

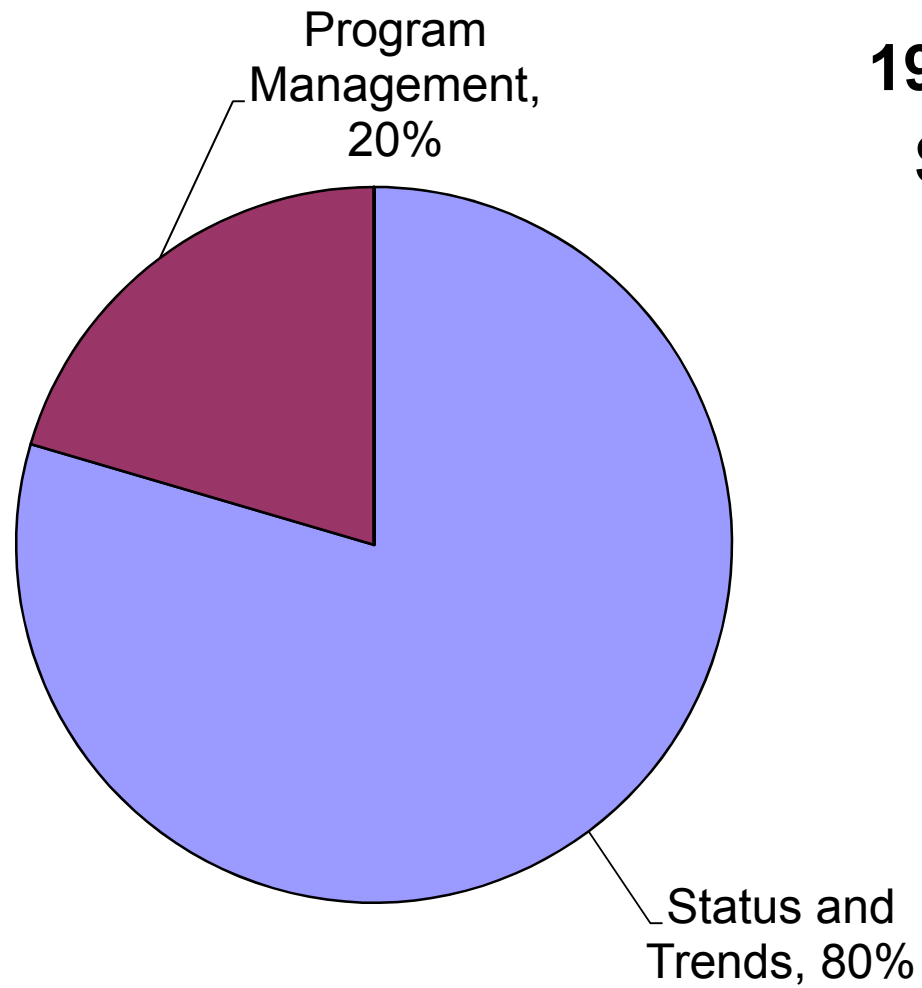
**THE RMP MULTI-YEAR PLAN
2012 ANNUAL UPDATE**



