

Dominguez Channel and greater Harbor Toxics TMDLs

Discussion of Draft
Problem statement &
Numeric Targets

Presented
1 March 2006
9 May 2006



303(d) list

- The 303(d) list: Clean Water Act
 - the basis of TMDLs
- 2006 draft list ID some changes
- Waterbody area changes
- PAHs evaluated as individual compounds
- Impaired segment clarification
 - organics in DomChannel estuary (not freshwater)

Assessment procedures

- Builds on 2006 draft list contents
- Uses benchmarks provided in State Listing policy
- Weight of evidence approach
 - Multiple lines of evidence
 - Data age
- All data rec'd QA/QC review

PRELIMINARY ASSESSMENT RESULTS

freshwater:
metals , toxicity

DomCh estuary:
metals, organics,
benthic community effects ,
sed toxicity

ConSlip:
More metals,
More organics,
benthic comm.,
sed toxicity

LAR estuary:
sed. toxicity,
organics

SGR estuary:
metals

Fish:
metals, organics,
benthic comm.,
sed toxicity

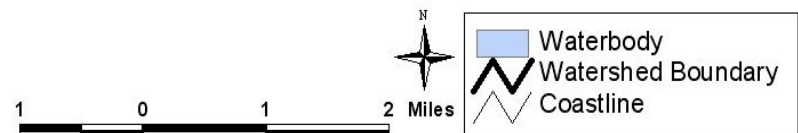
Inner Harbor:
metals, organics,
sediment toxicity
benthic comm .

