



Beach Watch Annual Summary 2010-2011





Beach Watch Intro



Beach Watch: The Eyes and Ears of the SF Bay Area Outer Coast

The Beach Watch ecosystem monitoring program of the Gulf of the Farallones National Marine Sanctuary and Farallones Marine Sanctuary Association was created to study and protect the shoreline of the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries and serves as pre-spill baseline.

Beach Watch Data includes:

- live wildlife counts
- dead wildlife documentation
- oil/tarballs
- beach wrack
- human use

42 Beaches are surveyed bi-monthly by 100 highly trained volunteers on California Central Coast Beaches From Año Nuevo to Bodega Bay





Beach Watch Year in Review

Data Analysis:

- A look at the “2010-2011 data year” in comparison with the previous 17 years by looking at the # of individuals documented per km.

Volunteer Effort

- A look at the heart of the project, what we can learn from trends in BW effort.

News from the Beach Watch Office

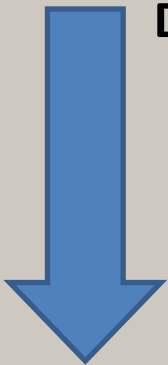
- A look at what staff have been busy doing behind the scenes





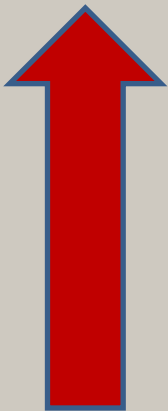
Taking a Look Through Beach Watch's Eyes

2010-2011 Notable Events:



Decreased Deposition (per km):

- Dead Marine Mammals
- Dead Local Breeding Species of Birds
- Dead Wintering Species of Birds
- Tarballs
- Oiled Birds



Increased Deposition (per km):

- Guadalupe Fur Seals
- Sooty Shearwaters
- Brown Pelicans
- Harbor Porpoise
- Brandt's Cormorant
- Northern Fulmar





Variables that Influence Likelihood of Deposition

Variables that Influence Mortality

- Access to food resources
- Weather
- Pathogens and Bio-Toxins (harmful algal blooms)
- Oil Spills
- Age

Variables that Influence Deposition, Retention and Observation

- Wind
- Swell
- Currents
- Direction of beach exposure
- Width of beach
- Beach substrate & back habitat
- Sand Deposition
- Volunteer effort
- Human intervention





Data Analysis



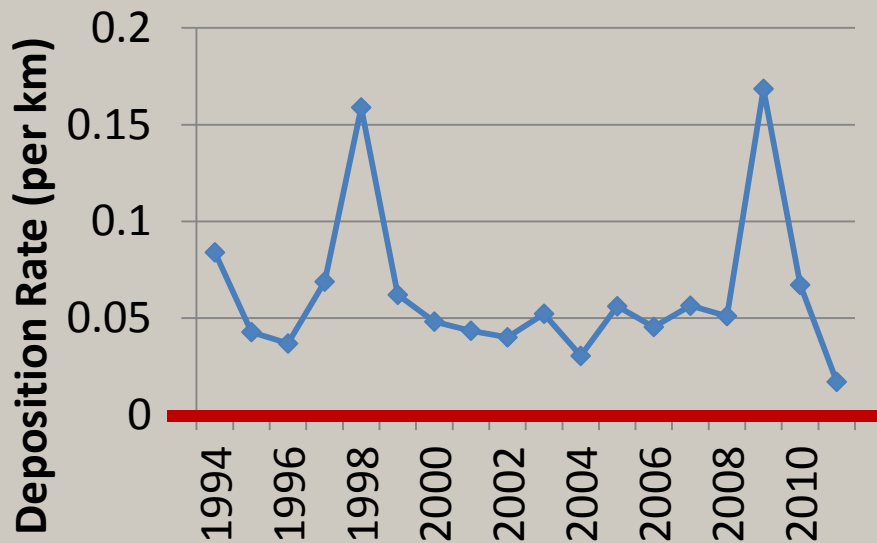
Dead Bird and Mammal Deposition Rates

Standard deposition rate (per km)

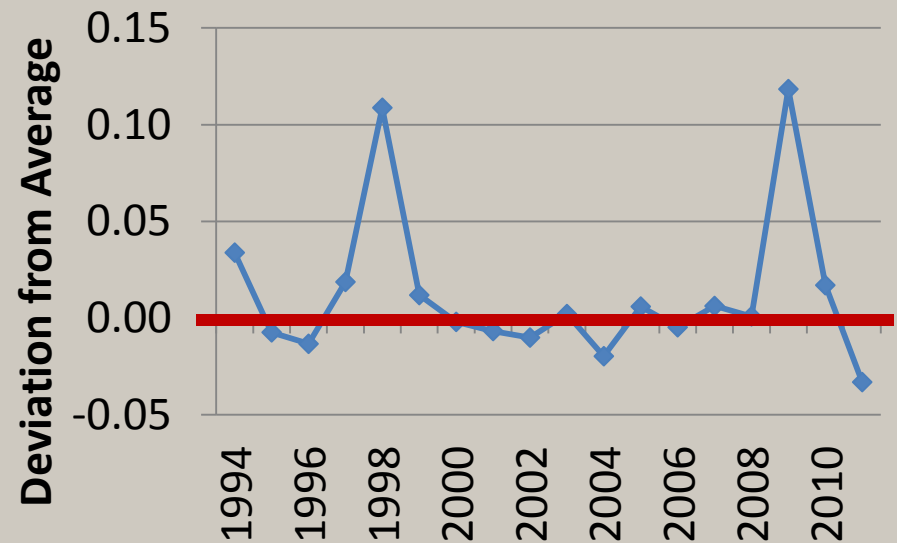
Statistical analysis of deviation from the average.

