

EBDA Wastewater Services: Do Past Structures Meet Future Needs?

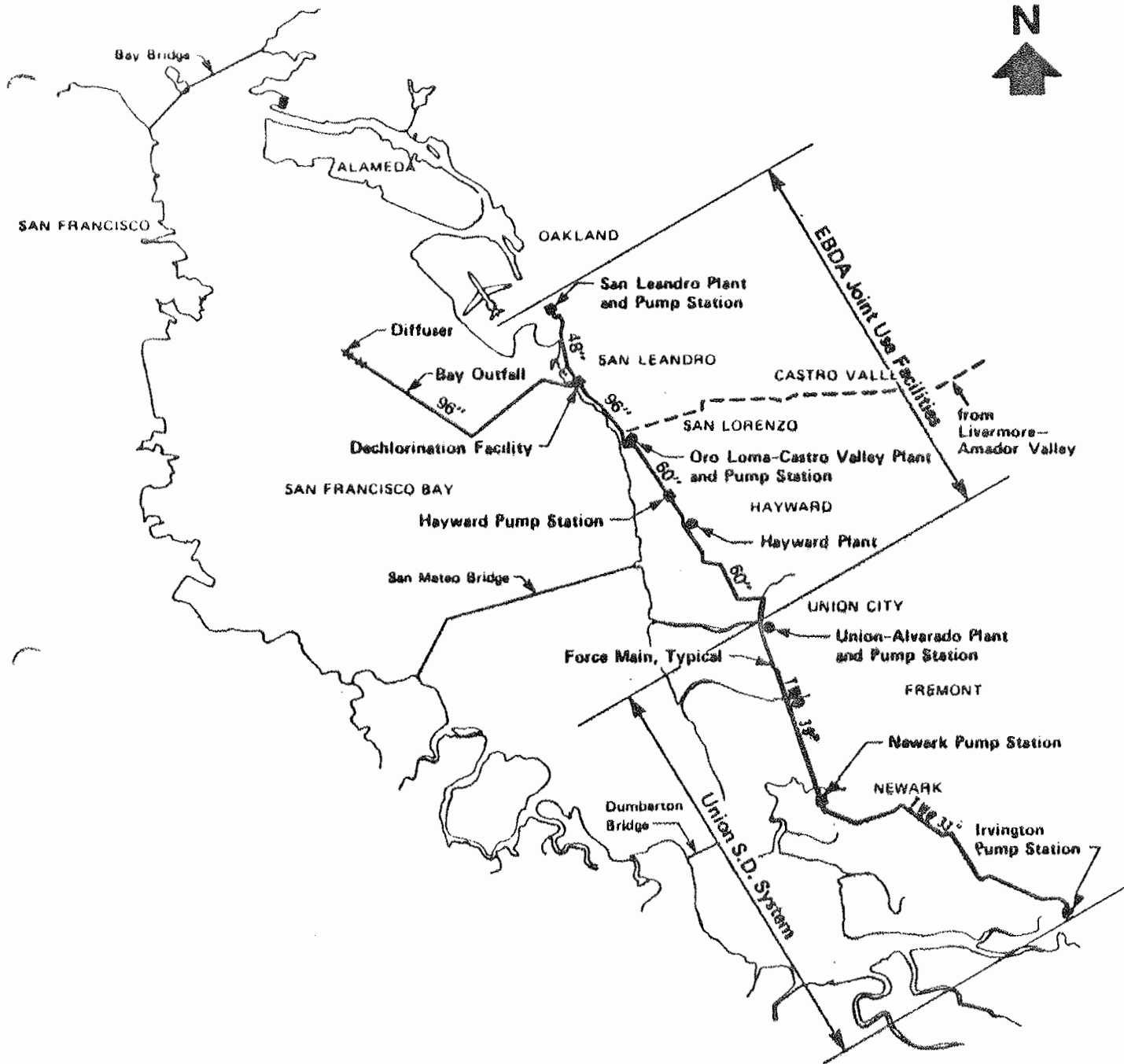
Dr. Michael Connor

General Manager



East Bay Dischargers Authority

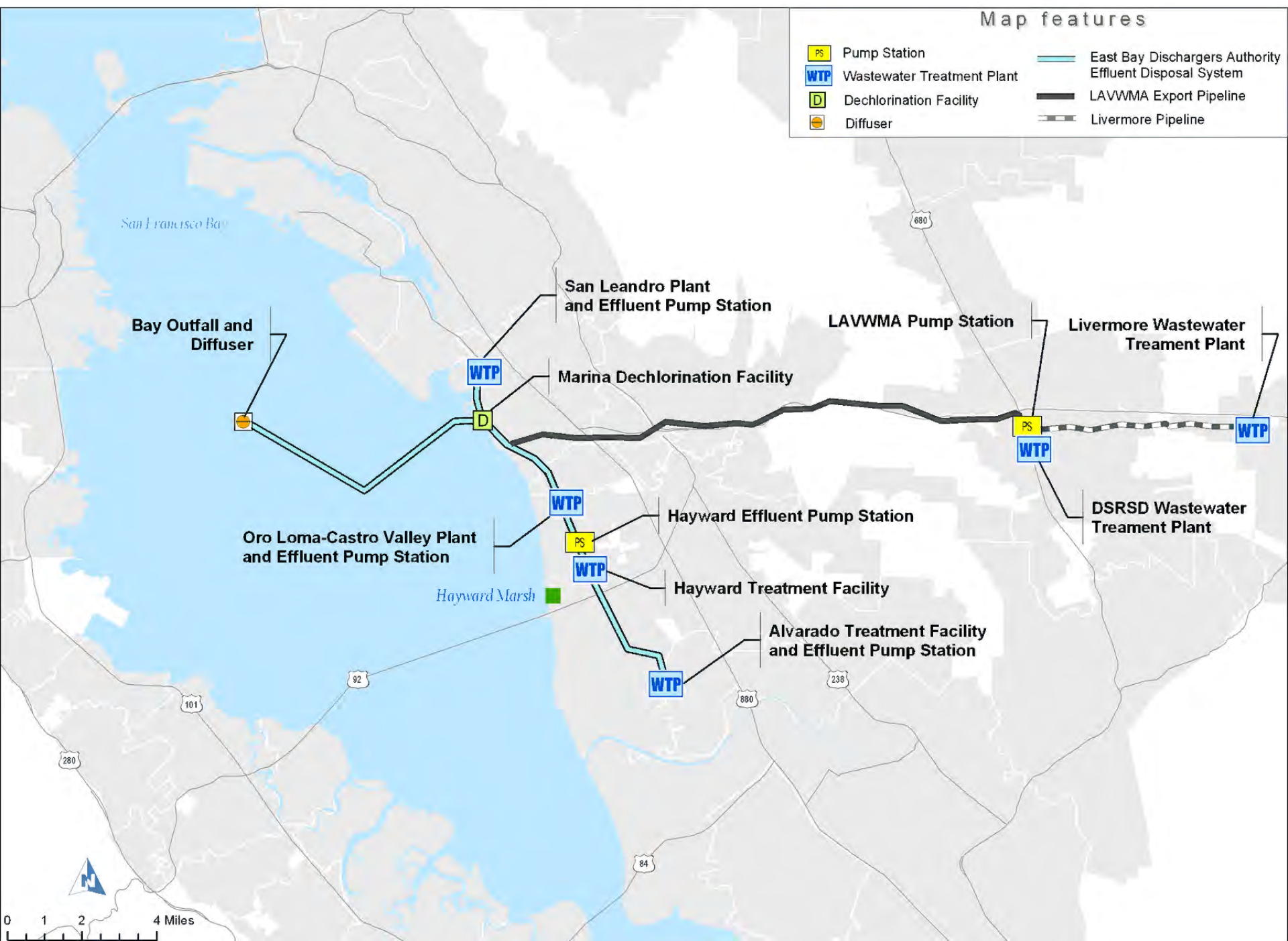
TODAY'S PRESENTATION

- Geographic Coverage
- Capacity
- Infrastructure
- Future Challenges



Map features

- PS** Pump Station
- WTP** Wastewater Treatment Plant
- D** Dechlorination Facility
-  Diffuser
-  East Bay Dischargers Authority Effluent Disposal System
-  LAVWMA Export Pipeline
-  Livermore Pipeline



