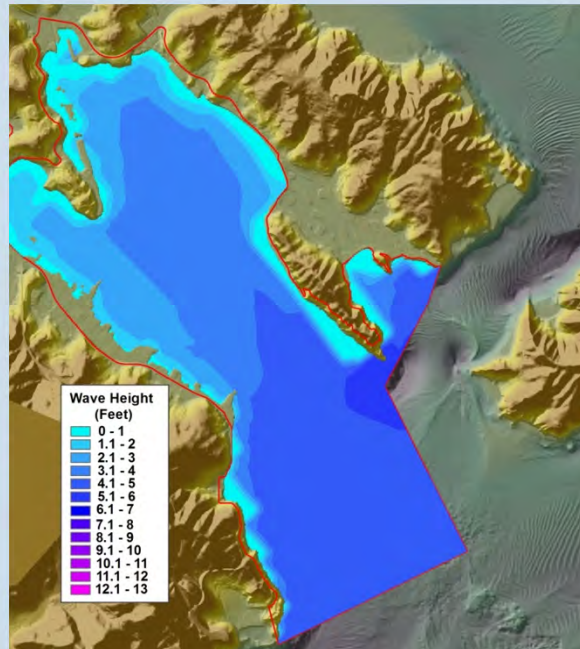
Wave Climate OCOF USGS Modeling



**1-YEAR
MAXIMUM WAVE**



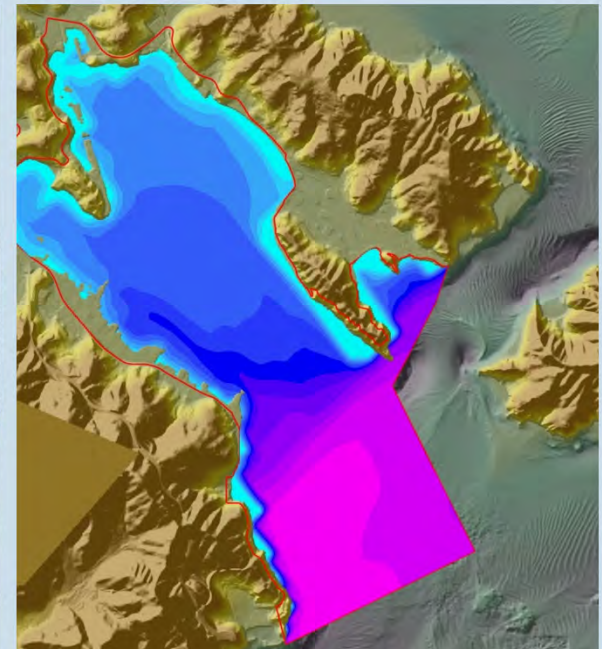
**20-YEAR
MAXIMUM WAVE**



Wave Height
(Feet)

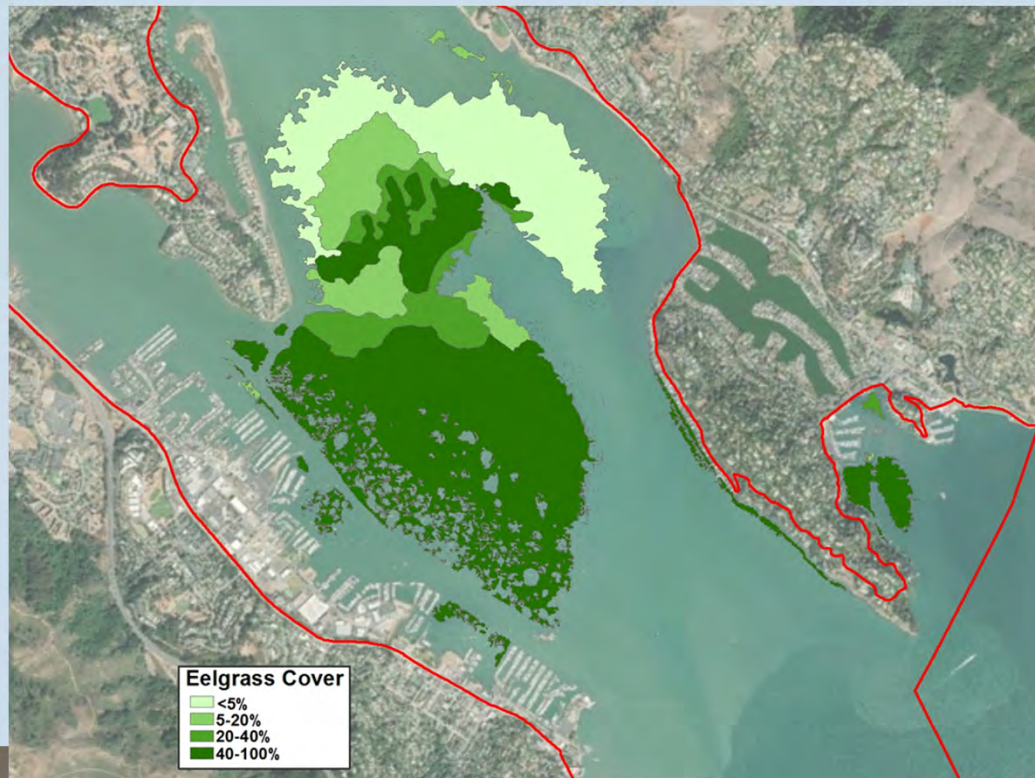
0 - 1
1.1 - 2
2.1 - 3
3.1 - 4
4.1 - 5
5.1 - 6
6.1 - 7
7.1 - 8
8.1 - 9
9.1 - 10
10.1 - 11
11.1 - 12
12.1 - 13

