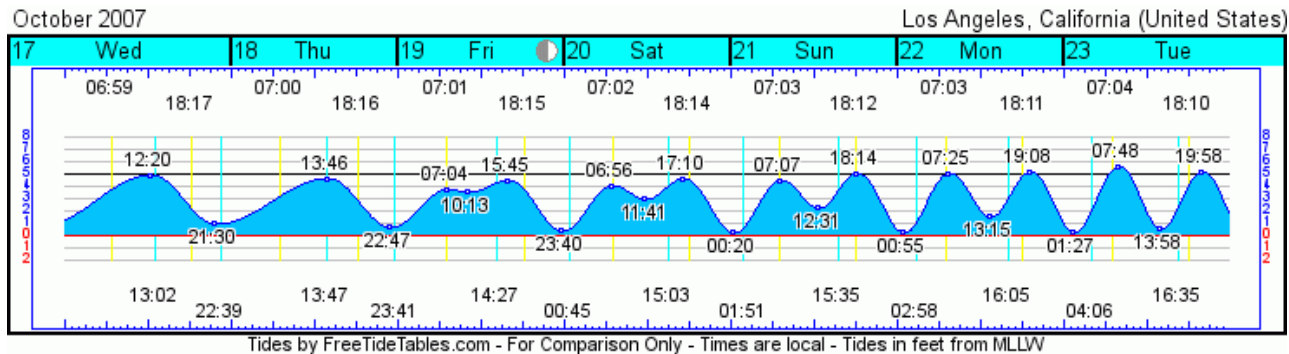


2007 Headwaters to Oceans Conference

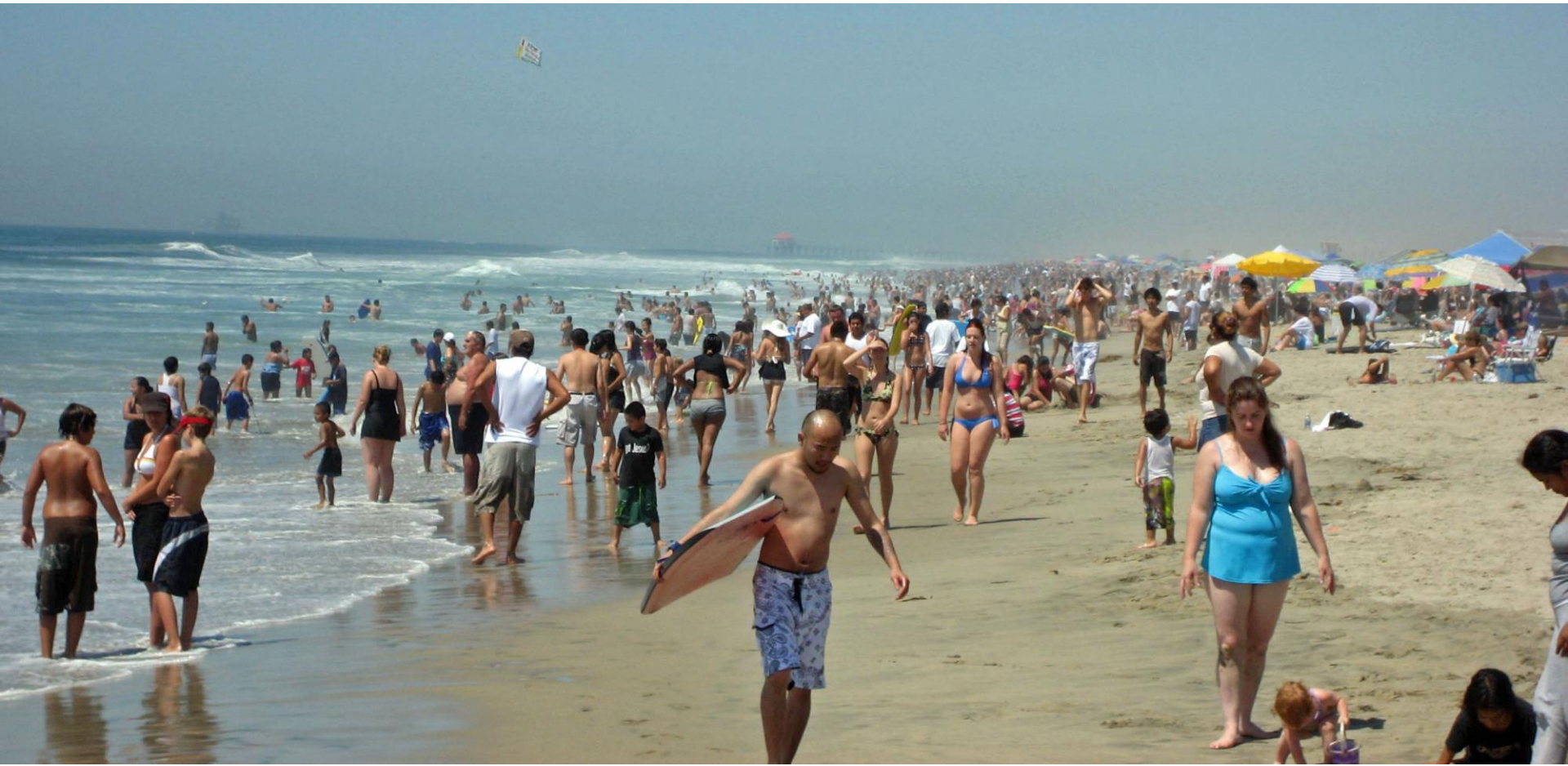
# The Human Tide: Beach Attendance and Bathing Rates for Southern California Beaches