APPROVED BY STEERING COMMITTEE: 01-24-12

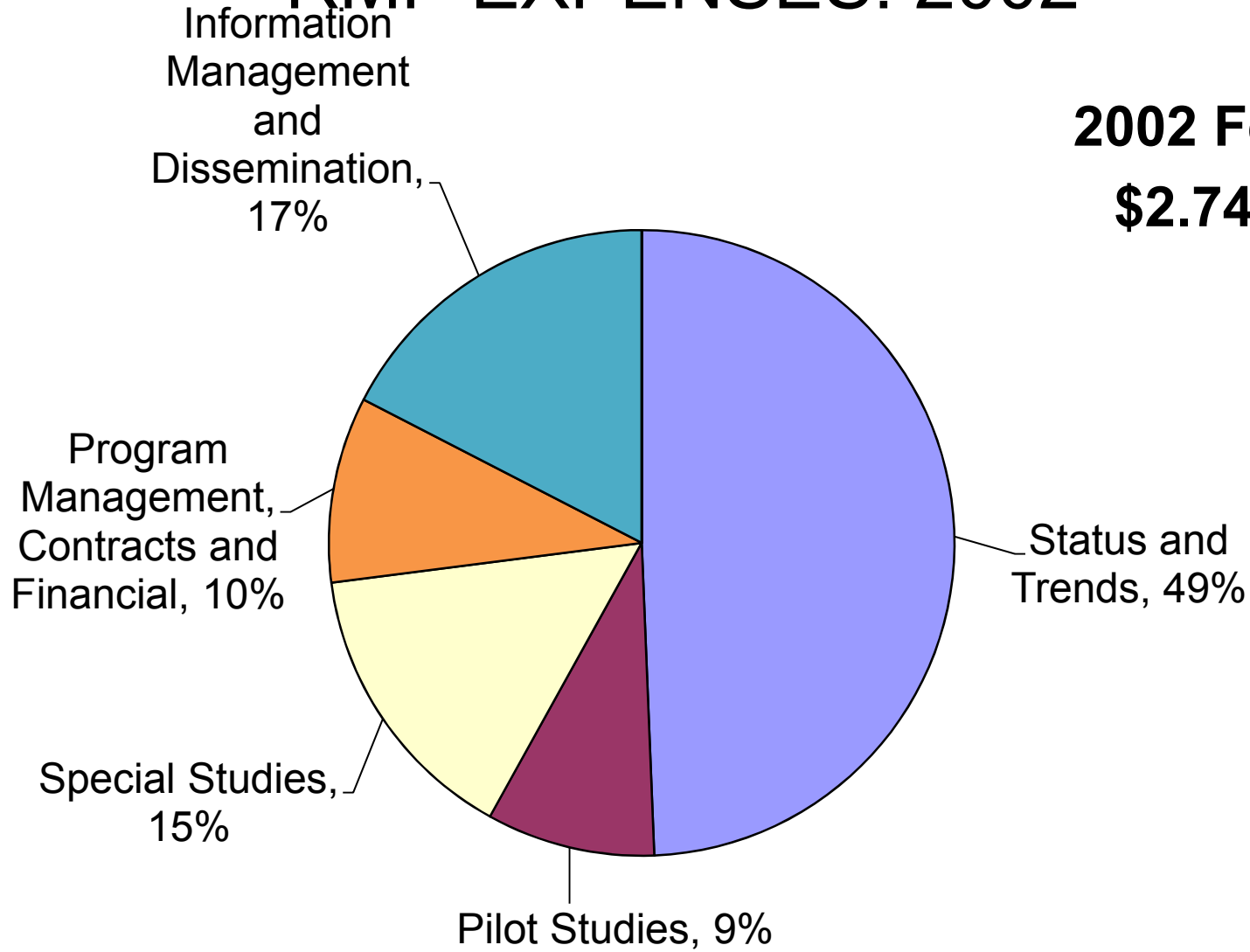
RMP EXPENSES: 1993

1993 Fees
\$1.16M



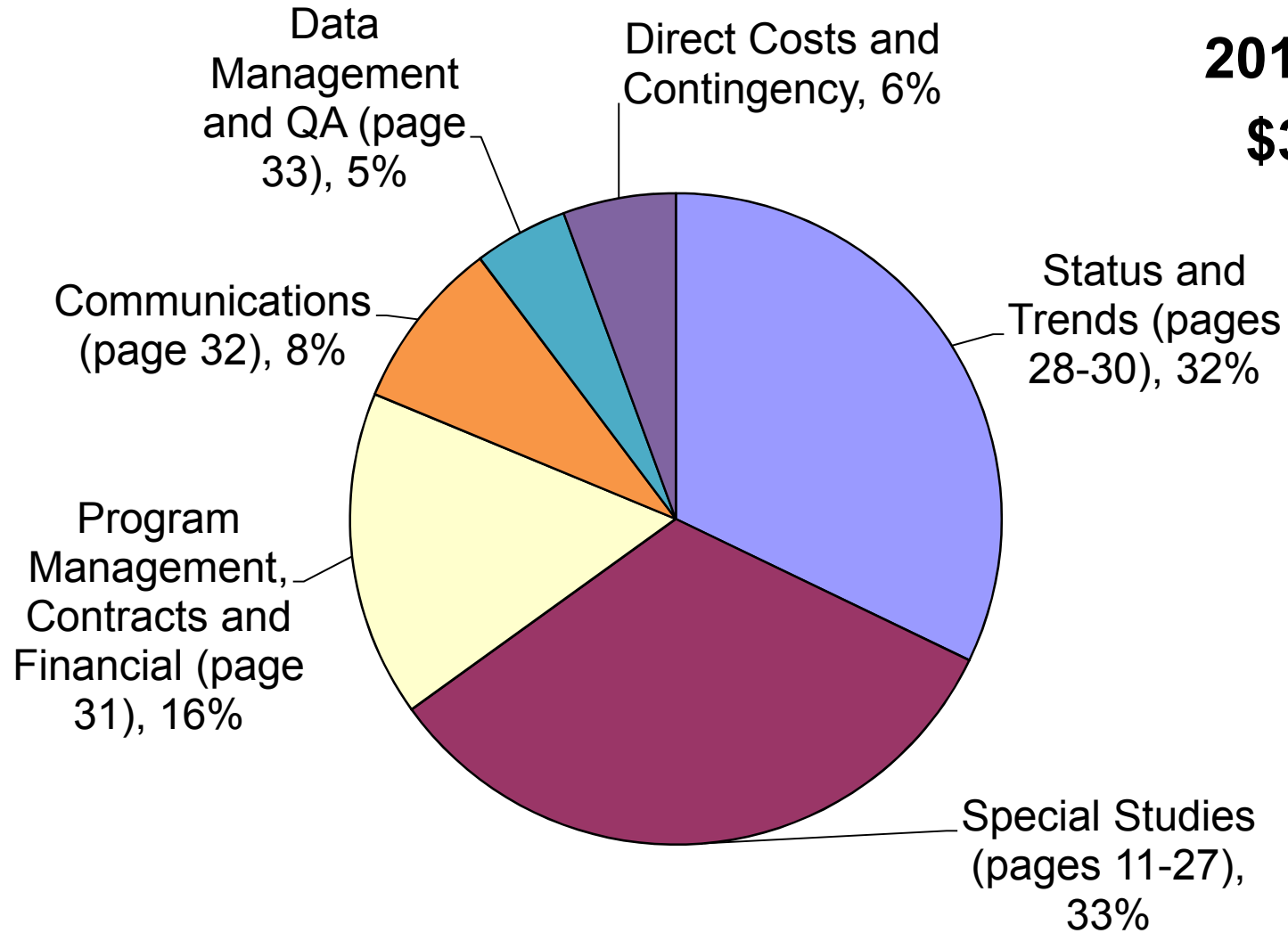
RMP EXPENSES: 2002