**100-YEAR
MAXIMUM WAVE**

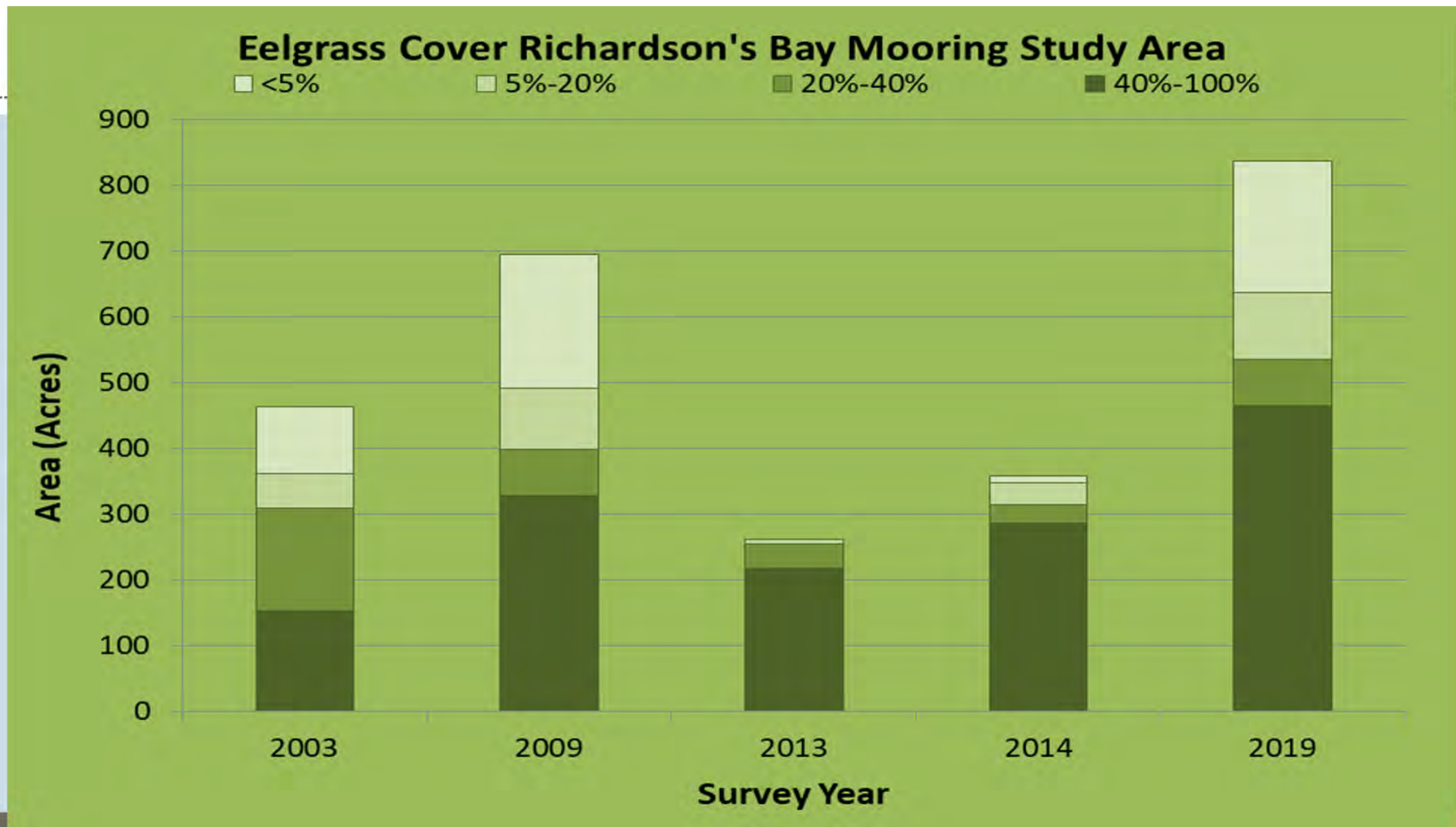


2019 Eelgrass in Richardson's Bay

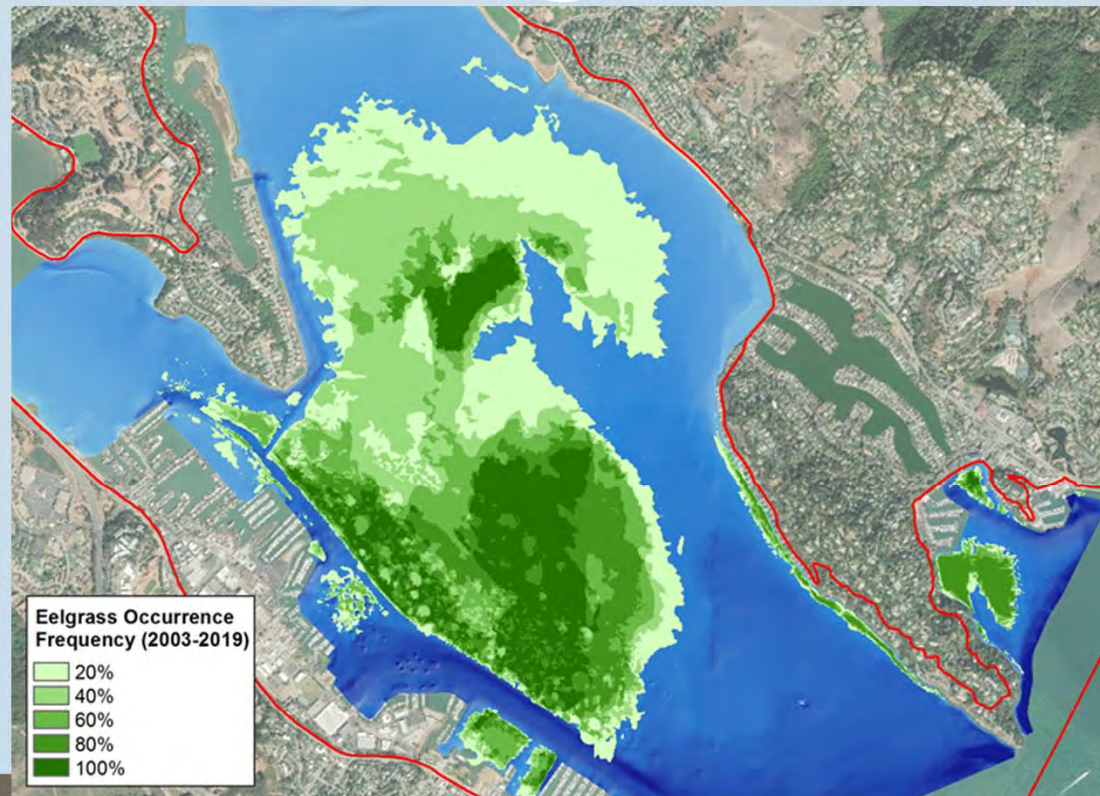
□ **837.3 ACRES (JUNE-JULY 2019)**