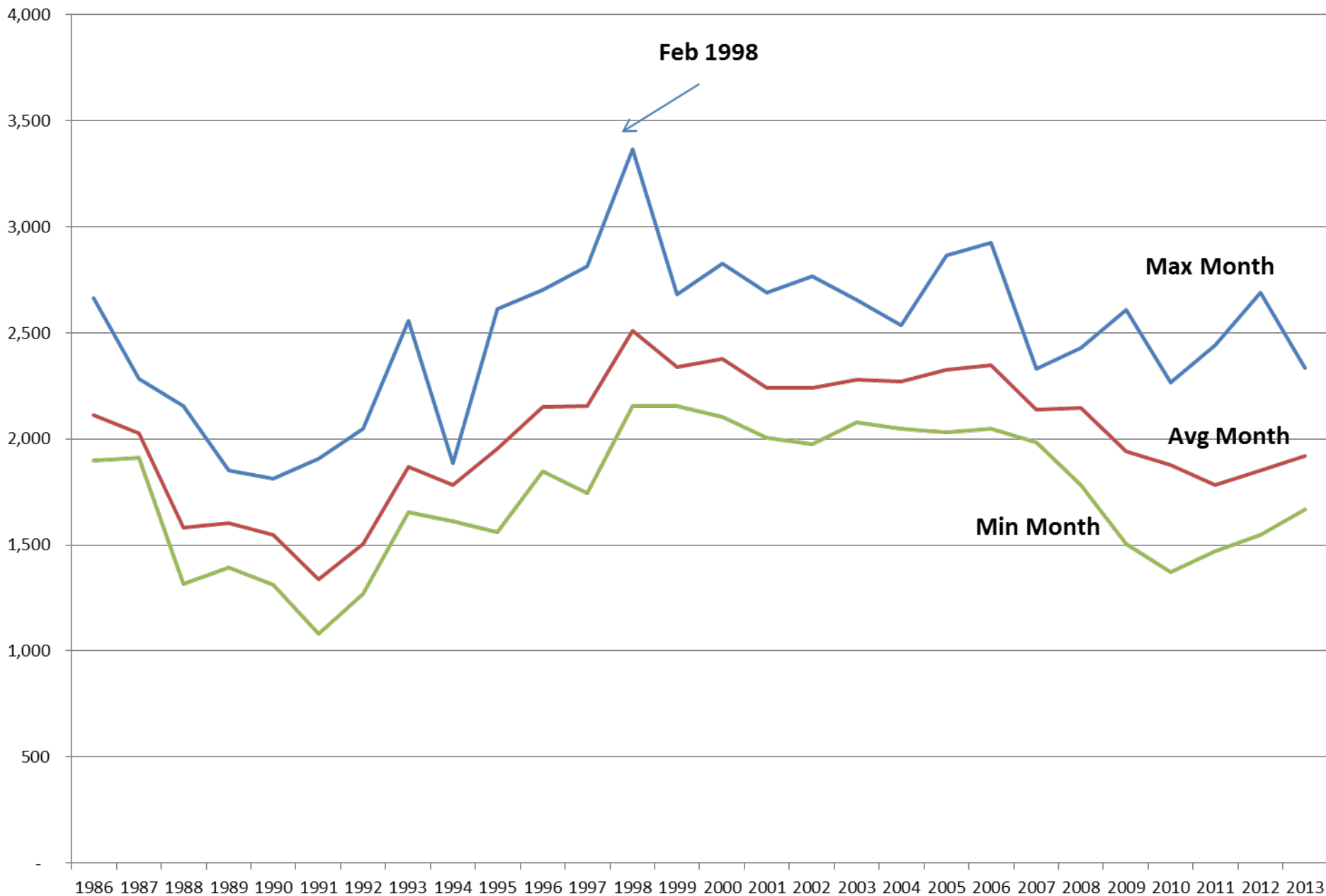
EBDA Agency Costs Lower than Bay Area

- Data Comparisons Difficult
- Average Monthly Bills
 - EBDA Agencies \$16-\$41. Med~\$25
 - Bay Area Range\$13-\$145..Med~\$45
- SFR Connection Fees
 - EBDA Agencies \$1332- \$13,000. Med~\$6500
 - Bay Area – Range:\$210- \$22,000.Med~\$4000

EBDA Capacity (mgd) vs NPDES

	Avg Dry	NPDES Dry Cap.	NPDES Peak Wet
San Leandro	4.5	7.6	22.3
Oro Loma/CV	13.4	20	69.2
Hayward	11.4	18.5	35.0
USD	28.9	38.0	42.9
Subtotal	58.2	84.1	169.4
LAVWMA	15.2	35.0	41.2
Total	73.4	119.1	189.1

