



**RMP**  
REGIONAL MONITORING  
PROGRAM FOR WATER QUALITY  
IN SAN FRANCISCO BAY

[sfei.org/rmp](http://sfei.org/rmp)



# Science In Support of Managing Water Quality

Philip Trowbridge, RMP Manager

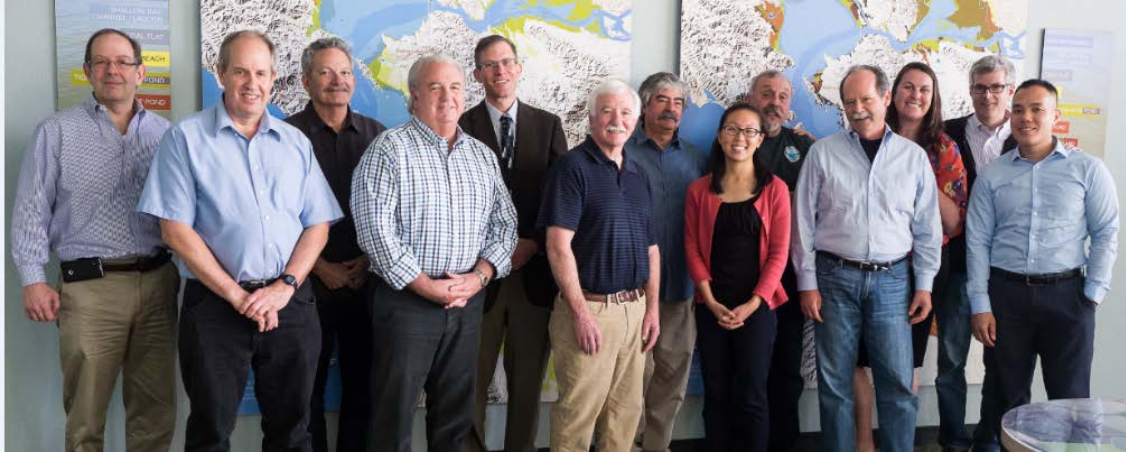
December 13, 2017



Celebrating Our 25<sup>th</sup> Anniversary

# Keys to the RMP's Success

Forum for Collaboration



Clear Objectives  
Relevant to Decisions



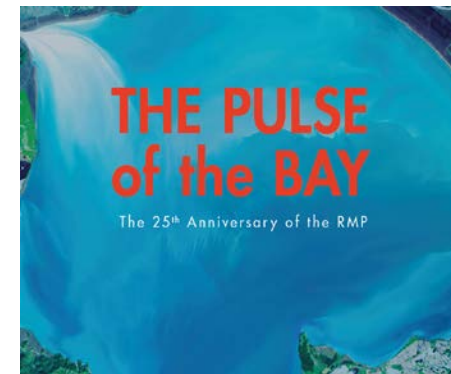
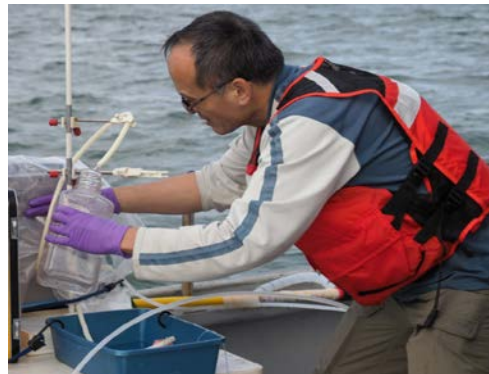
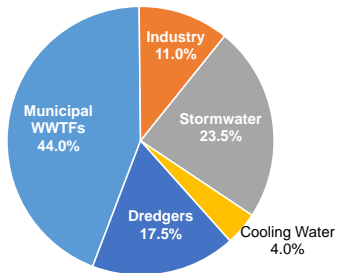
Stable Funding