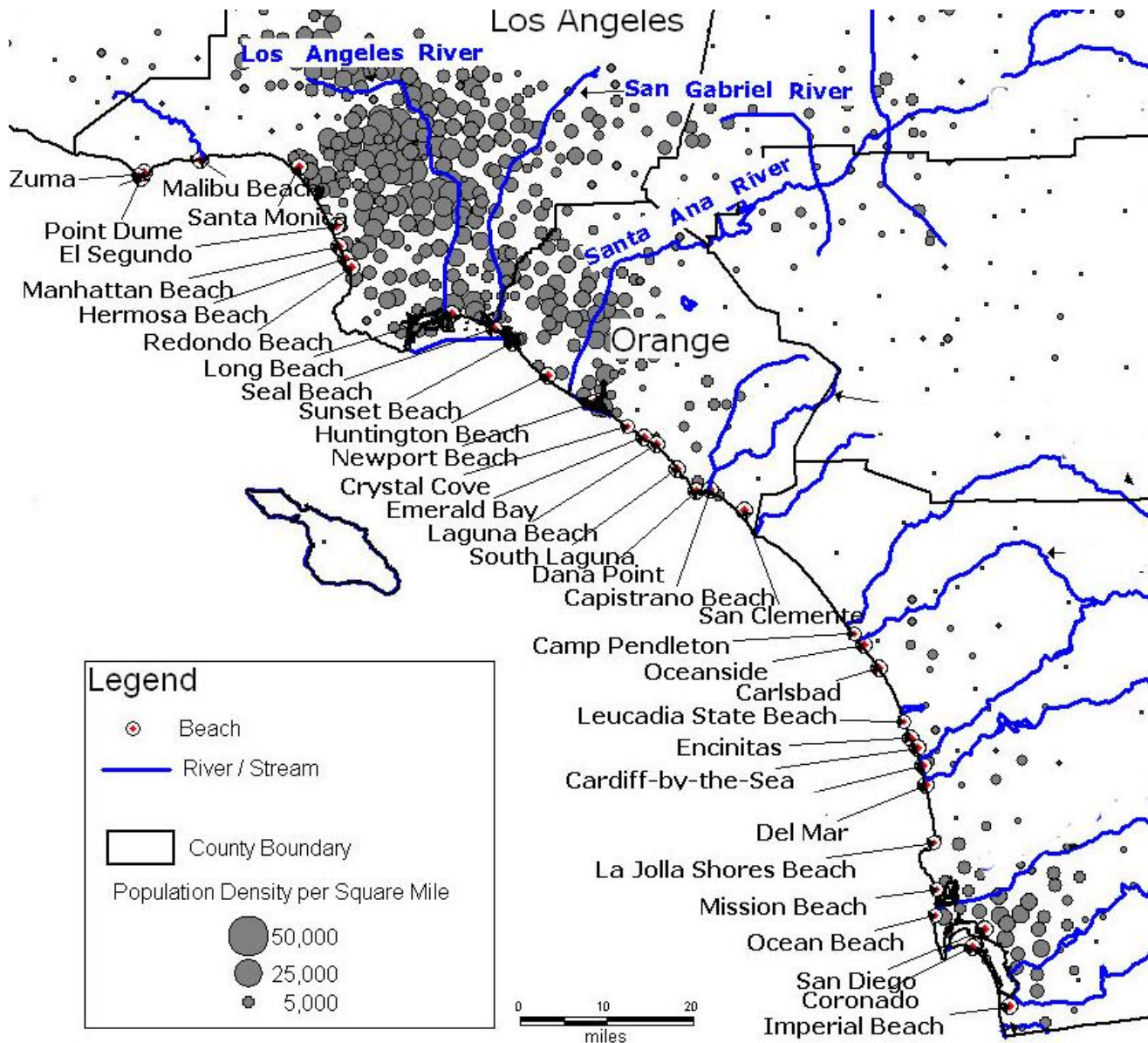


Presented by:  
Ryan H. Dwight, PhD  
*Coastal Water Research Group*

Dwight RH, Brinks MV, SharavanaKumar G, Semenza JC, Beach attendance and bathing rates for Southern California Beaches, *Ocean and Coastal Management*, 2007, 50:847-858

# Huntington State Beach 2007 Labor Day Weekend





- Beach Attendance Data

- **How much data was collected?**

- 5 years of daily attendance data was collected from 75 beaches in Southern California (2000-2004).

- **Who collected the data?**

- Lifeguards (76%); Parks Departments (16%); Environmental Health Departments (8%)