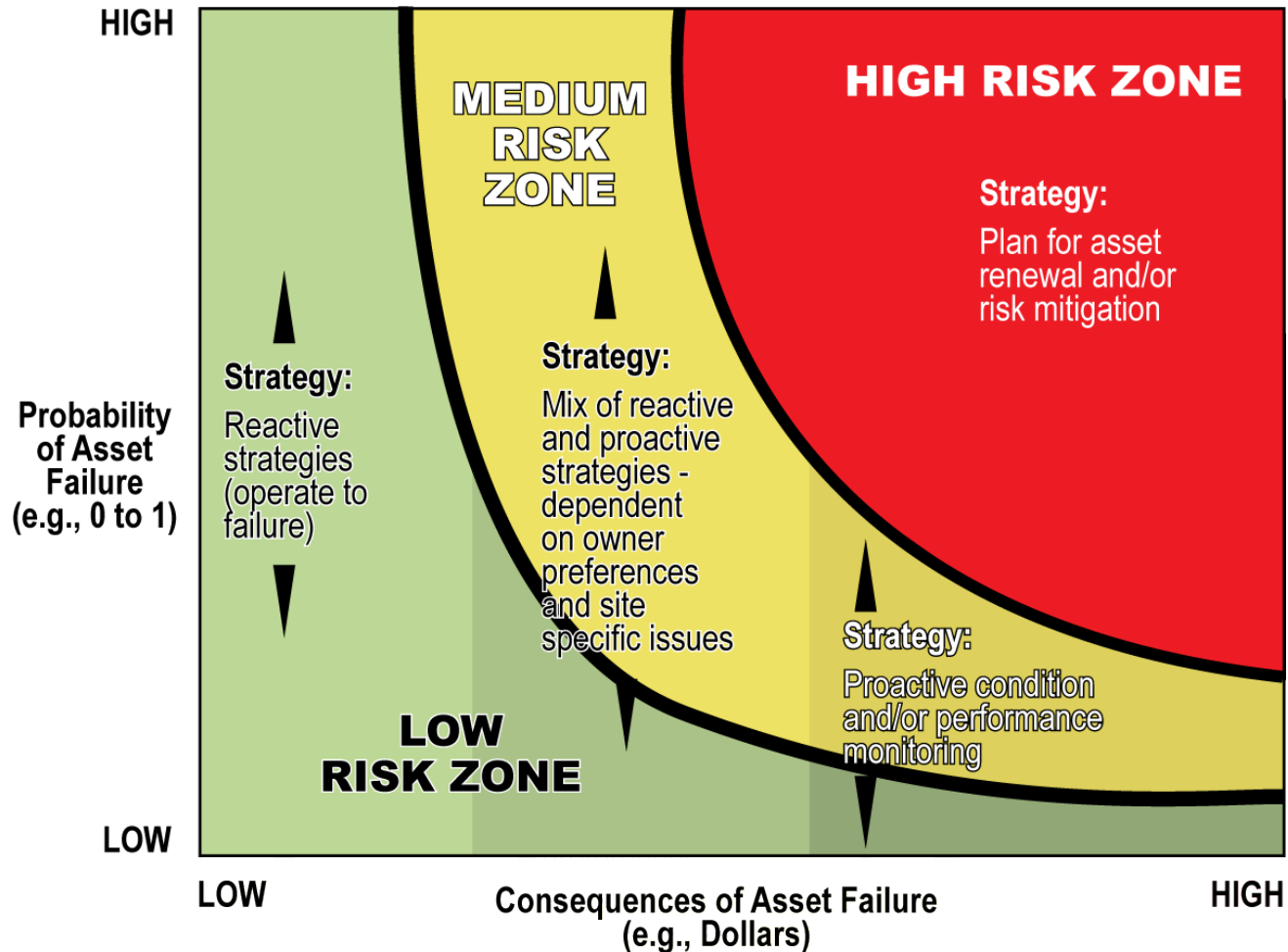
Capacity - EBDA Flows Declining



Recycled Water Increasing

Agency	Annual (acre ft)	Max (MGD)	Avg WW Flow
USD	3300	20	25
Hayward	2500-3000	3-4	11
OLSD/CVSD	200-250	1	11
San Leandro	600	1.2	5
DSRSD	3200	7	8
Livermore	~1000	3.6	5
Total	~10,000	~20	65