Sound Science

Adaptability

Reporting

Allocation of RMP Fees by Sector



# Another Key to Success

## Water Board Staff Guide the RMP

### Steering Committee

Tom Mumley, Chair

Naomi Feger, Alternate

Dyan Whyte, emeritus

### Technical Advisory Cmte.

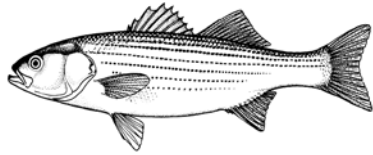
Richard Looker

Karen Taberski, emeritus



# Status and Trends Monitoring

# Status and Trends Monitoring



**Sport Fish**



**Bird Eggs**



**Bivalves**

Bioaccumulation  
matrices



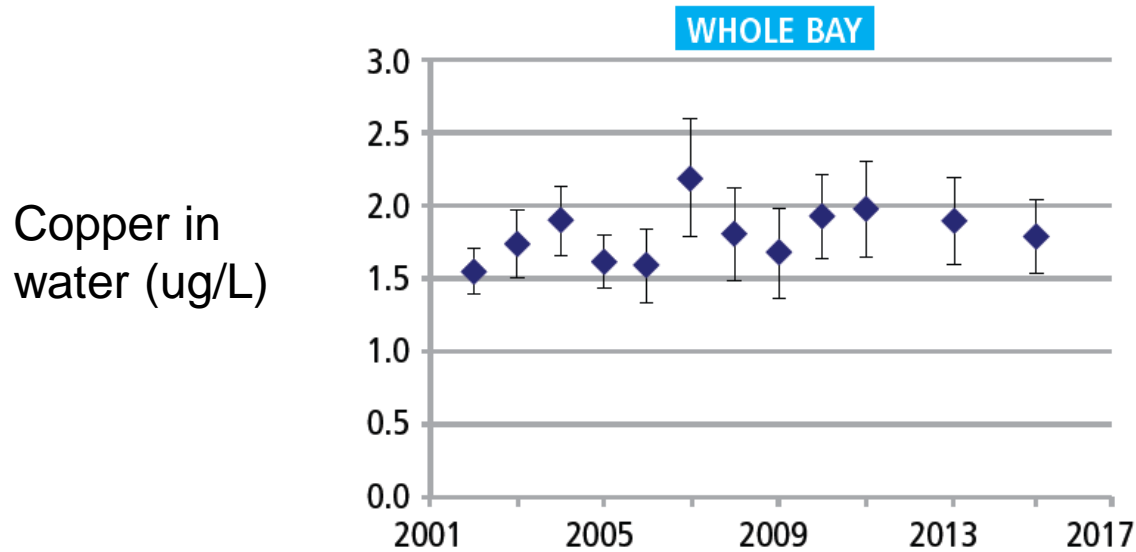
**Water**



**Sediment**

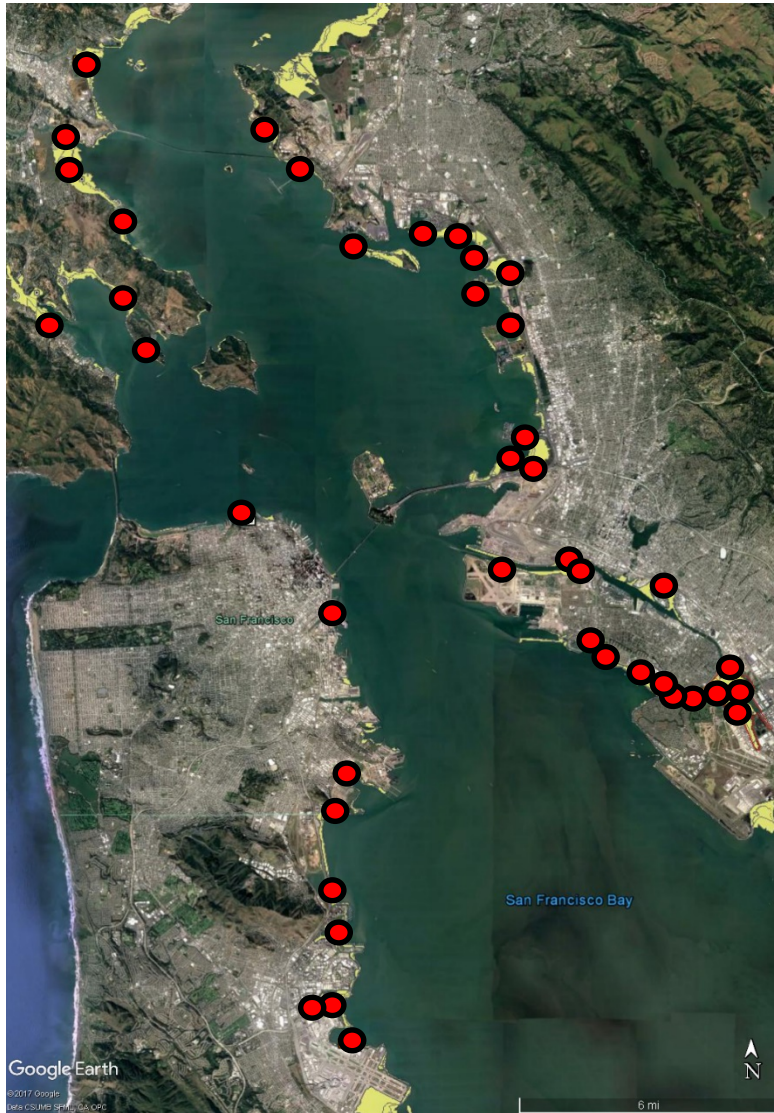
Core  
matrices

# Copper in Water Remains Below Trigger Levels

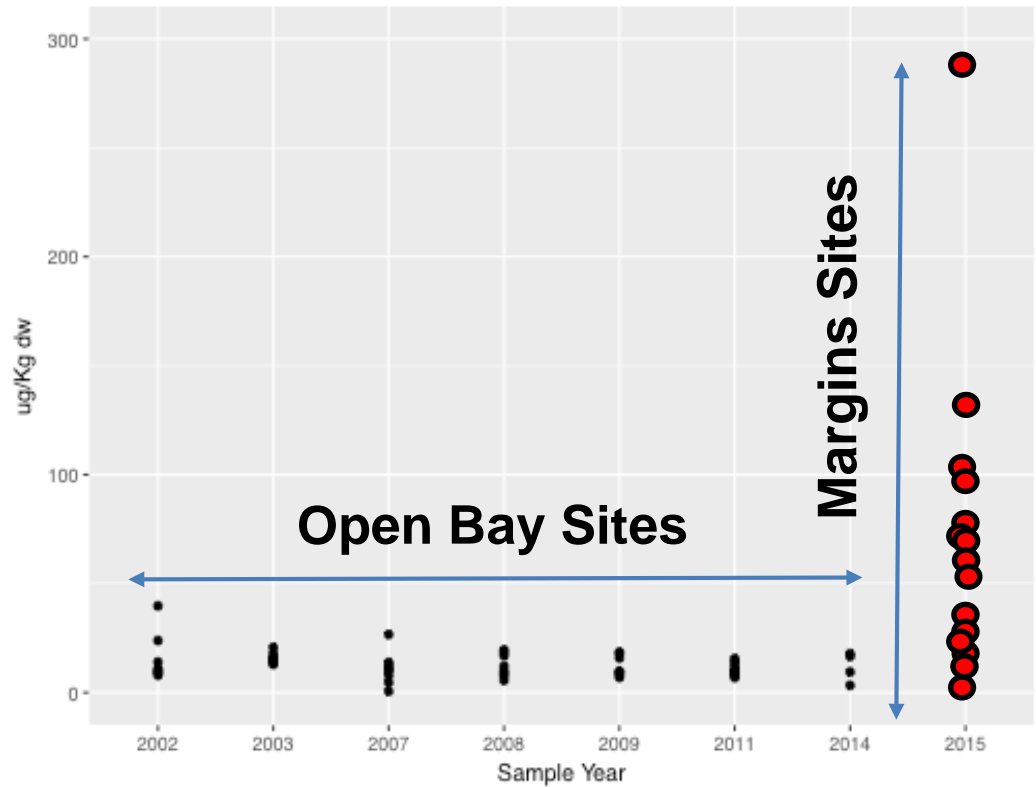


BAY SEGMENT	TRIGGER (ug/L)	2011-2015 ROLLING AVERAGE (ug/L)
Lower South Bay	4.2	3.6
South Bay	3.6	2.8
Central Bay	2.2	1.5
San Pablo Bay	3.0	2.0
Suisun Bay	2.8	2.3

