



3.1.c: Supplemental - Reduce the average concentration of copper in brakes sold in the state from 7.22% to less than 0.5% by 2025, preventing the release of about 250,000 pounds of copper per year.



## BRAKE COPPER CONCENTRATION

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**Department of Ecology**

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**May 8, 2017**



## Background: Eliminating toxic chemicals in products



### We can't fix the problem at the end of the pipe

- Chemicals contained in everyday products are the largest source of toxic pollution today
- Chemicals used in products are not permitted and many are loosely regulated
- Examples include flame retardants, phthalates, perfluorinated compounds, lead, mercury, zinc and copper

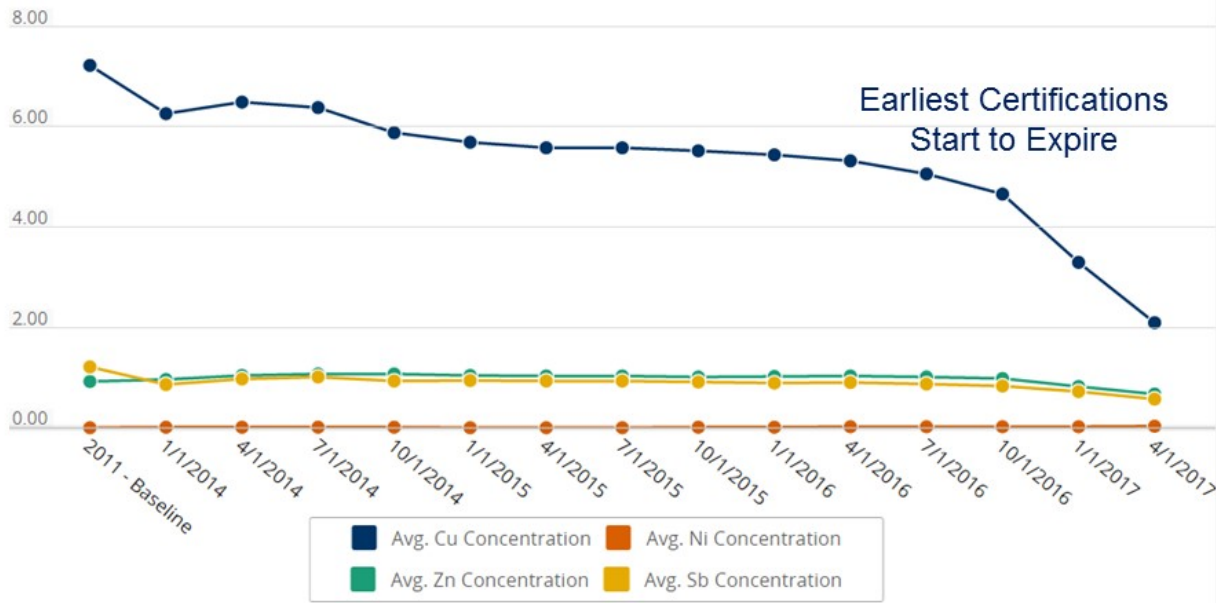
## Background: Protecting salmon, restoring urban streams



### Why copper?

- Copper is toxic to salmon
- Brakes are a major source of copper pollution
- Manufacturers recognized the problem, but needed government partners to level the playing field

## Current State: Ahead of schedule



Copper in brakes has fallen by 70 percent since 2011

## Current State: Return on investment

Since 2010:

- Copper in new brake pads has fallen by 70 percent
- This has prevented 375,000 pounds of copper from being released in Washington
- No increase in cost to consumers
- Total cost to taxpayers: \$500,000 – or \$1.30 per pound of copper pollution prevented
- By 2025, Better Brakes will have prevented more than 2 million pounds of copper pollution, bringing cost below 50 cents a pound