Infrastructure: Risk-Based Management Strategy



Moving From Wastewater Treatment to Wastewater Resource Recovery

1 Shortcut Nitrogen Removal

2 P-Recovery

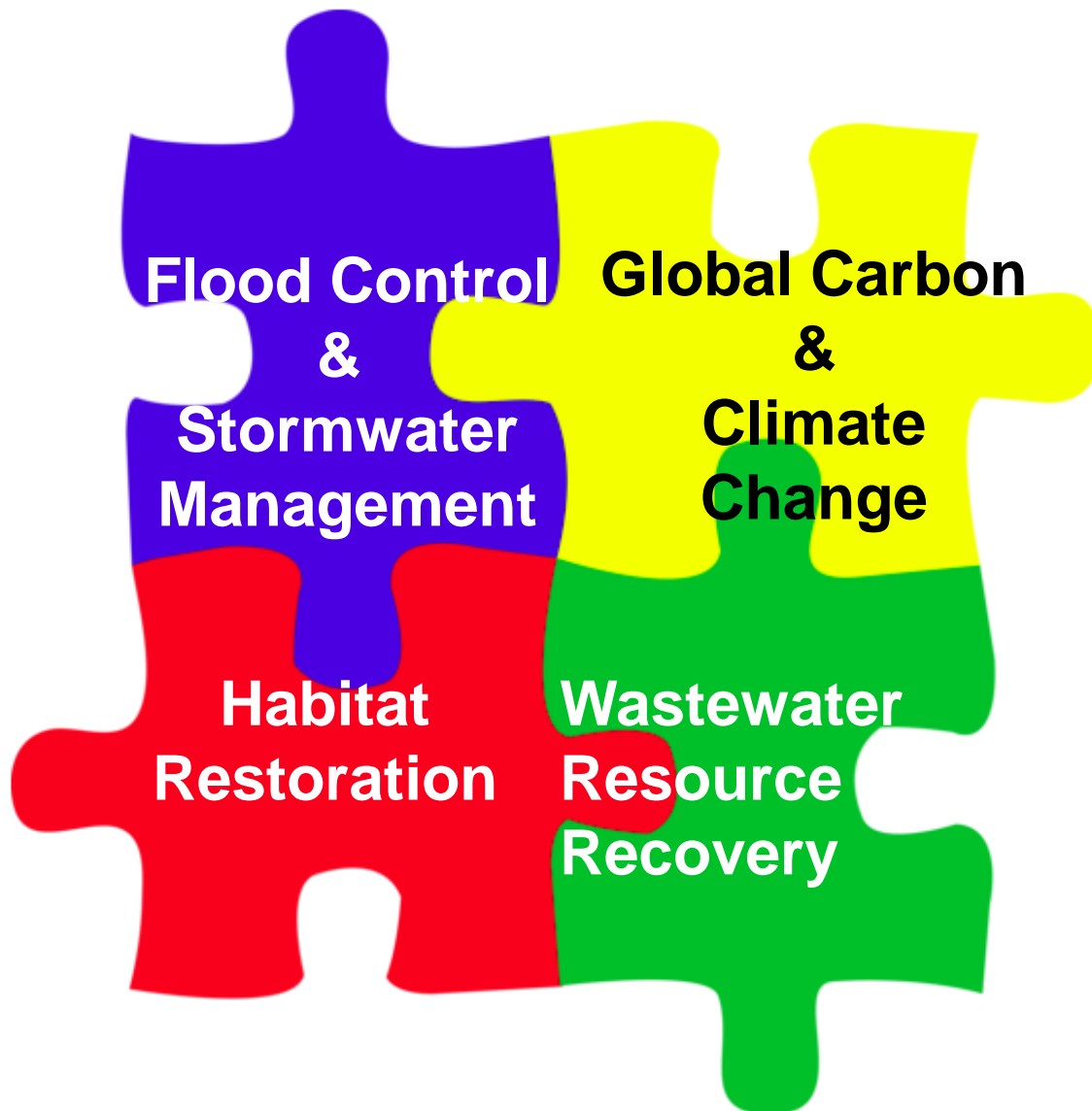
3 Digestion Enhancements

4 Biosolids to Energy

5 Energy from Wastewater



Wastewater Future Must Be Coordinated with Other Bay Issues



Evolving Regulatory & Regional Drivers

- Regulatory Drivers
 - Nutrient Discharge Requirements
 - Carbon Emission Requirements
 - Stormwater Treatment Requirements
 - Sewer Lateral Repair
 - Recycled Water Production Requirements
 - Biosolids Discharge Prohibitions
- Regional Drivers
 - Earthquake Response
 - Sea Level Rise
 - Habitat Restoration
 - Population Density

Why the concern about nutrients?

