RICHARDSON BAY ECOLOGICALLY-BASED MOORING FEASIBILITY AND PLANNING STUDY

RICHARDSON'S BAY REGIONAL AGENCY

KEITH MERKEL, MERKEL & ASSOCIATES

SEPTEMBER 12, 2019

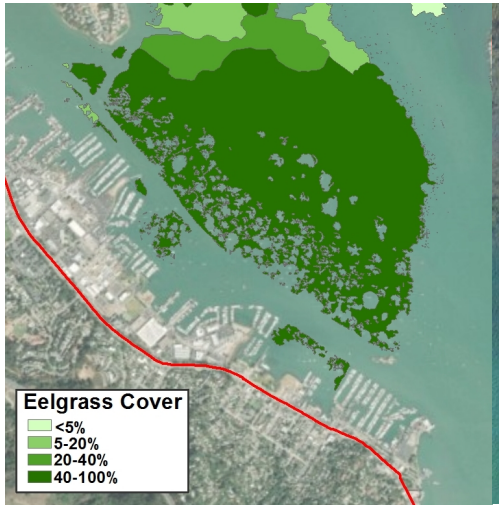
ISSUE: ARE MOORINGS AND VESSEL ACTIVITIES IN RICHARDSON'S BAY IMPACTING ECOLOGICAL RESOURCES?

- Eelgrass beds
- Pacific Herring
- Marine Birds
- Marine Mammals
- Water Quality

Richardson Bay panoramic photo from Audubon Sanctuary

EELGRASS IMPACTS

- Eelgrass beds are adversely affected by mooring ground tackle and have increased
- Eelgrass is being damaged to a lesser degree by vessel movements
  - Dinghy transiting damage to eelgrass is low
  - Larger commercial and government vessels is higher but related to mooring locations
  - Evidence of eelgrass damage is seen in eelgrass surveys and photos as depicted in photographs



OTHER IMPACTS

- Lower Level Adverse Impacts
  - Turbidity
  - Herring eggs maybe
  - Debris discharges
- Low Level Non-substantive Contribution
  - Bird
  - Marine Mammal
  - Bacteriological pollutants

ISSUE: CAN SIGNIFICANT ECOLOGICAL IMPACTS BE REDUCED OR ELIMINATED?

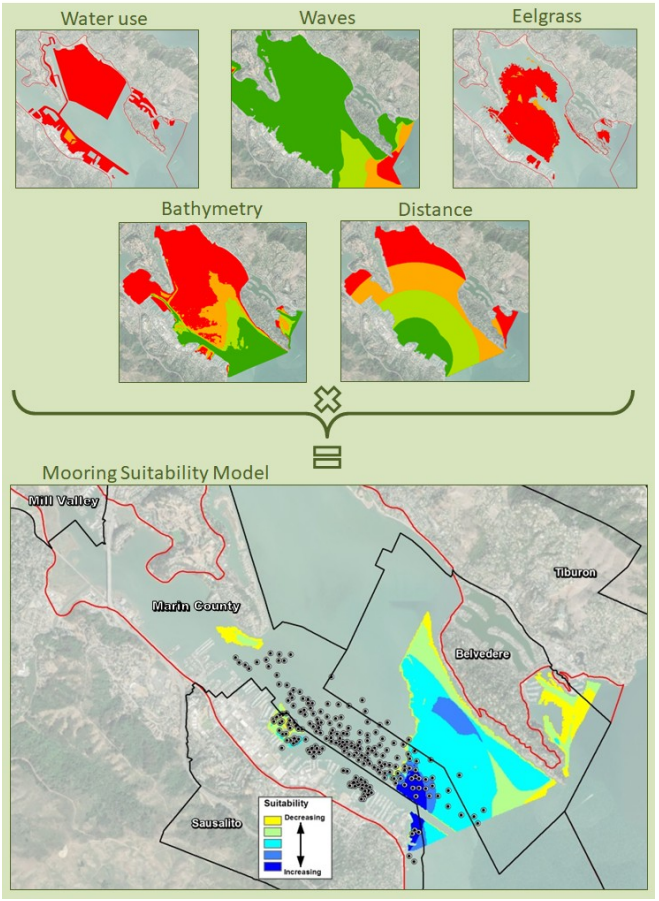
- What is the standard that moorings must meet for impacts?
  - Less than or equal to marinas or landside contributions?
  - Separate standards?
- What options are on the table for consideration?

IMPACTS CONSIDERED TO BE SUBSTANTIAL

- Eelgrass beds and herring impacts are positional impacts
- Adrift vessel damage is an enforcement, mooring design and maintenance issue
- Turbidity impacts are water depth and mooring design impacts
- Debris discharges are management and enforcement related

SPATIAL MODEL DEVELOPED FOR MOORING SUITABILITY

- Model produces the product of multiple data layers
- Layers include, water use restrictions, waves, eelgrass, bathymetry, and distance to shore landings
- Layers have suitability values from 0 to 1
- As a result, any value of zero eliminates suitability.
- Model predicts suitable areas for moorings that would accommodate the majority of the vessels present
- With increased wave energy several existing vessels may not appropriate for the predicted moorings



MOORING ISSUES ARE CURABLE

- Curb or eliminate influx of vessels to the bay
- Identify suitable locations for moorings
- Set permanent conservation type moorings in appropriate locations and configurations
- Number moorings and register moorings to occupants
- Reduce anchor-out vessels to one seaworthy vessel per owner
- Enforce, registration, vessel inspections

MOORING ISSUES ARE CURABLE

- Support on-water community support efforts
  - Vessel assistance, spill response, training, neighborhood watch, safety and welfare needs
  - Develop a trash and debris removal program
  - REALLY foster community support and reliance
- Contemplate HOA type acceptable rules with community board
- Evict those that cannot or will not play by the rules
- Provide for a transition process to any action taken
- Funding for transition to revised mooring would likely be available through grants

REPORTING SUMMARY FINDINGS TO RBRA

- Presentation to RBRA Board September 12
- Take in any commentary presented and finalize report for submittal to RBRA
- RBRA to consider recommendations and pursue any next actions.

QUESTIONS?