

Advisory Committee Meeting #1

North San Francisco Bay Selenium TMDL Project Background

December 12, 2007

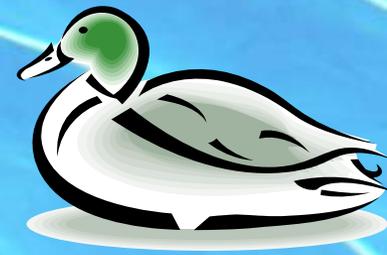


Barbara Baginska

San Francisco Bay
Regional Water Quality Control Board

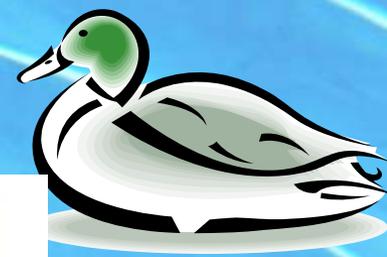


Outline

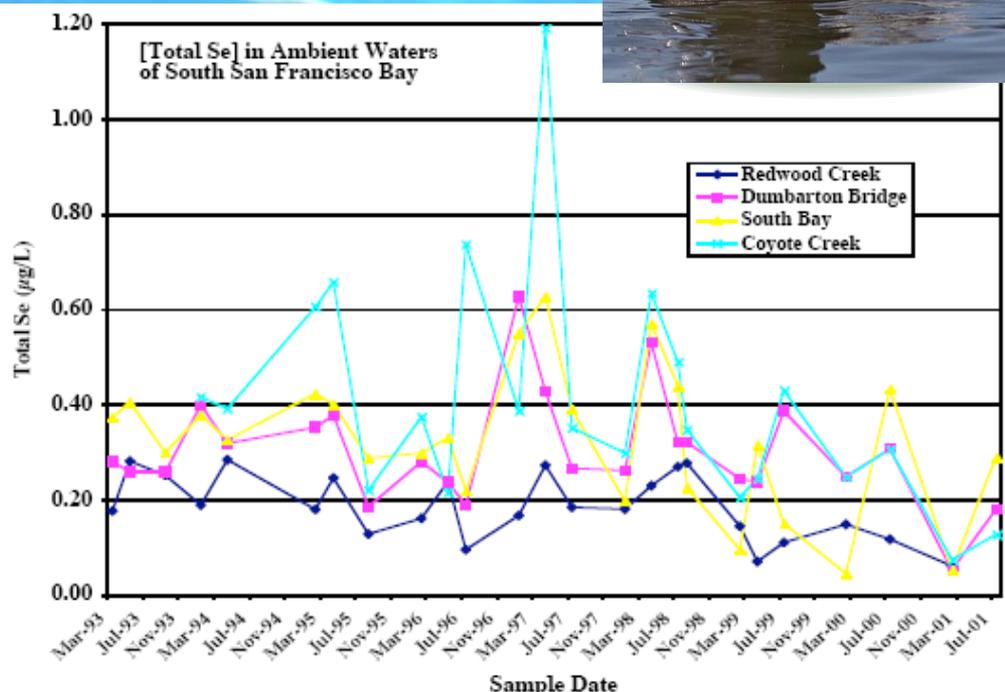
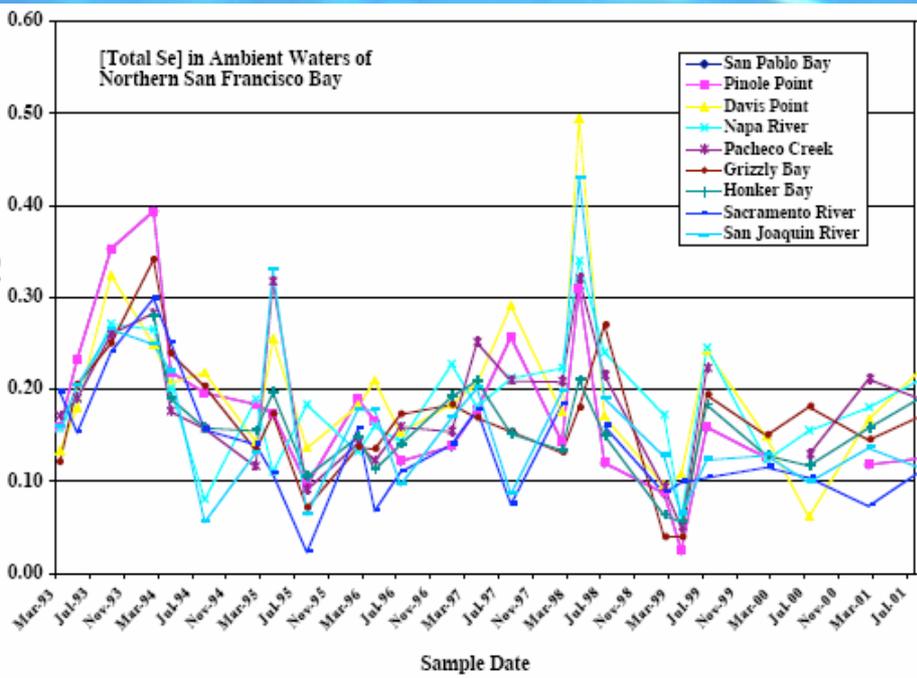


