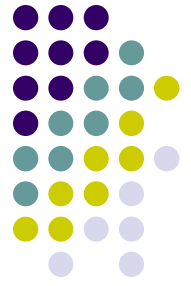


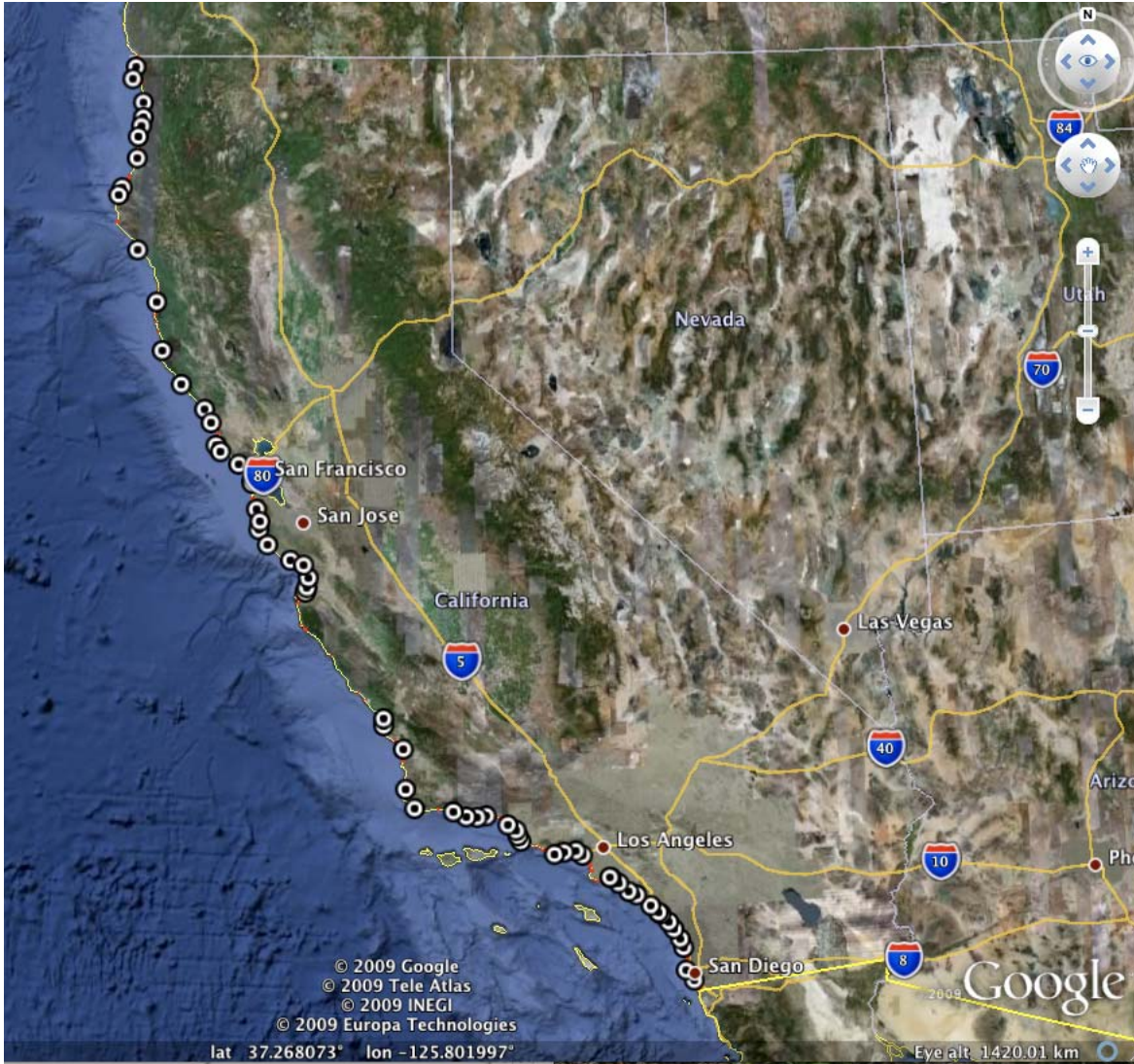
2009 Baseline Study: Plastic Pellets and Trash



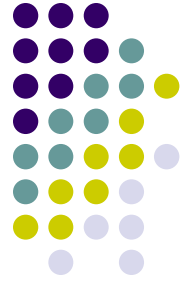
2009 Baseline Study Project

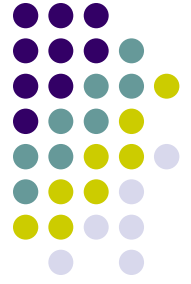


- **Why:** The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards are required by AB 258 (2007) to implement a program for the control of discharges of preproduction plastic pellets from point and nonpoint sources.
- **Problem:** Knowledge of the distribution and amount of plastic pellets on beaches in California is limited but crucial to implementing a plan to control and reduce the discharges of plastic pellets.
- **Goal:** Conduct a baseline study to determine the distribution and amounts of plastic pellets and trash on ocean beaches throughout California.