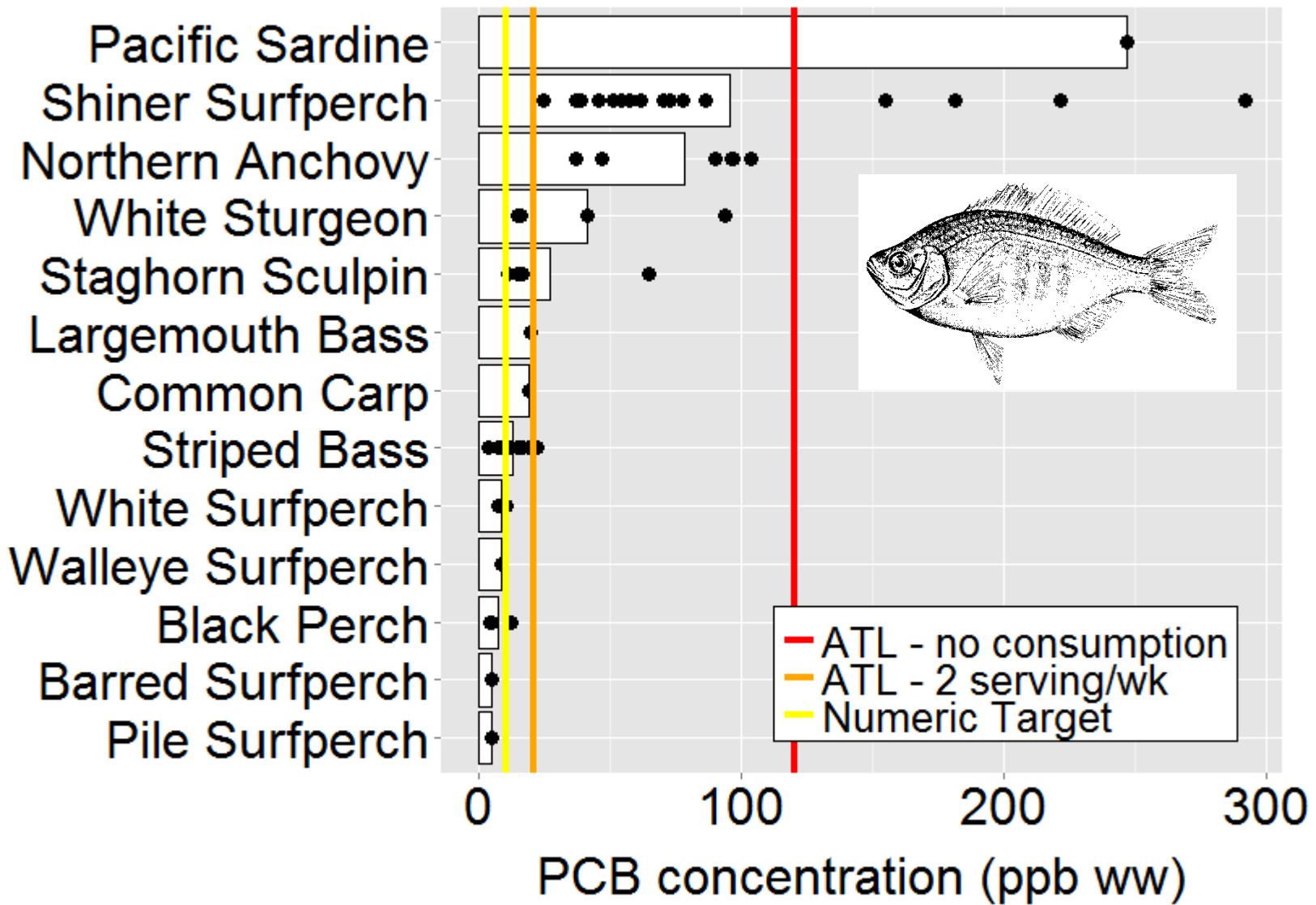
# Regional Monitoring Shows the Importance of Margin Areas



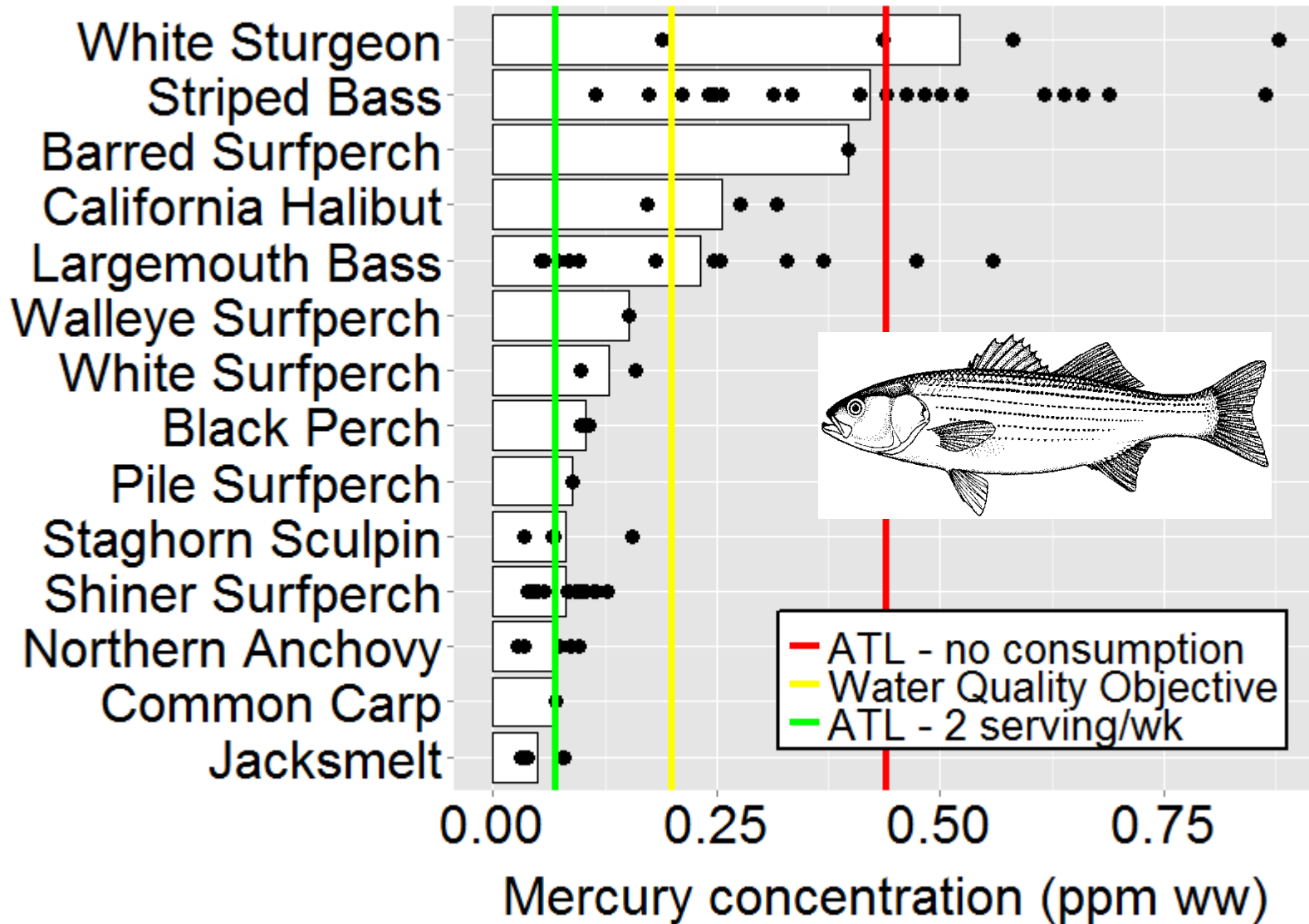
PCBs in Sediment (ug/kg)