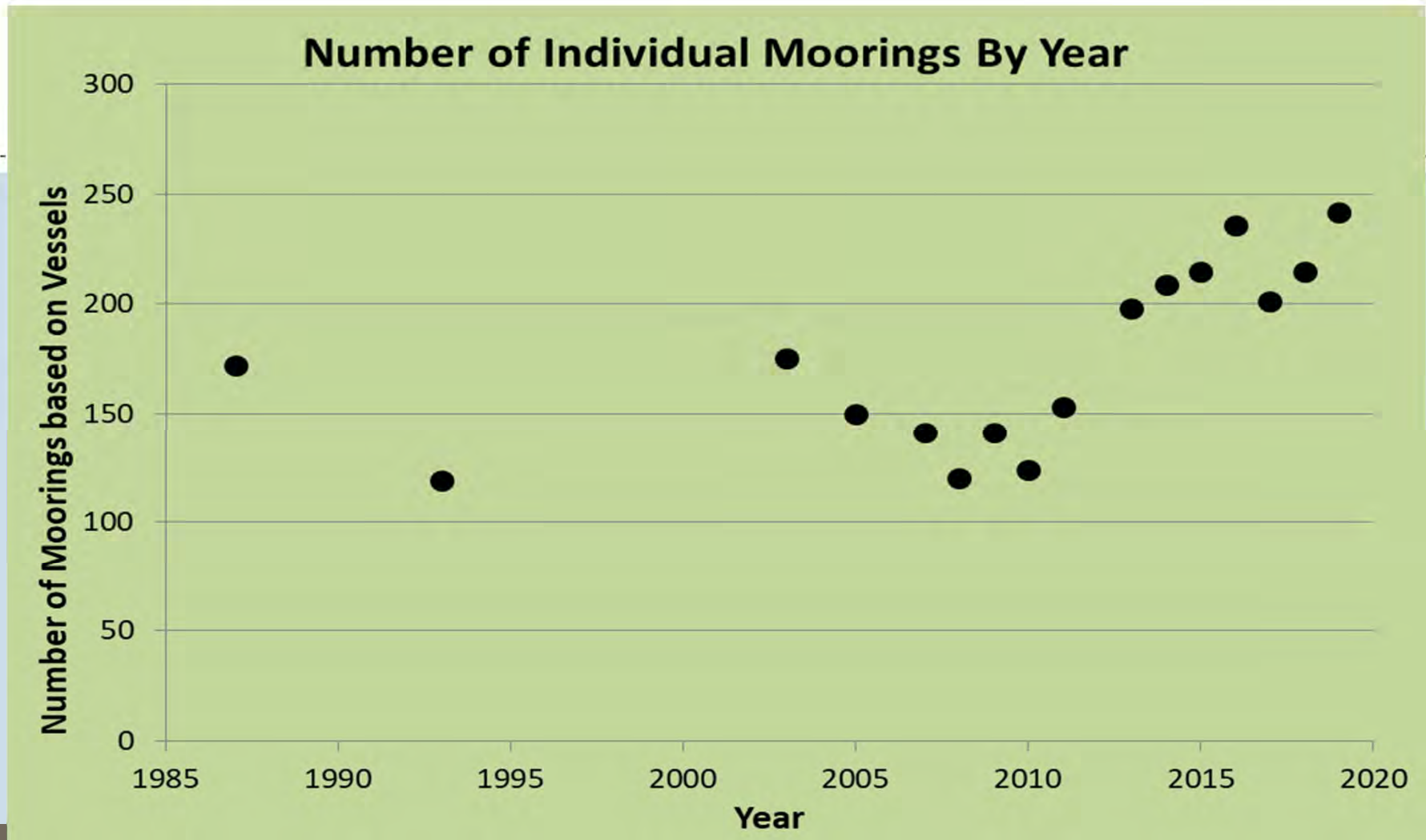
Eelgrass History in Richardson's Bay



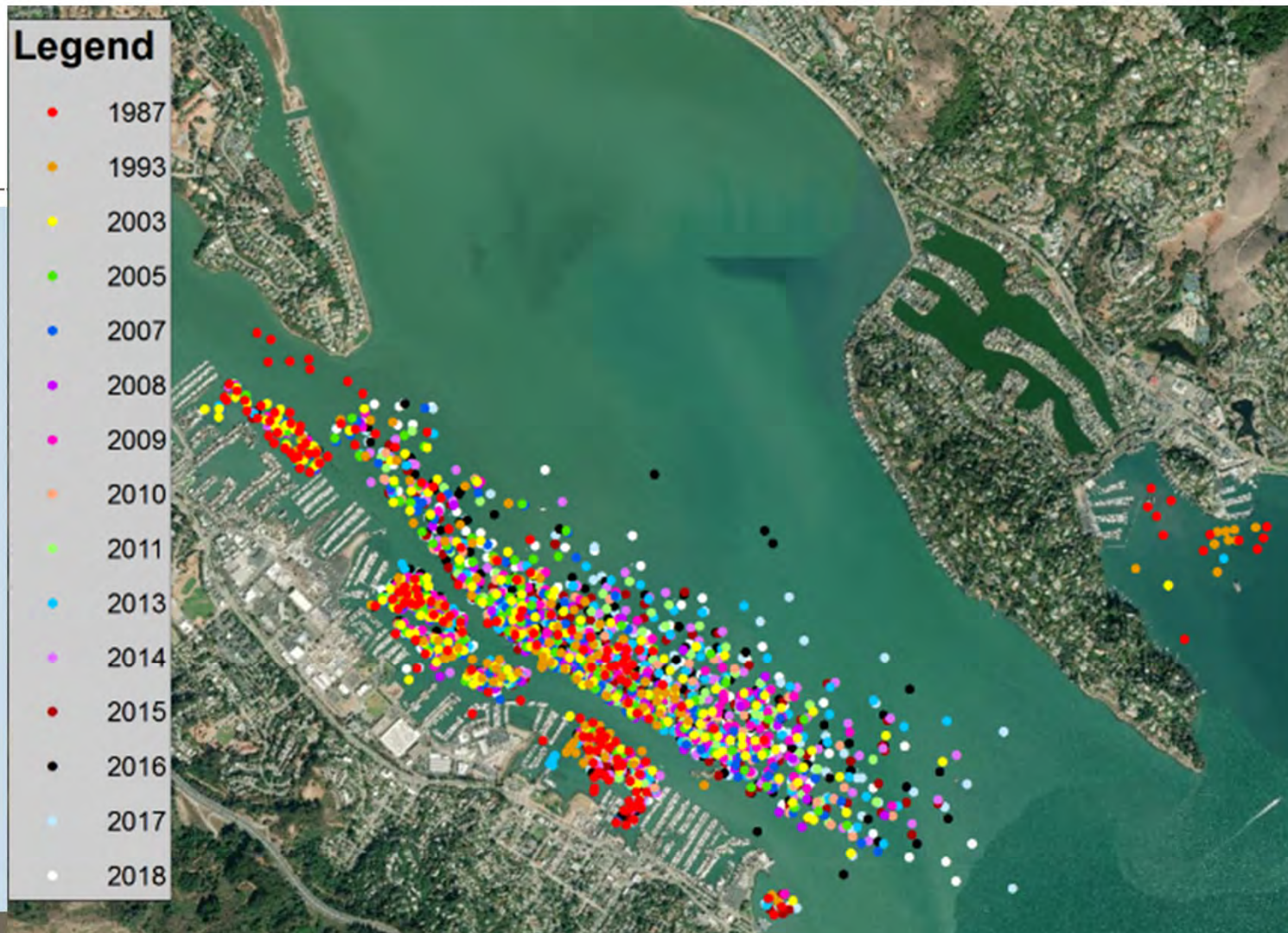
Eelgrass Frequency Distribution (2003-2019)