## Opportunity: Take Washington's standards nationwide



Meets 2015 standards – no asbestos, cadmium, lead or mercury



Meets 2021 standards – less than 5% copper

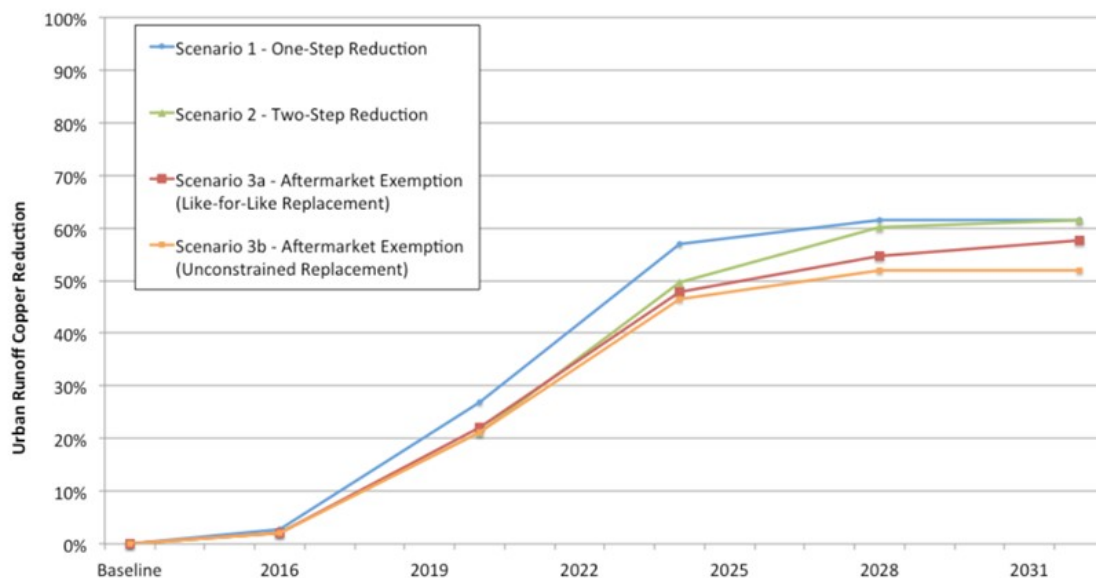


Meets 2025 standards – less than 0.5% copper

- 2010 - California passes similar law
- 2015 – National MOU between EPA, states, manufacturers
- 2025 - No brakes sold in U.S. will contain more than 0.5% copper
  - **65 percent** of brakes *already meet this standard*

## Opportunity: Eliminating copper in brakes nationwide

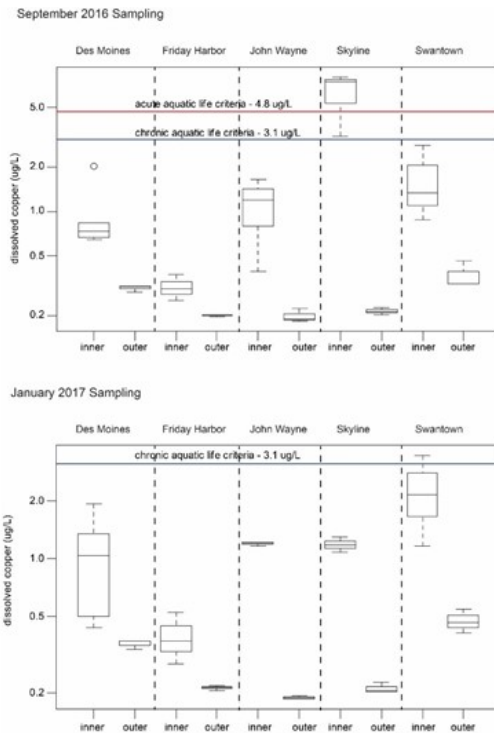
Urban Runoff Copper Reduction Projections



Source: California Stormwater Quality Association, Estimated Urban Runoff Copper Reductions Resulting from Brake Pad Copper Restrictions, 2016

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## Opportunity: Eliminate copper in boat paint



Ecology marina copper pollution baseline monitoring study, 2015-16

- Copper-based antifouling paint is a major source of pollution in marinas
- Eliminating copper boat paint would reduce this source by 35-95%
- Northwest Marine Trades Association backed 2011 law to phase out copper paint beginning in 2018

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## Strategies:



- Testing and compliance
- Outreach and education



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## Detailed Action Plan:

Task	Task Lead	Partners	Expected Outcome	Status	Due Date
<b>Publish Implementation Plan for Updated Law</b>	Ecology		Stakeholders will understand how Ecology will implement the updated law.	On Track	6/30/2017
<b>Compliance Project – Laboratory Analysis Completed</b>	Ecology		Ecology will identify manufacturers that are out of compliance with the Better Brakes Law	On Track	6/30/2017
<b>Compliance Project – Enforcement process started for all identified violations</b>	Ecology	Manufacturers of Brake Friction Material	Violators will return to compliance and sell only certified brakes in WA	Not Started	8/31/2017
<b>Compliance Project – Report documenting laboratory analysis and findings published</b>	Ecology		Stakeholders will have a greater understand of Ecology's compliance activities.	Not Started	10/31/2017
<b>Compliance Project – All violators returned to compliance</b>	Ecology	Manufacturers of Brake Friction Material	Violators will return to compliance and sell only certified brakes in WA	Not Started	12/31/2018

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## Assistance Needed:

- Working with partners
- Exploring alternatives
- Extending this model to other chemicals



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