



Living with Eelgrass in a Recreational Harbor

Presented by
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Purpose of Workshop

- Newport Harbor is a recreational harbor
 - Depths must be maintained to allow safe and reliable navigation
- Importance of eelgrass
- Dredging with eelgrass
- Eelgrass restoration efforts
 - Eelgrass is a good thing

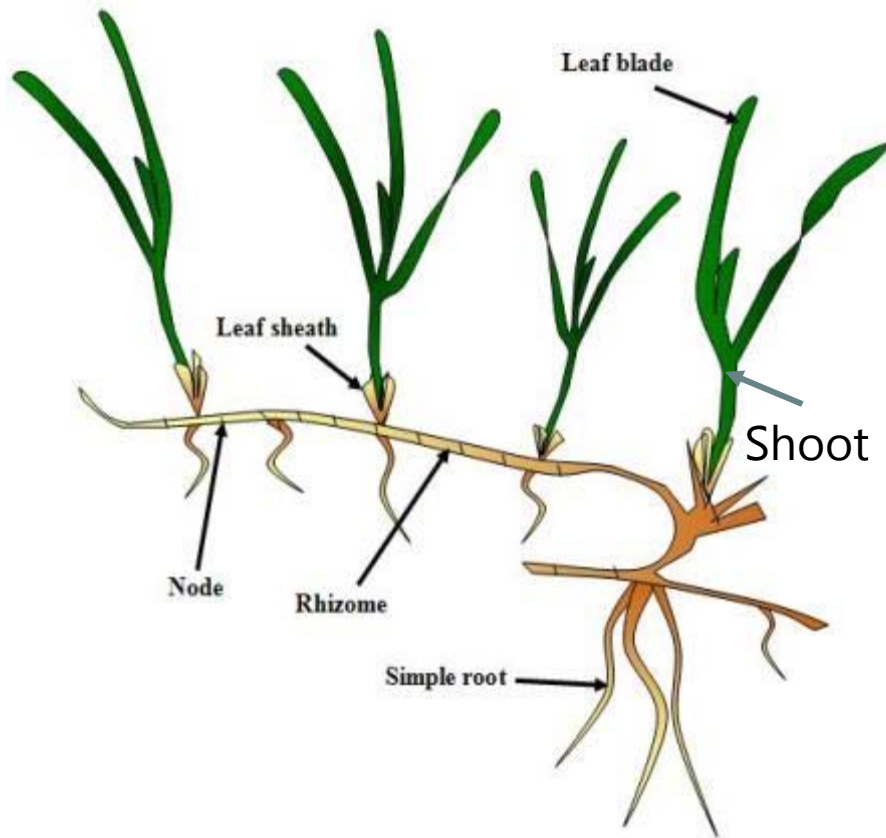


Eelgrass as an Important Resource

Biology and Distribution



Eelgrass (*Zostera marina*)



- Unique flowering plant adapted to living underwater
- Forms dense meadows in shallow bays and estuaries

Habitat Requirements

- Lots of light
 - Approximately 20-25% of light hitting the surface of the water
- Moderate wave disturbance and good tidal flushing
- Firm sand to soft mud
- Depths ranging from -1 ft to -12 ft mean lower low water (MLLW) up to 100 ft deep in very clear water
- Cool and clear waters
 - Ideally between 50 and 68° C





Photo credits:
Virginia Institute of Marine Science,
Whatcom County Water Resources,
Southern Fried Science, and WildCare

Why Restore and Conserve Eelgrass?

- Foundation species
 - Habitat and major nursery ground
 - Improve water clarity
 - Wave attenuation and sediment stabilization
 - Major primary producer and food source
 - Carbon sequestration

*Considered a “coastal canary”
– indicator of the health of wetland
ecosystems*

Threats to Eelgrass



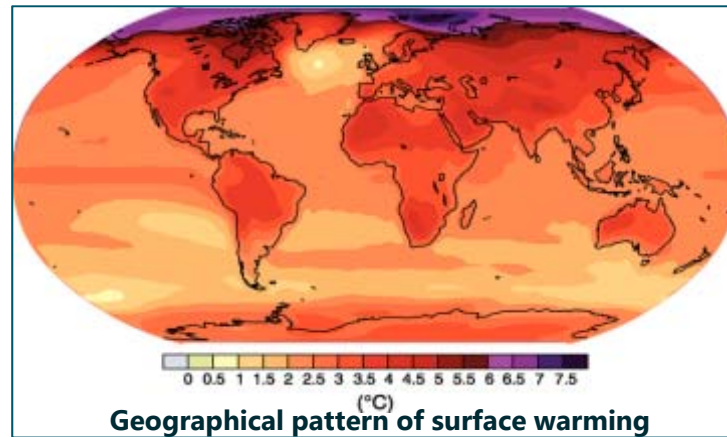
Poor water quality/stormwater



Competing interests



Sedimentation



Geographical pattern of surface warming
(°C)