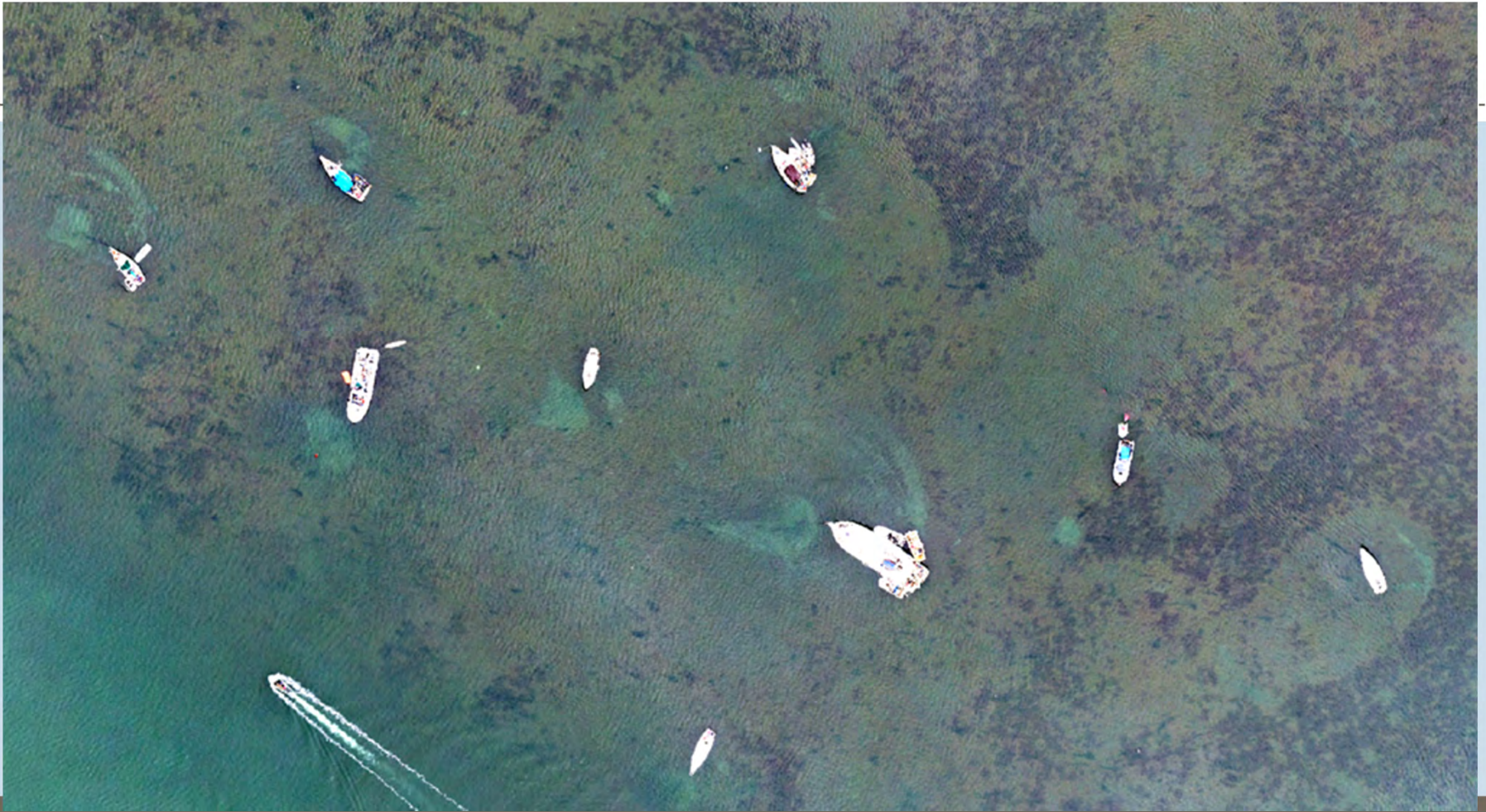
Changes in Mooring Count Over Time



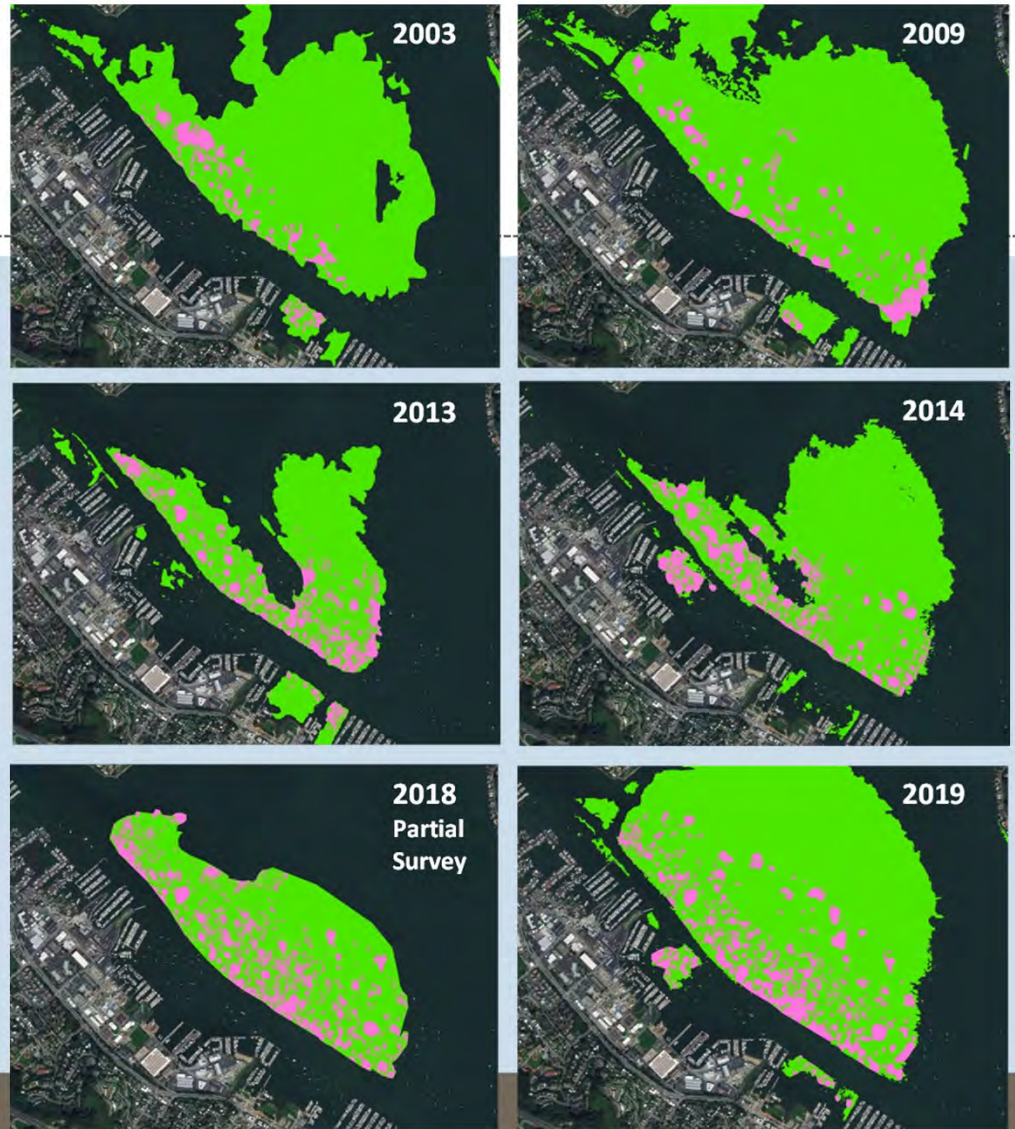
Mooring Distribution (1987-2018)



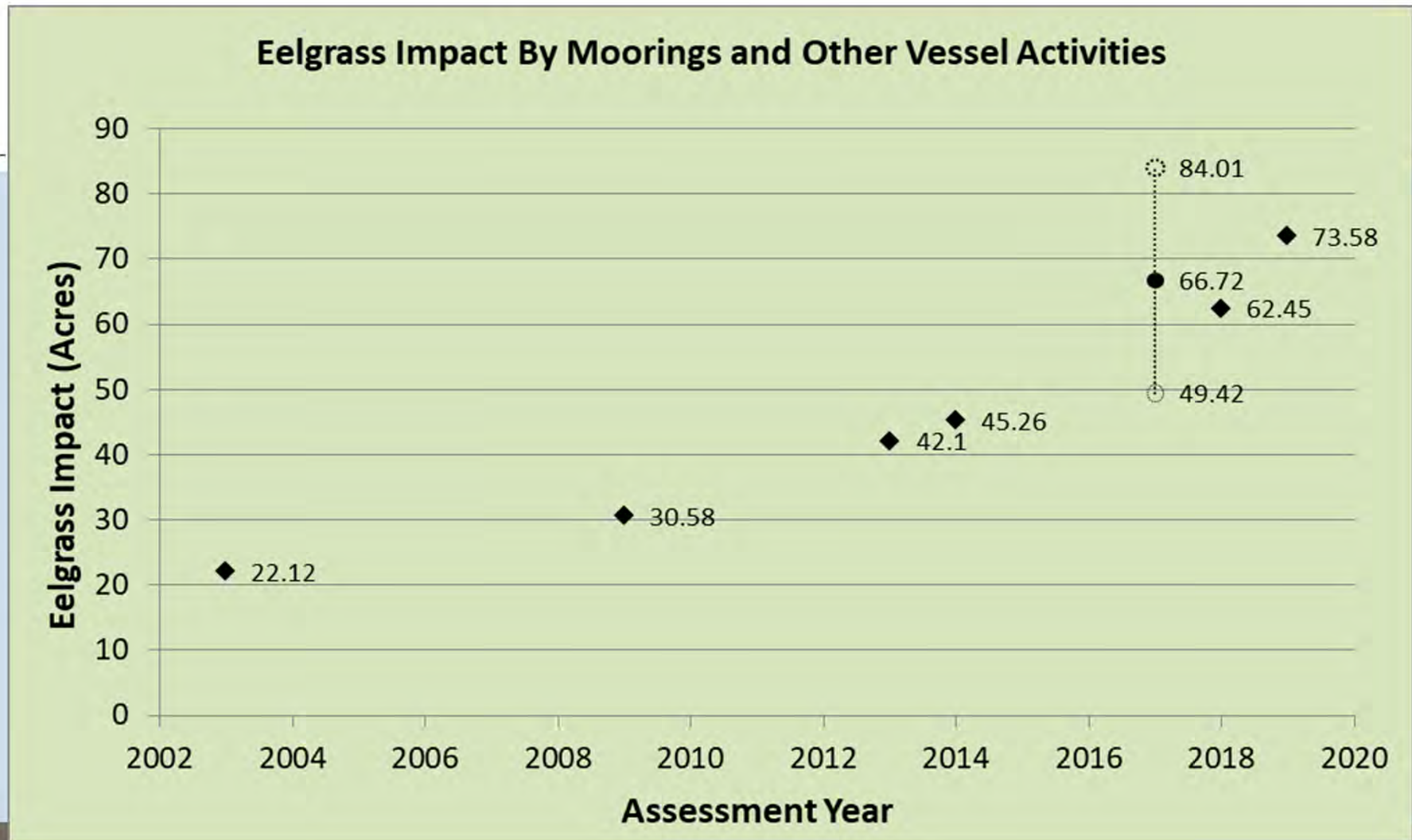
Eelgrass Damage from Moorings and Vessels



