

Port of San Diego Copper Reduction Efforts for San Diego Bay

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Karen Holman
Stormwater Program Manager
Port of San Diego

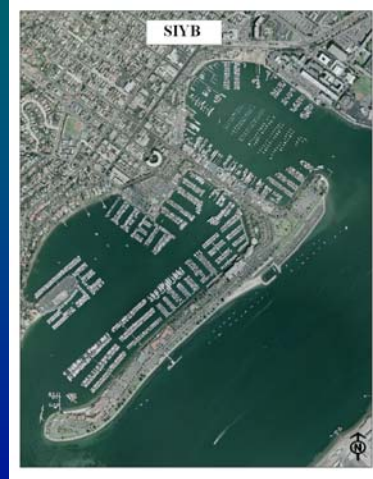


Agenda

1. The Problem
2. Strategic Approach
3. Current Activities
4. Future Activities/programs

SIYB Copper TMDL

- ❖ High levels of dissolved copper in SIYB water column (4,600 lbs/year)
- ❖ 95% of loading from passive leaching (2,000 kg or 4,400 lbs/year)
- ❖ 5% of loading from hull cleaning (100-116 kg or 220-255 lbs/year)



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San Diego Bay 303(d) Listings



Total Maximum Daily Load (TMDL)

- ❖ Regulatory program under CWA Section 303(d)
 - Water body assessment
 - Define total load and set load allocations
 - Develop implementation plan
 - Identify timeline for compliance

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SIYB Copper TMDL

- ❖ 76% required load reduction
- ❖ 17 year phased compliance period
- ❖ Compliance by 2022

Stage	Years	Reduction	Start	End
1	0-2	0%	12/2005	12/2007
2	2-7	10%	2007	2012
3	7-12	40%	2012	2017
4	12-17	76%	2017	2022

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Copper Reduction Approach

- a) Seek Permanent Solution to Hull Paint Pollutant Loading
 - I. Evaluate products & identify alternatives
 - II. Advocate and support change at the state or federal level
- b) Utilize Adaptive Implementation
 - I. Develop individual and collaborative activities
 - II. Regularly evaluate & assess activities
 - III. Conduct regular monitoring & research
- c) Incorporate Phased Approach
 - I. Load reductions based on TMDL interim targets
 - II. Encourage Voluntary Transition
 - III. Incorporate Regulation, where appropriate

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Key Implementation Elements

- ❖ Develop strategy to achieve compliance with phased load reduction targets
- ❖ Focus on largest contributions
- ❖ Bring named parties together to work collectively to reduce loading
- ❖ Identify most effective mechanism(s) to assess loading & load reductions
- ❖ Assess information basin-wide

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Load Reduction

- ❖ Focus on vessel conversion
 - Addresses passive leaching & hull cleaning contributions
 - Most direct mechanism to compare with TMDL interim and final targets
 - Track vessel conversion annually
- ❖ Conduct annual water quality monitoring
 - Will determine when vessel conversion starts to show water quality improvements
- ❖ Assess information basin-wide

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Vessel Reduction Targets

- ❖ Reduce number of vessels with copper hull paint
- ❖ Will reduce passive leaching and hull cleaning contributions
- ❖ TMDL load allocations used to determine reduction numbers

Stage	Years	Loading Reduction	Interim Loading Target	Reduction in Vessels w/ Copper Paints to Achieve Loading Target
1	2005-2007	0%	2,163	N/A
2	2007-2012	10%	1,900	222
3	2012-2017	40%	1,300	720
4	2017-2022	76%	567	1,703

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Collaborative Activities

1. Develop TMDL Implementation Plan
 - Individual BMP Workplans
 - Vessel Tracking Database
2. Develop Monitoring Plan
 - Water Quality Monitoring (chemistry)
 - Toxicity Testing
 - Special Studies (through RHMP)

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Ongoing Activities: Port

1. Vessel conversion for Port fleet
2. Identify and test alternative hull paints
 - EPA Grant Alternative Hull Paint study
 - Ongoing paint testing program
 - Global Request for Information
3. Lead stakeholder collaboration efforts
4. Develop vessel tracking standards
5. Participate in state (DPR) copper meetings

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Ongoing Activities: Marina & Yacht Clubs

1. Vessel tracking Surveys
2. Preferred status on wait list if using alternative hull paints
3. Developing efforts to encourage boatyards to report recent hull painting activities
4. Encouraging boaters to repaint with non-copper paints
5. Participate in state (DPR) copper meetings

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Future Activities: 2010-2012

- ❖ Emphasis on voluntary compliance
- ❖ Potential Projects:
 1. Collaborate with manufacturers to formulate cost effective paints & application methods
 2. Populate vessel database
 3. Incentives to boaters who voluntarily switch paints (319h Grant funds??)
 4. Coordinate with hull cleaners to develop appropriate BMPs
 5. Priority lists for boats having non-copper paint

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Future Activities: 2013-2022

- ❖ Greater emphasis on regulatory measures to achieve non-voluntary transition
- ❖ Potential Projects:
 1. Hull Cleaning BMP requirements
 2. Lease agreement modifications
 3. Hull paint certifications required for all boaters
 4. Enforcement/fines for non-compliance

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Questions?

Karen Holman
Senior Environmental Specialist
Stormwater Program Manager
(619) 725-6073
kholman@portofsandiego.org



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