Changing ocean

Eelgrass Regulatory Requirements

- Eelgrass considered a sensitive resource by state and federal agencies
- All proposed actions that could adversely affect eelgrass require federal agencies to consult with the National Marine Fisheries Service
- Project-specific mitigation required at a 1.38:1 ratio, per the California Eelgrass Mitigation Plan (CEMP) mitigation requirements



Maintenance Dredging Permit Approach

Regional General Permit 54



What Is an RGP?

- Regional General Permits (RGPs)

“are developed to avoid unnecessary regulatory control over activities that do not justify individual control or which are adequately regulated by another agency”

(33 CFR 320.1(a)(3))

- Make it easy
- Allow for maintenance dredging



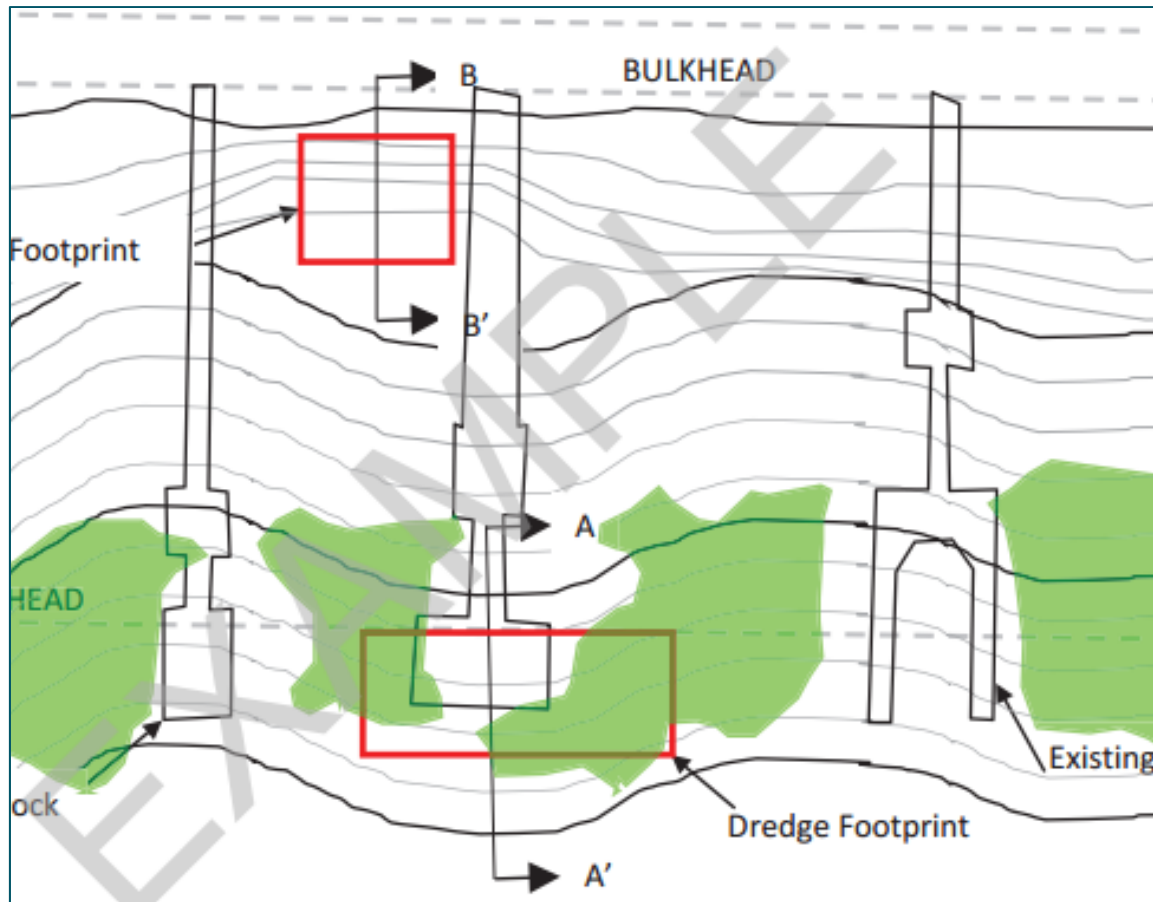
RGP 54 Elements

Annual maximum volume	75,000 cubic yards (cy)
Individual project volume limit	8,000 cy
Maximum dredge depth	Maximum of -10 ft MLLW plus 2 ft overdepth (1 ft paid and 1 ft unpaid; based on authorized depth of the harbor)
Sediment testing	Periodic harbor-wide characterization (5 years)
Eelgrass	Impacts permitted and will be mitigated pursuant to the CEMP or Newport-specific Eelgrass Plan



