

# Regional Watershed Program

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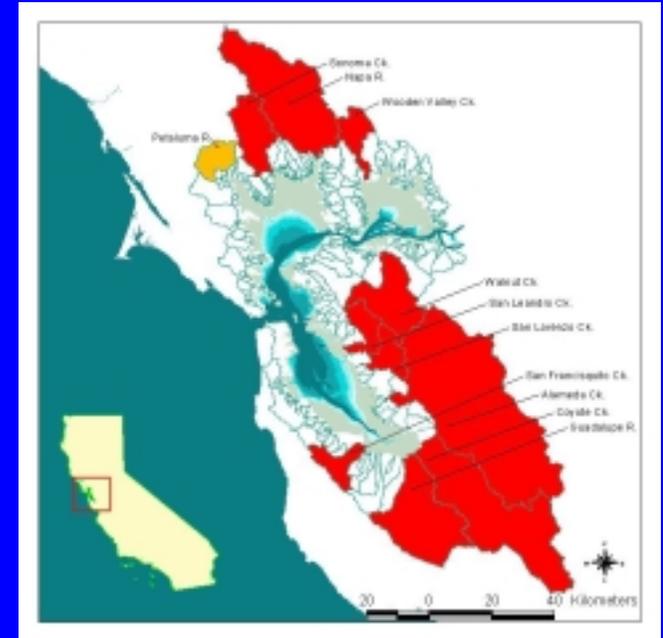
San Francisco Estuary Institute

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# Presentation Outline

- Vision
- Organization
- Components
- Niche
- Relationships
- Achievements
- Objectives for 2003, 2004/05
- Tools for success
- What I would like from my Board



The 10 largest small tributaries to San Francisco Bay excluding the Central Valley (Red area).