**2002 Fees
\$2.74M**



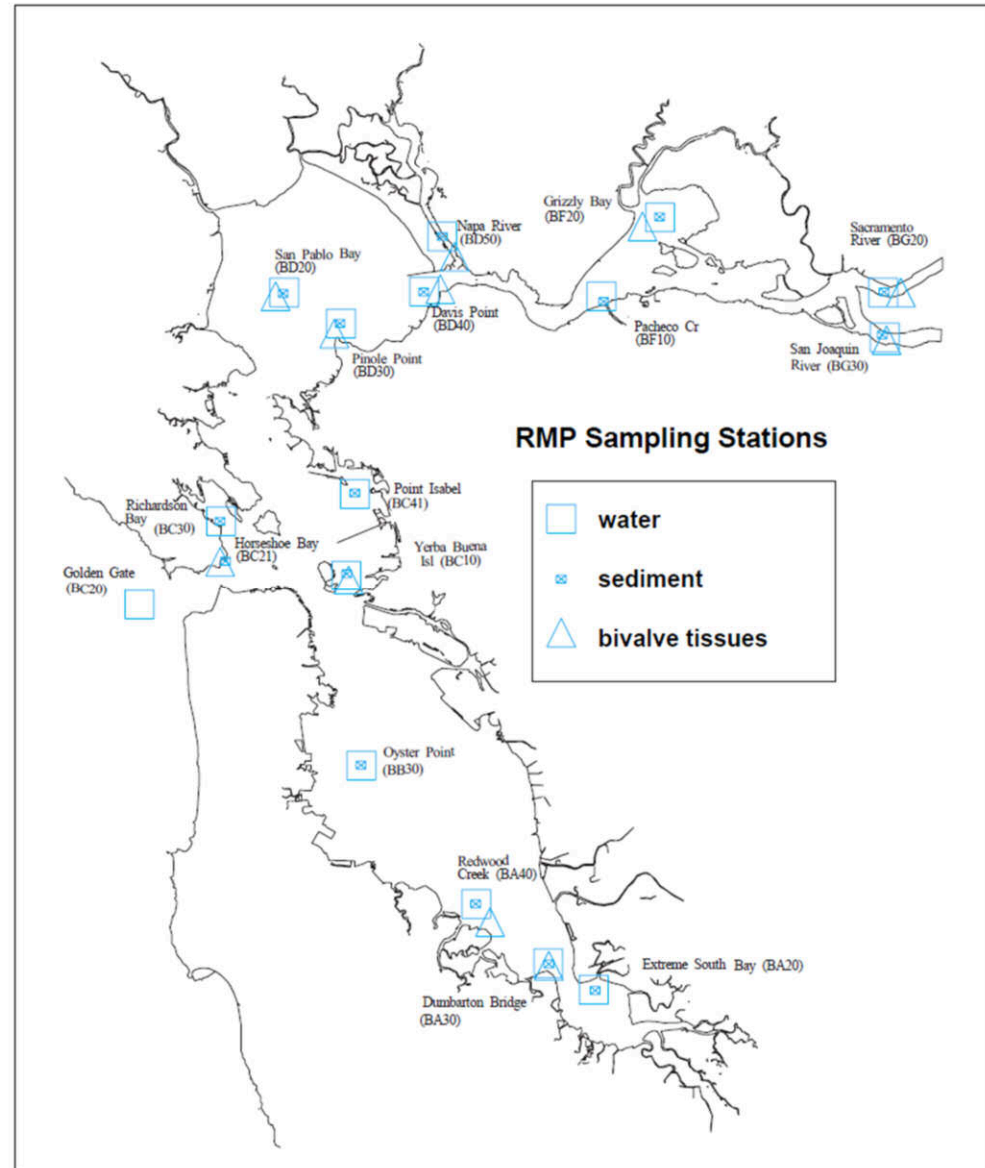
RMP EXPENSES: 2012

**2012 Fees
\$3.24M**



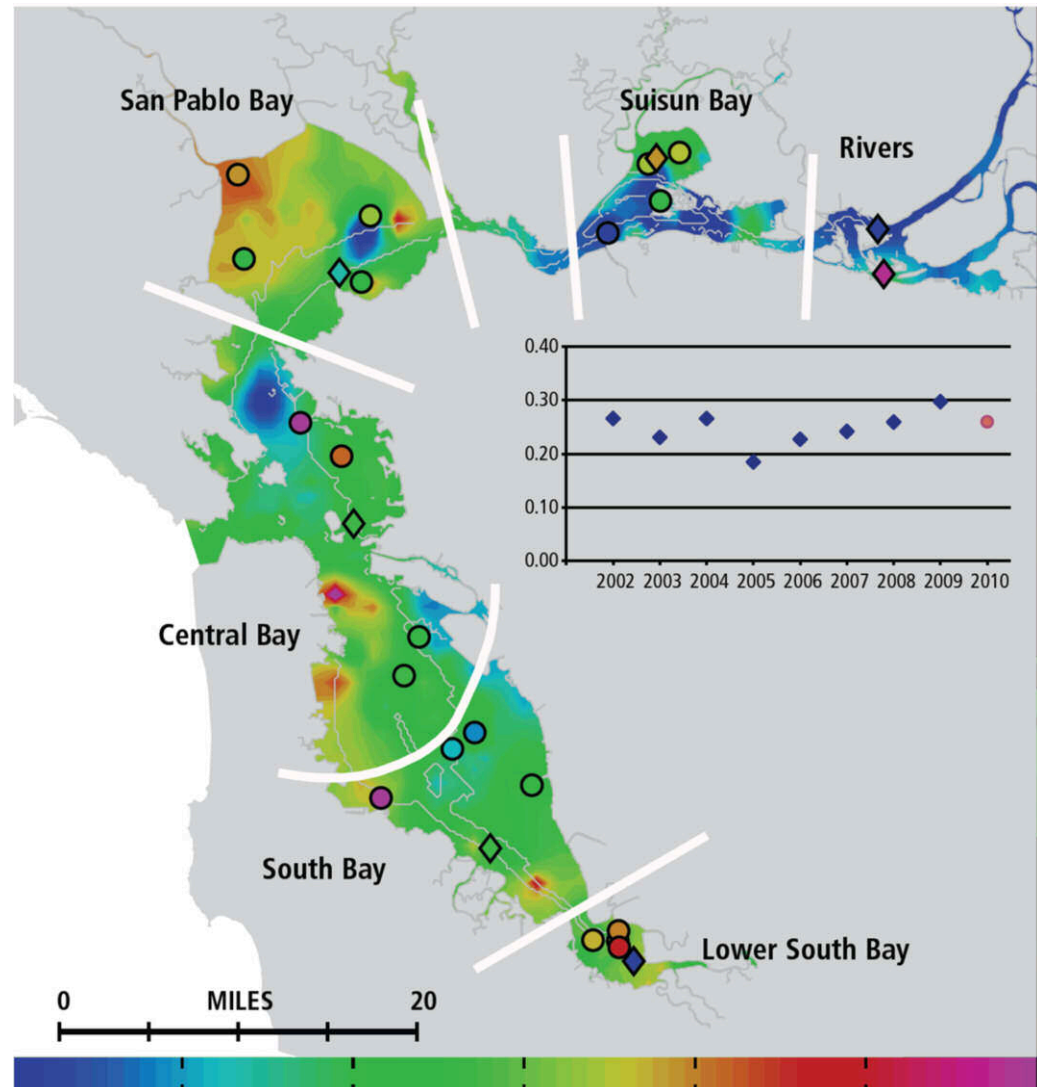
RMP 1993

- Water quality objectives