Maintenance Dredging

Dredging can result in temporary impacts to eelgrass

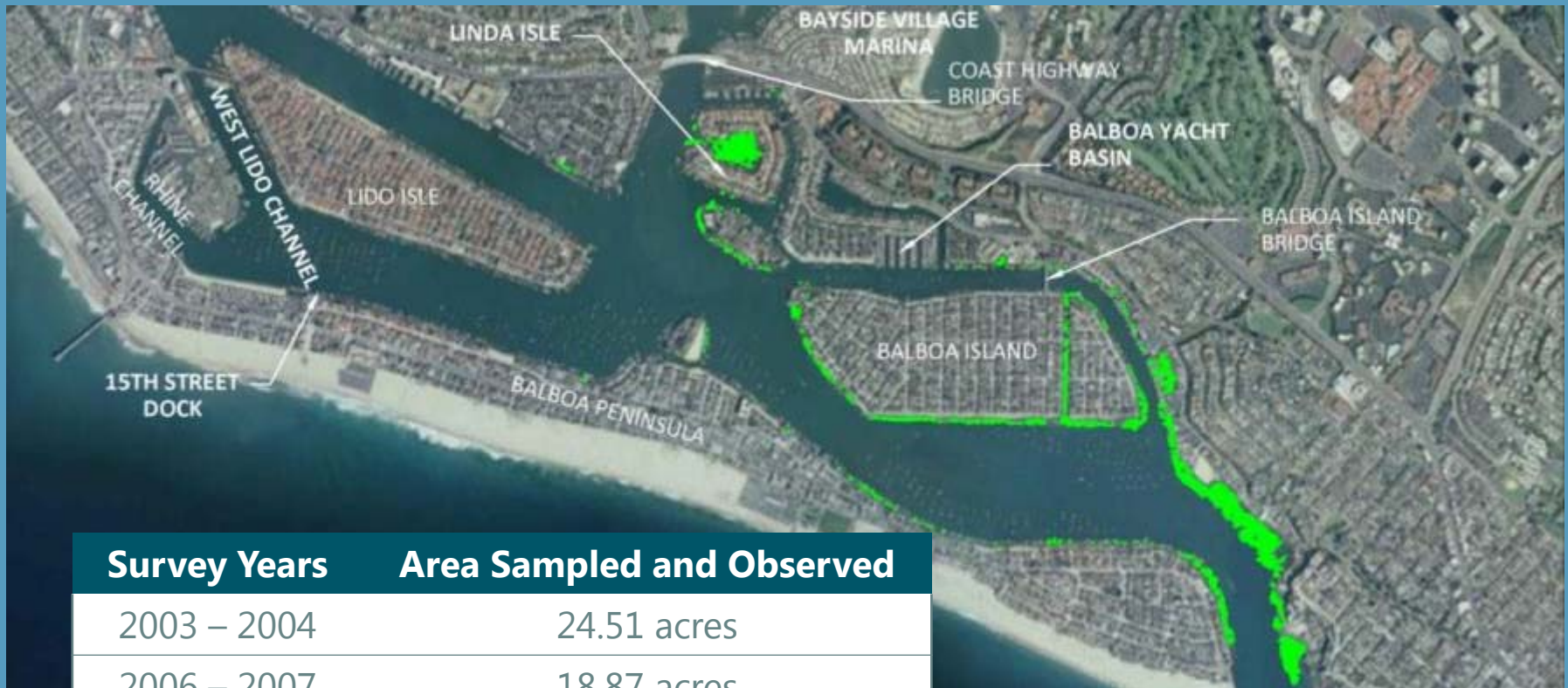


Newport-specific Eelgrass Plan

- Protect and promote eelgrass habitat on a harbor-wide basis
- Establish thresholds for total eelgrass population (based on biannual surveys)
- Allow temporary impacts to eelgrass from maintenance dredging
- Reduce burden for individual mitigation



