How Much Are We Spending on Ocean Monitoring in Southern California?

SCCWRP Commission

06 June 2025

Why This Project?

- Ocean monitoring is important, but also expensive
  - So Cal conducts more ocean monitoring than most other regions of the USA

- The last time a So Cal inventory of monitoring effort was compiled occurred at the turn of the century
  - Approximately $31M annually
  - 70% borne by NPDES permittees

- Monitoring effort and costs have changed in the last 25 years
  - CTAG decided to work collaboratively to update these estimates

Monitoring Cost Subcommittee Members

City SD	Ryan Kempster	Ami Latker
OCSD	Danny Tang	
LACSD	Josh Westfall	
SD County	Neil Searing	
OCPW	Katie Kelly	Michael Mori
LACDPW	Frank Cheng	Eugene Moon
SWRCB	Jarma Bennet	
US EPA	Matthew Bolt	
SCCWRP	Ken Schiff	Liesl Tiefenthaler

Study Questions

How much ocean monitoring is conducted in Southern California in terms of effort and cost?

How does this ocean monitoring effort and cost vary across habitat, indicators, and monitoring agency sectors?

How does the ocean monitoring effort and cost vary across habitat, indicators, and monitoring agency sectors compared to 25 years ago?

10 Monitoring Foci

- Beach bacteria
- Effluent
- CTD water column
- Eutrophication
- Fish and Shellfish
- Impingement
- Intertidal
- Rocky subtidal
- Sediment Quality
- Water Quality

Dates of Monitoring

- Program must last, or plan to last, 10 or more years
- Target year range 2021-2023
- Average annual monitoring in the target year range