Cabrillo Marina:
metals, organics

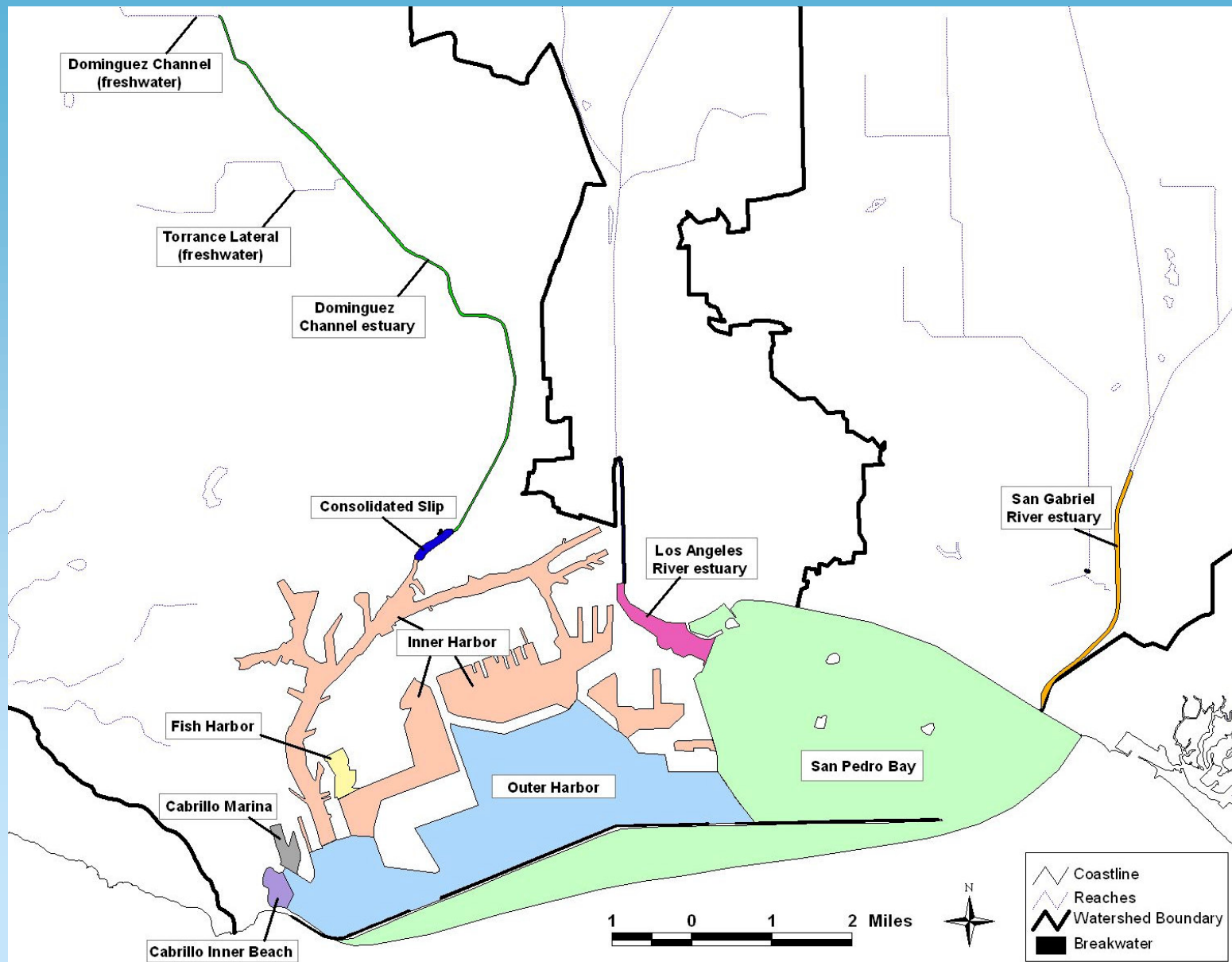
Outer Harbor:
sed. toxicity
organics

San Pedro Bay:
sed toxicity,
organics

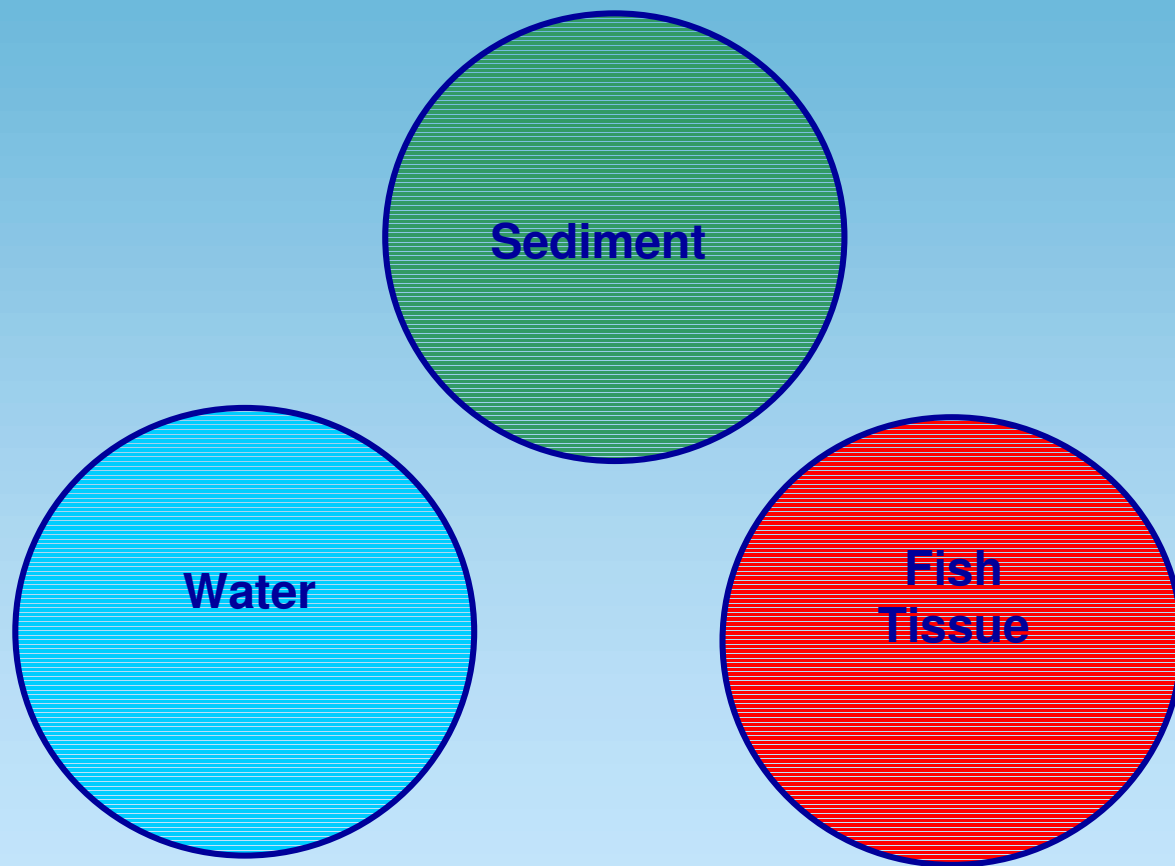
Inner Beach:
organics



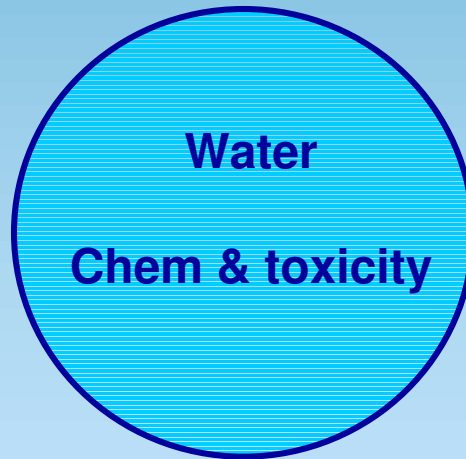
2006 Waterbody names



Assessment data



Assessment data



Dominguez Channel freshwater

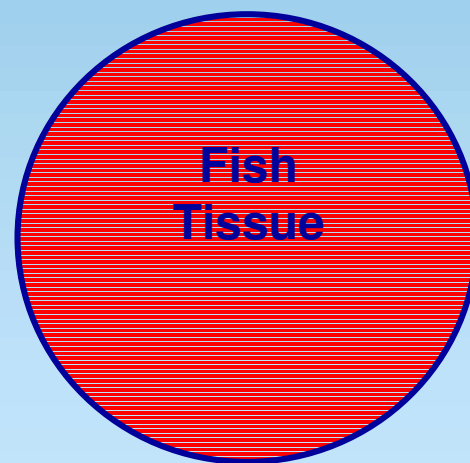
	2002-03 # exceed	2003-04 # exceed	2004-05 # exceed