- Water and sediment
- Metals, PCBs
- Baseline data
- Fixed stations
- Distant from sources
- Seasonal sampling
- Data compatibility



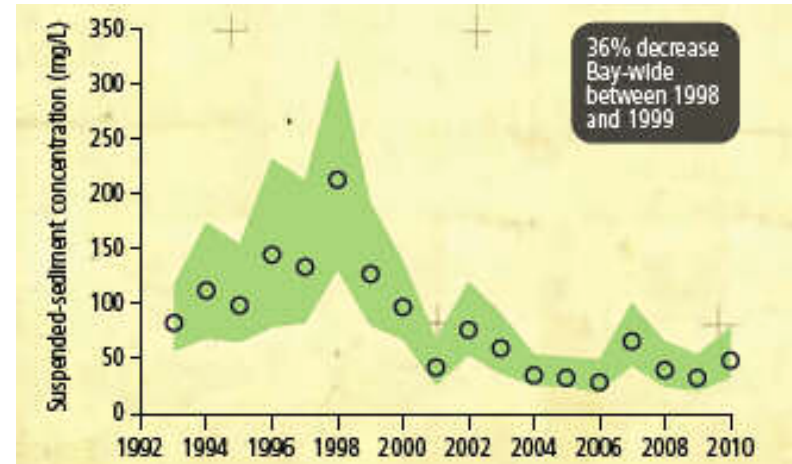
RMP 2012

- Strategic planning
- Management questions
- Synthesis
- Special studies: effects, loading, forecasts
- TMDL targets
- Biota
- Hg, PCBs, CECs, nutrients
- Probabilistic and fixed
- Closer to sources