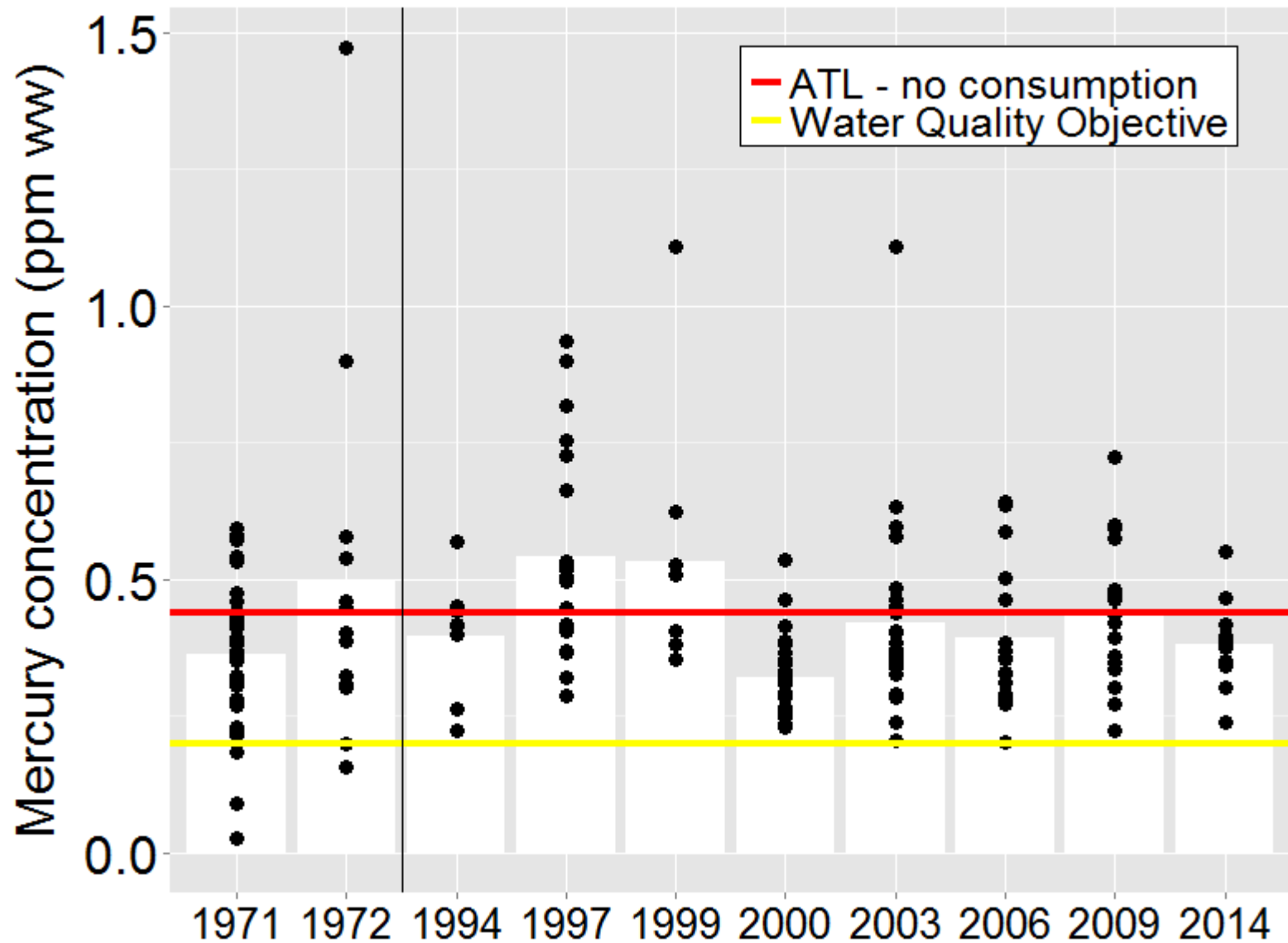
# PCBs in Bay Fish, 2014



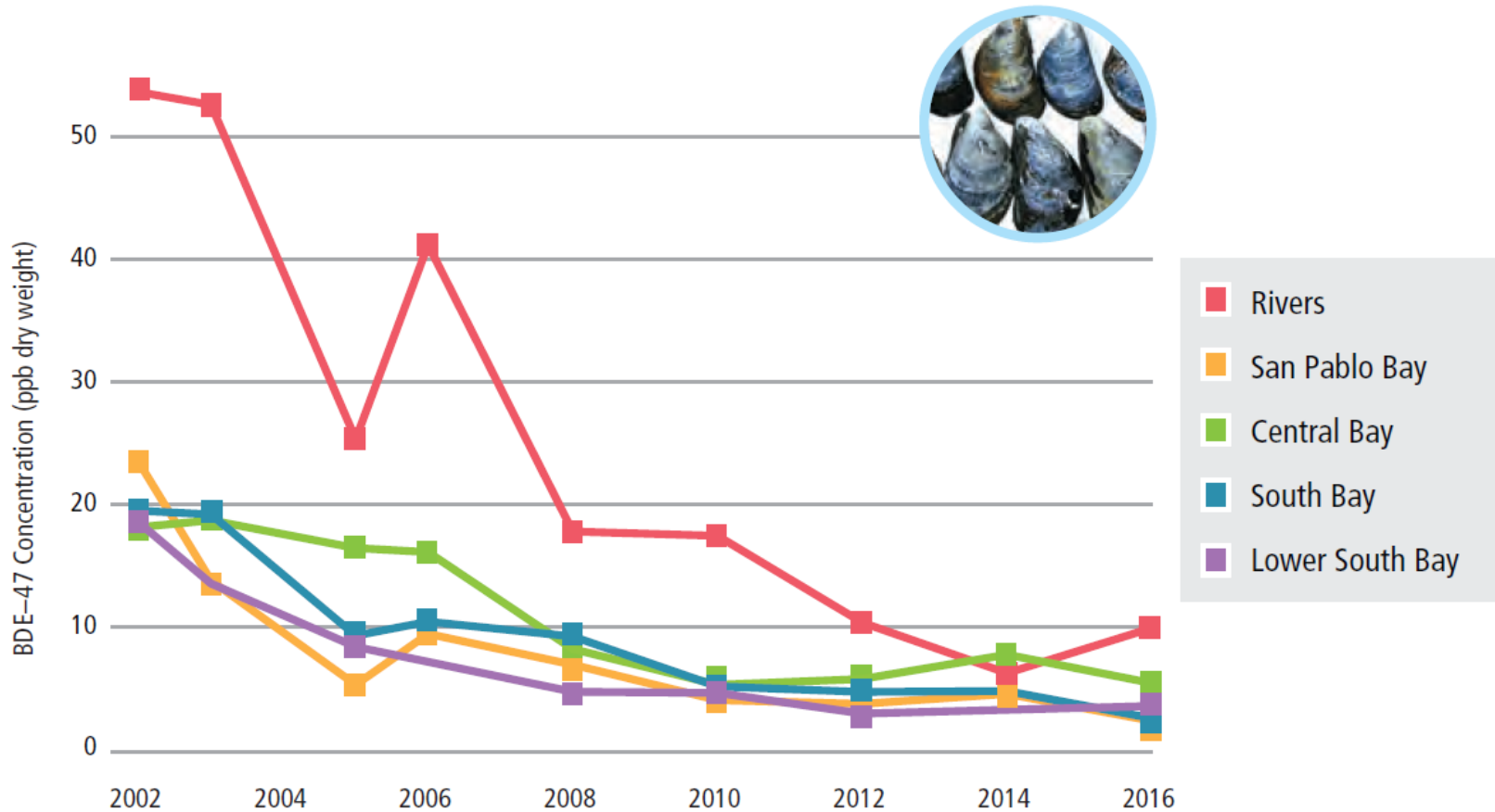
# Mercury in Bay Fish, 2014



# Mercury in Striped Bass – no long-term trend



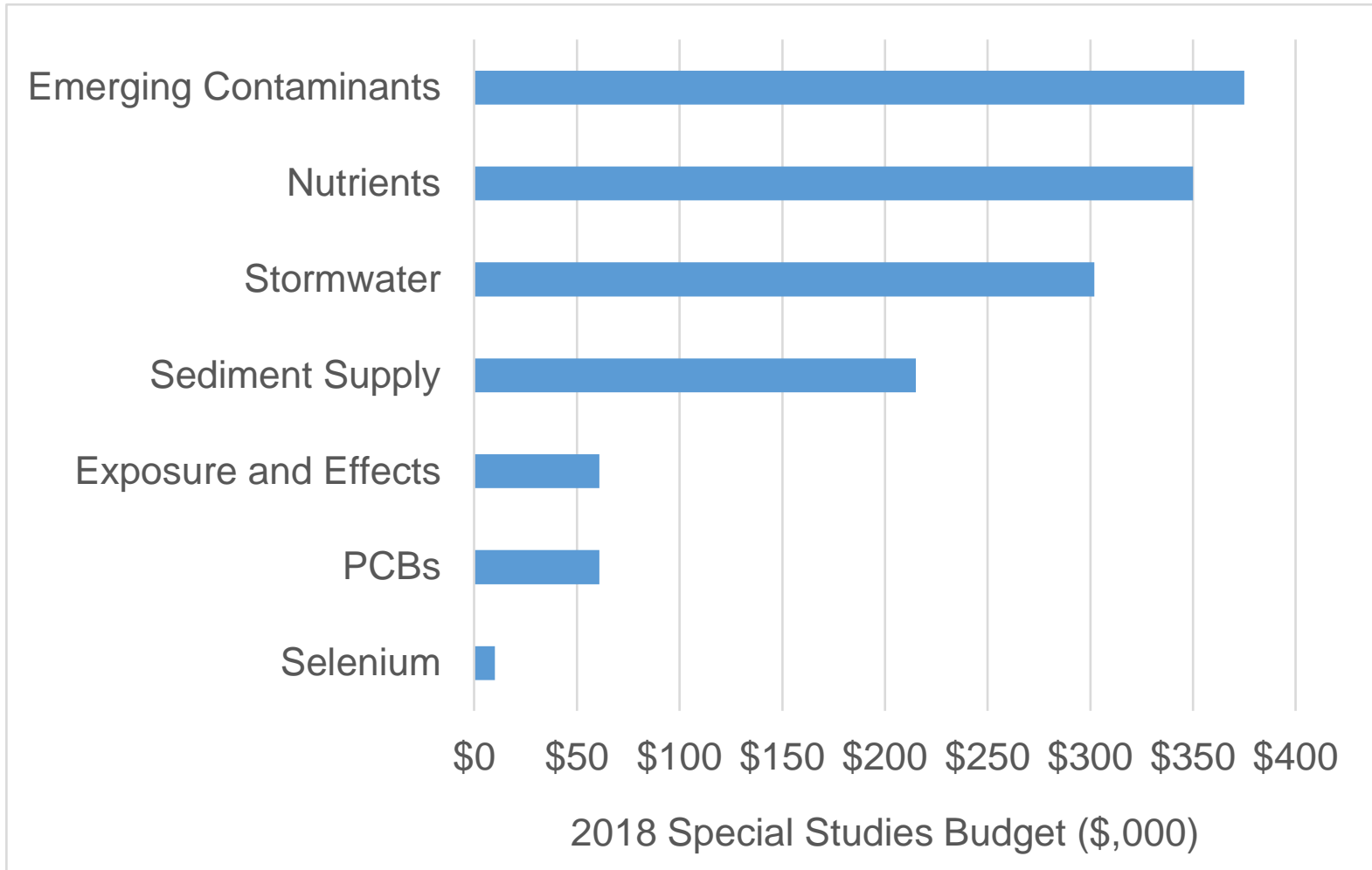
# Flame Retardants in Decline After Management Action





# Special Studies

# RMP Special Studies Cover a Wide Range of Topics



# Special Study Spotlight

## Non-Targeted Analysis for Emerging Contaminants

# What is Non-Targeted Analysis?



Non-targeted analysis  
can detect thousands of  
chemicals per sample



Targeted  
monitoring



PCBs



Mercury



Diphenylguanidine?