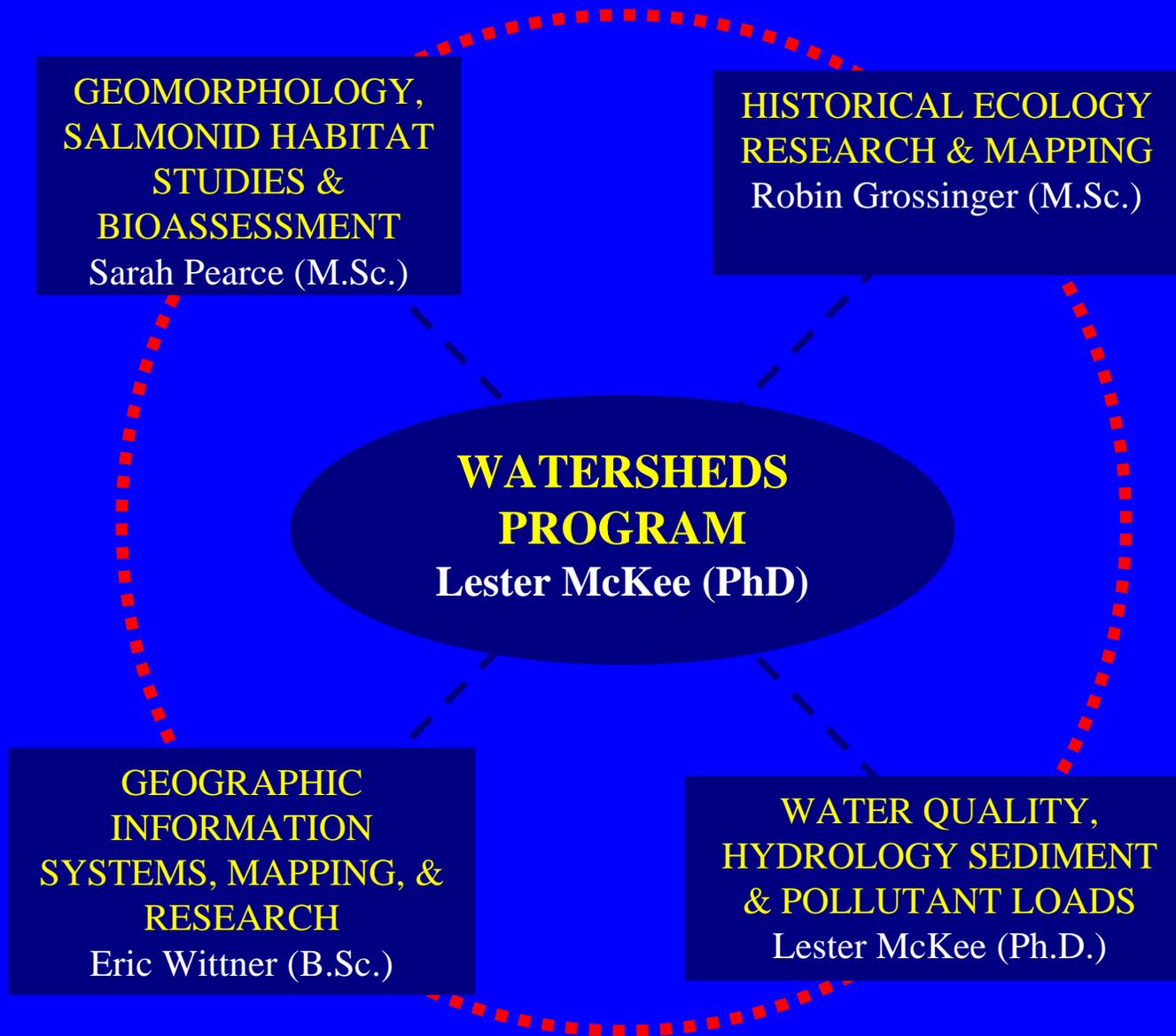
# Vision Statement

To foster the maintenance of beneficial uses in watersheds & the reduction of impacts in downstream environments.

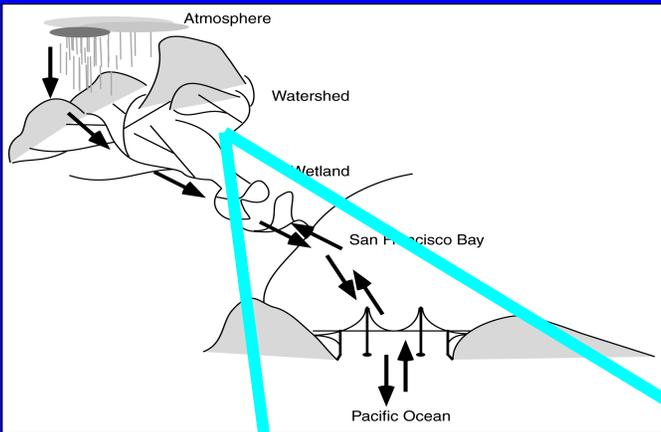
## Mechanisms

- A knowledge of management needs
- The development of research questions & hypotheses
- Application of monitoring methodologies & applied research
- Resource mapping & characterization
- Communication of results to a range of audiences

# Program Organization



# Program Components



## Monitoring & research

*Issue: Process*

- a) Hydrology
- b) Geomorphology
- c) Macro-invertebrates
- d) Turbidity
- e) Suspended sediment
- f) Nutrients & Pathogens
- g) Organic carbon
- h) Trace organics
- i) Trace metals

## Local & regional characterization

*Issue: Classification*

- a) Base Map for the Bay Area
  - Hydrography, names, codes
  - Geology, soils, landslides
  - Pollutant source locations
  - Rainfall & runoff distribution
  - Topography / slope
  - Photo maps
- b) Local & Regional Historical Ecology
  - Land use & flora / fauna changes
  - Landscape & stream character
  - Chemical usage
- c) Regional data compilation & analysis
  - Climate & hydrology
  - Sediment concentrations & loads

# Niche

## Halfway between Academia & Private Consulting?

### Examples of things we do

- Partner with local, State & Federal agencies, universities & consulting groups
- Regional characterization
- Capacity building & technology transfer
- Consensus building
- Analysis of local data within a regional context
- Regional data compilation
- Test new methodologies
- Form broad partnerships
- Expert review

### Example of things we don't do

- No design work
- No turn-key or hit & run style projects
- Make a profit
- Projects at the reach scale without a watershed context
- Compliance monitoring
- Recommend or make policy decisions
- Projects with short timelines
- Carve out place based niches

# Relationships to Other Programs

## At SFEI

- RMP Sources Pathways & Loadings
- Wetlands

## Outside SFEI

- USGS
- CALFED Bay-Delta watershed program
- DFG
- SWAMP
- TMDL

# Achievements

## Geomorphic & habitat assessments

- San Antonio Ck., Petaluma
- Carriger Ck., Sonoma
- Soda Ck., Carneros Ck., Sulphur Ck., Napa
- Wildcat Ck., Contra Costa
- Crow Ck., Alameda
- La Honda Ck., San Mateo

## Nutrient & pathogen assessments

- Sonoma watershed
- Napa watershed

## Sediment & trace contaminant loads

- Sacramento R.
- Guadalupe R.