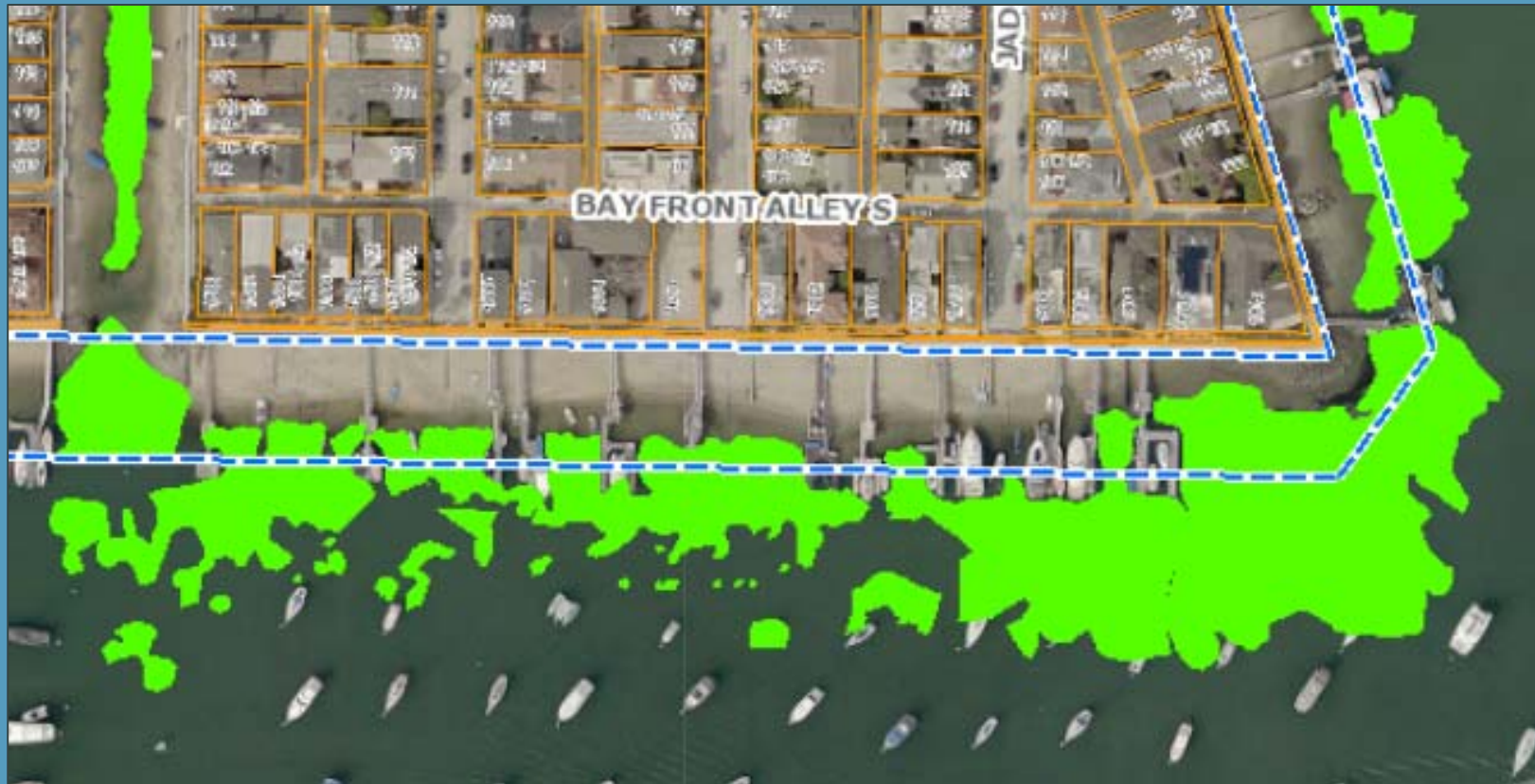
Biannual Surveys



Survey Years	Area Sampled and Observed
2003 – 2004	24.51 acres
2006 – 2007	18.87 acres
2009 – 2010	16.2 acres
2012 – 2014	22.76 acres
2016	26.96 acres



South Bay Front – Level of Survey Detail



Eelgrass Management Zones



2013/2014 Biannual Eelgrass Survey Data

Tier	Stable Zone	Transitional Zone
Tier I	If ≥ 16.8 acres in extent Then 0.84-acre maximum impact	If ≥ 3.8 acres in extent Then 0.19-acre maximum impact
Tier II	If extent between 15.8 and 16.8 acres Then 0.5-acre maximum impact	If extent between 2.5 and 3.8 acres Then 0.11-acre maximum impact
Tier III	If < 15.8 acres in extent Then impacts allowed with CEMP mitigation	If < 2.5 acres in extent Then impacts allowed with CEMP mitigation



Mitigation Responsibility

- Educate property owners/public outreach
- Conduct biannual surveys of plan area and harbor-wide surveys every 4 years
- Provide applicant-responsible measures
- Contribute to Coastkeeper



Buoy-deployed seed bags



Transplanting eelgrass restoration frames





Method 1: Diver Transplant

- Positives
 - Low-tech, inexpensive supplies
 - Well-documented success in SoCal (87%)
 - Met success criteria within first 6 months
- Negatives
 - Increased underwater time and skilled labor