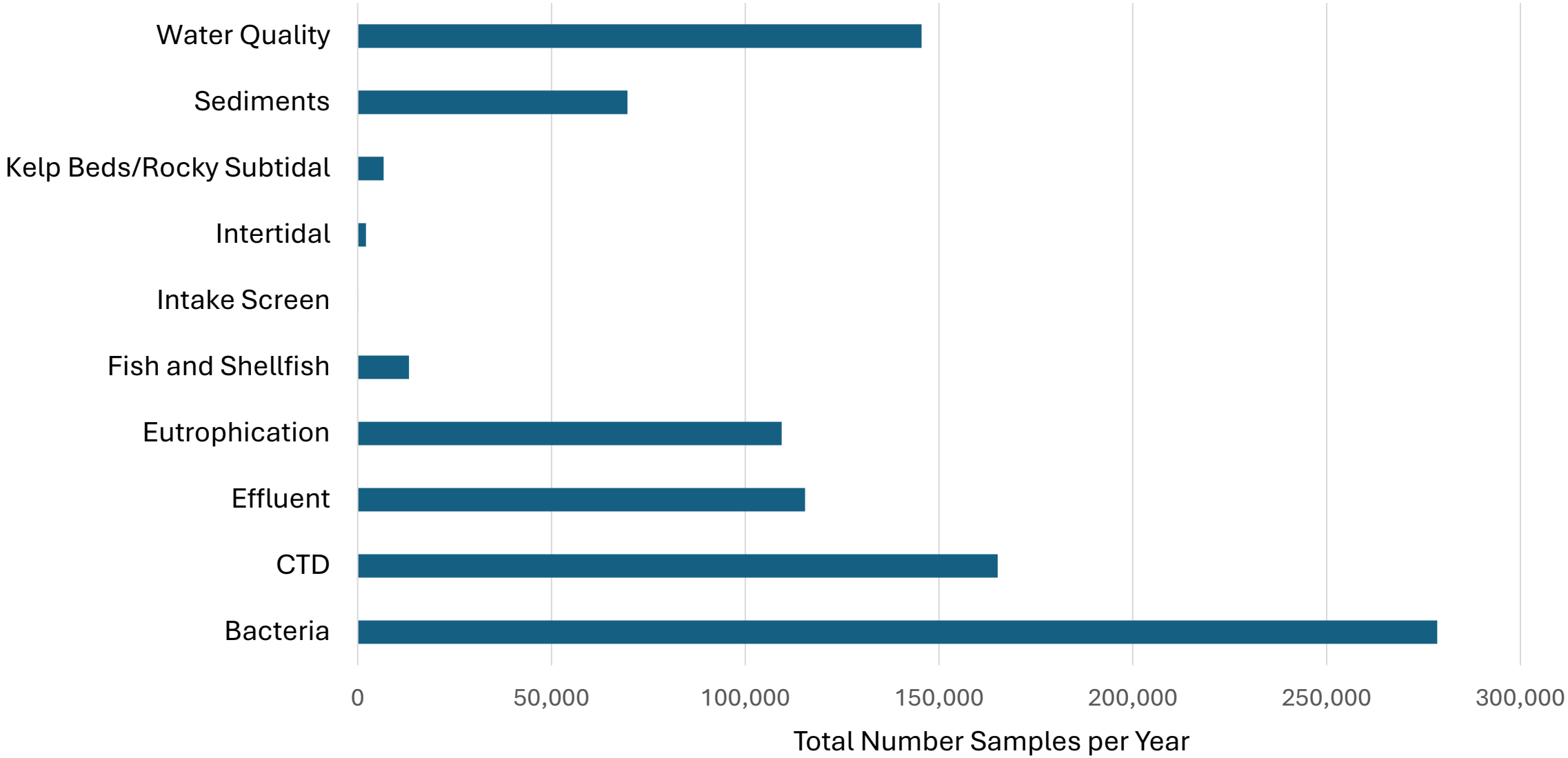
59 Monitoring Programs

- County Health
- Federal Agency
- Large POTWs
- Industrial Facilities
- Oil Platforms
- Ports
- Power Generating Stations
- Regional Monitoring
- Ship and Boatyards
- Small POTWs
- State Agency
- Stormwater
- University