- 🦆 303(d) listings for selenium
- 🦆 North Bay versus South Bay
- 🦆 Nature of selenium problem
- 🦆 Selenium TMDL for North Bay
- 🦆 Project plan and timeline
- 🦆 Progress to date

SFB Selenium Listings



North Bay v. South Bay

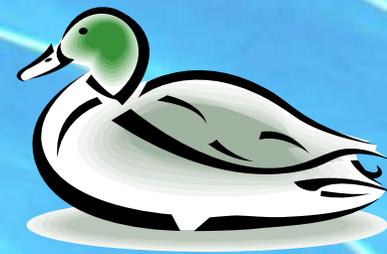


⌘ Affected use is one branch of the food chain; most sensitive indicator is hatchability in nesting diving birds, significant contributions from oil refineries (control program in place) and agriculture (carried downstream by rivers); exotic species may have made food chain more susceptible to accumulation of selenium; health consumption advisory in effect for scaup and scoter (diving ducks)

⌘ OEHHA issued a formal human health advisory against consumption of benthic-feeding ducks in South San Francisco Bay. This health advisory clearly establishes that the recreation beneficial use (REC-1) is not fully supported and standards are not fully met.

December 12, 2007

Selenium Guidelines



Saltwater Criteria

National Toxics Rule (EPA, 1993)

☞ California

☞ San Francisco Bay

Chronic (4-day average) = 71 $\mu\text{g/L}$
Acute (1-hr average) = 290 $\mu\text{g/L}$

Chronic (4-day average) = 5 $\mu\text{g/L}$
Acute (1-hr average) = 20 $\mu\text{g/L}$

Draft Wildlife Criteria

Draft – (EPA, 2004)

☞ Whole-body fish tissue

Chronic = 7.91 $\mu\text{g/g}$

Human Health

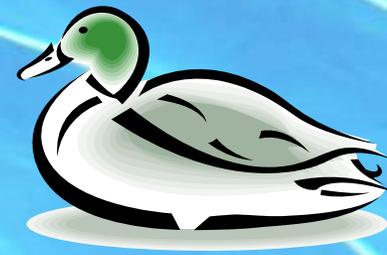
Draft GTL – (OEHHA, 2006)

