

Item 4

# San Francisco Bay PCBs TMDL

State Water Resources Control  
Board

October 20, 2009

# Amendment

- Adopted February 13, 2008
- Sets numeric fish tissue target of 10 ppb in sportfish in San Francisco Bay
- Protective of all beneficial uses
- TMDL = 10 kg/yr

# Implementation

- Adaptive implementation
- Implementation timeframe 20 years
- Annual progress report
- TMDL evaluation within 10 Years

# Comments

- State board received 21 comment letters
- Staff recommends approval
- Questions



# PCBs Problem

- San Francisco Bay impaired by Legacy impacts of PCBs
- Concentrations increase in fish due to bioaccumulation
- Exposure results in cancer risk and other health concerns



**AVISO WARNING 警告事項**

Fish in the San Francisco Bay have chemicals that may harm your health. Pregnant and breastfeeding women, and children under six years should not eat more than one meal of fish a month. Other adults may safely eat up to two meals of fish a month.

Group of women	Adults
<b>Pregnant women</b> 1 MEAL A MONTH	<b>Adults</b> 2 MEALS A MONTH

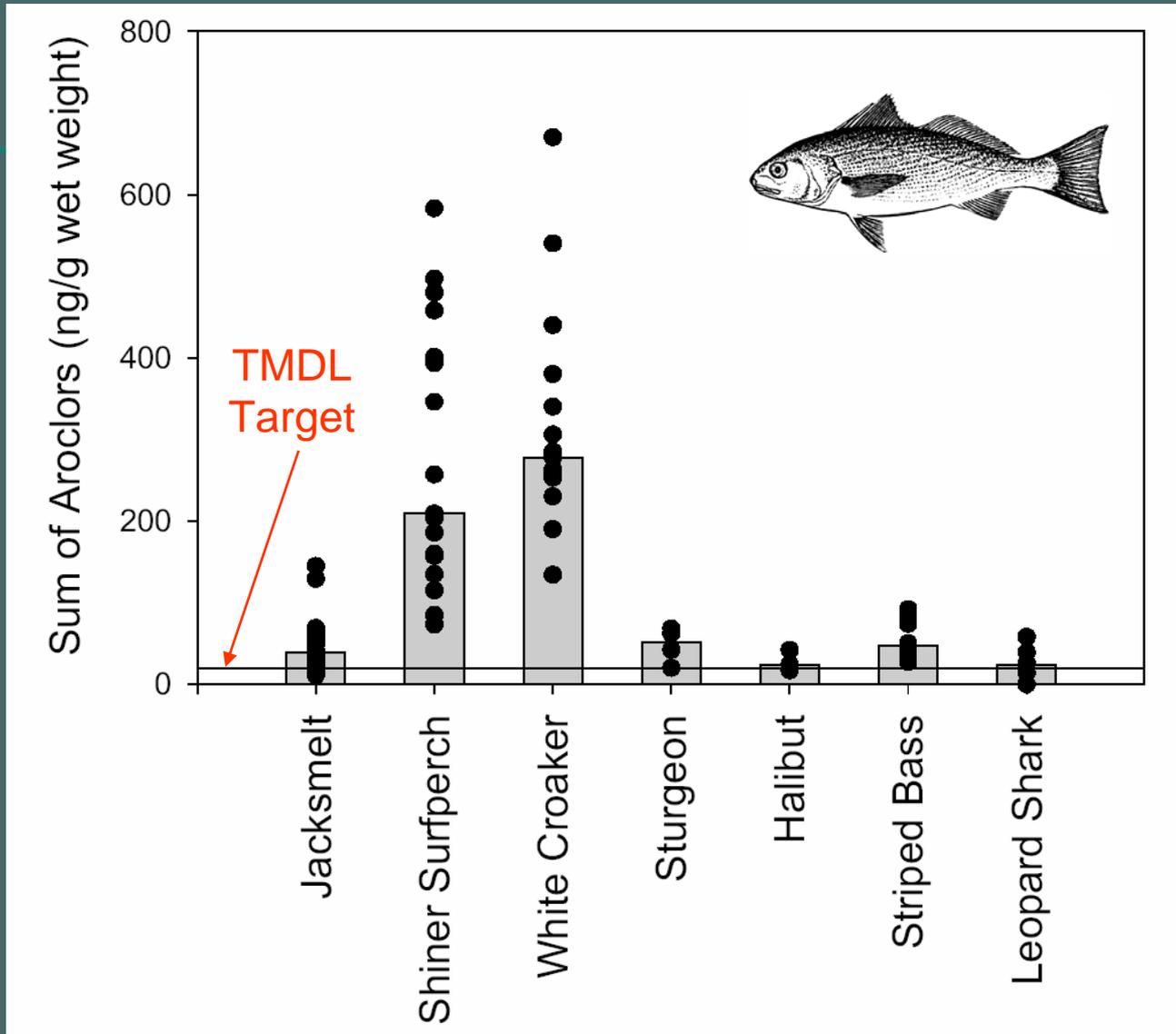
**DO NOT** Eat fish from the following areas:

- San Francisco Bay (including the Golden Gate and Sausalito)
- San Francisco Bay (including the Golden Gate and Sausalito)

**EAT BAY FISH SAFELY**

**BABALA**  
**警告事項**  
**警告事項**

# PCB Concentrations in Fish



# Fish Tissue Target

- 10 ppb in Bay fish
  - Used white croaker and shiner surfperch to evaluate attainment
- Based on US EPA guidance
- Protective of people who eat Bay fish at 1 in 100 thousand cancer risk

# PCBs Allocations (kg/y)

Source	Current Loads	Allocations
Atmospheric Deposition	net loss	0
Central Valley	11	5
Wastewater (WW)	2.3	2
Stormwater Runoff	20	2
Urban Runoff Treatment by WW		1

TMDL = 10 kg/yr

# Implementation-External Sources

Air deposition	→	No action
Central Valley	→	Reduction from natural attenuation
Wastewater	→	Maintain current performance
Urban runoff	→	Reductions via source and treatment controls

# Wastewater

- Source allocation based on very limited data set
- Individual allocations
  - Based on average annual flow
  - Do not reflect actual current performance
- Implement via NPDES permits
  - Maintain optimum performance and source control
  - Limits based on current performance

# Wastewater Permit Limits

- Interim limits based on wasteload allocations adjusted to account for performance variability
- Collect data to calculate limits (and revise allocations if necessary)

# Urban Stormwater Runoff

- Permit term-based phased implementation
  - Pilot studies
  - Focused actions
  - Full scale implementation
- First permit term
  - Focus on pilot projects in (older industrial) areas with high levels of PCBs



# Implementation-Internal Sources

In-Bay  
Dredging  
Disposal



Based on long-term sediment management strategy (LTMS)

In-Bay  
hot spots



Remediation based on existing authorities using existing practices



# Other Implementation Actions

- Risk management
- Special studies to refine knowledge
  - Model refinement (multibox and beyond)
    - Coring studies
    - Natural attenuation
  - Sources and loading analyses
    - Runoff loading
    - Erosion of Bay sediments (bathymetric change)
    - Role of hot spots

# Adaptive Implementation

- Annual Report to Board
  - Implementation actions
  - Monitoring and special studies
- Amend Basin Plan to revise TMDL within ten years

# Recommendation

- Approve the Amendment to incorporate the TMDL in the Regional Board Basin Plan
- Questions?