- **How was the data collected?**

- Direct observations (73%); Parking, hotel, camping receipts (19%); Electronic counters (8%)

- Beach Bathing Event Data

- **What's a "bather"?**

- Bather defined as an individual actively engaged in recreational water-contact (swimming & surfing).

- **How much data was collected?**

- 3 years of daily data collected at 2 beaches.
      - Del Mar beach, San Diego
      - Oceanside beach, San Diego

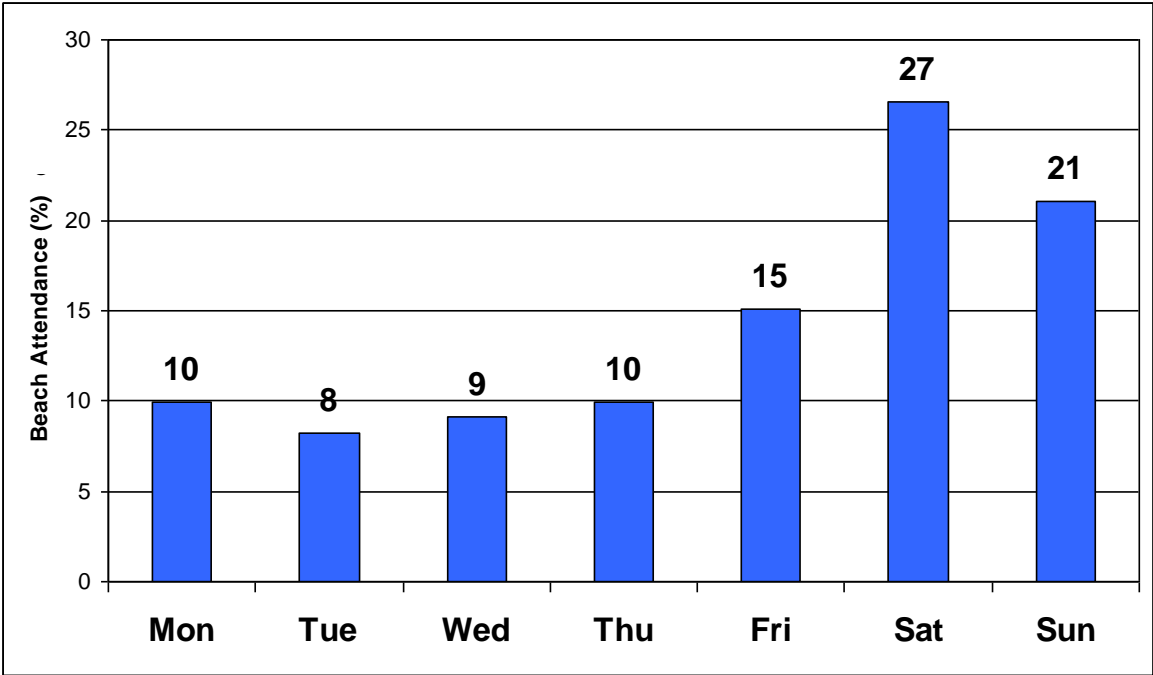
- **Who and how was the data collected?**

- Data was collected by lifeguards through direct observation.