Copper	4/6	4/6	1/5
Lead	1/6	2/6	0/5
Zinc	4/6	2/6	2/5
toxicity	2	4	?

Dissolved metal results

Assessment data

Sediment

Water



Harbor fish tissue results

Composite results (skin-on filet)	Range (conc.)	# exceed	Screening value
DDT –OEHHA	92 – 397	3 / 4	100 ppb
DDT –WWTP	22 – 6514	36 / 40	100 ppb
PCBs –OEHHA	98 – 294	4 / 4	20 ppb
PCBs –WWTP	10 – 1000	36 / 40	20 ppb

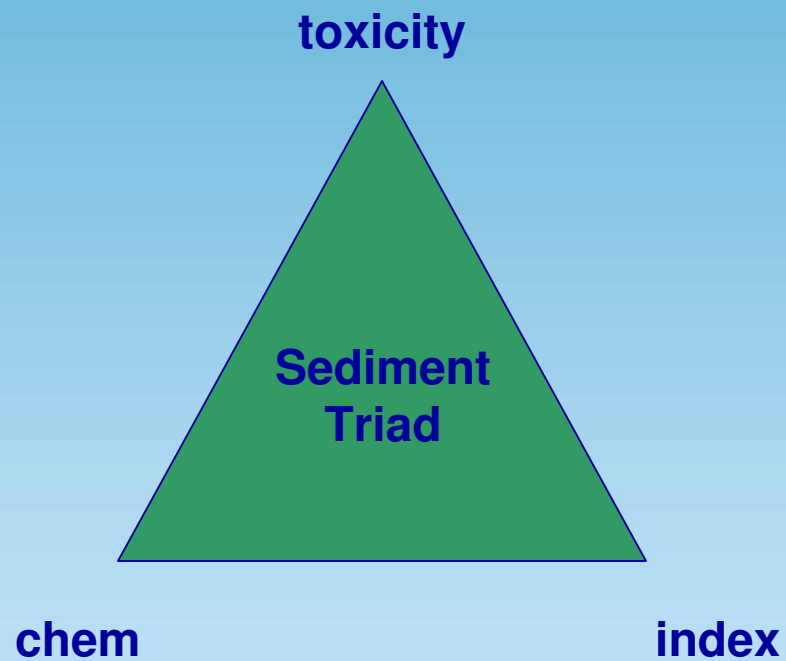
OEHHA 1999-00; Terminal Island WWTP 99-04