## Hydrology - Velocity, discharge, stream power

- La Honda Ck.

## Regional compilation of GIS layers

- EAIS (30+ layers)

## Hydrography

- 1:24 k NHD
- Storm drain mapping report

## Historical Landscape Form / Function

- Napa R. Watershed
  - Soda Ck.
  - Carneros Ck.
  - Sulphur Ck.
- Sonoma Ck. Watershed
- Wildcat Ck. Watershed
- Crow Ck. Watershed

## Regional data compilation & analysis

- Storm water loadings report
- Urban runoff processes review

## Expert review

- Tech. reviewer for CALFED
- Expert reviewer for Solano NCP/ HCP
- Tech. Review for EPA

# Objectives for 2003

## A year of Consolidation

- Marketing & communication using 2001 / 2002\*\* products (web development\*\*)
- Diversify relationships & funding sources
- Write proposals with even more diverse partnerships
- Focus on less products but increased quality
- Publish in peer-review journals
- Plan for lab space
- Staff development (education in areas we are lacking)
- Increase equipment through relationship building & purchases

# Objectives for 2004 / 2005

## Program expansion

- Lab implementation
- Begin data collection on a regional scale monitoring & research program for sediments & trace contaminants. This should include:
  - areas for long term monitoring for temporal processes
  - testing of BMPs
  - regional scale loadings studies
  - trend analysis
  - localized shorter term projects for understanding spatial processes
- Staff expansion (assuming funding success)
- Staff rewards
  - National & international conferences & workshops
  - Well funded projects

# Tools for success

- A Board who is engaged
- Science advisors who are aware of regional needs
- Funding
- Staff (Generalists & specialists)
- Equipment
- Internal staff brainstorming & support
- External collaboration & relationships
- Peer-review structure
- Communication tools & mechanisms

# What would I like from my Board

- Understanding & agreement on program vision, structure, & niche
- Awareness of the types of products & staff expertise
- An increase in membership to include a member from DFG
- Improved engagement of several key board members
  - EPA TMDL group rep
  - RWQCB & SWRCB (TMDL & urban runoff programs)
- A willingness to carry forth ideas & proposals to collaborators & funders
- A willingness to advise on opportunities for studies & funding
- Promotion & celebration of the program to local managers, State & Federal Politicians

# Areas where the Watershed Program is having a major influence

- Our work has led to a total redefinition of the Bay sediment budget through sediment loading information provided by the “Mallard Island Project” & the Urban runoff literature review. The work has major implications for:
  - Bathymetric changes in the Bay
  - Sediment availability for restoration projects
  - Erosion of legacy contaminants
  - Source of dredged sediment
- Our analysis of existing Hg data has had a major influence on the Hg budget for the Bay.
  - Major policy implications for Hg management
- Though a collaborative multidisciplinary capacity-building science process, we are assisting the Napa RCD & the Carneros & Sulphur Cks. Stewardships to write two watershed management plans that include reach specific recommendations for maintaining beneficial uses. Other agencies are seeing this project as a model to be applied in other places.

# Areas where the Watershed Program is having a major influence

- We are working in a consensus building capacity between Caltrans & DFG to gather a “baseline” understanding of habitat quality & water & sediment processes in La Honda Creek. Although a reach specific project (we normally would prefer to work at a watershed scale), this project is cutting edge in terms of its objectives:
  - To build agreement between Caltrans & DFG on a multi-objective approach to road & watershed maintenance
  - To design habitat friendly road fixes for locations that are likely to fail during the next large storm
  - Through the trust created from the development of common visions, pre-permit projects before failures actually happen.
  - To transfer this approach to other areas in California
- We have come a long way on a shoe string budget in collating geographic information for describing watershed resources at the regional scale (see EAIS on our web site). The major management relevant uses for this GIS data are:
  - Regional scale comparisons from watershed to watershed
  - Modeling & extrapolation of existing detail datasets to other areas with limited or no data available at the sub-watershed & watershed scale