Regional Monitoring Lessons

- A static program becomes less and less valuable
 - Adaptation
 - Changing management
 - Changing pollution
 - Changing ecology
 - Diminishing returns
 - Spatial probabilistic sampling
 - Trend sampling in the absence of trends
 - Frequently reassess the value of each element
- Surprising findings
 - Lack of trend
 - Dramatic changes



Regional Monitoring: The Future

MYP Page 30

	2012	2013	2014	2015	2016	2017	2018	2019
Water Chemistry (biennial 22 sites)	\$0	\$55,000	\$0	\$190,000	\$0	\$55,000	\$0	\$190,000
Aquatic Toxicity (every five years)	\$0	\$0	\$0	\$7,000	\$0	\$0	\$0	\$0
Bivalves (biennial 11 sites)	\$60,000	\$0	\$60,000	\$0	\$60,000	\$0	\$60,000	\$0
Sediment Chemistry (biennial 47 sites dry/27 wet)	\$110,000	\$0	\$185,000	\$0	\$110,000	\$0	\$185,000	\$0
Sediment Toxicity (biennial 27 sites dry/27 wet)	\$51,500	\$0	\$51,500	\$0	\$51,500	\$0	\$51,500	\$0
Sediment Benthos (biennial 27 sites dry/27 wet)	\$61,800	\$0	\$61,800	\$0	\$61,800	\$0	\$61,800	\$0
Fieldwork and Logistics	\$214,000	\$221,000	\$214,000	\$221,000	\$214,000	\$221,000	\$214,000	\$221,000
Fish Contamination Study (triennial)	\$0	\$0	\$270,000	\$0	\$0	\$0	\$0	\$270,000
Cormorant Eggs (triennial)	\$75,000	\$0	\$0	\$75,000	\$0	\$0	\$75,000	\$0
Forster's Tern Eggs (triennial)	\$75,000	\$0	\$0	\$75,000	\$0	\$0	\$75,000	\$0

