



# UPDATE ON COPPER TMDLS

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# TMDL ADOPTION BACKGROUND

- Regional Board planned to consider adopting metal total maximum daily limits (TMDLs) at October 2016 board hearing
- Based on comments submitted by stakeholders, Board staff delayed the adoption to fully address significant comments received and hold 2 stakeholder workshops regarding the availability of alternative paints
- April 2018 Regional Board staff reached out to City, County and The Irvine Company to begin discussing revised TMDL
- June 2018 Regional Board released revised TMDL

# TMDL ADOPTION UPDATE

- Regional Board was to consider adopting metal TMDL at October 2018 board hearing
- City submitted similar comments
  1. Appropriate response to 2016 comments not provided
  2. Technical and legal flaws with TMDL
  3. Lack of suitable non-toxic alternative paints to support proposed implementation plan

# TMDL ADOPTION UPDATE

- Regional Board cancelled item for October 2018 hearing and delayed the adoption recommendation until after 2 stakeholder workshops are held
- Workshops appear to be planned to occur in the next 6 months

# CITY'S CURRENT ACTIVITIES

- Prepare to be engaged in stakeholder workshops
  - Bring forward concerns about availability of alternative non-toxic antifouling paints
  - Bring forward recommended monitoring approaches
  - Work with stakeholders to develop meaningful/effective management actions to reduce copper in areas where impairment has been observed

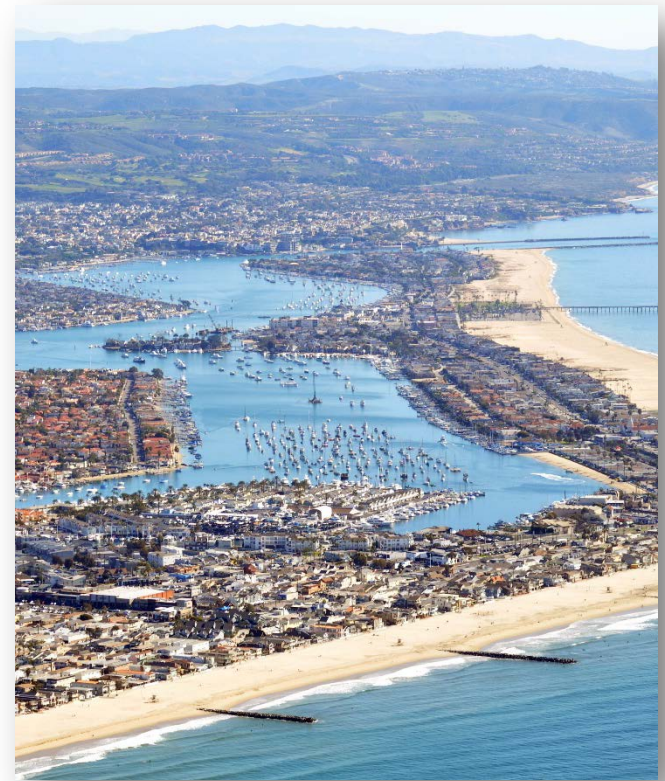
# AVAILABILITY OF ALTERNATIVE NON-TOXIC ANTIFOULING PAINTS

- Copper-based paints are legal
  - DPR is the only agency that can regulate the use of pesticides
  - DPR worked with EPA and State Water Board and has developed new copper leach standards for paints (9.5  $\mu\text{g}/\text{cm}^2/\text{day}$ ), effective 7/1/2018
  - DPR has developed 'recommendations' to further reduce copper loading
- Alternative paints are often proprietary and formulations are constantly changing which limits determination of suitability and testing
- New work conducted in State of Washington confirms there are no safe alternatives to copper at this time



# RECOMMENDED MONITORING APPROACHES

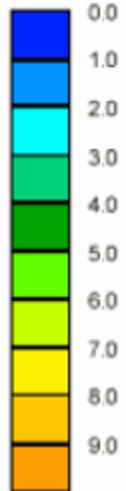
- Define compliance methods
- Randomized sampling
- Copper exceedances coupled with toxicity testing