Dimethoxybenzidine?

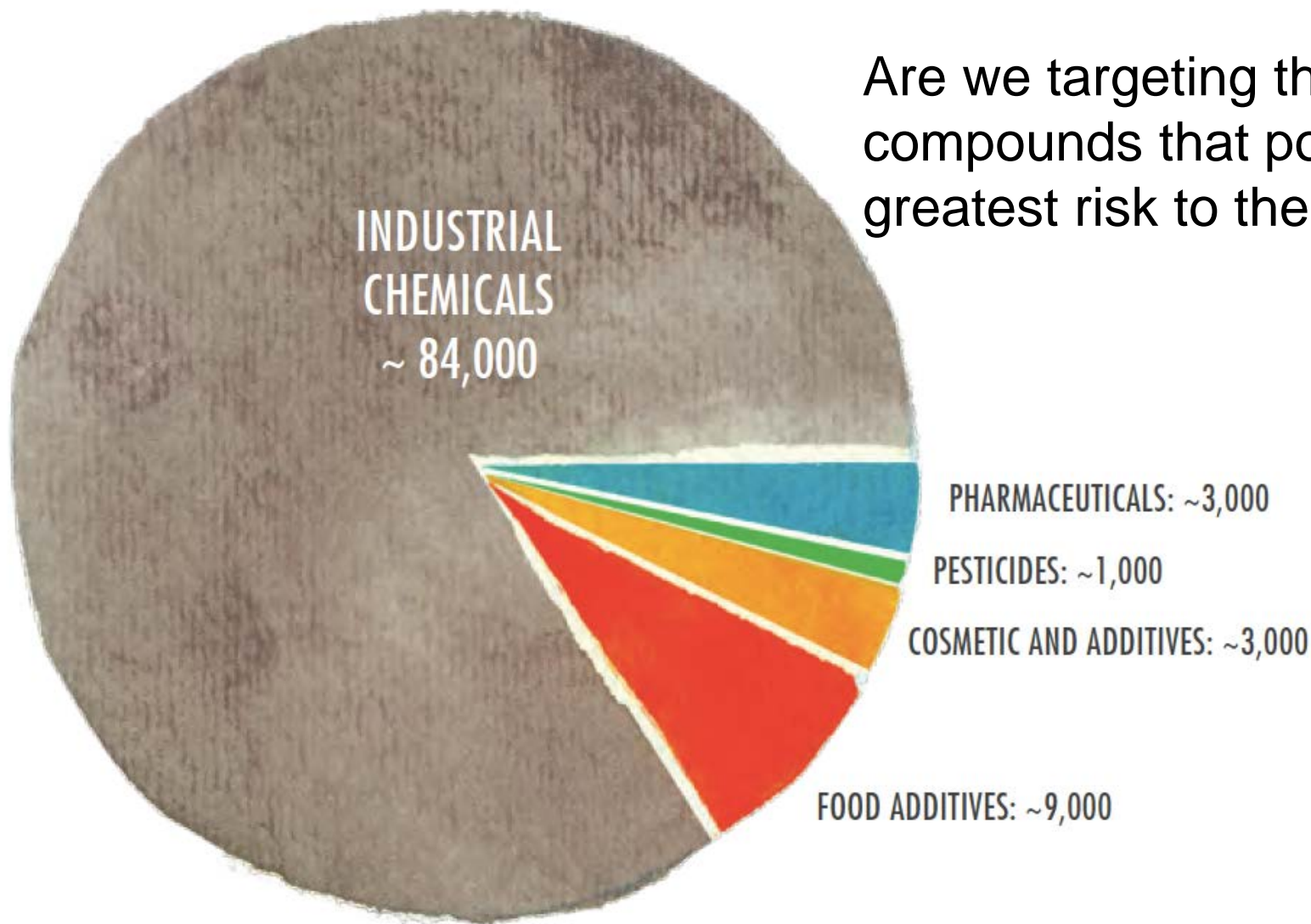
Non-targeted  
monitoring



Nonylphenol  
Ethoxylates?

# Why Do We Need Non-Targeted Analysis?

Are we targeting the right compounds that pose the greatest risk to the Bay?