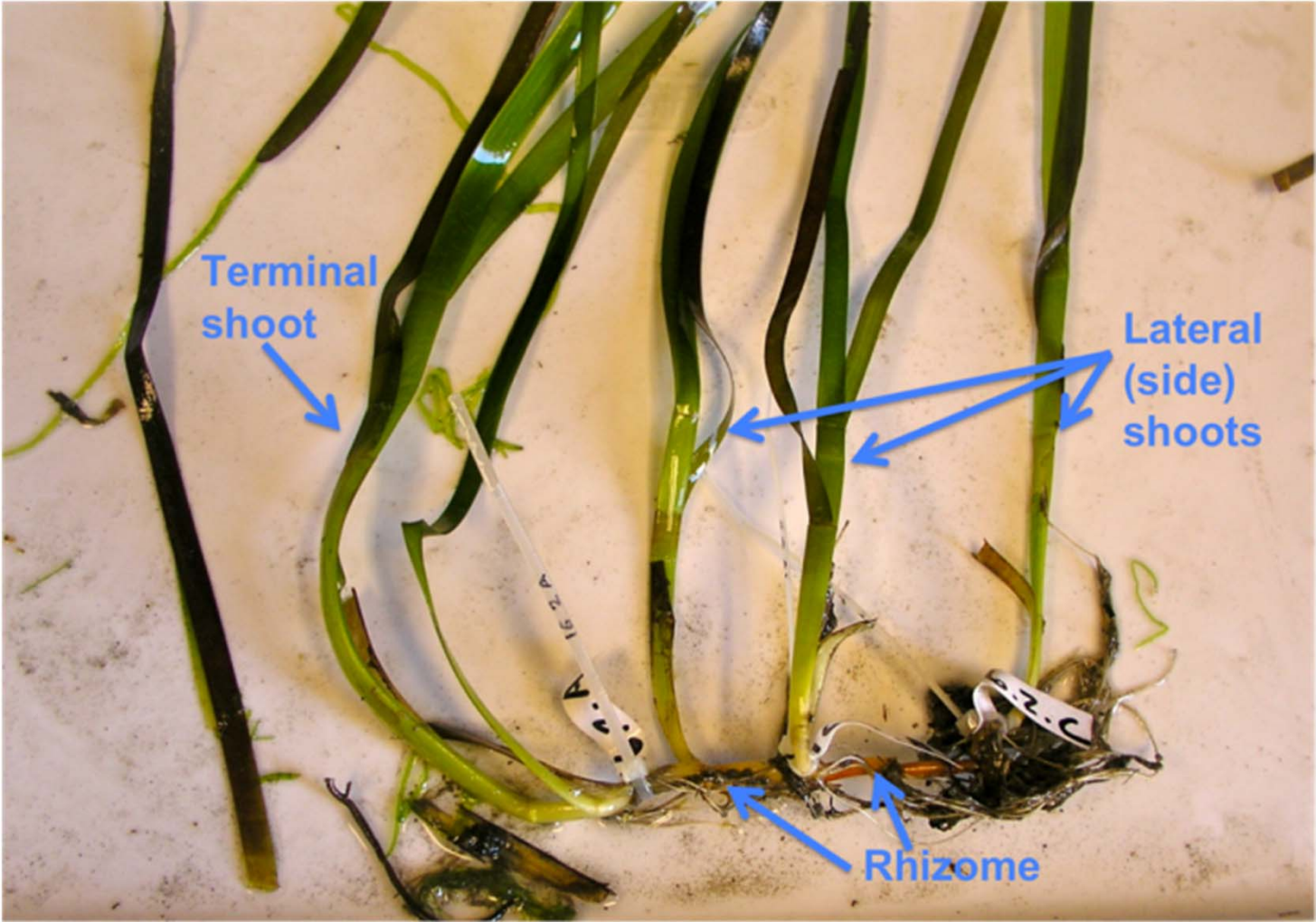


Method 2: Transplanting Eelgrass Remotely with Frames (TERFS)

- Positives
 - Less underwater time
 - Less diver labor
- Negatives
 - Less effective in coarse sediments
 - Removal timing critical
 - Switch to biodegradable materials



Eelgrass Reproduction



Method 3: Buoy-Deployed Seeding (BuDS)



- Positives
 - Less impact to eelgrass donor beds
- Negatives
 - Least area restored (1 year)
 - Hard to track success
 - Buoy bags damaged/ disappeared