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# LOW FLUSHING TIDE COPPER LEVELS –SUMMER 2015



Residence Time (days)

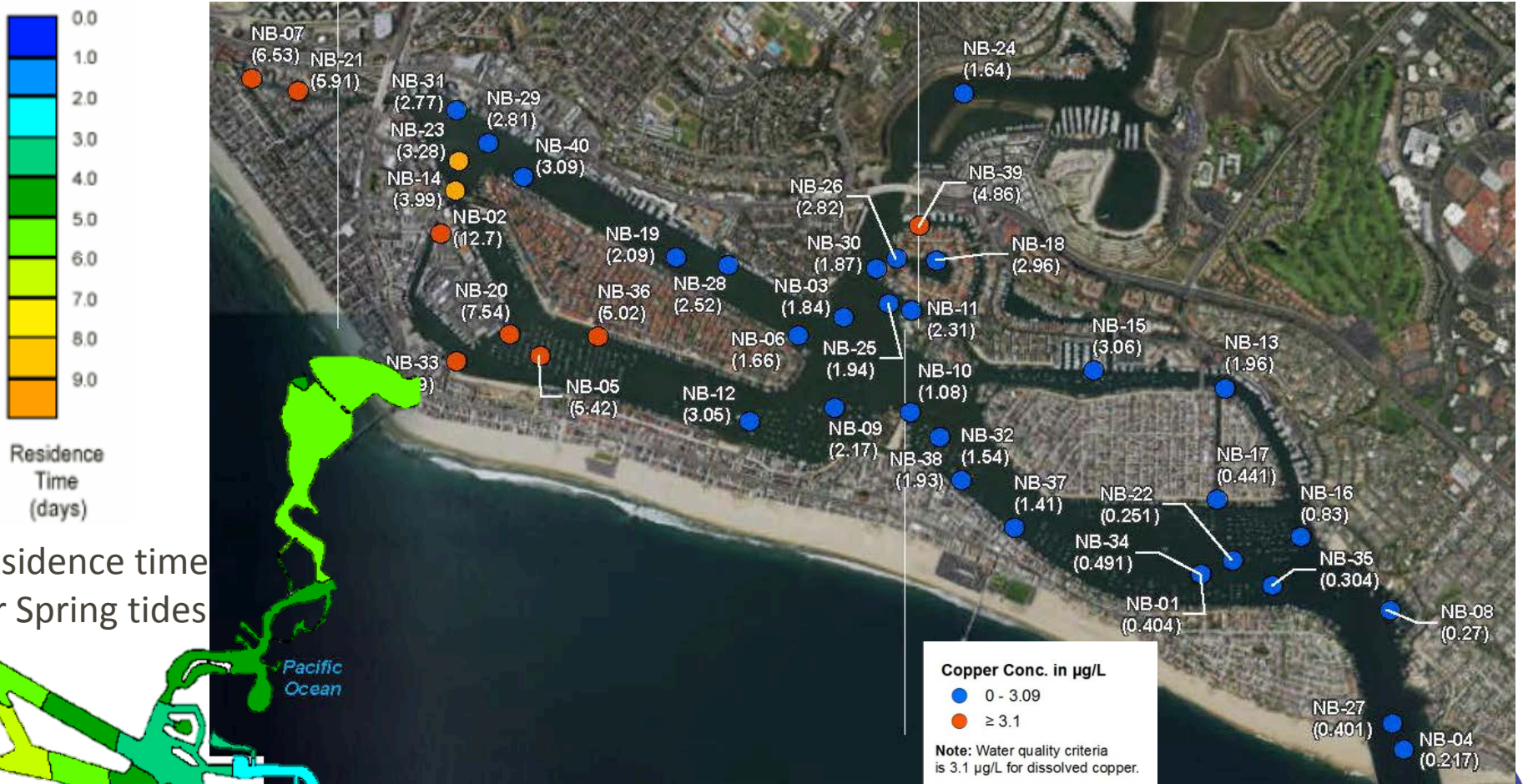
Residence time for Neap tides