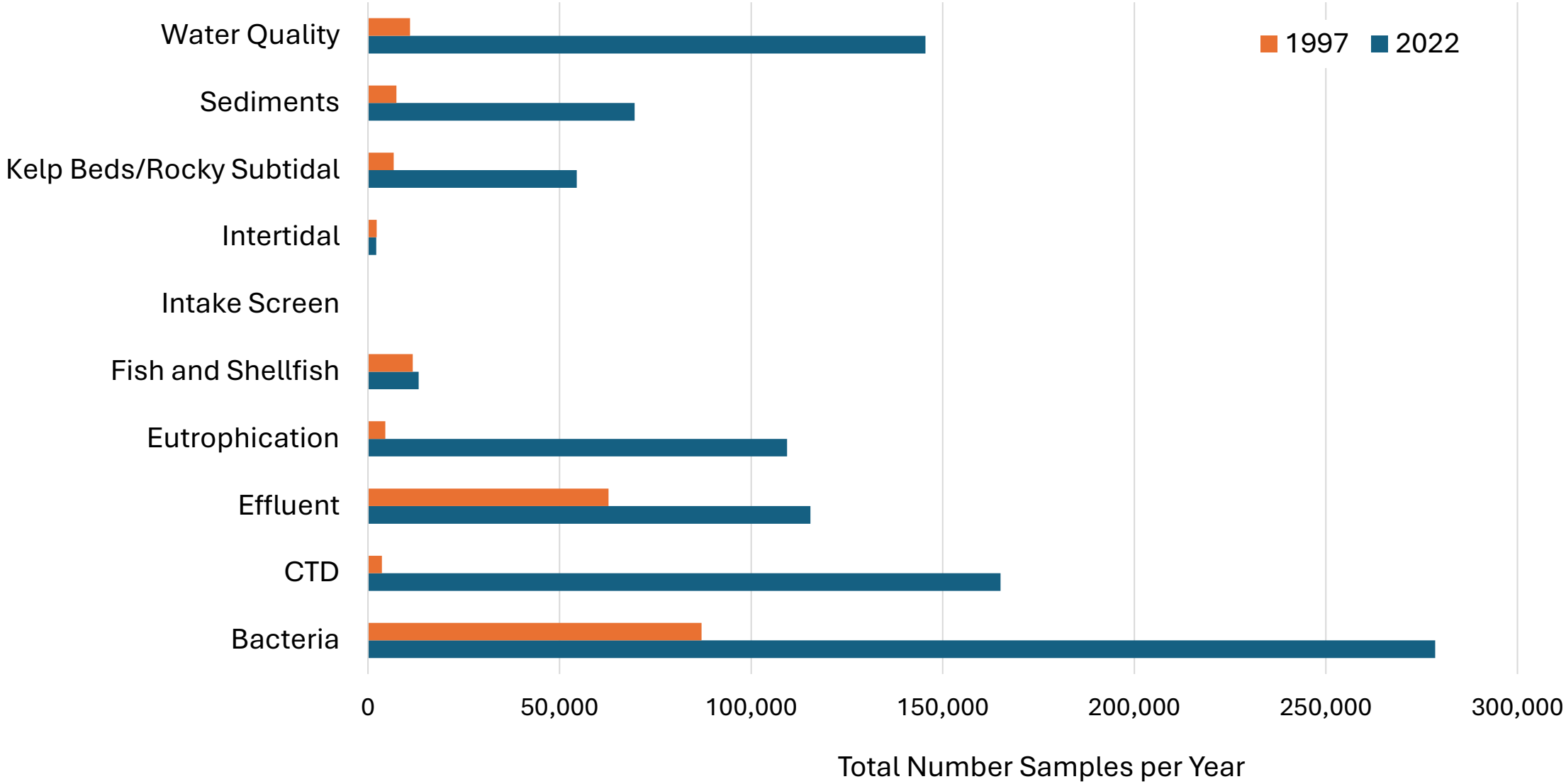
Cost Methods

- Comparable approach as 1997
- Utilized a market-based survey of itemized costs to ensure comparability across programs
  - How much would it cost to get a contractor to do this sampling and laboratory analysis?
- Utilized a fixed-price multiplier of 2x
  - Pays for planning and administration, QA/QC, data management, data analysis and reporting
- Utilized Consumer Price Index to adjust 1997 prices for 2022 comparisons
  - CPI = 1.77