In 2010-2011 n = 28

California Sea Lion (Dead)



California Sea Lion (Dead)



0 = No Sea Lions found per Km. for the year

0 = Average deposition over all years



Data Analysis



Sooty Shearwater: Highest Deposition Rate Recorded

In 2010-2011 n = 103

Sooty Shearwater (Dead)

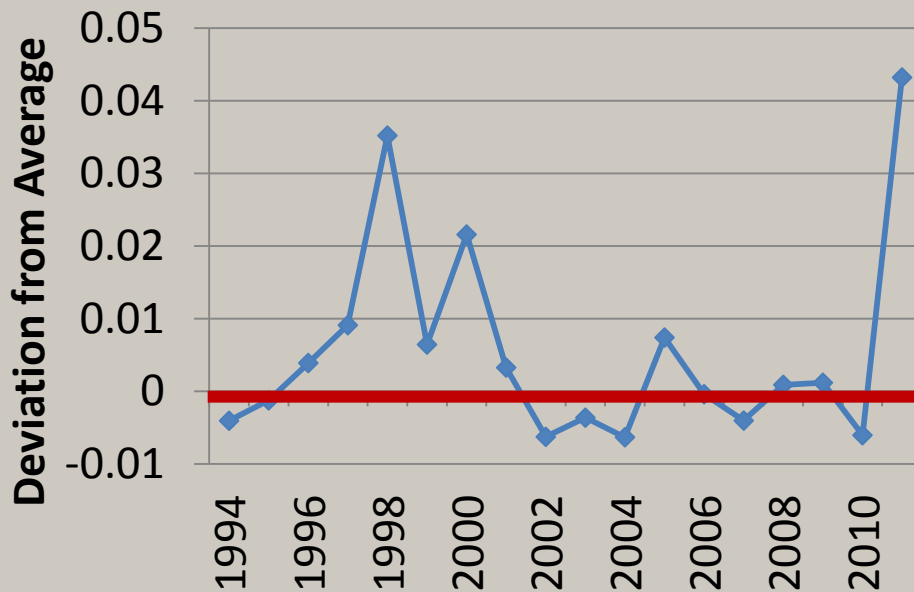


Photo by: Christopher Wood

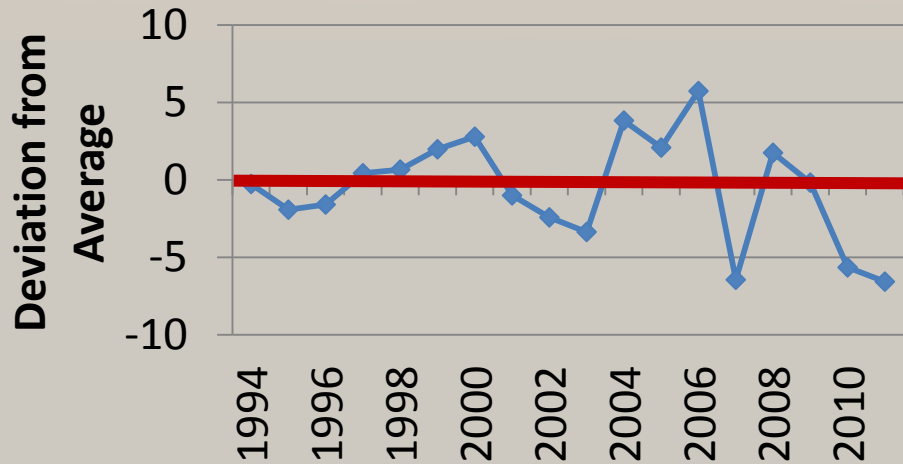


Data Analysis

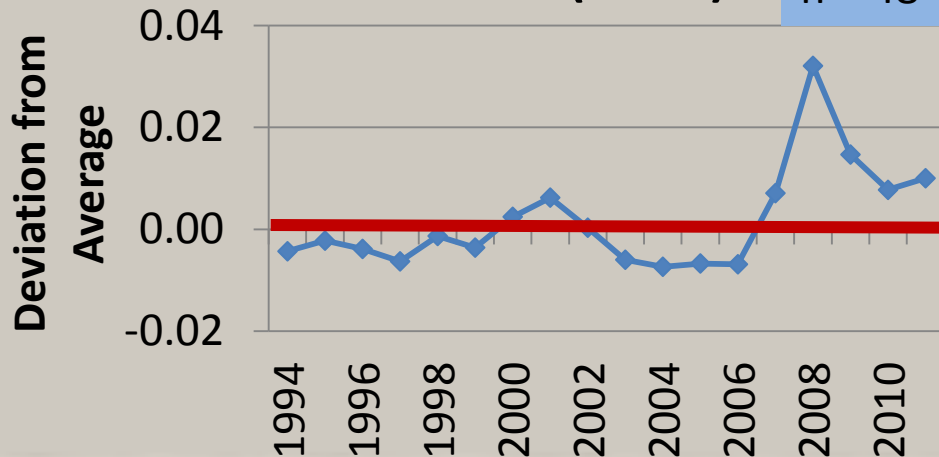


Brown Pelican: Increasing Dead Numbers While Decreasing Live

Brown Pelican (Live) In 2010-2011 n = 10,190



Brown Pelican (Dead) n = 48



Greg Russell