Eelgrass Damage from Moorings and Vessels (2003-2019)



Eelgrass Damage from Moorings and Vessels

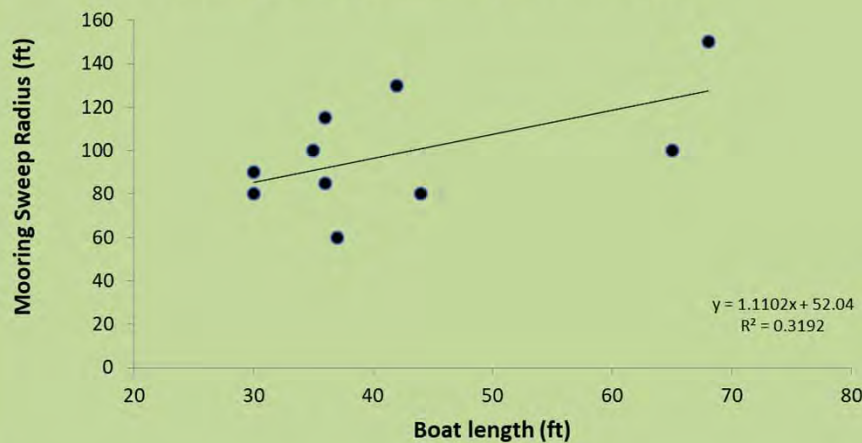


Existing Moorings in Eelgrass Beds

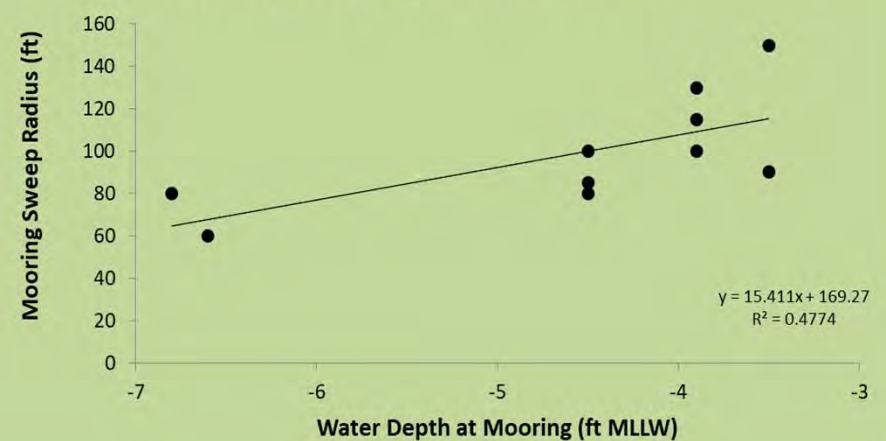


- ❑ SWEEP RADII DO NOT ALIGN WITH DEPTHS OR LENGTHS
- ❑ SINGLE POINT MOORINGS W/GROUND TACKLE DOMINATE
- ❑ TWIN ANCHOR MOORINGS ARE LESS COMMON
- ❑ TWIN ANCHORS LESS IMPACT THAN SINGLE POINT