more fish tissue results

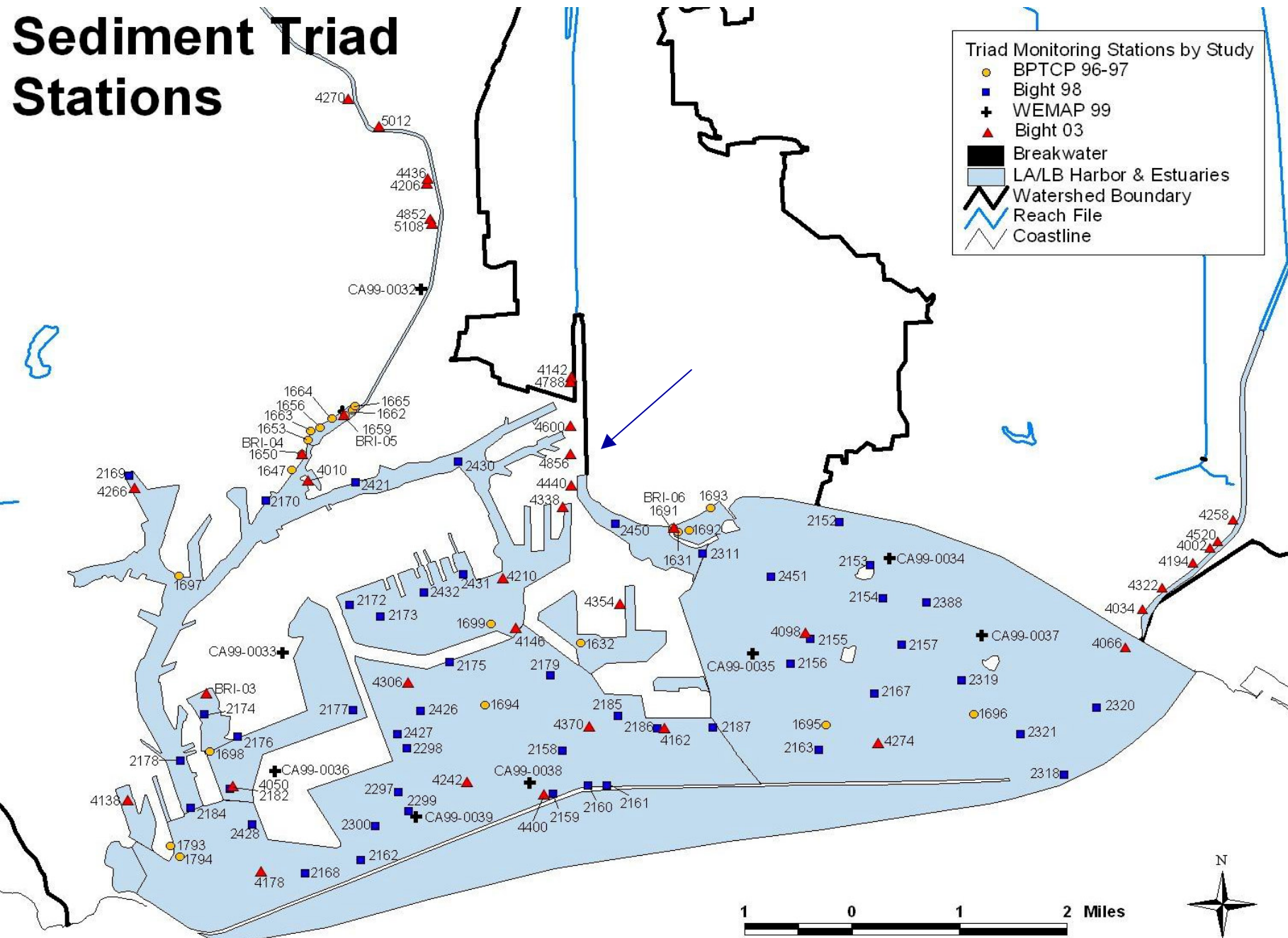
Composite results (skin-off for Hg; skin-on Chlordane)	Range (conc.)	# exceed	Screening value
Hg – OEHHA	0.04 – 0.06	0 / 4	0.3 ppm
Hg – WWTP	0.01 – 0.11	0 / 30	0.3 ppm
Chlordane – OEHHA	2.3 – 17	0 / 4	30 ppb
Chlordane – WWTP	0.3 – 3.0	0 / 30	30 ppb
Hg – ConSlip	0.05 – 0.13	0 / 8	0.3 ppm
Chlordane – ConSlip	1 – 8.2	0 / 8	30 ppb

OEHHA 99-00; WWTP 99-04; ConSlip = POLA/AMEC 2002

Sediment Assessment data



Sediment Triad Stations



LAR estuary – sediment results

Bight 03

overall 1992-03

toxicity = 2 of 5

(7 / 12)

Chlordane 2 of 5

(9 / 12)

PCBs 2 of 5

(2 / 11)

Benzo[a]pyrene 2 of 5

(2 / 9)