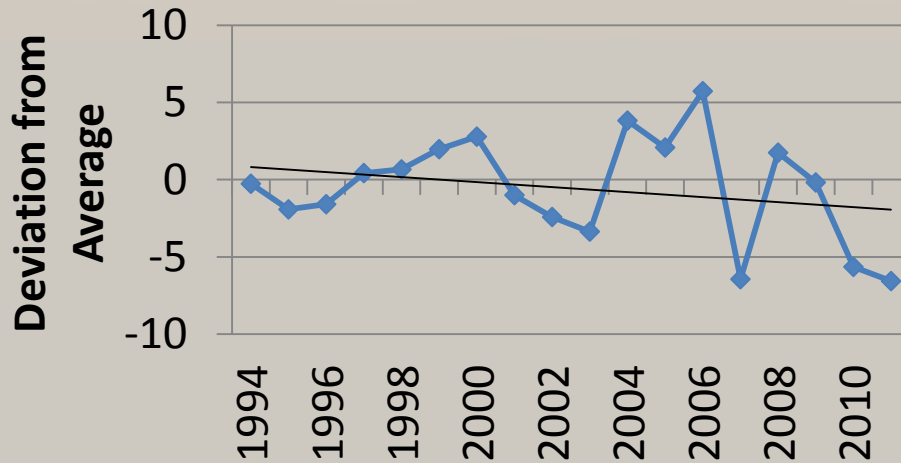
Data Analysis



Brown Pelican: Increasing Dead Numbers While Decreasing Live

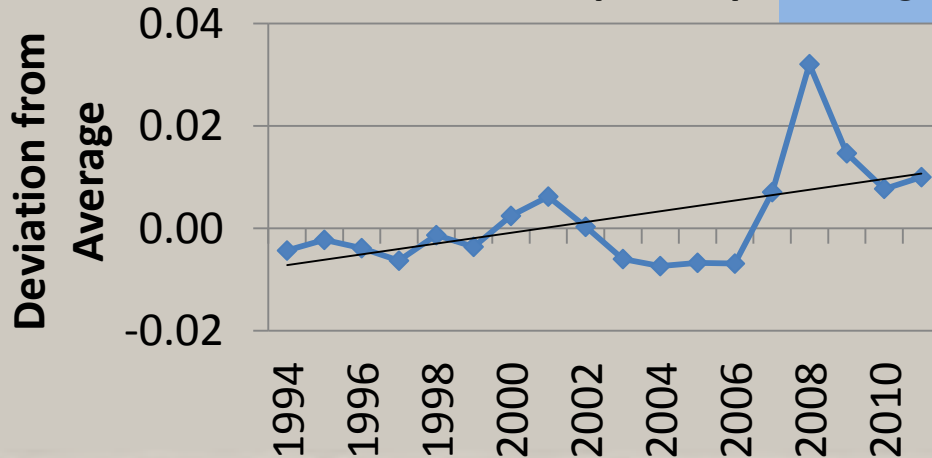
Brown Pelican (Live)

In 2010-2011 n = 10,190



Brown Pelican (Dead)

n = 48



Greg Russell



Data Analysis



Guadalupe Fur Seal: Rare Species has Unusual Beach Deposition in 2010-2011

Guadalupe Fur Seal (Dead)

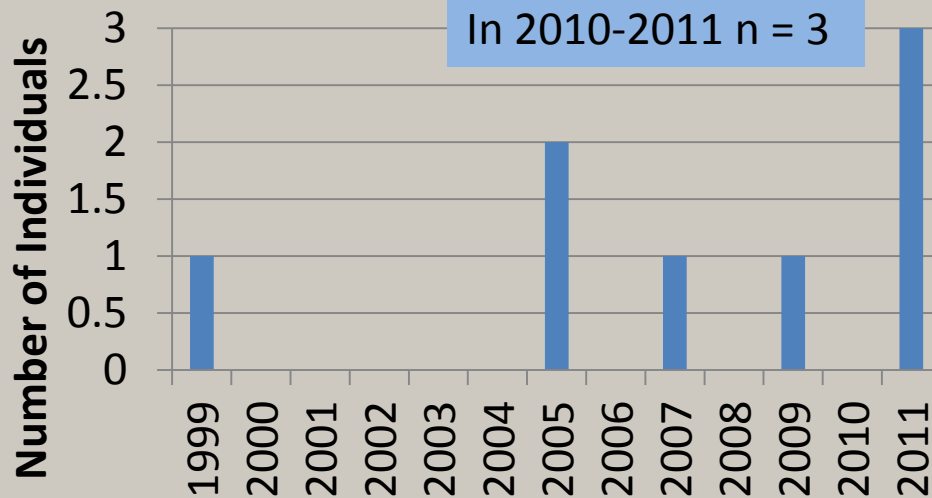


Photo by: Tim Stenton



Data Analysis



Brandts Cormorant: Tough Start to Breeding season, Unusual Beach Deposition in 2010-2011

In 2010-2011 n = 162

Brandt's Cormorant (Dead)