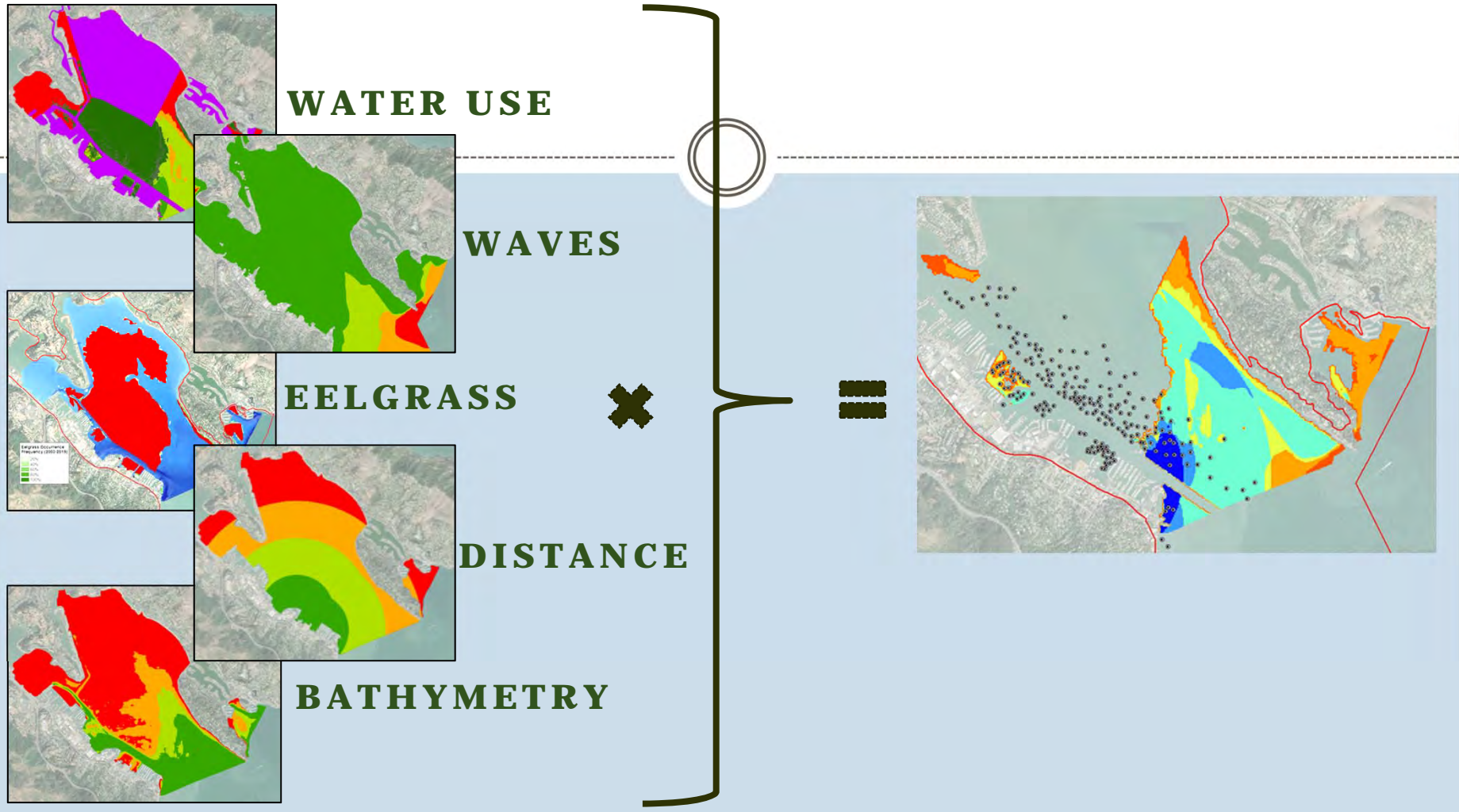
Existing Sweep Radius by Vessel Length



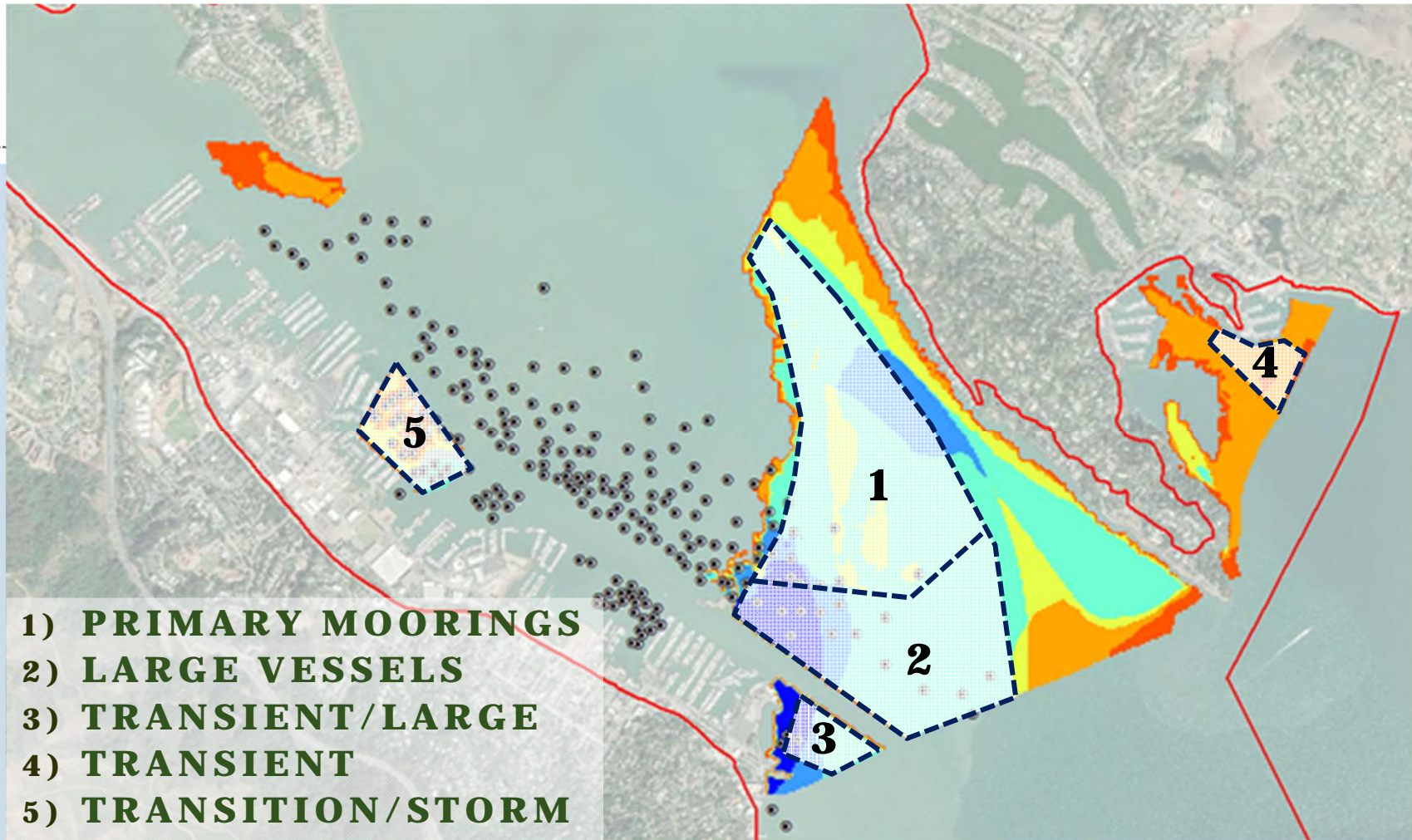
Existing Sweep Radius by Water Depth



Ecological Impact Avoidance Model

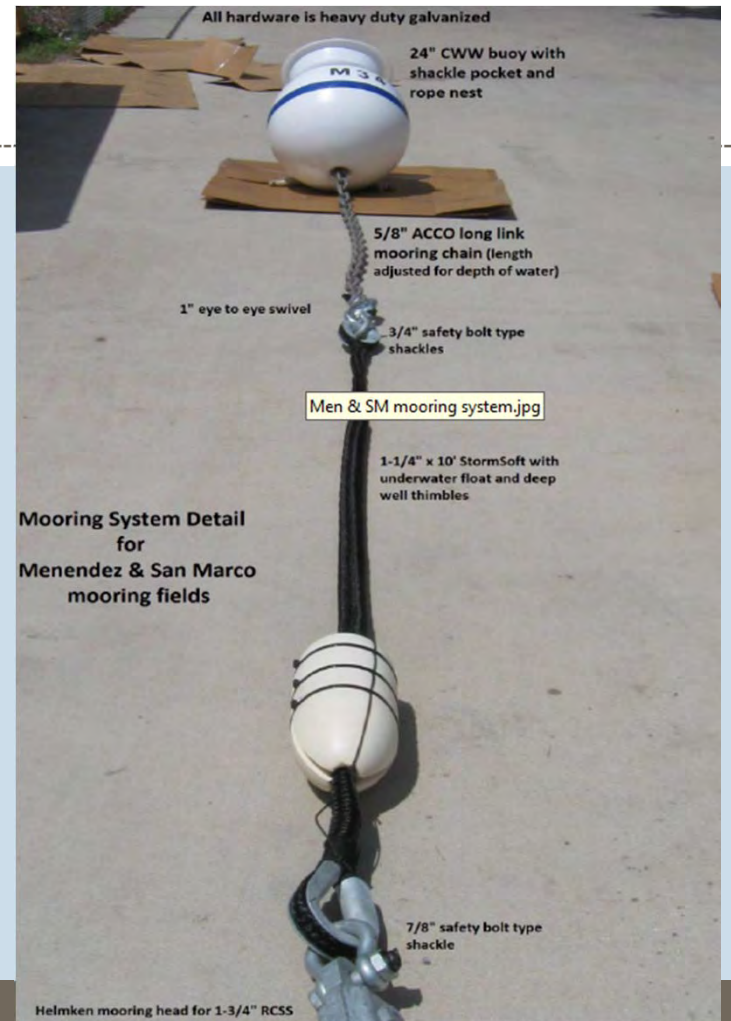
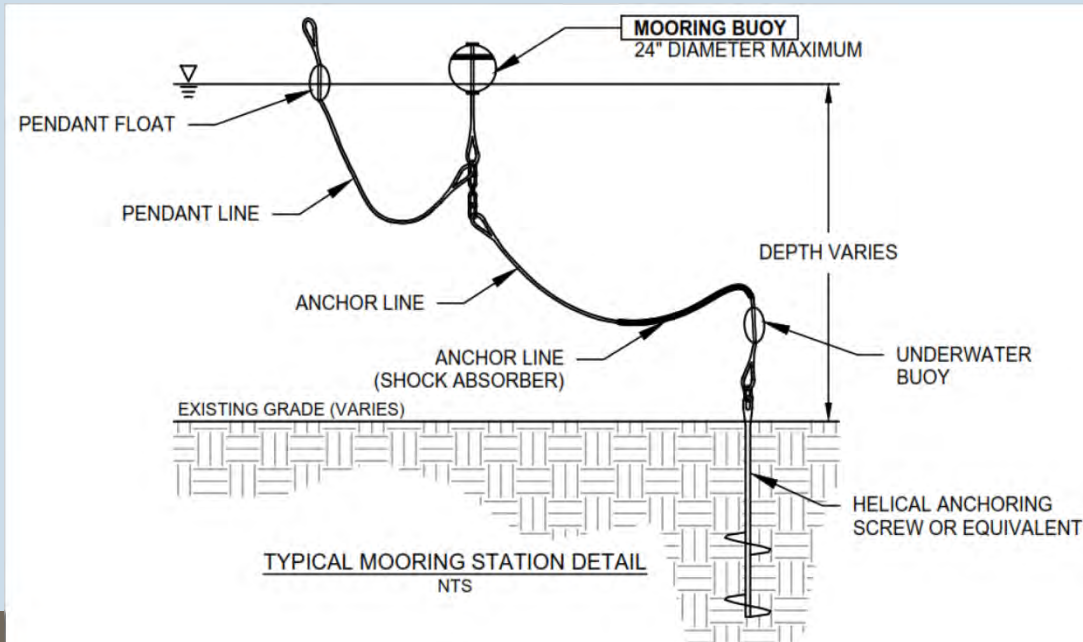