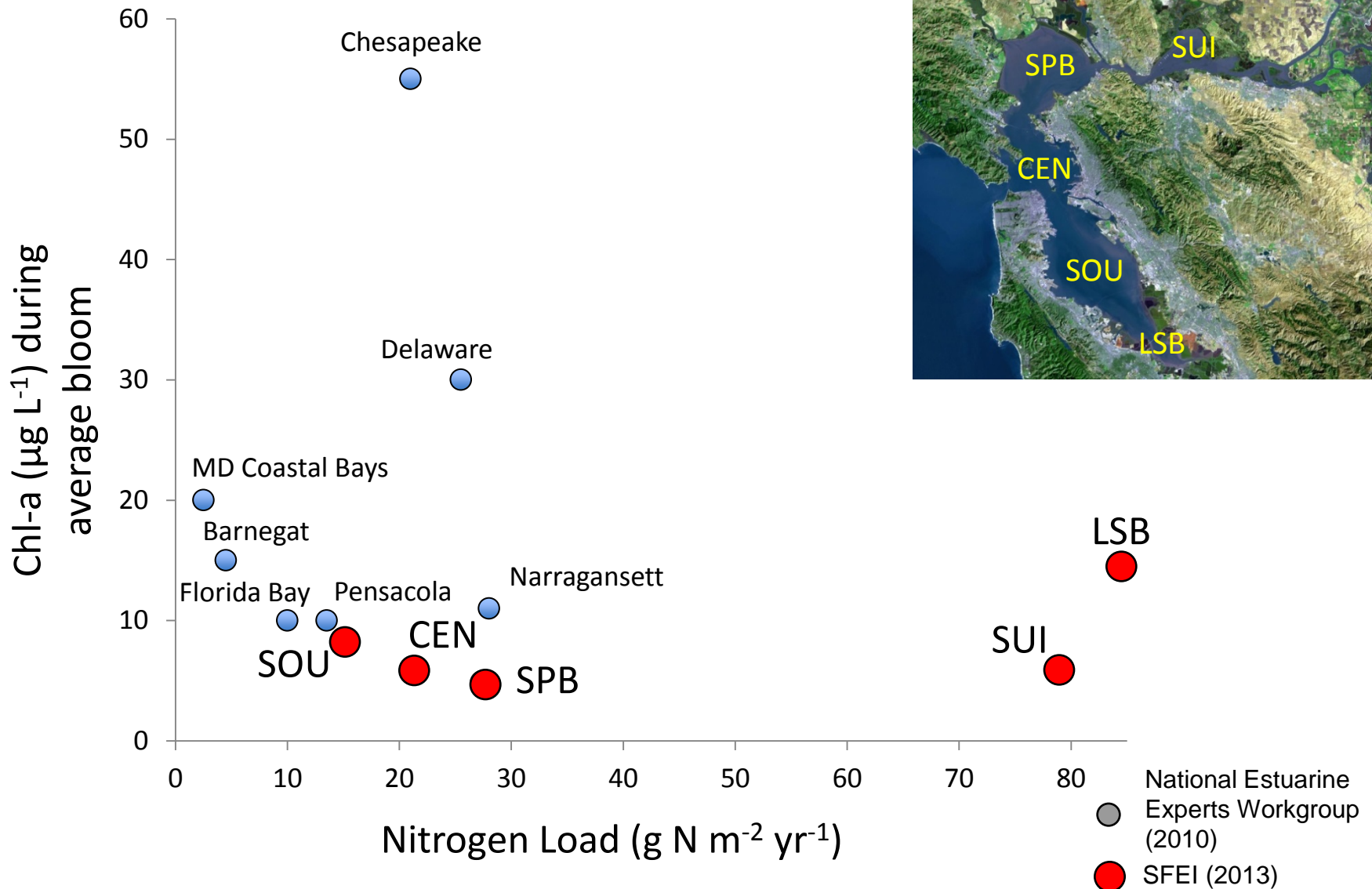
Potential Environmental Impacts of Nitrogen and Phosphorus