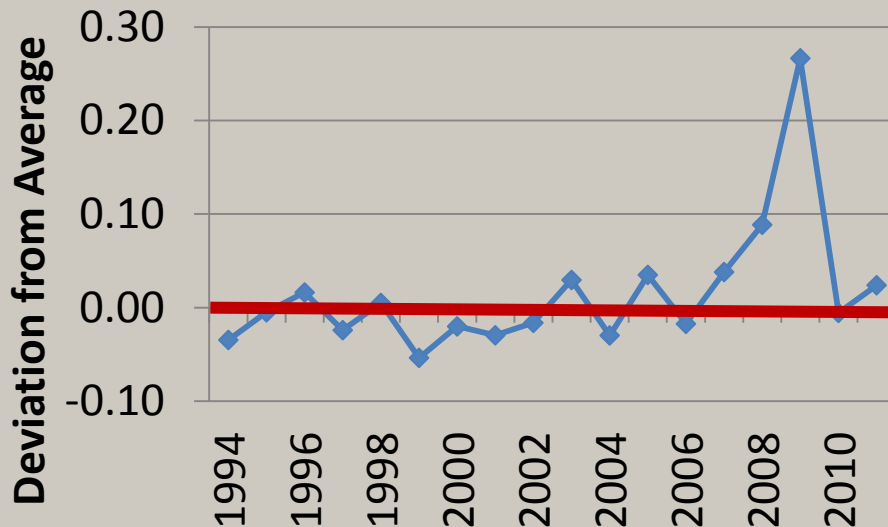


Photo by: Danielle Brown



Data Analysis



Northern Fulmar: Unusual Beach Deposition in Nov 2010

In 2010-2011 n = 869

Northern Fulmar (Dead)

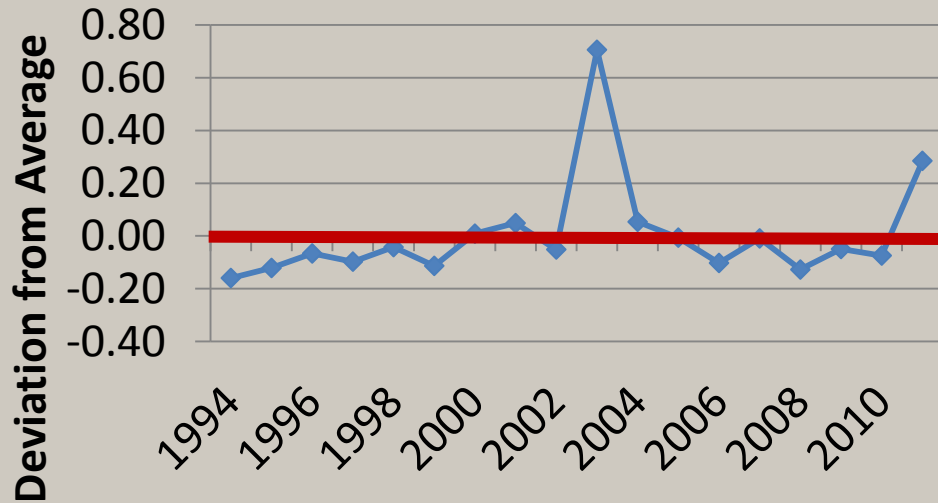


Photo by: Glen Tepke

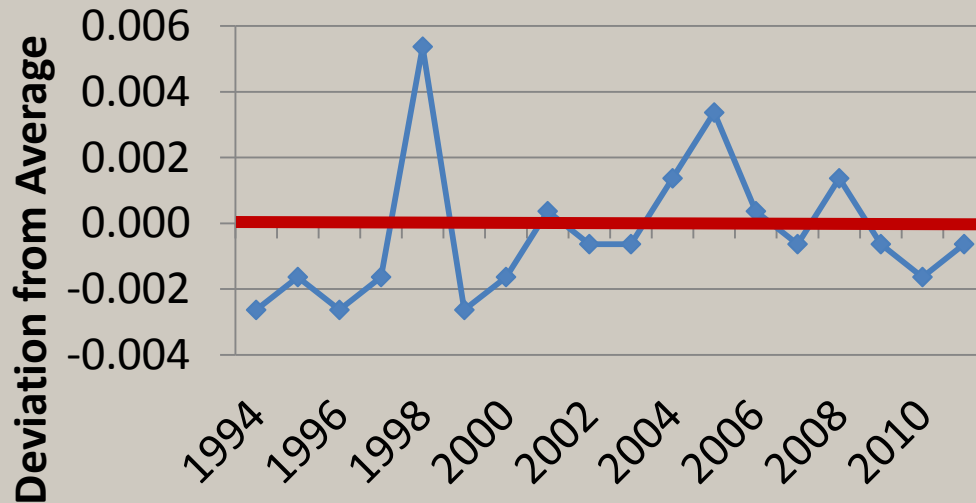


Data Analysis



Harbor Porpoise: Hot Topic in 2010-2011

Harbor Porpoise (Dead)