Ecological Impact Avoidance Model



Conservation Moorings

TYPICAL CONFIGURATION



Conservation Moorings



BENEFITS

- TIGHTER PACKING RATIOS (SMALLER RADII)**
- ELIMINATE GROUND TACKLE SCOUR IMPACTS**
- IMPROVE RODE AND PENDANT ELASTICITY**
- REDUCE POTENTIAL FOR CLEAT PULL-OUT**
- REDUCE MAINTENANCE COST PER MOORING**
- LESS MOBILE TACKLE**

DRAWBACKS

- INITIAL CAPITAL COST**
- LESS MOBILE TACKLE**
- LIMITED SUPPLIERS**
- LOW FAMILIARITY BY ANCHOR-OUTS**

Conservation Moorings Tight Radii



Recommendations



- ❑ **RELOCATE VESSELS OUT OF EELGRASS**
- ❑ **ELIMINATE NEW INFLUX OF VESSELS AND ANCHOR-OUTS**
- ❑ **REDUCE UNOCCUPIED VESSELS**
- ❑ **ONE RESIDENT, ONE VESSEL GOAL**
- ❑ **PUBLICLY OWNED CONSERVATION MOORINGS**
- ❑ **MOORING ADDRESSES AND VESSELS REGISTERED**
- ❑ **EFFECTIVE ENFORCEMENT**
- ❑ **REGULAR TACKLE INSPECTIONS**
- ❑ **COMMUNITY COLLABORATION RELIANCE/SUPPORT**
- ❑ **REVENUE GENERATION TO SUPPORT MAINTENANCE COSTS**
- ❑ **CAPITAL FUNDING –GRANTS OR MITIGATION FUNDS?**

RICHARDSON'S BAY REGIONAL AGENCY

STAFF REPORT

For the meeting of: November 14, 2019

To: RBRA Board of Directors
From: Curtis Havel, interim Harbormaster
Beth Pollard, Executive Director
Subject: RBRA Staff update

October 27 Wind Event

As noted in the materials for the November 4 special meeting, the significant winds on Sunday, October 27 created a local emergency in Richardson's Bay. At least 15 boats broke loose, ran aground, and/or sank. The conditions were too rough for RBRA's vessel, especially with a crew of only one person – the Harbormaster. RBRA efforts were further challenged by the loss of electrical power and access to cell phone service.

The northeast winds meant vessels drifted towards and onto the shoreline in Sausalito rather than Belvedere/Tiburon. In addition to the Coast Guard and public safety from the surrounding jurisdictions, Parker Diving, Dave's Diving, and US Tow/Vessel Assist were all on Richardson's Bay going after boats in dangerous situations and/or running into marinas. Abatement notices were issued for 10 vessels as a result of the storm.

The wind storm reinforced the necessity of mariners to check their lines and ground tackle in advance, be on board to manage their vessel or move it out of harm's way, and contract for assistance if they are unable to perform the work themselves.

Annual debris pick-up day

RBRA will collaborate with the City of Sausalito on the third annual debris pick-up day, tentatively scheduled for Friday, November 22. Initiated and coordinated by Sausalito, public and private vessels go through the anchorage to accept debris that is bagged or such by those on the boats. The purpose is to help minimize debris on decks and at risk of entering the bay, especially during winter storms.

BCDC Enforcement Committee

The BCDC Enforcement Committee has scheduled a BCDC staff presentation regarding Richardson's Bay for its meeting of November 20, 2019. RBRA has not been asked to make a presentation, but to be available to respond to questions. At its meeting of September 12, 2019, the Committee did not take action but Committee members said they wanted to see in

six months the number of vessels on the bay markedly reduced and a plan from RBRA for reaching compliance with the Bay Plan and related BCDC regulations.

NOAA (National Oceanic & Atmospheric Administration) Grant

The kick-off has taken place for proceeding with work under NOAA's 2019 Marine Debris Removal Grant. The two-year grant to RBRA is for \$150,000 from NOAA, matched locally by \$150,000 from RBRA and the State's SAVE grant funds. The scope of work for the \$300,000 includes removing approximately 25 marine debris vessels from Richardson's Bay. RBRA is the only grant recipient in California for this national program.

Coordinated Outreach to Persons on the Bay

With the support of County funding, RBRA has contracted with Andrew Hening to coordinate outreach to persons on the bay. A most immediate purpose is to reach and assess for housing alternatives the most vulnerable among the population. Other outreach program goals include identifying all persons/vessels on the water and to place at least one person per month into permanent supportive housing.

Involved agencies include the Marin Housing Authority, Marin City Health & Wellness Clinic, Downtown Streets, Buckelew Programs, Ritter Center, Marin County Health & Human Services, Marin County Veterans Services, St. Vincent de Paul's, Sausalito Police Department, and Marin County Sheriff. The RBRA Harbormaster has been available to take outreach workers to vessels; other arrangements are being explored for this direct contact to vessels/persons on the water.

U.S. Coast Guard

The Coast Guard has been performing safety checks on vessels in Richardson's Bay.

Belvedere

The Belvedere Police Chief has accompanied the Harbormaster on patrols on Richardson's Bay. He is additionally communicating with vessel occupants in Belvedere waters about the city's 10-hour anchoring limit.

Water quality

The results from the September water sampling and testing regularly conducted by Marin County Environmental Health Services Division are attached. The results are reported to be good and within acceptable parameters.

Vessel Metrics

Approximate number of vessels on the bay (subject to change daily): 176

Vessels issued notices of abatement since August 2019: 29

Vessels abated since August 2019: 10

Permits issued: 5






TOTAL COLIFORM						
Not To Exceed	10,000					1000.0
	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	Geo Mean
WALDO POINT GATES COOP Station #41	10462	228	0	241	160	550.7
KAPPAS HOUSEBOATS Station #43	528	279	0	211	253	297.8
WALDO "A" DOCK Station #40	211	402	0	134	183	213.6
WALDO POINT SOUTH 40 Station 15	2603	145	0	359	63	304.0
CLIPPER BASIN #4 Station 14	723	41	0	63	97	116.0
ARQUEZ MARINA Station #37	121	74	0	41	62	69.1
CLIPPER BASIN #1, Station CB1	75	62	0	465	121	127.2
SCHOONMAKER BEACH Station #33 (EHS)	857	31	0	122	9	73.5
SCHOONMAKER Station #32	85	20	0	488	9	52.3
GALILEE / NAPA Station #8	173	51	0	75	10	50.7
MARINEWAYS Station MW	228	563	0	324	169	289.5
PELICAN HARBOR Station #6	121	644	0	31	31	93.0
SAUSALITO YACHT HARBOR Station #5	20	63	0	31	30	32.9
SAUSALITO YACHT HARBOR Station #3	96	52	0	181	10	54.8
CONTROL STATION DAYMARK #6 Station C	9	10	0	10	9	9.5
BRIDGEWAY MARINA	262	10	0	31	10	30.0

E. Coli						
Not To Exceed	235					126.0
	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	Geo Mean
WALDO POINT GATES COOP Station #41	529	41	0	52	63	91.8
KAPPAS HOUSEBOATS Station #43	345	52	0	31	74	80.1
WALDO "A" DOCK Station #40	31	41	0	20	74	37.0
WALDO POINT SOUTH 40 Station 15	122	20	0	74	9	35.7
CLIPPER BASIN #4 Station 14	63	9	0	9	10	15.0
ARQUEZ MARINA Station #37	10	10	0	10	20	11.9
CLIPPER BASIN #1, Station CB1	9	20	0	226	10	25.3
SCHOONMAKER BEACH Station #33 (EHS)	10	10	0	41	9	13.9
SCHOONMAKER Station #32	10	9	0	52	9	14.3
GALILEE / NAPA Station #8	10	10	0	9	9	9.5
MARINEWAYS Station MW	63	144	0	85	20	62.7
PELICAN HARBOR Station #6	20	20	0	9	9	13.4
SAUSALITO YACHT HARBOR Station #5	9	20	0	9	9	11.0
SAUSALITO YACHT HARBOR Station #3	9	20	0	20	9	13.4
CONTROL STATION DAYMARK #6 Station C	9	10	0	9	9	9.2
BRIDGEWAY MARINA	10	9	0	9	9	9.2