Summary

- New RGP 54 allows the following key activities
 - Maintenance dredging to -10 ft MLLW (plus 2 ft of overdepth allowance)
 - Cumulative annual dredging limit up to 75,000 cy
 - Maximum 8,000 cy per project limit
 - Temporary impacts to eelgrass as a percentage of current population in the harbor
- Program began in February 2016 with 67 applicants



RGP 54

Implementation Program



Implementation Program – Program Website

www.NewportBeachCA.gov/dredging

The screenshot shows a website page for 'Maintenance Dredging Permits'. The page has a navigation menu on the left with categories like 'GOVERNMENT', 'Harbor Resources', and 'Dredging Permits & Information'. The main content area features a breadcrumb trail 'Government » DEPARTMENTS » Public Works » Harbor Resources', a search bar, and a title 'MAINTENANCE DREDGING PERMITS'. Below the title are links for 'Font Size', 'Share & Bookmark', 'Feedback', and 'Print'. A 'Project Update' section dated 'March 30, 2016' contains a red text announcement: 'At this point, the City has reached the annual allowable limit for temporary impacts to eelgrass under the new RGP 54, and is no longer accepting pre-screening applications if your project will result in temporary impacts to eelgrass. Please check back regularly for additional information as to when the City will be accepting additional project proposals that include temporary impacts to eelgrass.' Below this is an 'Overview' section explaining that all dredging projects require permits from multiple agencies and that the City manages the permitting process for the new Regional General Permit (RGP 54). The 'RGP 54 Application Steps' section begins with 'Step 1. Pre-application screening – Submit the following to Harbor Resources to initiate the process:' followed by a list of two items: '1. Proposed dredging footprint; and' and '2. Proposed disposal footprint (if proposing beach replenishment), or a note that you are proposing disposal at either the offshore LA-3 ocean disposal site or an inland disposal site.' The page footer contains logos for the City of Newport Beach, Anchor QEA, and Coastkeeper, along with a page number '25'.

GOVERNMENT I AM A... HOW DO I... TRENDING Search...

Government » DEPARTMENTS » Public Works » Harbor Resources

MAINTENANCE DREDGING PERMITS

Font Size: Share & Bookmark Feedback Print

Project Update

March 30, 2016

At this point, the City has reached the annual allowable limit for temporary impacts to eelgrass under the new RGP 54, and is no longer accepting pre-screening applications if your project will result in temporary impacts to eelgrass. Please check back regularly for additional information as to when the City will be accepting additional project proposals that include temporary impacts to eelgrass.

Overview

All dredging projects, even the simplest in nature, require permits issued by multiple federal and state agencies before dredging can proceed. To make the process easier for applicants, the City (Harbor Resources) manages the permitting responsibility for the new Regional General Permit program (RGP 54) to allow small maintenance dredging projects within designated areas of Newport Harbor. Because the permit conditions from the federal and state agencies are complex, we have outlined key steps, and have also provided helpful information for you on this page. Our goal is to simplify the process so we can ensure a successful and efficient program. If you have any questions, please contact Harbor Resources at 949-644-3044 or dredging@newportbeachca.gov.

RGP 54 Application Steps

Step 1. Pre-application screening – Submit the following to Harbor Resources to initiate the process:

1. Proposed dredging footprint; and
2. Proposed disposal footprint (if proposing beach replenishment), or a note that you are proposing disposal at either the offshore LA-3 ocean disposal site or an inland disposal site.

The footprints should be either a hand-marked drawing using an [aerial image](#) or an electronic "shapefile" (Horizontal Datum – California State Plane Zone 8, NAD83; Vertical Datum – Mean Lower Low Water). For additional information...



Program Website (cont.)

www.NewportBeachCA.gov/dredging

Step 3. Application – Submit a completed **application** to Harbor Resources electronically. Please be sure to submit the application form and the required attachments as separate files - do not combine into a single PDF. Submit a signed RWQCB Certification statement and applicable fees to Harbor Resources at 100 Civic Center Drive, Newport Beach, CA 92660. Applicable fees include the following:

- \$1,674 check payable to City of Newport Beach; and
- \$200 check for Clean Water Act Section 401 Certification, payable to State Water Resources Control Board.

[RWQCB Certification Statement Template](#)

[Example completed RGP 54 application package](#)

Step 4. Harbor Resources will contact you if additional information is required. Once the application is complete, we will forward your application to the regulatory agencies (Coastal Commission, Corps of Engineers, and Water Board) for consideration.

Step 5. Approximately 60 to 90 days after your application is submitted to the agencies, Harbor Resources will notify you if your project was approved.

Step 6. Submit a signed **Applicant Agreement** to Harbor Resources, perform any pre-project requirements (as listed in the application), and start the project!

Step 7. After your dredging project is complete, submit post-construction reports and perform eelgrass mitigation (if required).