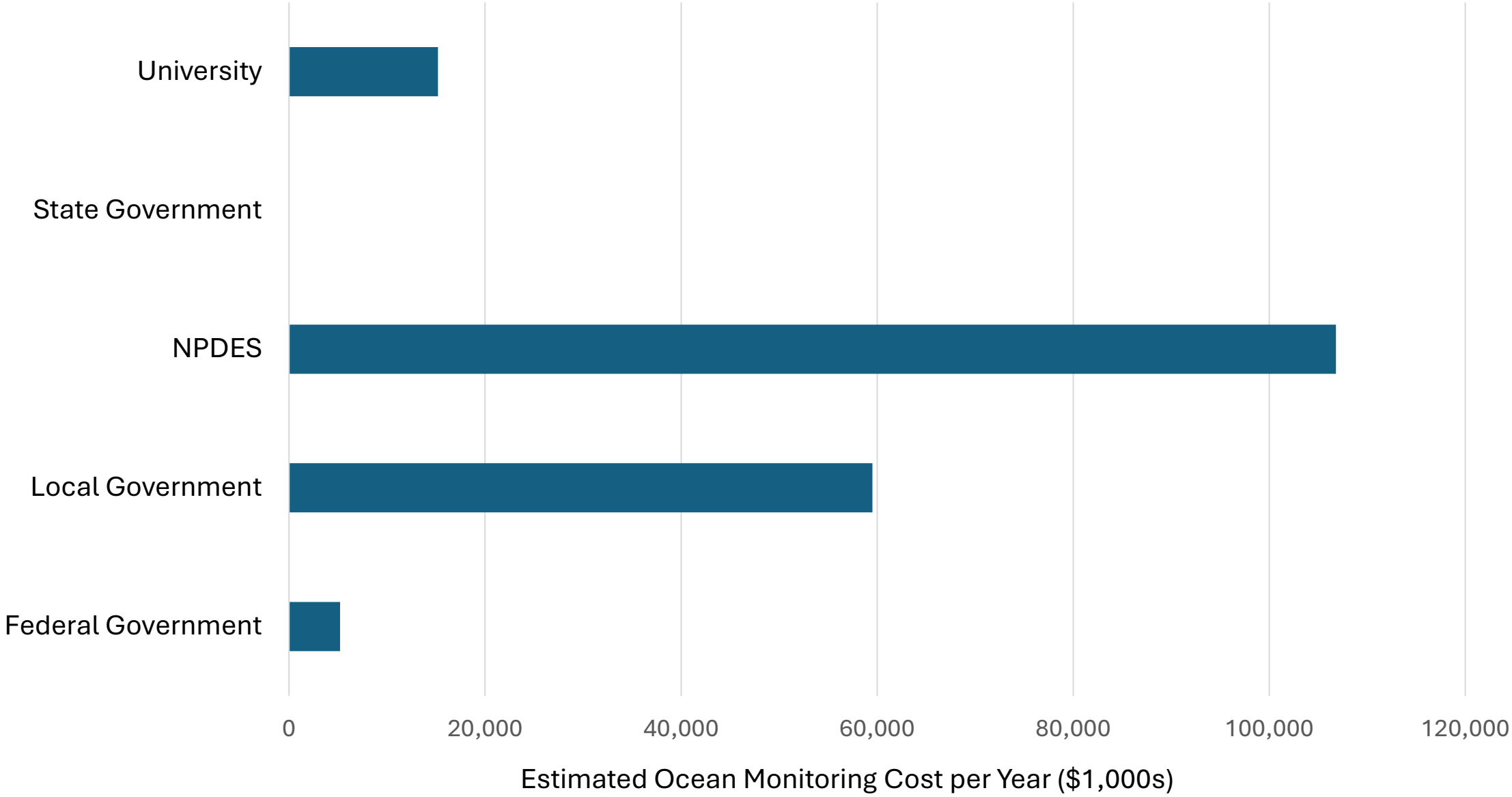
896,527 *Ocean Monitoring Samples per Year in Southern California ca. 2022*