Fecal Coliform						
Not To Exceed	400					200.0
	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	Geo Mean
WALDO POINT GATES COOP Station #41	240	49	79	130	79	99.1
KAPPAS HOUSEBOATS Station #43	220	13	79	33	350	76
WALDO "A" DOCK Station #40	33	23	130	46	13	36
WALDO POINT SOUTH 40 Station 15	31	33	23	21	17	24
CLIPPER BASIN #4 Station 14	79	8	17	33	5	17
ARQUEZ MARINA Station #37	33	5	8	2	17	8
CLIPPER BASIN #1, Station CB1	8	8	7	49	23	14
SCHOONMAKER BEACH Station #33 (EHS)	70	5	33	7	5	13
SCHOONMAKER Station #32	70	5	2	14	2	7
GALILEE / NAPA Station #8	79	2	23	2	2	7
MARINEWAYS Station MW	79	540	23	23	11	48
PELICAN HARBOR Station #6	14	9	33	2	2	7
SAUSALITO YACHT HARBOR Station #5	2	23	23	2	5	6
SAUSALITO YACHT HARBOR Station #3	2	2	7	5	8	4
CONTROL STATION DAYMARK #6 Station C	2	2	2	8	5	3
BRIDGEWAY MARINA	26	2	7	2	2	4

ENTEROCOCCUS						
Not To Exceed	104					35.0
	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	Geo Mean
WALDO POINT GATES COOP Station #41	246	10	0	31	20	35.1
KAPPAS HOUSEBOATS Station #43	389	10	0	9	31	32.3
WALDO "A" DOCK Station #40	20	9	0	10	10	11.6
WALDO POINT SOUTH 40 Station 15	9	9	0	20	9	11.0
CLIPPER BASIN #4 Station 14	10	9	0	40	10	13.8
ARQUEZ MARINA Station #37	9	9	0	10	10	9.5
CLIPPER BASIN #1, Station CB1	9	9	0	41	9	13.1
SCHOONMAKER BEACH Station #33 (EHS)	9	9	0	9	10	9.2
SCHOONMAKER Station #32	9	9	0	9	10	9.2
GALILEE / NAPA Station #8	9	9	0	10	9	9.2
MARINEWAYS Station MW	9	10	0	20	20	13.8
PELICAN HARBOR Station #6	9	9	0	9	9	9.0
SAUSALITO YACHT HARBOR Station #5	9	9	0	9	9	9.0
SAUSALITO YACHT HARBOR Station #3	9	9	0	9	9	9.0
CONTROL STATION DAYMARK #6 Station C	9	10	0	9	0	
BRIDGEWAY MARINA	9	10	0	9	9	9.2

DRY SEASON

	Single Sample					30 Day Geo Mean
Total Coliform Not To Exceed	10,000					1000
E. coli Not to Exceed	235					126
Fecal Coliform Not to Exceed	400					200
Enterococcus Not to Exceed	104					35
						
WALDO POINT GATES COOP Station #41	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	10462	228	0	241	160	551
E. coli 235 / 126	529	41	0	52	63	92
Fecal 400 / 200	240	49	79	130	79	99
Enterococcus 104 / 35	246	10	0	31	20	35
KAPPAS HOUSEBOATS Station #43	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	528	279	0	211	253	298
E. coli 235 / 126	345	52	0	31	74	80
Fecal 400 / 200	220	13	79	33	350	76
Enterococcus 104 / 35	389	10	0	9	31	32
WALDO "A" DOCK Station #40	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	211	402	0	134	183	214
E. coli 235 / 126	31	41	0	20	74	37
Fecal 400 / 200	33	23	130	46	13	36
Enterococcus 104 / 35	20	9	0	10	10	12
WALDO POINT SOUTH 40 Station 15	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	2603	145	0	359	63	304
E. coli 235 / 126	122	20	0	74	9	36
Fecal 400 / 200	31	33	23	21	17	24
Enterococcus 104 / 35	9	9	0	20	9	11
CLIPPER BASIN #4 Station 14	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	723	41	0	63	97	116
E. coli 235 / 126	63	9	0	9	10	15
Fecal 400 / 200	79	8	17	33	5	17
Enterococcus 104 / 35	10	9	0	40	10	14
ARQUEZ MARINA Station #37	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	121	74	0	41	62	69
E. coli 235 / 126	10	10	0	10	20	12
Fecal 400 / 200	33	5	8	2	17	8
Enterococcus 104 / 35	9	9	0	10	10	9
CLIPPER BASIN #1, Station CB1	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	75	62	0	465	121	127
E. coli 235 / 126	9	20	0	226	10	25
Fecal 400 / 200	8	8	7	49	23	14
Enterococcus 104 / 35	9	9	0	41	9	13
SCHOONMAKER BEACH Station #33 (EHS)	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	19-Oct-09
Total Coliform 10,000 / 1000	857	31	0	122	9	73
E. coli 235 / 126	10	10	0	41	9	14
Fecal 400 / 200	70	5	33	7	5	7
Enterococcus 104 / 35	9	9	0	9	10	9

DRY SEASON

	Single Sample					30 Day Geo Mean
Total Coliform Not To Exceed	10,000					1000
E. coli Not to Exceed	235					126
Fecal Coliform Not to Exceed	400					200
Enterococcus Not to Exceed	104					35
						
SCHOONMAKER Station #32	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	85	20	0	488	9	52
E. coli 235 / 126	10	9	0	52	9	14
Fecal 400 / 200	70	5	2	14	2	7
Enterococcus 104 / 35	9	9	0	9	10	9
GALILEE / NAPA Station #8	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	173	51	0	75	10	51
E. coli 235 / 126	10	10	0	9	9	9
Fecal 400 / 200	79	2	23	2	2	7
Enterococcus 104 / 35	9	9	0	10	9	9
MARINEWAYS Station MW	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	228	563	0	324	169	290
E. coli 235 / 126	63	144	0	85	20	63
Fecal 400 / 200	79	540	23	23	11	48
Enterococcus 104 / 35	9	10	0	20	20	14
PELICAN HARBOR Station #6	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	121	644	0	31	31	93
E. coli 235 / 126	20	20	0	9	9	13
Fecal 400 / 200	14	9	33	2	2	7
Enterococcus 104 / 35	9	9	0	9	9	9
SAUSALITO YACHT HARBOR Station #5	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	20	63	0	31	30	33
E. coli 235 / 126	9	20	0	9	9	11
Fecal 400 / 200	2	23	23	2	5	6
Enterococcus 104 / 35	9	9	0	9	9	9
SAUSALITO YACHT HARBOR Station #3	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	96	52	0	181	10	55
E. coli 235 / 126	9	20	0	20	9	13
Fecal 400 / 200	2	2	7	5	8	4
Enterococcus 104 / 35	9	9	0	9	9	9
CONTROL STATION DAYMARK #6 Station	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	9	10	0	10	9	9
E. coli 235 / 126	9	10	0	9	9	9
Fecal 400 / 200	2	2	2	8	5	3
Enterococcus 104 / 35	9	10	0	9	0	0
BRIDGEWAY MARINA	3-Sep-19	9-Sep-19	16-Sep-19	23-Sep-19	30-Sep-23	30-Sep-23
Total Coliform 10,000 / 1000	262	10	0	31	10	30
E. coli 235 / 126	10	9	0	9	9	9
Fecal 400 / 200	26	2	7	2	2	4
Enterococcus 104 / 35	9	10	0	9	9	9