Helpful information for planning a maintenance dredging project

- [Interactive map](#)
- [Sediment characterization map](#)
- [Timeline and Process for a Project under RGP 54](#)
- [Eelgrass and Caulerpa information](#)
- [Eelgrass Protection and Mitigation Plan](#)
- [Applicant Agreement](#)
- [Determination of Project Types under RGP 54 and Corresponding Requirements](#)

Templates for maintenance dredging projects

- [Dredging Application for RGP 54.](#) Application form should be filled out electronically and submitted to Harbor Resources. Note if multiple adjacent properties are applying under a single application, the limitations for a single project will apply.
- [Template for Dredging, Transport, and Discharge Operations Plan for Beach Replenishment ONLY](#)
- [Template for Dredging, Transport, and Discharge Operations Plan for Open Ocean Disposal ONLY](#)
- [Template for Post-Dredging and Disposal Completion Report](#)



Step 1: GIS Pre-Screening Report



City of Newport Beach
Harbor Resources Division
100 Civic Center Dr, Newport Beach, CA 92660
Phone Number (949)644-3044

Dredging Report

Project Number: **DRG2016_1015**

Date: 6/30/2016

Applicant Name: Balboa Bay Club

Project Address: 1221 W Coast Hwy

Authorized Agent: Associated Pacific Constructors

Latitude/Longitude: 33.61481508/-117.91429594

SqFt of Dredging Area: 47,564.27

Dredging Area within RGP 54 Plan Area?: Yes

Eelgrass Zone: Transitional Eelgrass Zone

Current Eelgrass Zone Tier: Tier 2

SqFt of Eelgrass Impacted: 363.13

Sediment Characterization: Suitable to -10 feet MLLW plus 2 feet of overdepth for unrestricted open ocean disposal at LA-3.

Proposed Disposal Location: LA-3 Ocean Disposal

Additional Notes/Actions: 1) Grain size analysis required in order to verify suitability for disposal. 2) Eelgrass Best Management Practices (BMPs) required. Implement deployable seed bags, TERFS, and/or other transplant method BMP at impact area. Please see the Harbor Resources Dredging website for vendor options.



**This pre-application information is valid for 90 days from the date on the top right corner of your pre-screening Dredging Report. Please contact Harbor Resources prior to the expiration date to avoid having to reinitiate the pre-application process.*



Application and Program Materials

- Application templates
- Dredging and Disposal Operations Plan templates
- Completed application example
- City tracking workbook
 - Cumulative dredge volume, eelgrass impact, etc.



RGP 54 Program to Date

Year One

- City has received more than 67 applications
 - More than half have received approval to dredge
 - Several have already completed their dredging

Year Two

- Annual volume and eelgrass impact allotment to reset
- Several new applications in queue
- Allowable temporary impacts to eelgrass will slightly increase



Eelgrass Restoration Efforts

Eelgrass Is a Good Thing



Eelgrass Is Good

- Under the City's RGP 54 and Eelgrass Plan, temporary impacts to eelgrass are permitted based on the total amount of eelgrass in the harbor.
- So the more eelgrass the better!



Upper Newport Bay Eelgrass Restoration Project

- Funding – State Coastal Conservancy, NOAA Community-based Restoration Program, City of Newport Beach
- Project partners/supporters
 - California Coastal Commission
 - County of Orange
 - Santa Ana Regional Water Quality Control Board
 - Coastal Resources Management, Inc.
 - California Department of Fish and Wildlife
 - Back Bay Science Center
- Goal acreage – 1 acre of potential habitat
- Time frame – June 2012 through June 2016



Long-term Restoration Goals

1. Establish sustainable eelgrass habitat in Upper Newport Bay
2. Evaluate success of multiple restoration methods
3. Develop site-selection and success criteria for future restoration projects
4. Develop a community eelgrass restoration education and outreach program at the Back Bay Science Center