In 2010-2011 n = 2



Photo by: Mark Cotter



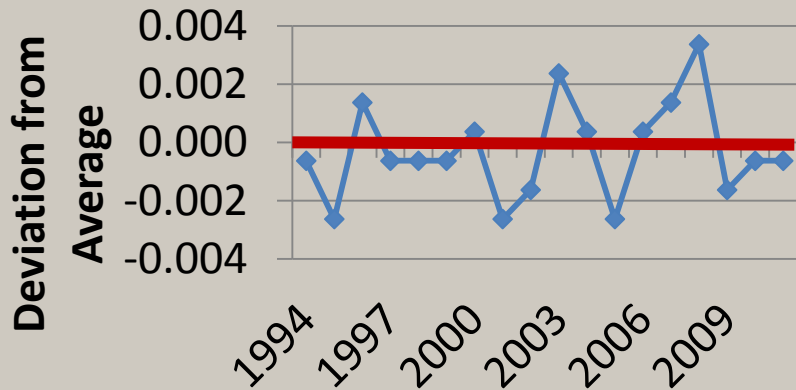


Data Analysis

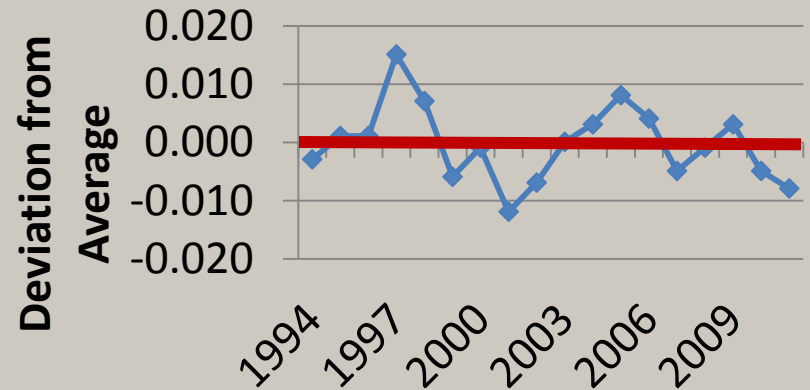


Marine Mammal Deviation from Average by Year

Sea Otter (Dead)



Harbor Seal (Dead)



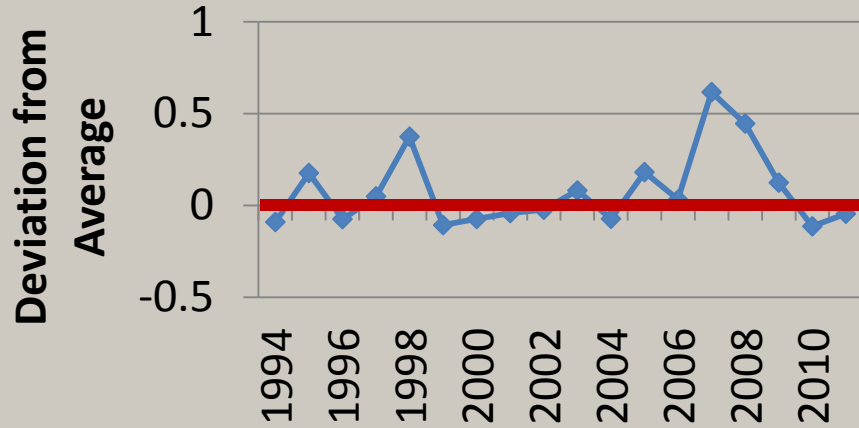


Data Analysis

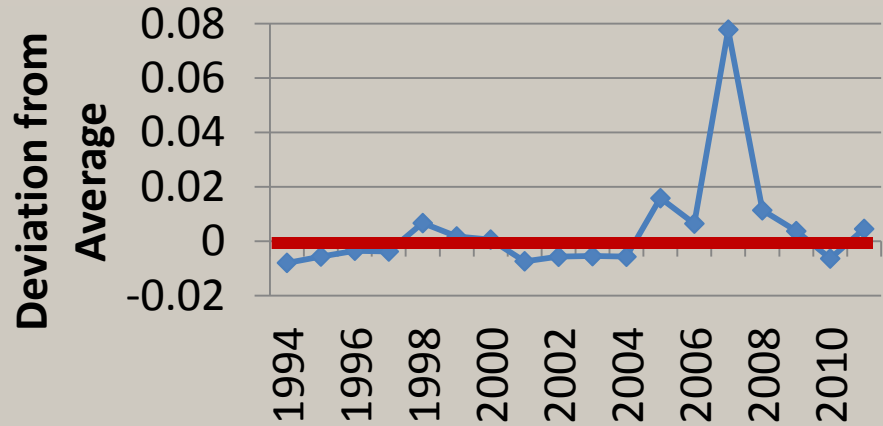


Local Breeding Species - Dead Bird Divergence from Average by Year

Common Murre (Dead)



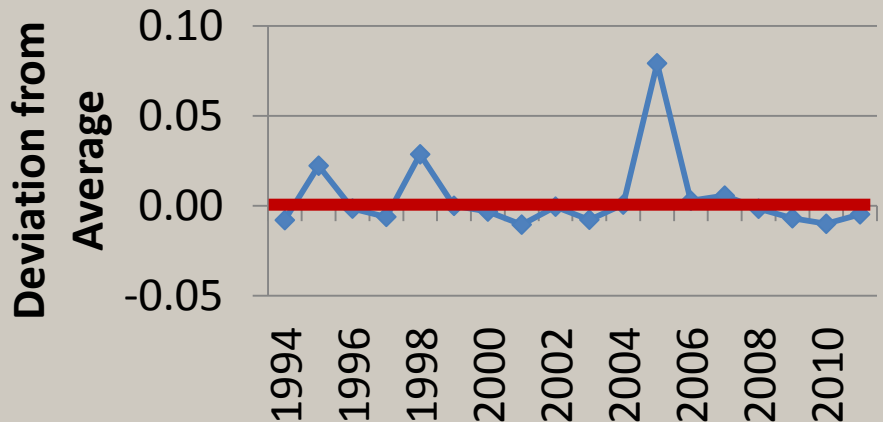
Rhinoceros Auklet (Dead)