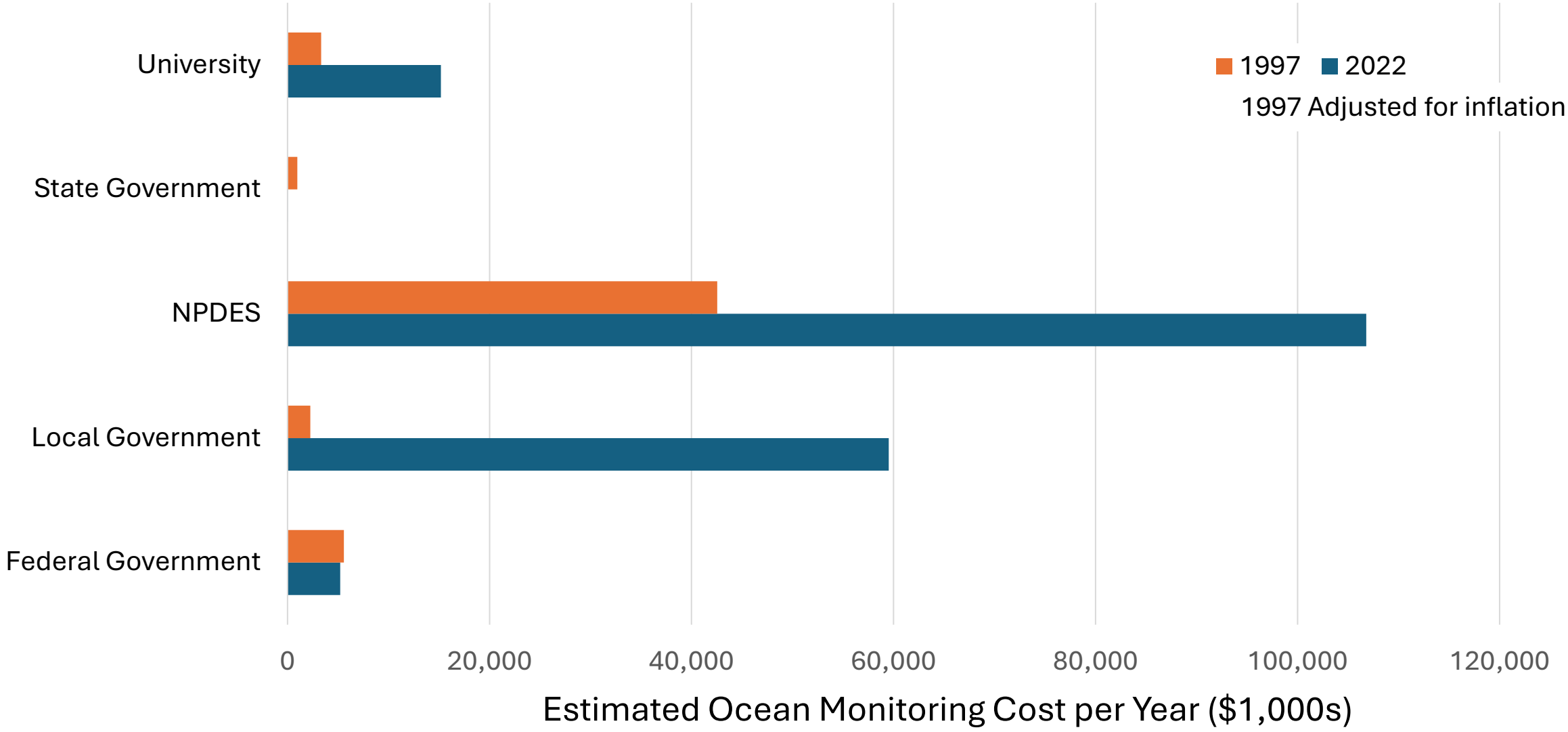
896,527 *Samples in 2022 Compared to* ***244,911*** *Samples in 1997*



$186.7M *Estimated Ocean Monitoring Cost per Year ca. 2022*



$186M *Monitoring Effort in 2022 Compared to* ***$55M*** *Monitoring Effort in 1997 (Inflation adjusted)*



NPDES Comparison between 1997 and 2022

	Number of Monitoring Agencies		Number of Samples		Cost ($1,000s)	
	1997	**2022**	**1997**	**2022**	**1997***	**2022**
Power Gen Stations	15	8	9,656	10,163	5,742	1,404
Industrial	9	2	9,078	4,260	1,315	784
Large POTW	4	4	60,321	152,756	18,095	47,568
Platforms	19	2	8,539	2,034	492	106
Ports	-	2	-	2,993	-	1,264
Regional Monitoring	NA	NA	222	10,537	-	9,538
Small POTWs	15	19	43,787	249,239	12,217	35,484
Stormwater	4	4	8,799	61,441	2,751	8,686
Ship/Boatyards	16	4	10,023	6,783	1,929	1,980
Non-NPDES	33	16	76,728	392,092	12,825	79,959
Total	**115**	**59**	**244,917**	**896,527**	**55,364**	**186,762**

*inflation adjusted

Some Overarching Patterns

- Ocean monitoring sampling effort has gone up over the last 25 years
  - Half the number of monitoring agencies, but >triple the number of samples
- Ocean monitoring costs have more than tripled over the last 25 years, even when accounting for inflation
- NPDES permittees remain the majority of ocean monitoring effort
  - Beach bacteria monitoring effort increased the most between 1997 and 2022 from combination of legislation and regulation

Opportunities to Harness the Power of this Database

- Comparisons among individual agencies?
- Cost relative to discharge volume?
- Are our biggest investments in the right places/types?
- What are the drivers of cost increases relative to inflation?
- How do actual costs compare to our estimated costs?