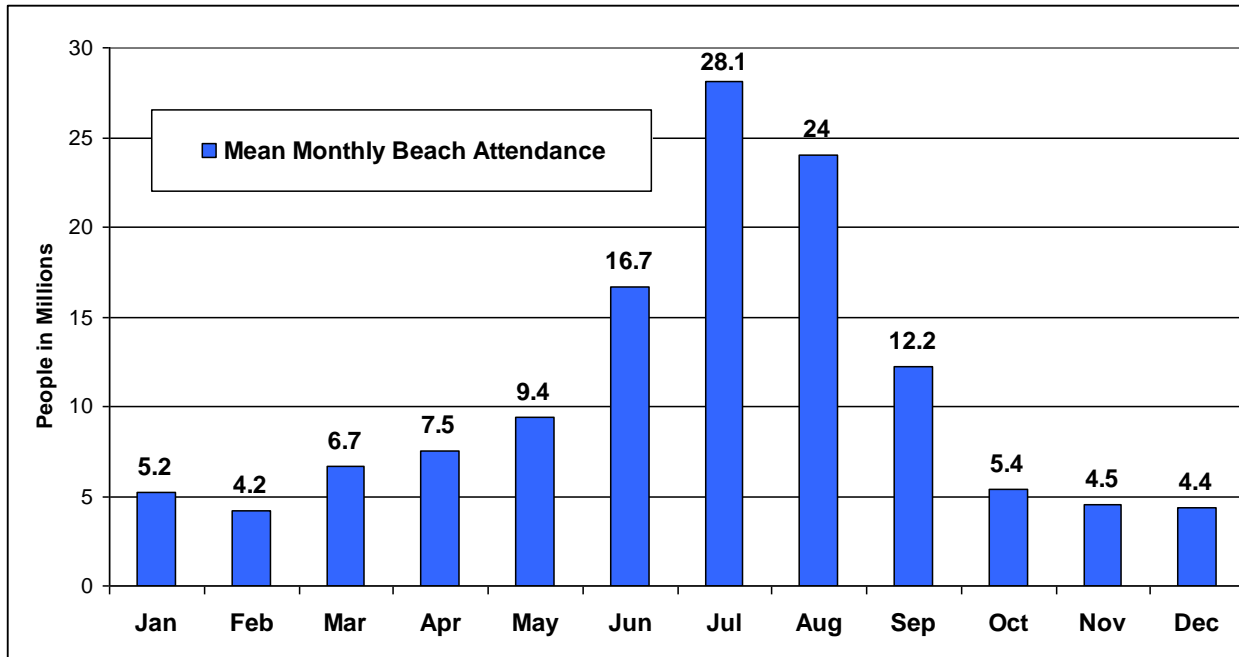
# Analysis

- Daily **Attendance** data was analyzed over time and by location.
- Daily **Bathing Events** data was used to calculate **Monthly Bathing Rates**.
- Daily **(Attendance) x (Monthly Bathing Rates) = Bathing Events** per beach.

- Beach Attendance by Day of the Week
  - 48% of all beach visits occur on weekends