Western Gull (Dead)



Cassin's Auklet (Dead)



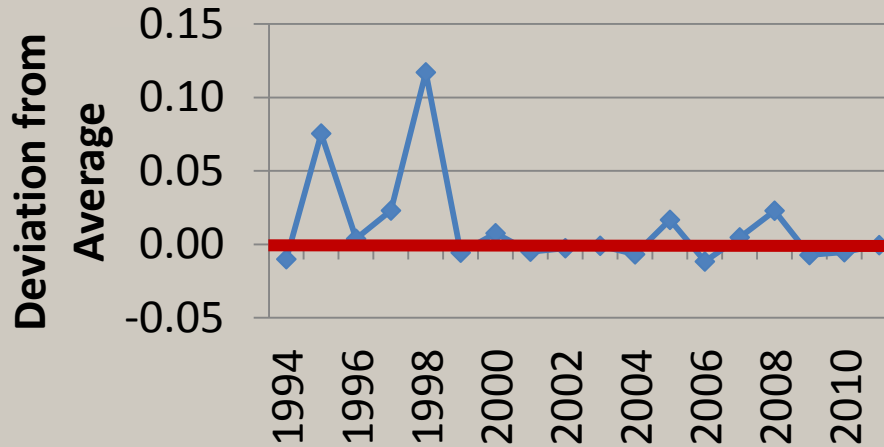


Data Analysis

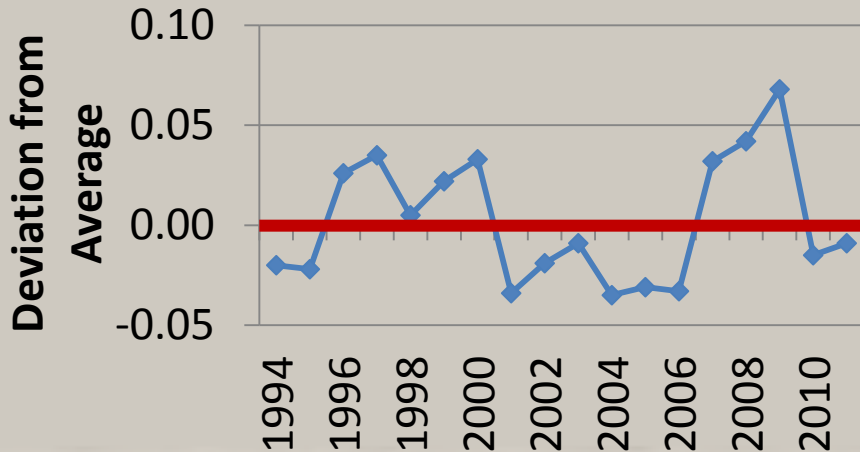


Wintering Bird Species - Beached Bird Divergence from Average by Year

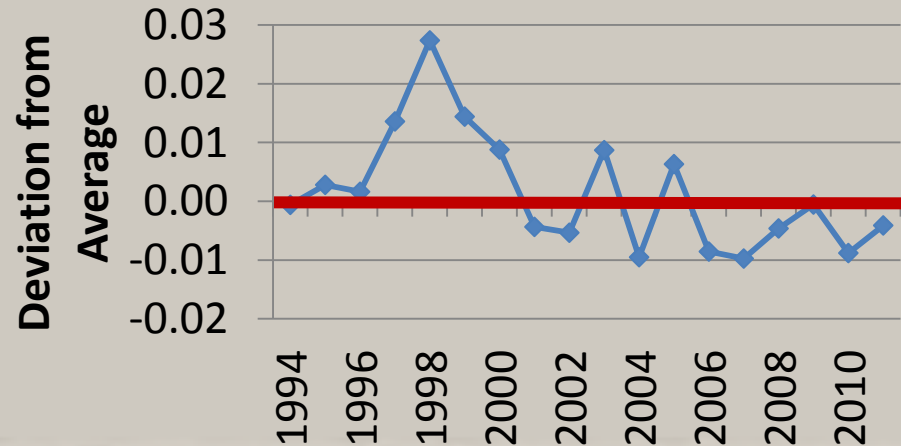
Surf Scoter (Dead)



Western Grebe (Dead)



Pacific Loon (Dead)