**Copper Conc. in µg/L**  
 ● 0 - 3.09  
 ● ≥ 3.1  
 Note: Water quality criteria is 3.1 µg/L for dissolved copper.



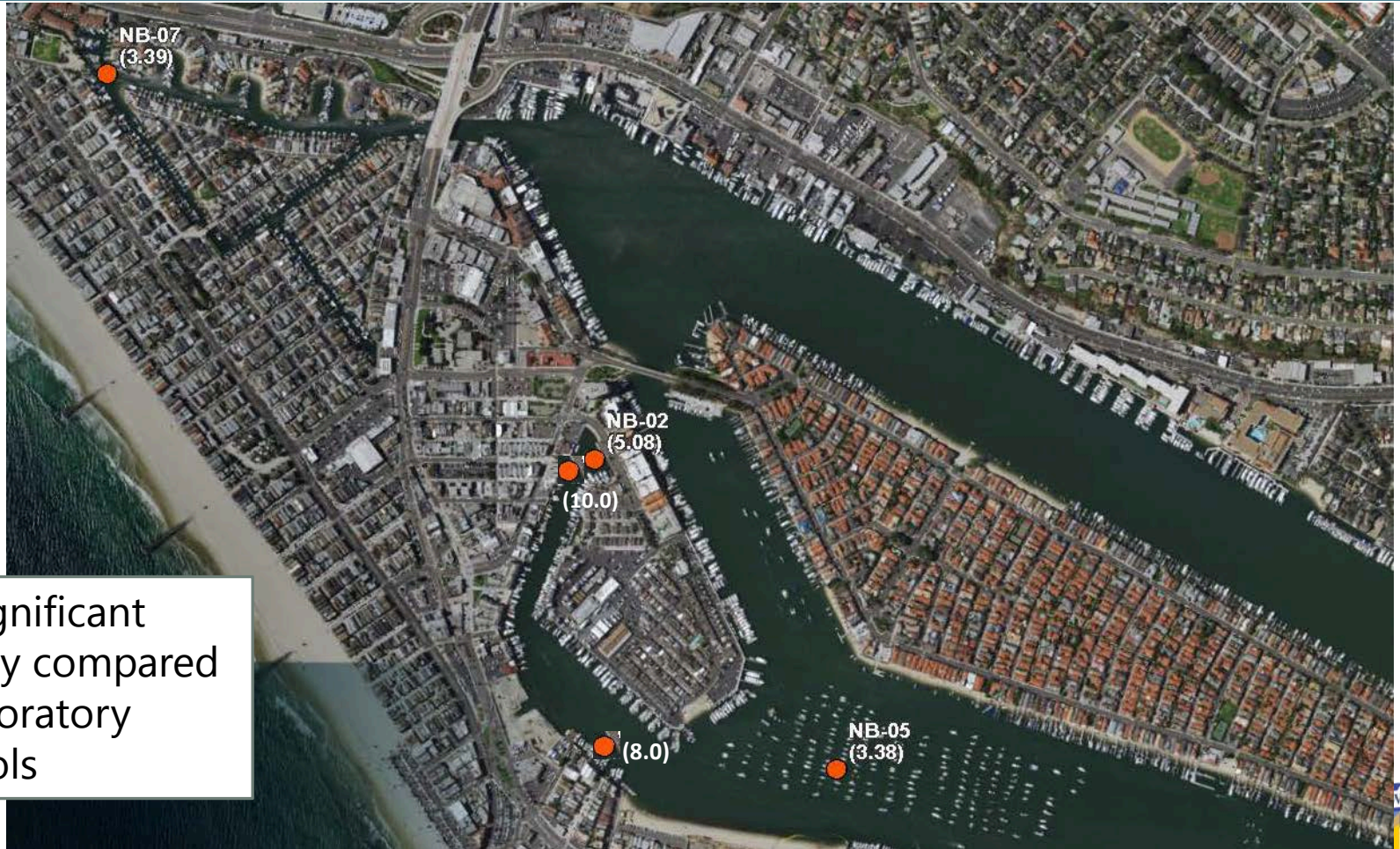
# HIGH FLUSHING TIDE COPPER LEVELS – WINTER 2015