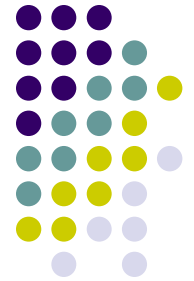


Open Coastal Samples Only





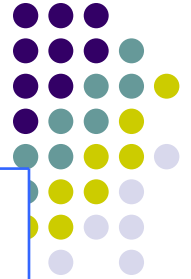
First Year Statewide Draft Pellets Results



Total Amount of Pellets at California Beaches:	118,705,732
Weighted Mean (per m²) :	3.76

➤The amount of pellets and trash in this study, while significant, were relatively less compared to the amounts recorded for the 1998 Orange County study; this most likely reflected the smaller sample sizes in high pellet/trash areas and the inclusion of sample sites in low pellet/trash areas.

Pellets: First Year Draft Results by Region

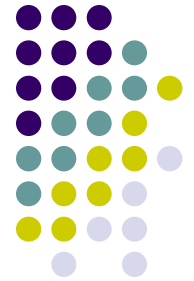


RWQCB	Total Density (m ⁻²)	% of Total
Los Angeles (4)	287	63
Santa Ana (8)	137	30
San Diego (9)	17	4
San Francisco (2)	9	2
North Coast (1)	1	<1
Total	451	100

* Zero pellets recovered in Central Coast (RWQCB 3); however other studies have identified pellets at Monterey Bay Beaches

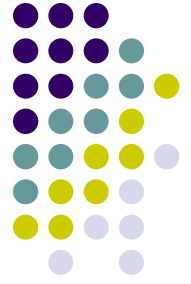
	Total Density (m ⁻²)	Est. Number of Pellets
North-Central Regions	10	83,653
Southern Regions	442	118,622,079

Pellets: First Year Draft Results by County



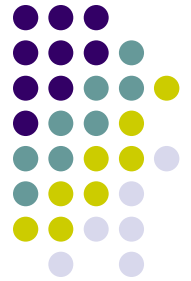
County	Total Density (m⁻²)	% of Total
Los Angeles	281	62
Orange	137	30
San Diego	17	4
San Francisco	9	2
Ventura	6	1
Sonoma	1	<1
Total	451	100

Trash: Rapid Debris Assessment



- Transect from wrack line to first barrier
- Field data entry sheet with standardized categories

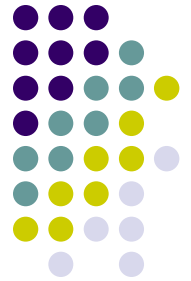
Trash: Statewide Draft Results by Category



Category	Total Count (Est. for CA)	Avg/m ²
Foamed Plastics	350,846	9.5
Plastics	331,641	9.0
Organics/Vegetation	50,827	1.3
Paper	19,692	0.5
Glass	7,376	0.2
Other	6,397	0.2
Land Use Materials*	6,253	0.2
Rubber	4,451	0.1
Metals	2,419	0.1
Total Debris	779,902	

* e.g. lumber, concrete

Trash: Statewide Draft Results by Region



Region	Estimated Number
San Diego	210,589
Los Angeles	200,899
Santa Ana	167,508
San Francisco	80,156
Central Coast	47,502
North Coast	22,420