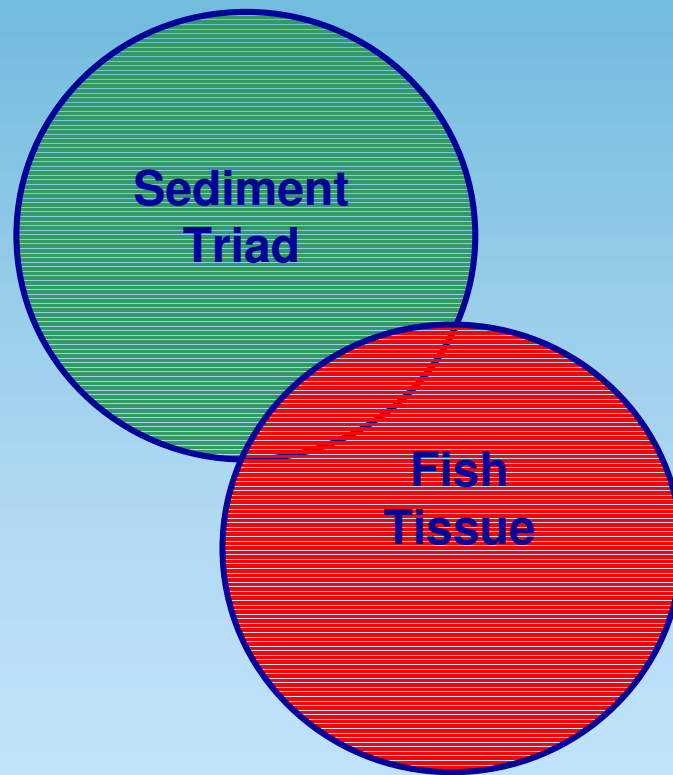
Pb 0 of 5

(1 / 12)

Zn 0 of 5

(1 / 12)

robust Assessment data



Dom Channel estuary - DDT

- Fish tissue[#] result = 6487 ppb (TSM 1992)
(white croaker filet, n=1)

sediment results

- 1994 results = 141 - 4430 ppb
- NPDES 94-04 = 9 - 2800 ppb 6/23 exceed
- 2002 results = 15 - 2539 ppb 8/30 exceed
- Bight 03 = 9 - 1147 ppb 2 / 6 exceed
- Bight 03 sed tox results = 3 of 6 toxic

Sediment summary-Appendix

- Sediment toxicity results
 - BPTCP, Bight 98, dredge, WEMAP-99, Bight 03
- Chemistry results
 - NPDES, BPTCP, Bight 98, dredge, WEMAP
- Separation based on data record
 - (1992-95)
 - (1996-01)
 - (NPDES)
 - (Bight 03)

Inner Harbor sediment results

	CSTF 92-95 # exceed	CSTF 96-01 # exceed	Bight 03 # exceed
Copper	10/147	6/434	0/8
Zinc	9/147	18/482	1/8
Benzo[a]- pyrene	--	2/29	0/7
Chrysene	--	3/30	0/7

Aquatic Life impairments

- Water and sediment toxicity
- Metals, Chlordane, individual PAHs

Targets

- CTR fresh and saltwater values
- ERL values for Sediment
- toxicity = 1 TUC

Human Health impairments

- DDT, PCBs, Toxaphene in tissue
- DDT, PCBs in sediment and water

Targets

- CTR Human Health values for water
- low Sediment values
- Tissue Threshold Residue Levels for fish
- Wildlife residue values

Fish Tissue targets

Pollutant	CTR Human Health Criteria (µg/L)	BCF [#] (L/kg)	TTRL Edible tissue conc. (ug/kg wet)	OEHHA Values (ug/kg wet)
Total DDT				100
4,4-DDT	0.00059	53600	32	
4,4-DDE	0.00059	53600	32	
4,4-DDD	0.00084	53600	45	
Total PCBs	0.00017	31200	5.3 [*]	20
Toxaphene	0.00075	13100	9.8	30

[#]BCF values from EPA 1980 Water Quality Criteria for each constituent.

^{*}PCB total value applies to sum of all congener or isomer or homolog or Arochlor analyses.

Sediment targets options for DDT

- ERL/TEL/LRM values
- back calculation approach
 - water/sed ratios
 - literature vs. site specific
 - Koc & organic carbon values

perhaps focus on DDE as prominent compound
— weighted average

Considerations on Sediment targets

- Low Sediment targets for restoring BUs
 - Long term goals
 - Not necessarily action or clean-up levels
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- SQOs are being developed by SWRCB

Upcoming Meetings/Products

- Project Plan
- Draft Problem Statement/Numeric Targets
- TAC meeting in early May
 - hydrodynamic model for greater Harbor
- CEQA scoping meeting/checklist

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