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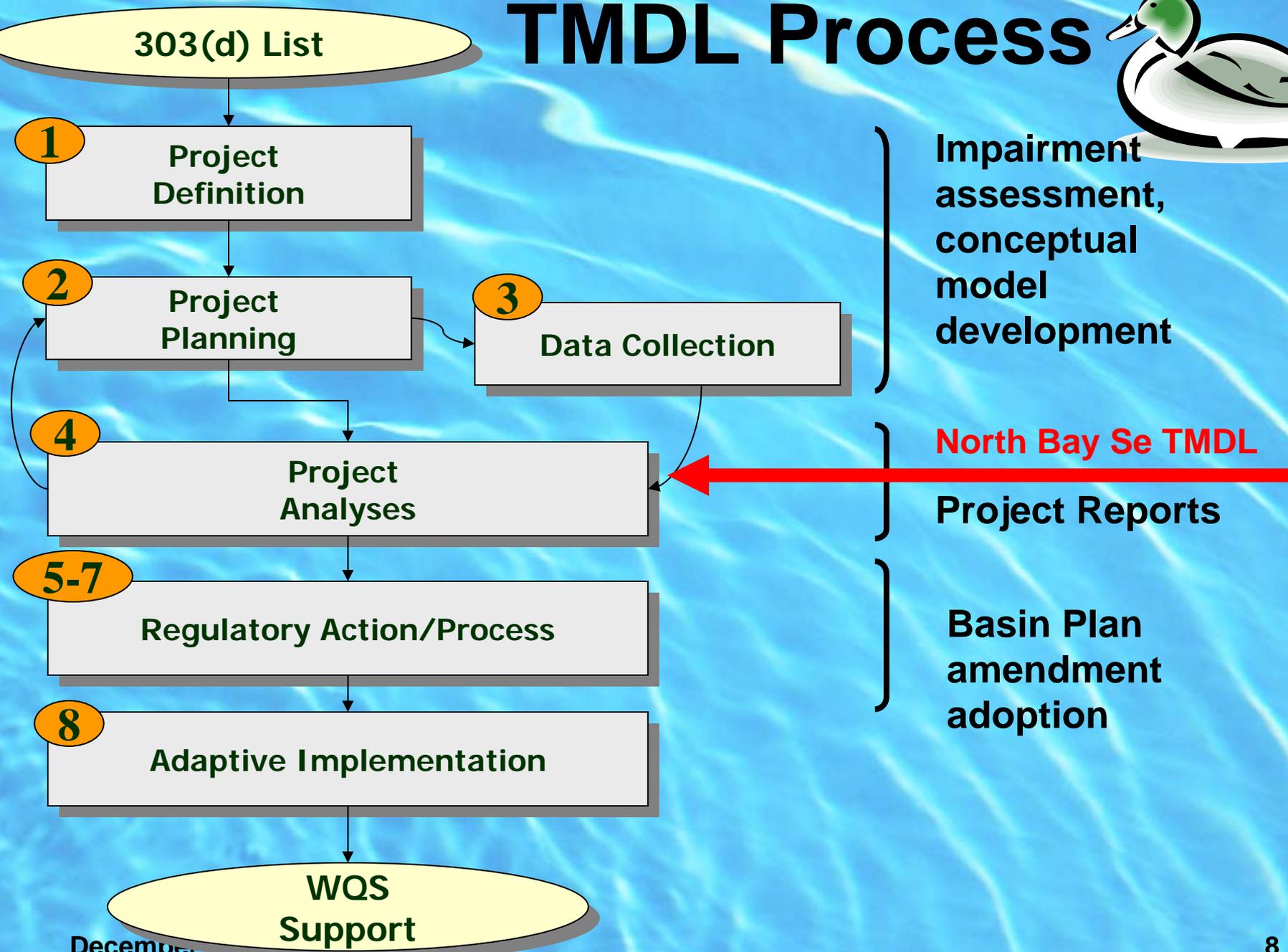
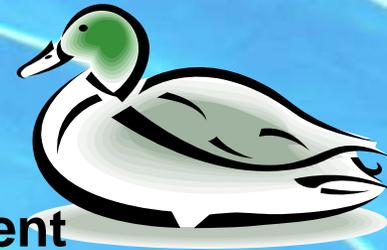
20* $\mu\text{g/g}$ (0.005mg/kg/day)

Problems with Current Standards

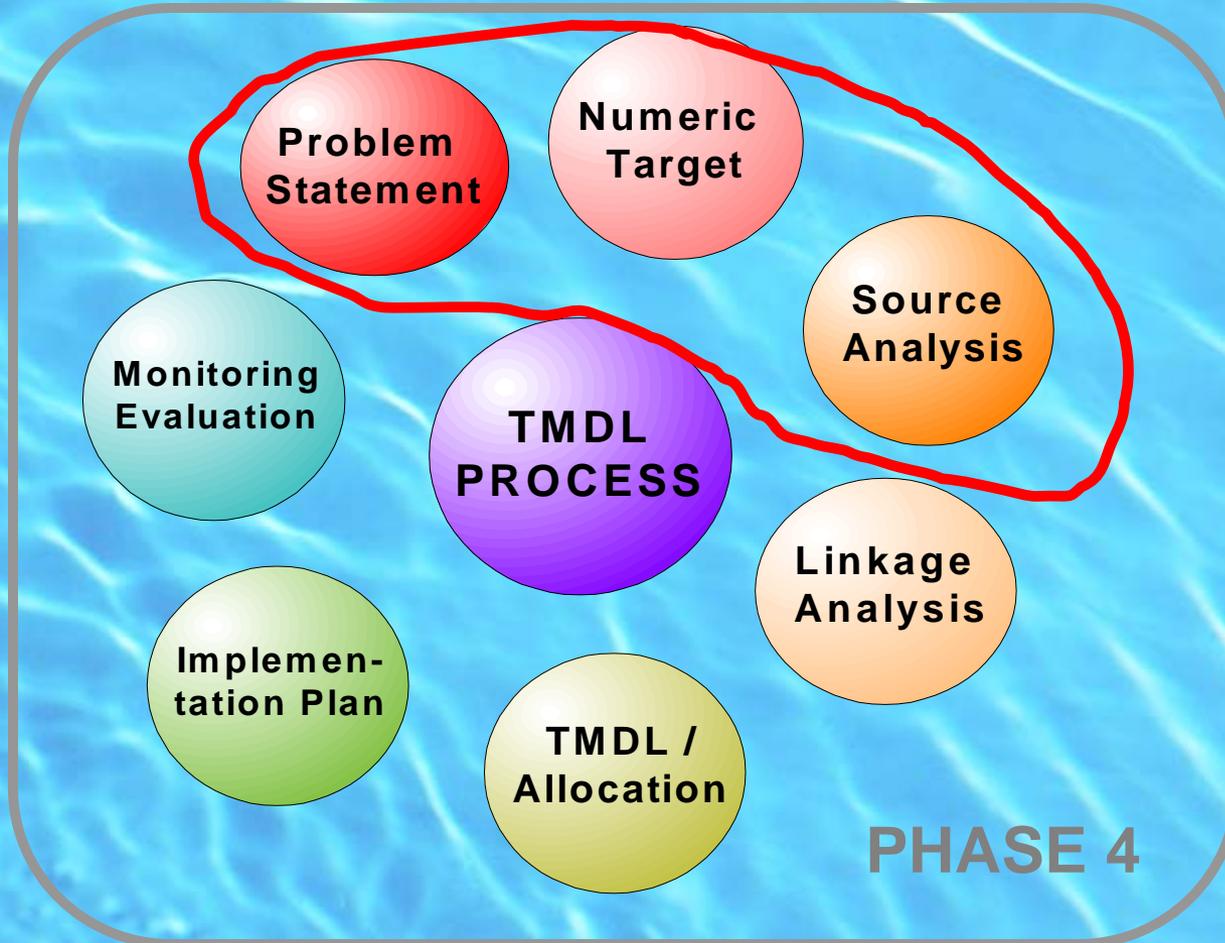
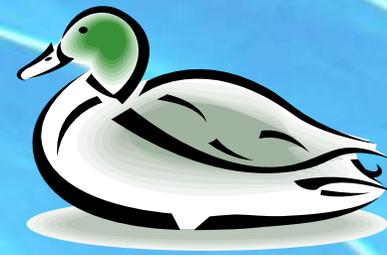