Conclusions of First Year Baseline Study

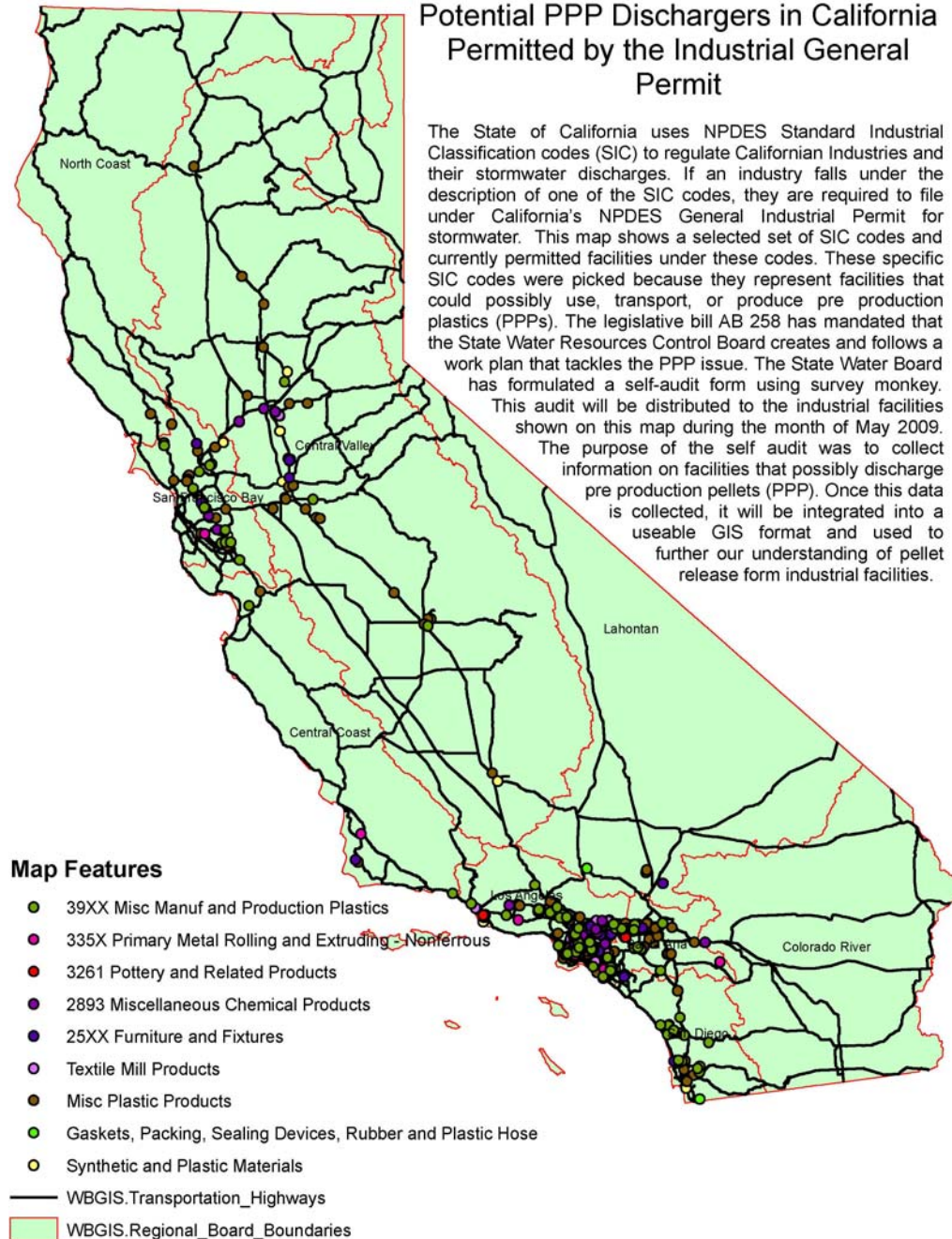


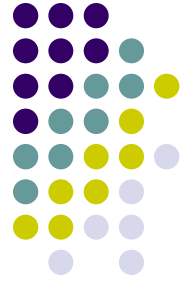
- First state-wide study of it's kind revealed:
 - Distribution of plastic pellets along California beaches corresponds with locations of plastic facilities
 - Trash more ubiquitous throughout the state, though appears to correspond with regional population densities



Potential PPP Dischargers in California Permitted by the Industrial General Permit

The State of California uses NPDES Standard Industrial Classification codes (SIC) to regulate Californian Industries and their stormwater discharges. If an industry falls under the description of one of the SIC codes, they are required to file under California's NPDES General Industrial Permit for stormwater. This map shows a selected set of SIC codes and currently permitted facilities under these codes. These specific SIC codes were picked because they represent facilities that could possibly use, transport, or produce pre production plastics (PPPs). The legislative bill AB 258 has mandated that the State Water Resources Control Board creates and follows a work plan that tackles the PPP issue. The State Water Board has formulated a self-audit form using survey monkey. This audit will be distributed to the industrial facilities shown on this map during the month of May 2009. The purpose of the self audit was to collect information on facilities that possibly discharge pre production pellets (PPP). Once this data is collected, it will be integrated into a useable GIS format and used to further our understanding of pellet release from industrial facilities.





Next Step for Monitoring

- Near Term: Initiate focused monitoring at areas determined to have high concentrations of plastic pellets:
 - Southern CA
 - SF Bay Area
 - Bay was under-represented in statewide work to date
- Longer Term: Recommendation to repeat:
 - Focused monitoring to understand the effectiveness of regulatory actions
 - Statewide monitoring to understand trends