Residence time for Spring tides



# COPPER TOXICITY STUDY – SPRING/SUMMER 2016 MUSSEL LARVAL DEVELOPMENT TEST



No significant  
toxicity compared  
to laboratory  
controls

# MEANINGFUL AND EFFECTIVE MANAGEMENT ACTIONS

- Support new guidance from DPR
  - Advocate the use of legal paints
  - Encourage recommended management actions that may reduce copper
    - Best management practices for in-water hull cleaning
    - Boater education
    - Support conversion to non-copper paints



# CONSIDERATION FOR ENVIRONMENT HAS BEEN IMPROVING

- Anticipated and expected future actions that will continue to improve our marine resources in the coming years include:
- Continued MS4 reductions/controls
- Brake pad initiative will reduce copper and zinc throughout California
- Future maintenance dredging will contribute to deepening of harbor and increases in circulation.
- DPR paint restrictions will provide significant source reductions that we think will be sufficient to meet water quality in Newport through boater education program and diver training programs.
- Natural recovery with time



# CITY'S RECOMMENDATION IN 2016 STILL STANDS

- Have Board Staff work with Stakeholders to Develop a Five Year Plan that:
  - Allows the new generation of Lower Copper Leaching Bottom Paints to replace current paints in use. (could take up to 4-5 years for most vessels).
  - Recognizes that DPR/EPA Approved Copper Paints are acceptable for use, and may cause minor exceedance of CTR in some localized areas.
  - Develops and Implements a Reasonable and Scientific Harborwide Water and Sediment Sampling program to Identify any Areas of Real Concern.
  - (Funding will need to be figured out – but Newport Beach is willing to contribute)



# AB425

[HTTPS://WWW.CDPR.CA.GOV/DOCS/LEG  
BILLS/RULEPKGS/16-005/16-005.HTM](https://www.cdpr.ca.gov/docs/legbills/rulepkgs/16-005/16-005.htm)

- 2 standards for copper:
  - 13.4 micrograms per square centimeter per day ( $\mu\text{g}/\text{cm}^2/\text{day}$ ) with a prohibition on in-water hull cleaning and
  - 9.5  $\mu\text{g}/\text{cm}^2/\text{day}$  with the condition that in-water hull cleaners follow the California Professional Divers Association's BMP method with soft-pile carpet and limit in-water hull cleaning to no more frequently than once per month.
- Several potential mitigation measures that could be implemented with the assistance of other regulatory agencies or voluntary compliance with the boating community are included:
  - In-water hull cleaners use BMPs
  - Encourage paint manufactures to develop cleaning guidance
  - Increase boater awareness of alternative paints
  - Support incentive programs to convert boats to non-copper