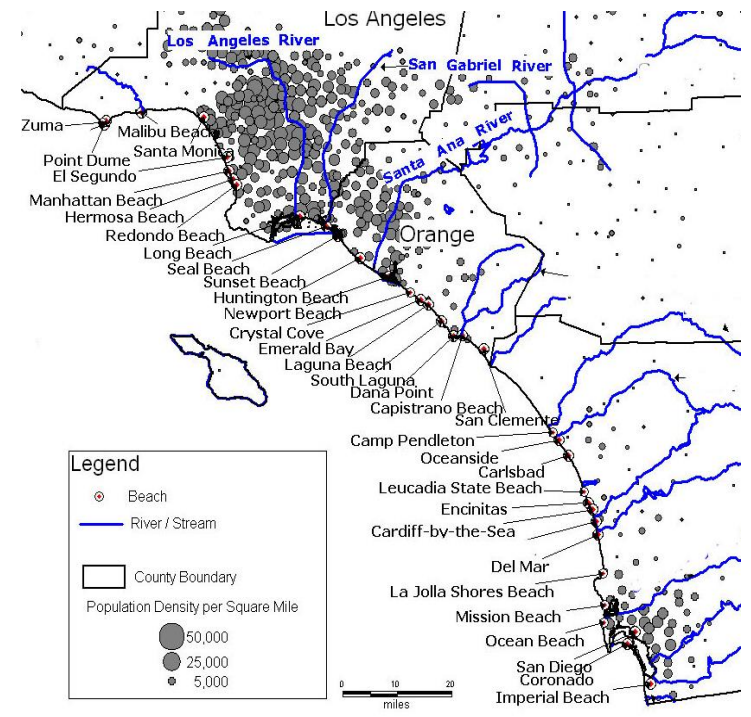
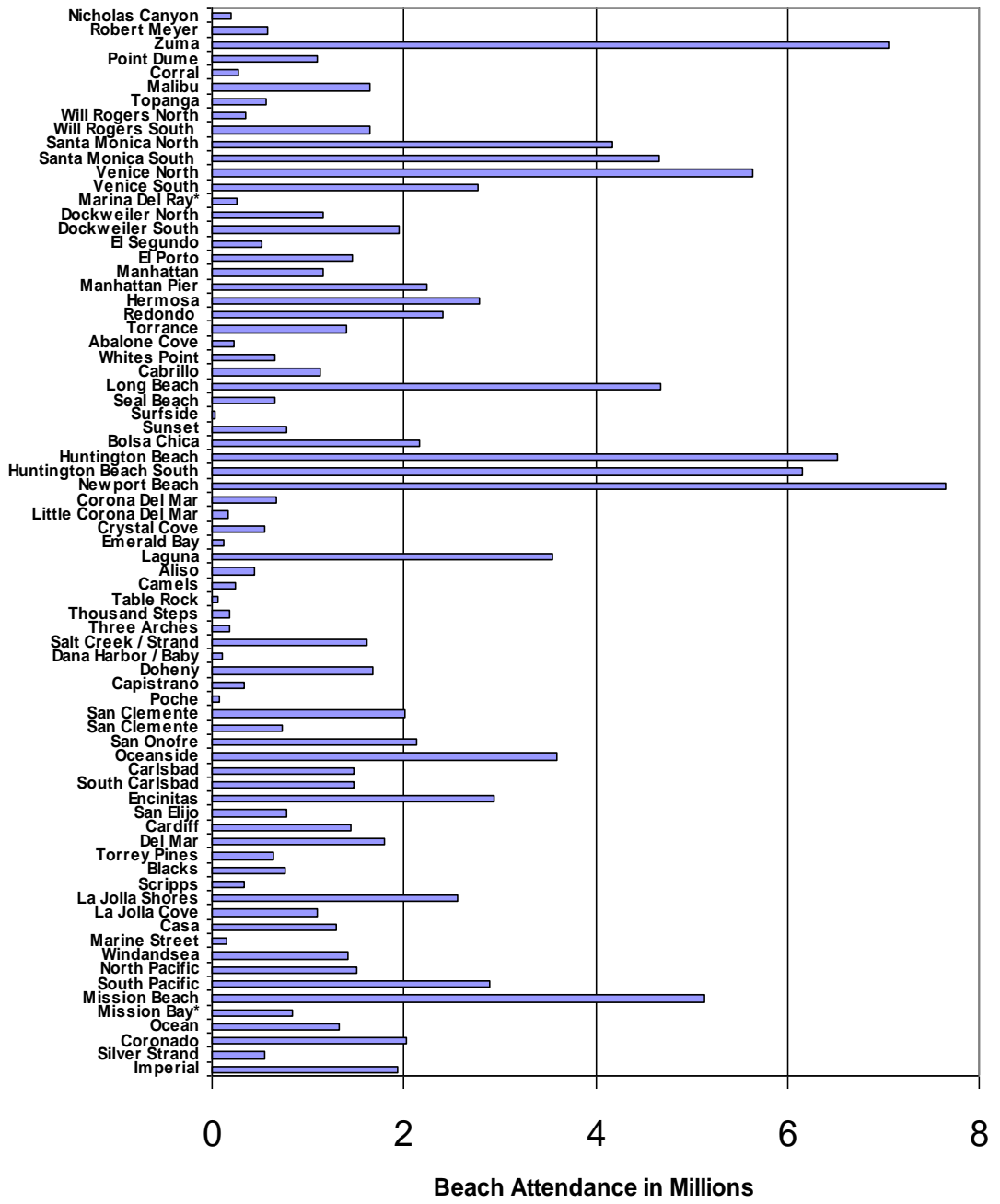
- Beach Attendance by Month
  - 53% of visits occur in the summer months



## Beach Attendance Over 5 Years

- On average, over 129 million visitations occur at Southern California beaches each year.
- Over 5 years there was a slight 5% increase in annual beach attendance.
  - Could be population increase or standard deviation.