# Non-Targeted Analysis Studies To-Date



Mussels



Harbor seals

Wildlife tissue



Water



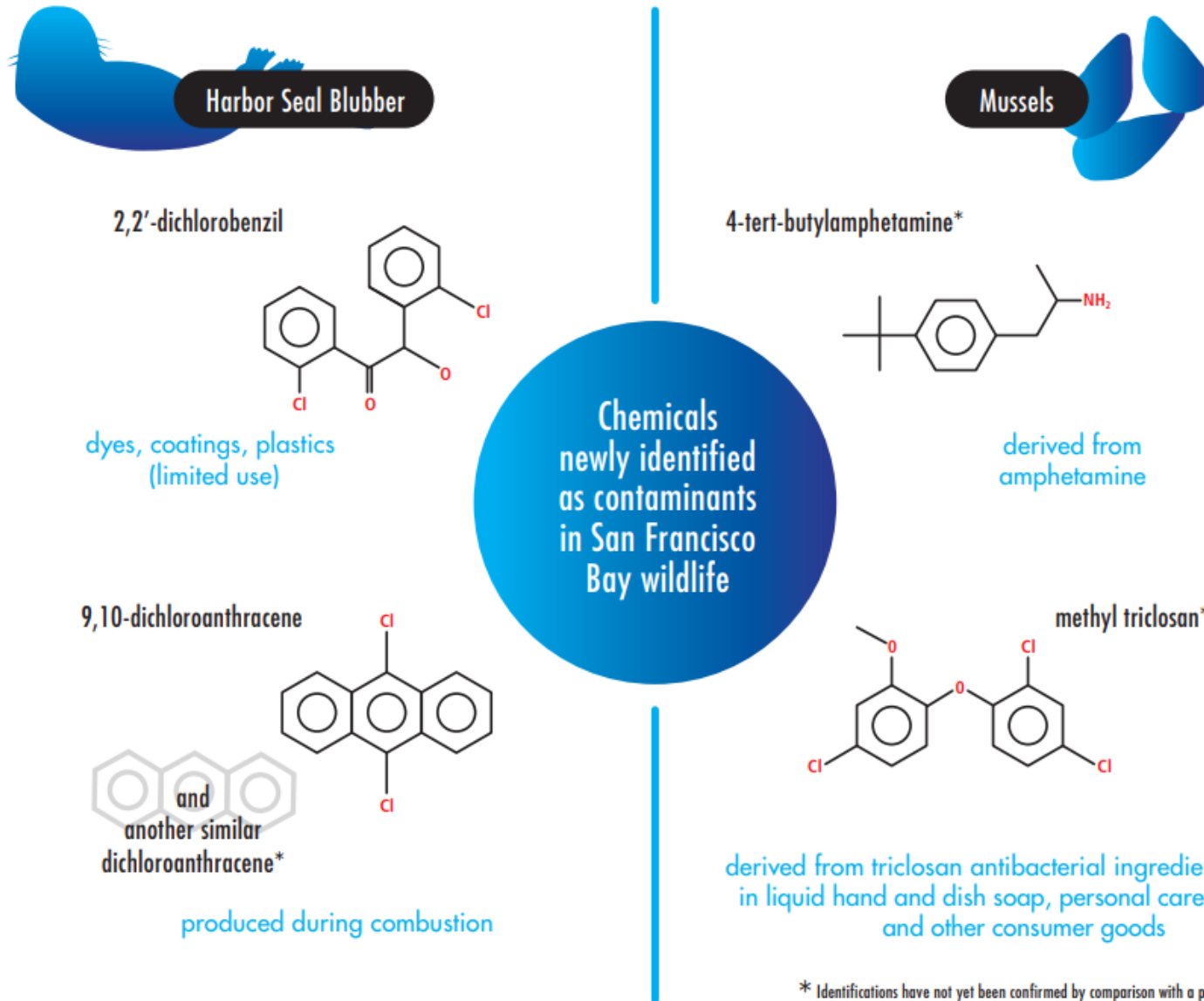
Sediment

Core matrices



Wastewater effluent

# Results for Wildlife Tissue



\* Identifications have not yet been confirmed by comparison with a pure compound

# Preliminary Results for Water

N,N'-Diphenylguanidine

Tire production



Nonylphenol Ethoxylates (NPEs)

Ingredient in detergents, cleaners, degreasers, emulsifiers





# Connecting Science to Management

An aerial photograph of a bay with vibrant blue water and surrounding green land. The water shows some sediment patterns, and the land has patches of green and brown. The text is overlaid on the water.

# THE PULSE of the BAY

The 25<sup>th</sup> Anniversary of the RMP

Available: [www.sfei.org/rmp/pulse](http://www.sfei.org/rmp/pulse)



**RMP**  
**ANNUAL**  
**MEETING**



# Newsworthy Results

**The Mercury News**

WEATHER

TODAY'S E EDITION

MANAGE SUBSCRIPTION

NEWS ▾

LOCAL ▾

SPORTS ▾

BUSINESS ▾

ENTERTAINMENT ▾

OBITUARIES ▾

THE CANNIFORNIAN

News > [Environment & Science](#)

## Dog and cat flea treatments suspected of polluting San Francisco Bay



By **PAUL ROGERS** | [progers@bayareanewsgroup.com](mailto:progers@bayareanewsgroup.com) | Bay Area News Group

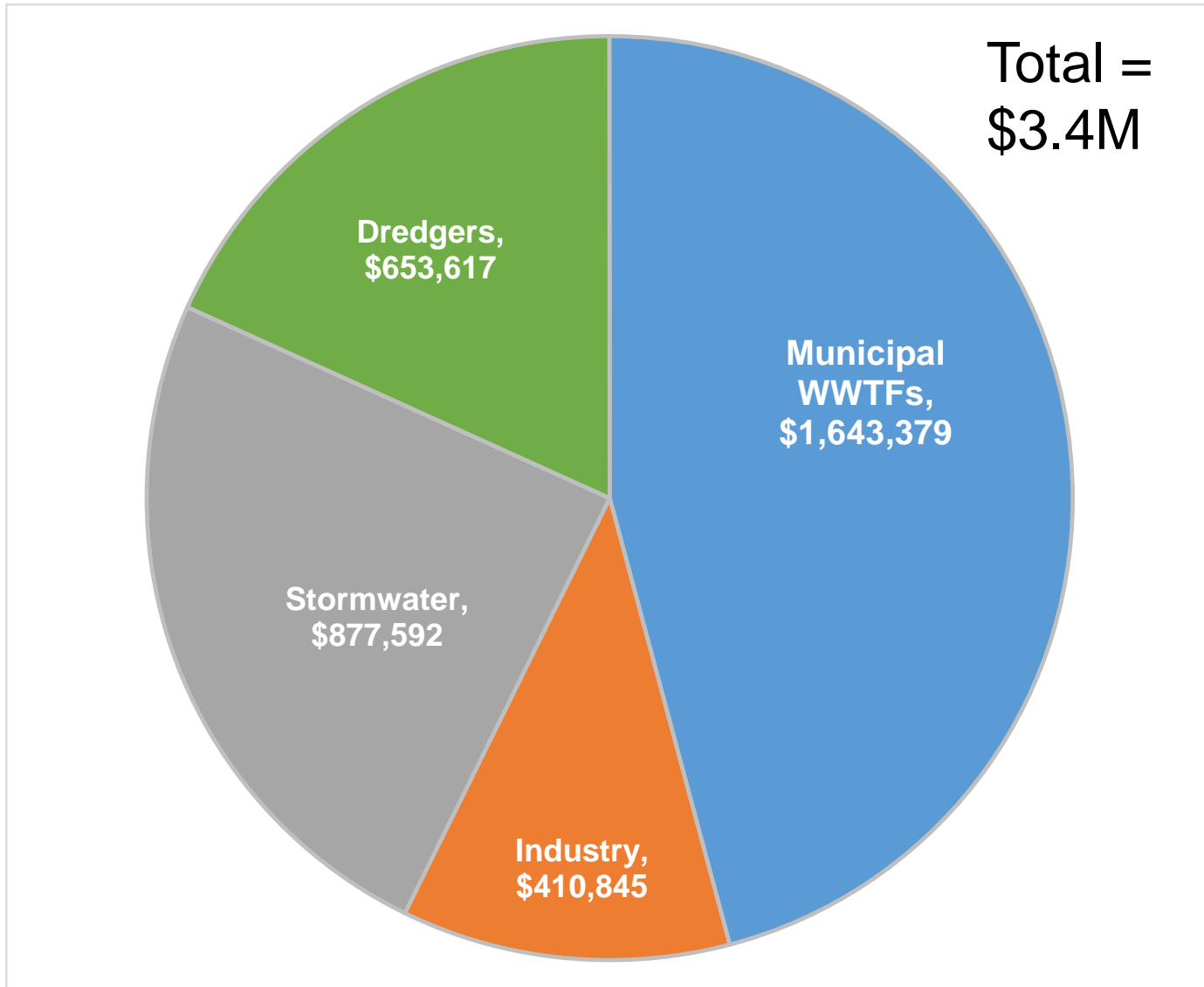
PUBLISHED: November 7, 2017 at 6:40 am | UPDATED: November 8, 2017 at 4:08 am