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# AB425

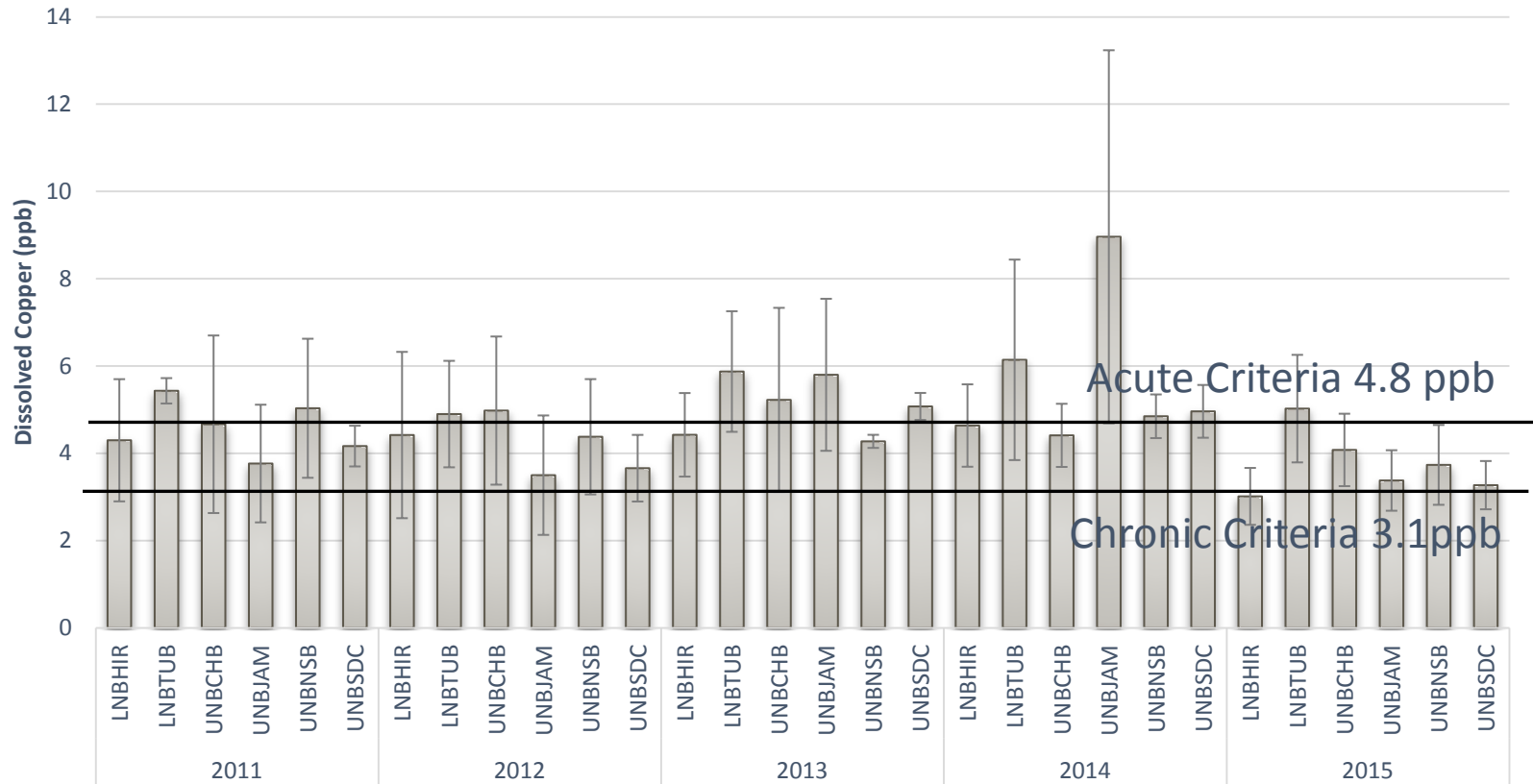
- DPR will continue monitoring for copper contamination and evaluate compliance with CTR standards. If, in the future, additional mitigation measures are necessary to address water quality concerns, DPR will have leach rate data for all copper-based AFP products, including those used on commercial vessels, to determine the nature or extent of potential exposures.



# AB425

- Although DPR does not have jurisdiction over the activities of in-water hull cleaners, it is currently coordinating with the State and Regional Water Boards (or collectively Water Boards) to ensure this type of discharge is managed so that DPR's copper leach rate limit can achieve its intended impact. The Water Boards regulate dischargers of copper in coastal marinas using the U.S. EPA's Clean Water Act regulatory tool known as Total Maximum Daily Loads (TMDLs) one water body at a time.

# DISSOLVED COPPER CONCENTRATION IN NEWPORT BAY (2011 TO 2016)



- 205 samples in 5 years at six stations
- Acute = 24 hour; Chronic = 96 hour exposure