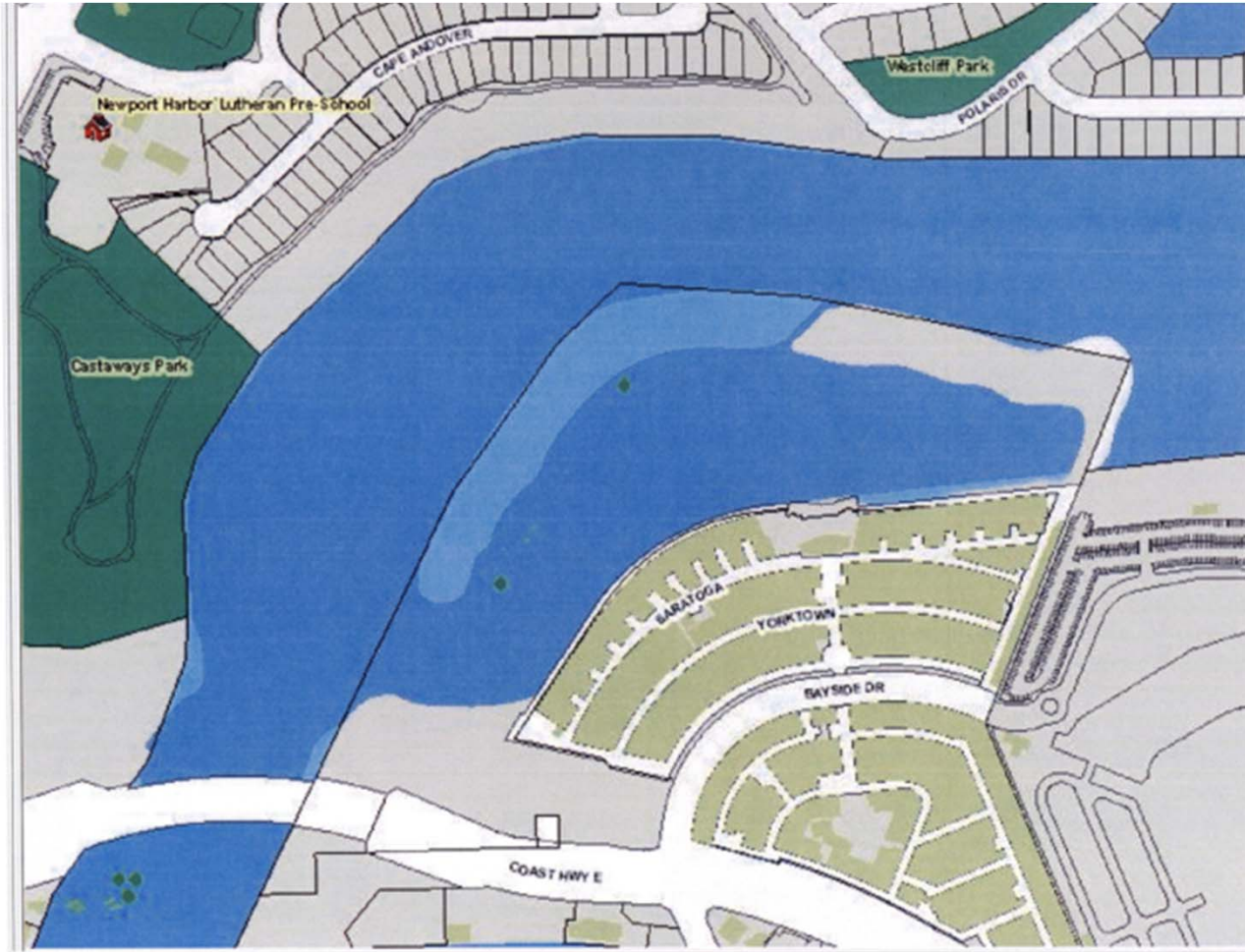
Eelgrass Abundance – DeAnza Peninsula (2004)



Source: City of Newport Beach



Eelgrass Abundance – DeAnza Peninsula (2007)



Source: City of Newport Beach



Orange County Coastkeeper Restoration Program Summary

- Planted: 2,600 m² of eelgrass (0.64 acre)
- Last measured acreage in Upper Newport Bay (August 2016): 32,375 m² (8 acres)
- Number of volunteers: 264
- Number of volunteer hours: 2,365 hours



Maintenance Dredge Best Management Practices

- Use a silt curtain during dredging to contain turbidity
- Limit dredge footprint to avoid unnecessary impacts to eelgrass



Another Important Issue

Copper in Newport Harbor – Quick Facts

- Major source of copper is believed to be from copper anti-fouling boat paints.
- The Regional Water Quality Control Board is proposing an 83% reduction in copper in Newport Harbor in 15 years.
- Via regulatory order called a Total Maximum Daily Load (TMDL)
- Responsible parties include:
- City, County, marinas, yacht clubs, individual boaters, hull cleaners.....Everybody!!



Copper in Newport Harbor

- **What can I do??**

- Consider cleaning your boat hull less often.
- Consider a paint with less copper next time you haul-out (ask your shipyard!)
- Stay aware of the overall issue
- Participate with public comments/letters

- For more information:

www.newportbeachca.gov/copperTMDL



Questions/Discussion

Help with your dredging project!



Contact Information

Chris Miller – CMiller@newportbeachca.gov

(949) 644-3043

Adam Gale – Agale@anchorqea.com

(949) 334-9635

Sara Briley – Sara@coastkeeper.org

(714) 850-1965