# RMP Fees and New Sources of Funding

# RMP Fees for 2018



# New “AMR” Funds

- \$270k per year
- Intended for Emerging Contaminant studies



EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

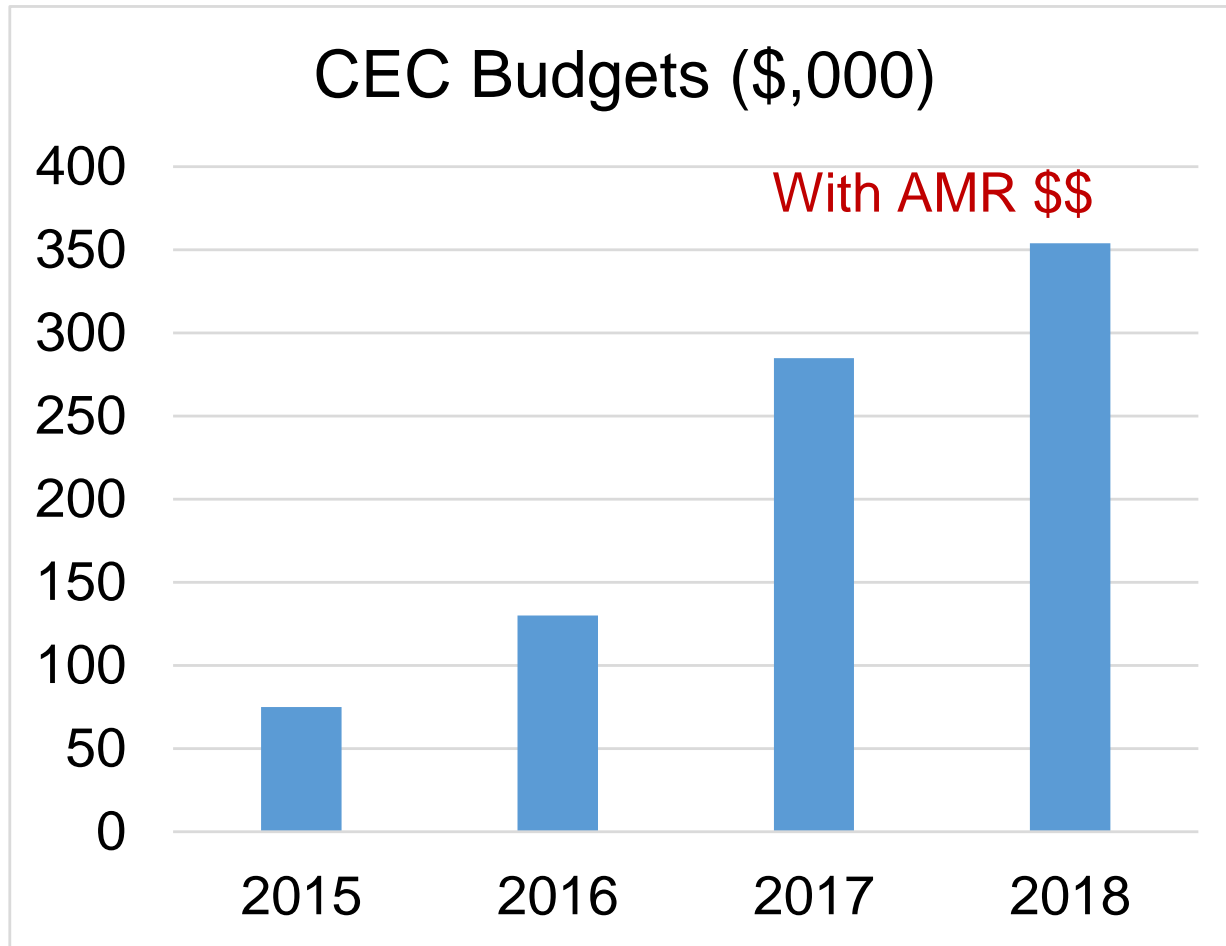
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**San Francisco Bay Regional Water Quality Control Board**

**Order No. R2-2016-0008**

**ALTERNATE MONITORING AND REPORTING REQUIREMENTS FOR  
MUNICIPAL WASTEWATER DISCHARGERS  
FOR THE PURPOSE OF ADDING SUPPORT TO THE  
SAN FRANCISCO BAY REGIONAL MONITORING PROGRAM (RMP)**

# AMR Funds Boost Studies of Emerging Contaminants



# SEPs with Penalty Funds

- Almost \$1M received to date
- Must have a nexus with violation

**MEMORANDUM OF UNDERSTANDING**

between the

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

and the

**SAN FRANCISCO ESTUARY INSTITUTE**

concerning the implementation of the

**SUPPLEMENTAL ENVIRONMENTAL PROJECTS FUND**

# SEPs Underway

Golden Gate Sediment Flux

Suisun Bay Selenium Study

North Bay Selenium Synthesis

San Leandro Bay PCB Study

Nutrients Modeling

Harmful Algal Bloom Study



# Take Aways

- Keys to success after 25 years:
  - Collaboration
  - Management relevance
- RMP fees from discharges support:
  - Regional status and trends monitoring
  - A wide range of special studies
- Regional Board actions on AMR and SEP funds have boosted RMP Special Studies



# For More Information

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