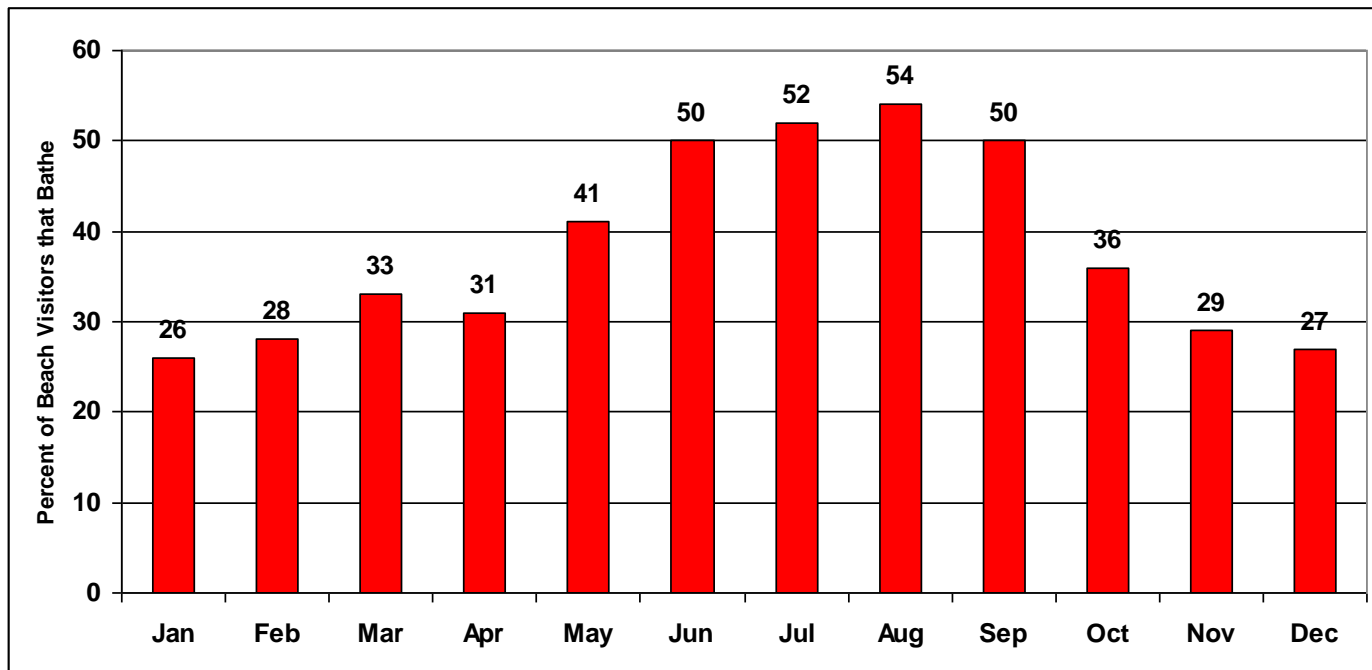




- 33% of visits at 6 of 75 beaches
- 54% of visits at 15 of 75 beaches
- Los Angeles (> 52 mill./year)
  - Zuma = 7 mill.
  - Santa Monica = 8.8 mill.
  - Venice = 8.4 mill.
- Orange County (> 36 mill./year)
  - Huntington = 12.6 mill.
  - Newport = 8.3 mill.
- San Diego (> 39 mill./year)
  - Mission = 5.9 mill.
  - Pacific = 4.4 mill.