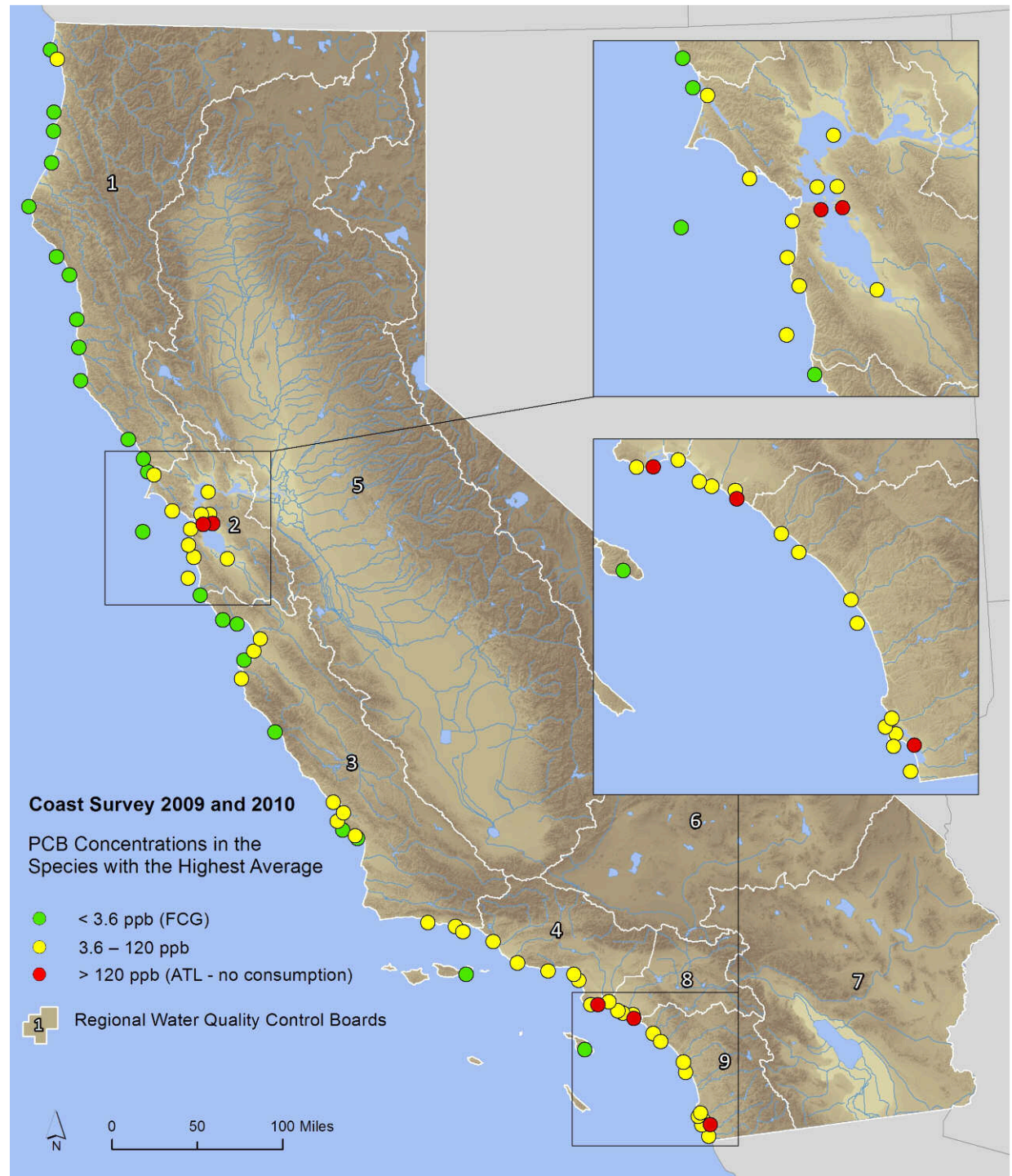
Regional Monitoring: The Future

Continuing Valuable Time Series

- 1) Water chemistry
- 2) Aquatic toxicity
- 3) Sediment chemistry *
- 4) Sediment toxicity *
- 5) Benthos *
- 6) Bivalve chemistry *
- 7) Sport fish chemistry *
- 8) Bird egg chemistry
- 9) Suspended sediments (continuous)
- 10) Basic water quality (monthly) *

Coordinated Surveys and Assessments

- Sport fish
- Bivalves
- Biotoxins?
- NCCA



Regional Monitoring: The Future

Areas of Growth and Development

- 1) CECs *
- 2) Bioanalytical screening for CECs *
- 3) Optimizing monitoring for nutrient numeric endpoints *
- 4) Applying new technologies (e.g., sensors) *
- 5) Monitoring to support fate modeling
- 6) Expanding our sampling frame into shallower waters
- 7) The unexpected *

Special Studies: The Future

MYP Page 11

	2011	2012	2013	2014	2015	2016	2017
TOPIC							
Mercury	\$95,000	\$25,000	\$0	TBD	TBD	TBD	TBD
PCBs	\$53,000	\$0	\$0	TBD	TBD	TBD	TBD
Dioxins	\$26,000	\$95,500	\$0	\$40,000	TBD	TBD	TBD
Emerging Contaminants	\$100,000	\$117,000	\$100,000	TBD	TBD	TBD	TBD
Small Tributaries	\$340,000	\$428,000	\$450,000	\$300,000	\$300,000	TBD	TBD
Other SPL	\$0	\$0	\$0	TBD	TBD	TBD	TBD
Exposure and Effects	\$97,000	\$130,000	\$100,000	TBD	TBD	TBD	TBD
Forecasting	\$0	\$100,000	\$100,000	\$100,000	TBD	TBD	TBD
Nutrients	\$0	\$140,000	\$230,000	\$300,000	TBD	TBD	TBD
ANNUAL TOTALS FOR SPECIAL STUDIES	\$711,000	\$1,035,500	\$980,000	\$740,000	\$0	\$0	\$0
ANNUAL TOTAL AVAILABLE FOR SPECIAL STUDIES	\$706,194	\$895,434	\$1,093,540	\$1,142,106	\$1,133,319	\$1,171,465	\$1,225,486
REMAINING	-\$4,806	-\$140,066	\$113,540	\$402,106	\$1,133,319	\$1,171,465	\$1,225,486



**Quick
questions?**