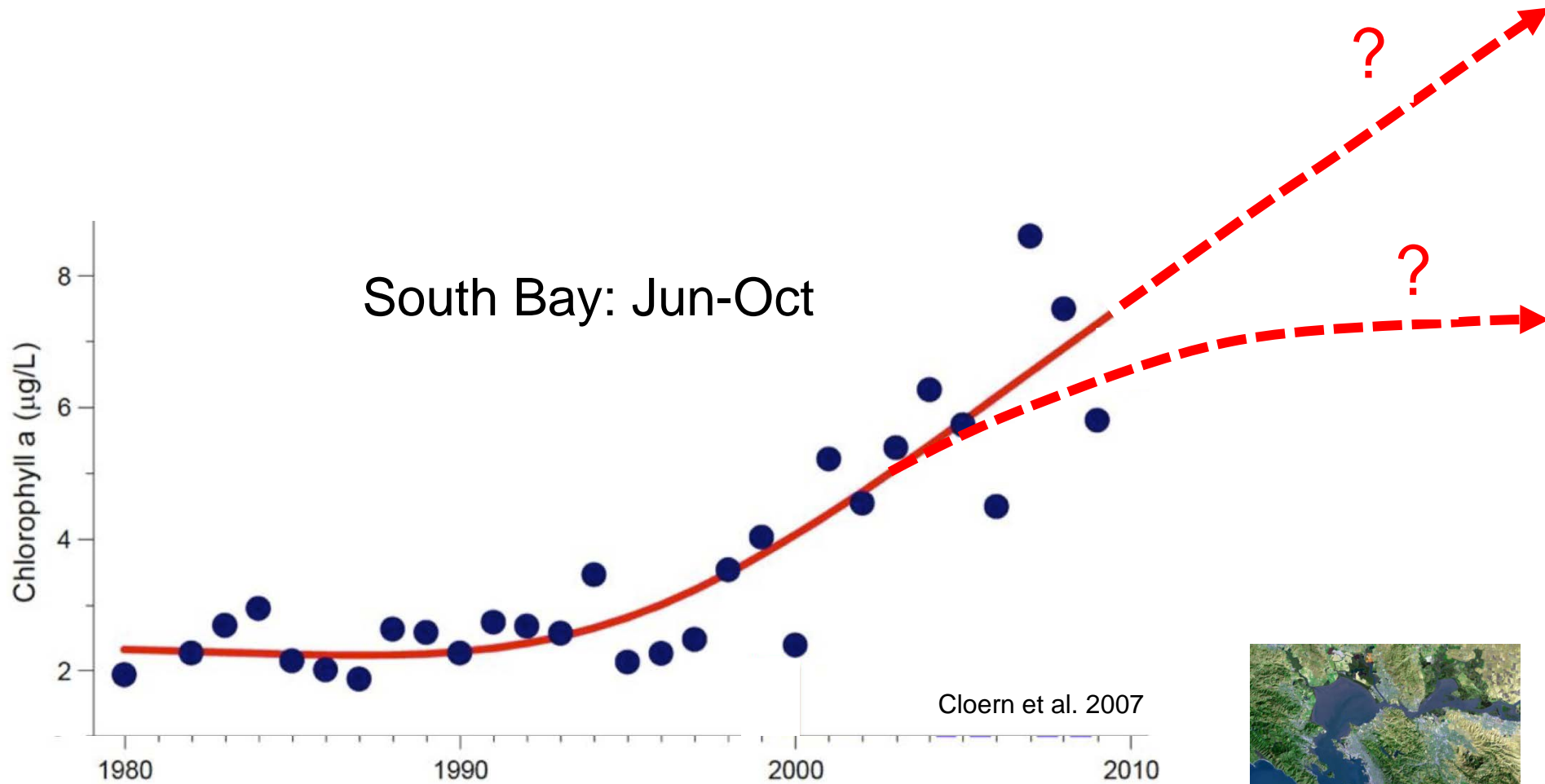
Altered Species Composition



High SFB Nitrogen loads now, but low impacts



SFB Ecosystem response is changing



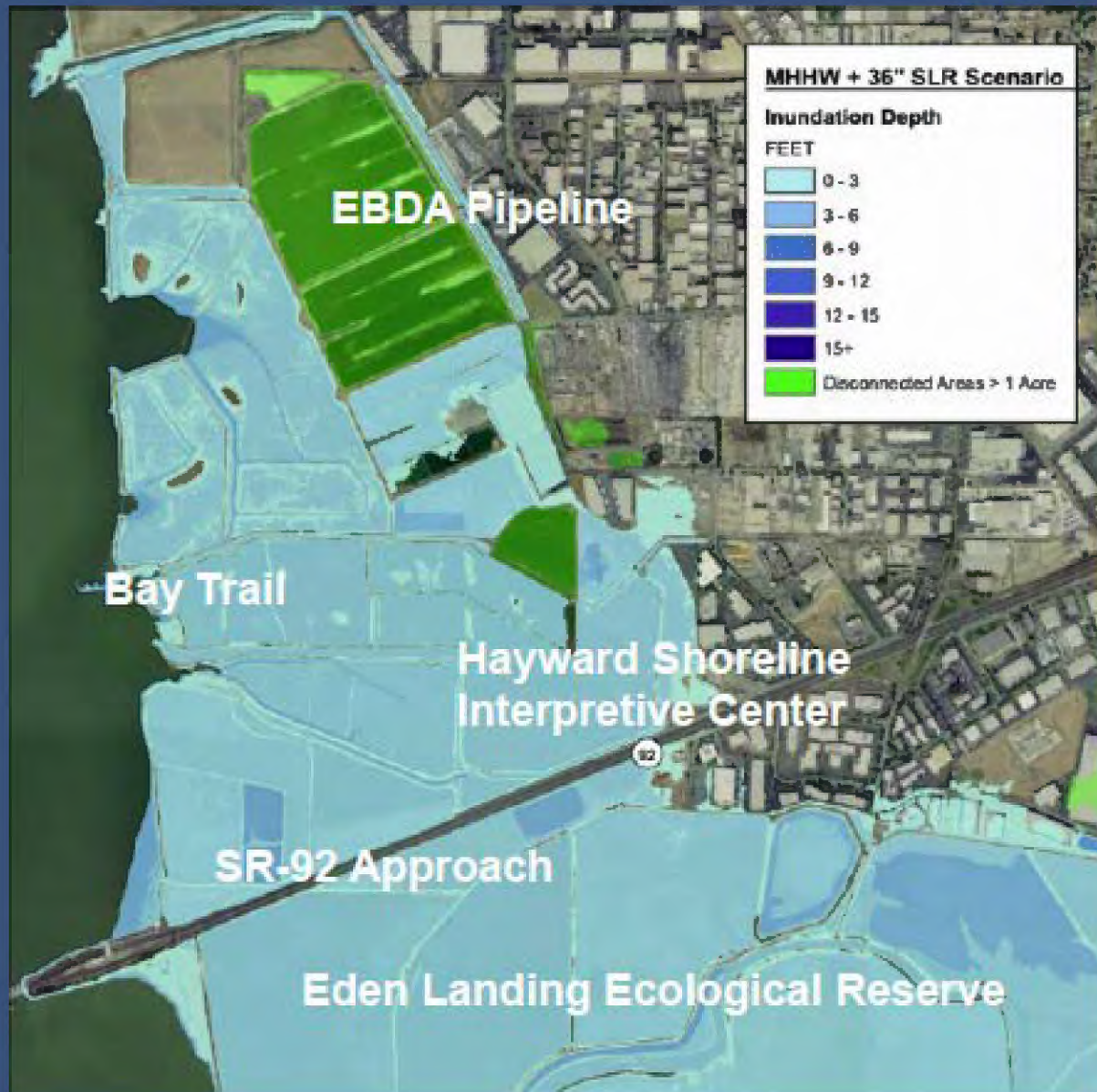
Will impacts continue to increase,
or reach a new plateau?



Nutrient Infrastructure Options

- Increased Treatment
 - \$10-\$30/gal capital costs depending on reqts.
 - All flows (190 MGD)? Summer flows (60 MGD)
- Maximize Water Recycling
- Wetlands Treatment/Discharge Strategies

Flooding in Developed Area





Frank's Dump West - New Year's Eve 2005
8.9 ft tides; 40mph westerly winds

Sea Level Infrastructure Options

- Relocation
- Levies
- Wetlands Treatment/Discharge Strategies

4. Landscape Solution Requires Coordination

- Short term, individual actions can build resilience
- When water levels reach 36-48" above MHHW the Hayward Focus Area will need a coordinated, multi-benefit, landscape-scale effort for future coastal flood protection.



Responding to Future Wastewater Issues Requires Coordination Among Many Alameda Orgs

Issue	Regulatory	Coordination
Nutrients	Water Board, Air Board, DFW,USFWS,EPA	Members, BACWA, SCC, County, EBRPD
Carbon	Air Board, Water Board	PGE, BACWA,
Stormwater	Water Board, EPA,DFW, USFWS, BCDC	Cities, County, BACWA
Laterals	Water Board	Cities, BACWA
Recycled Water	Water Board	EBMUD, BACWA, Zone 7, ACWD, Hayward, DOT
Biosolids	EPA	StopWaste, BACWA
Earthquake		
Sea Level Rise	BCDC, USCOE, EPA, Water Board	EBRPD, HARD, SCC
Habitat Restoration	BCDC	SCC, EBRPD
Population	ABAG	Cities, County, Water, Developers

Are Wastewater Cooperation Challenges Addressed By LAFCO Objectives?

To Encourage The Orderly Formation Of Local Governmental Agencies (<http://www.co.alameda.ca.us/lafco/>)

LAFCOs review proposals for the formation of new local governmental agencies and changes of organization in existing agencies. In California, there are 58 LAFCOs working with nearly 4,000 governmental agencies in 58 counties, approximately 500 cities, and over 3,000 special districts. **Agency boundaries are often unrelated to one another and sometimes overlap at random. This overlapping often leads to higher service costs to the taxpayer and general confusion regarding service area boundaries.** LAFCOs' decisions strive to balance the competing needs in California for affordable housing, economic opportunity and conservation of natural resources.