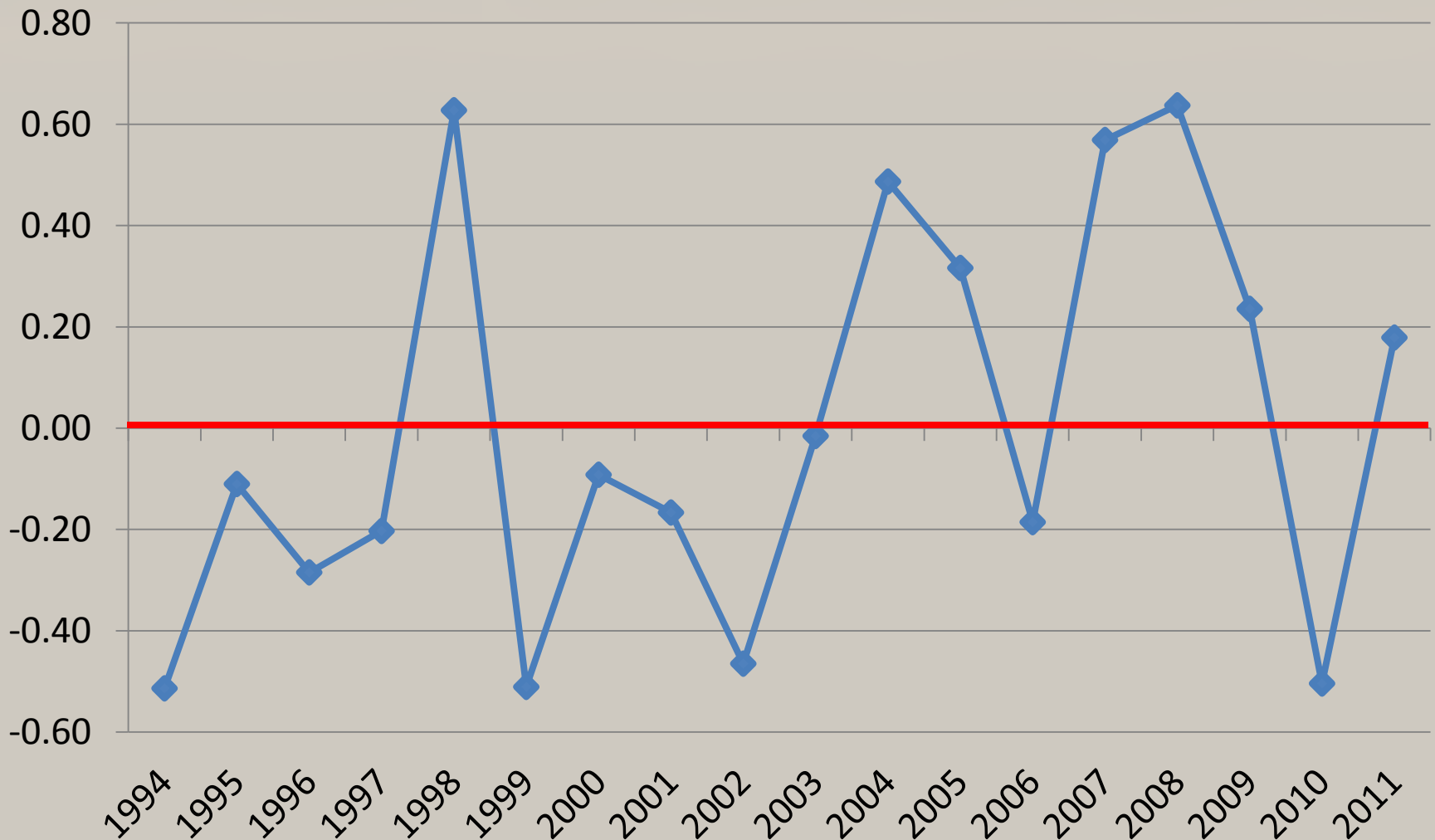




Data Analysis



All Dead Bird Deposition Rate (per km) by year 1993-2011

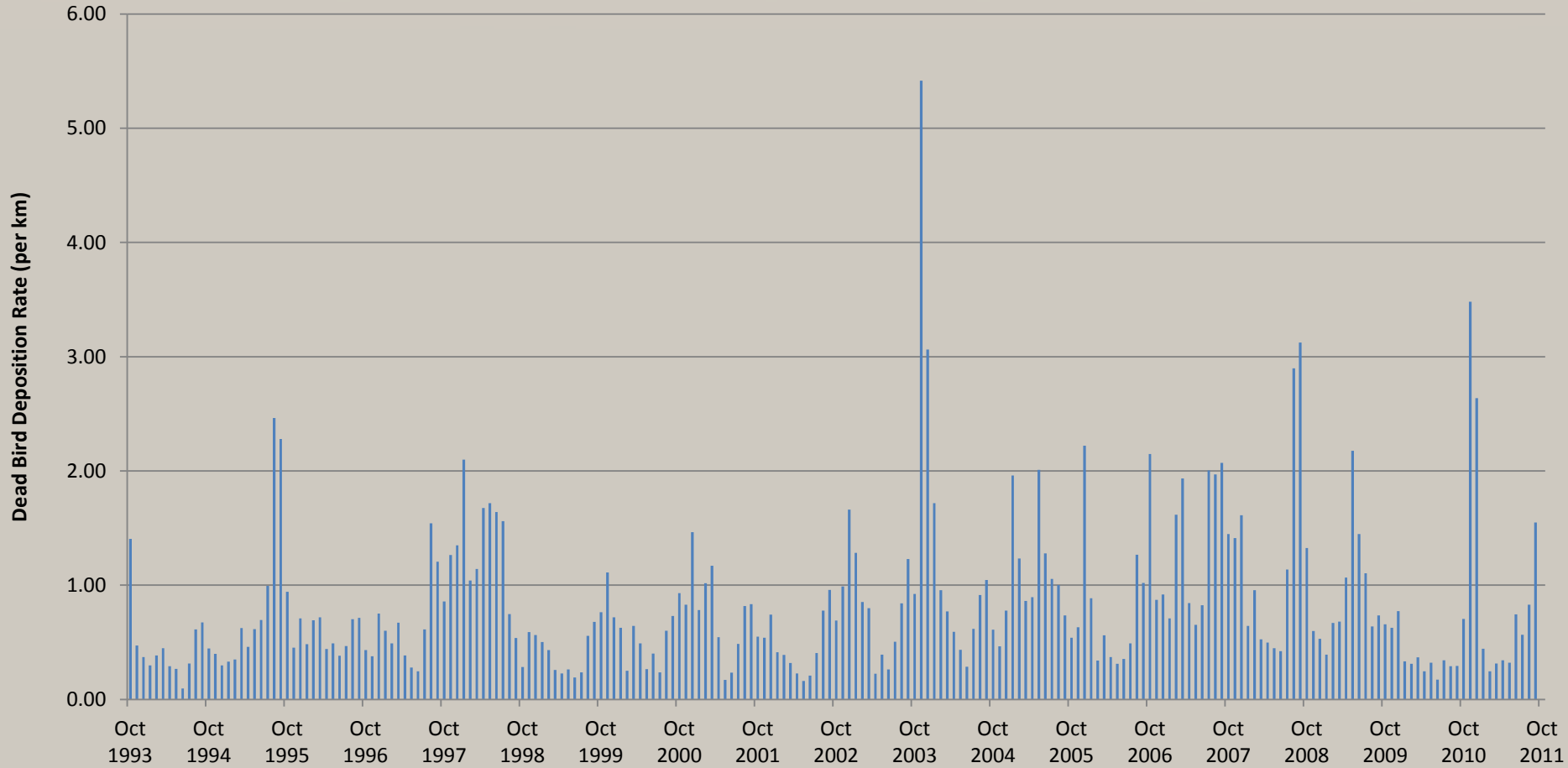




Data Analysis