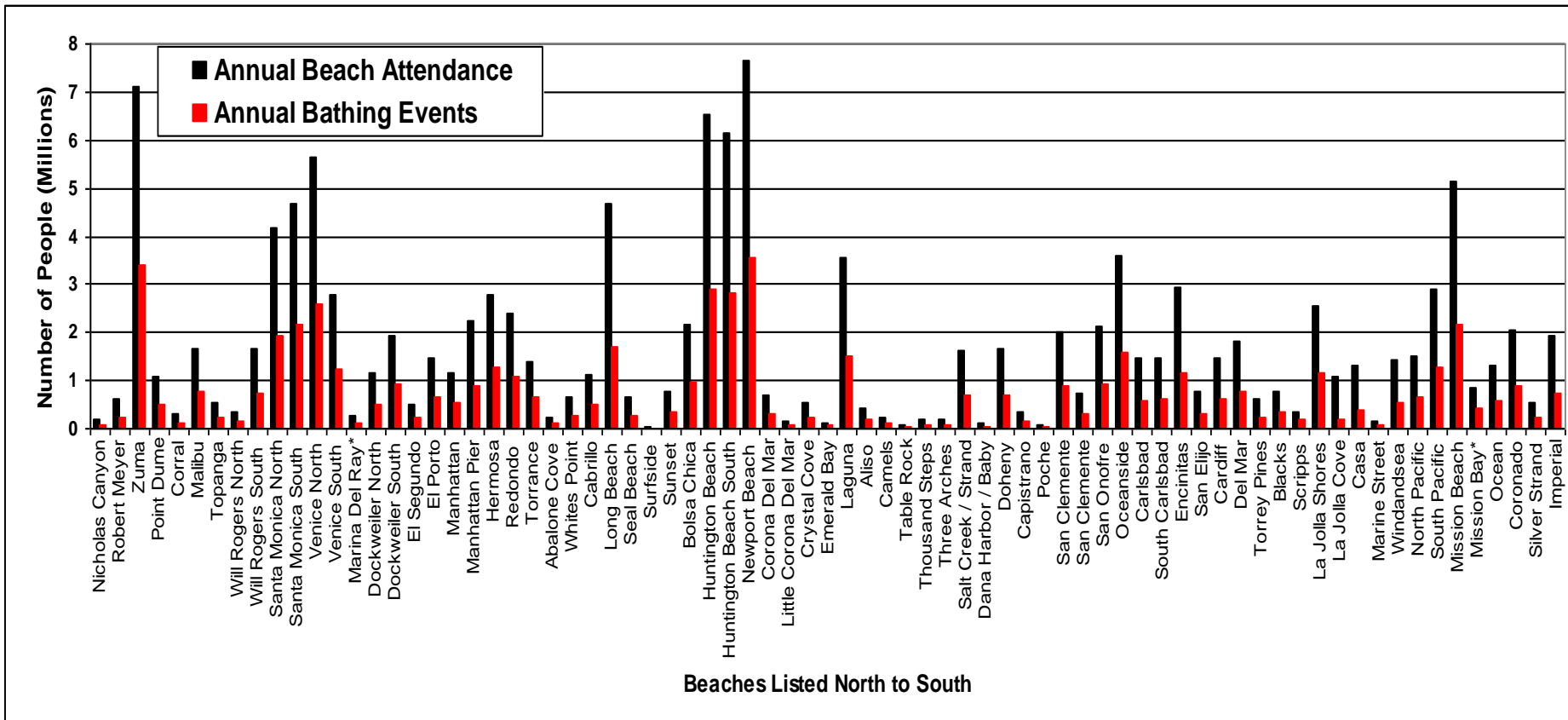
# Beach Bathing Rates by Month

- Annual average = 45% of beach visitors actively engage in recreational water contact



# Annual Beach Bathing Events

- Daily (Attendance) x (Monthly Bathing Rate) = Bathing Events /beach.
- On average, over 56 million bathing events per year in Southern California coastal waters.



# Discussion

- *What do the results tell us?*

- The results provide a better understanding of how Southern California's beaches are being utilized by the public.
  - Distinct and consistent temporal and geographic patterns of beach usage are evident: *the ebb and flow of the human tide.*
- The results answer these questions:
  - *How many beach visits occur in Southern California?*
  - *Which beaches do people go to?*
  - *When do people go to the beach?*
  
  - *How many bathing events occur in the coastal waters?*
  - *Where do people go in the water?*
  - *When do people go in the water?*

- *Who can use these results?*

- Beach managers (cities, lifeguards, police) who decide on resource allocations and who need to know the demands on infrastructure
- Businesses (tourism, advertisers, etc) which like to know who, when and where
- Health officials who are charged with protecting the public from exposure to coastal water contamination.