- Se concentrations in water are often not indicative of BU impairment
- Human Health screening values are not protective of fish and wildlife
- Food web and/or water body characteristics are not considered in standard development

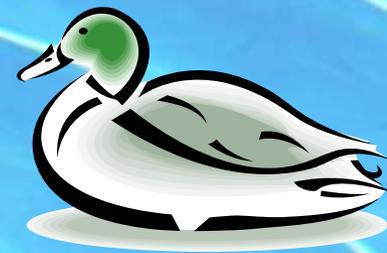
TMDL Process



Project Plan



Project Plan cont.



- 🦆 Identify and evaluate all potential sources of impairment
- 🦆 Develop numeric fish tissue target(s)
- 🦆 Refine conceptual model for North Bay
- 🦆 Select and test modeling tools to calculate allowable loads
- 🦆 Consider impacts of background pollution, critical and seasonal environmental conditions
- 🦆 Include Margin of Safety (MOS)
- 🦆 Show that the proposed TMDL can reasonably be met

Reduce loads

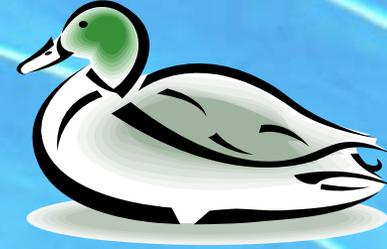


Reduce
tissue levels



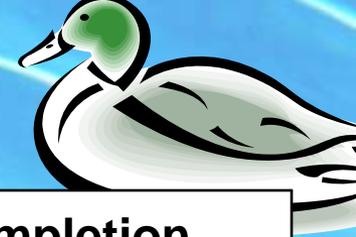
Protect BU/Wildlife

Think Implementation



- 🦆 Consider opportunities and constraints
- 🦆 Categorize sources that need control
- 🦆 Continue to improve problem understanding
- 🦆 Observe responses and take action

TMDL Completion Dates



Project Component		Deliverables	Completion Date
Phases 3 and 4	TMDL Elements	Section, Staff Report	July 2007
	Problem Statement	Section, Staff Report	Dec 2007
	Numeric Targets	Preliminary Project Report and Revised CM/IA	May 2008
	Source Analysis	Complete Technical Analyses and Modeling	July 2008
	Linkage Analysis	Section, Staff Report	Aug 2008
Phase 4	TMDL Implementation Plan	Implementation Options Report	Oct 2008
		Monitoring Plan	Nov 2008
Phases 5 and 6	Regulatory Action Selection and Process	CEQA scoping meeting	Dec 2008
		Basin Plan Amendment	Jan 2009
		Peer Review Package	Jan 2009
		Implementation and CEQA Analyses	March 2009
		Public Review Package	May 2009