Dead Bird Deposition Rate (per km) by Month 1993-2011

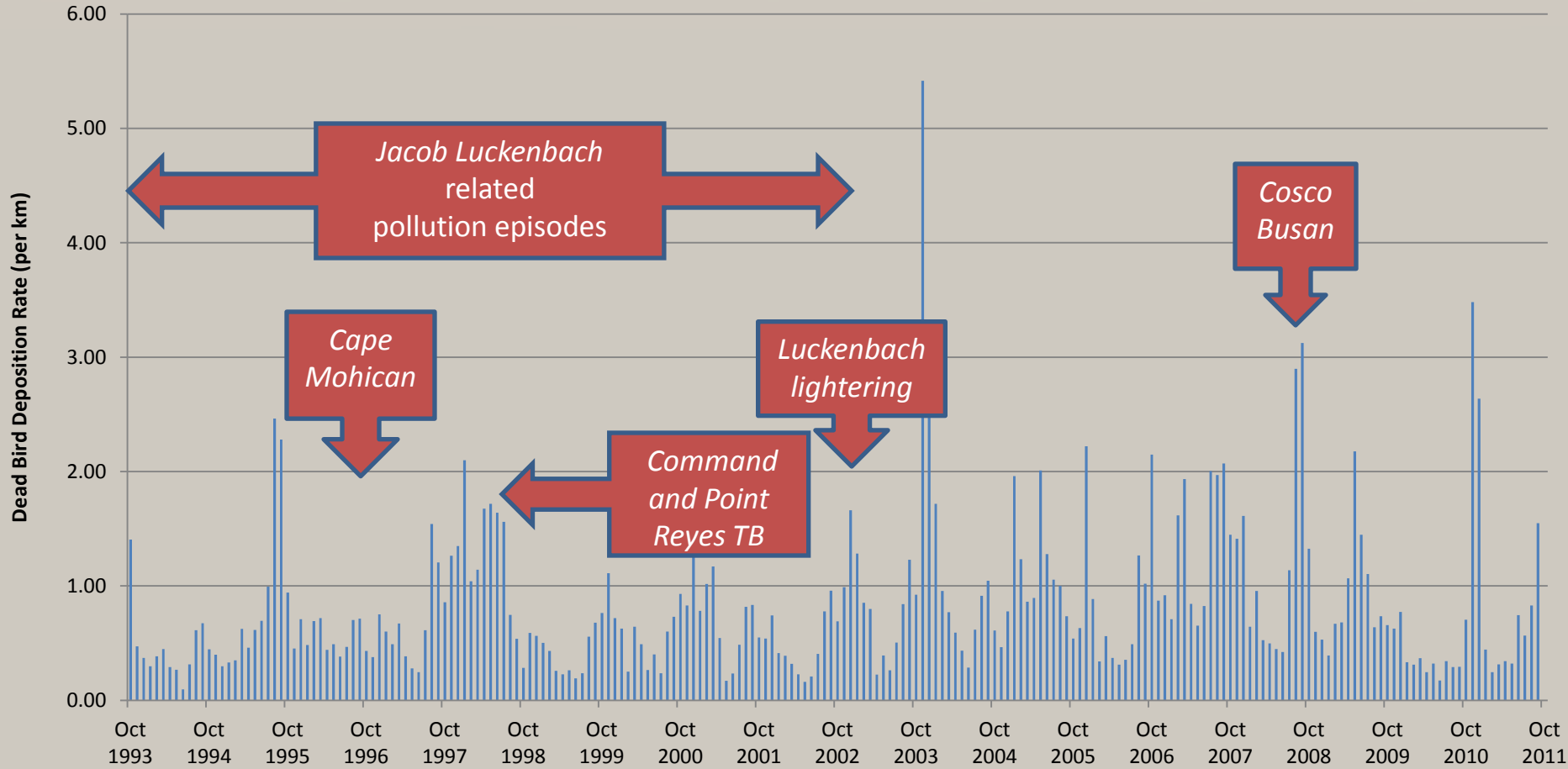




Data Analysis



Dead Bird Deposition Rate (per km) by Month 1993-2011

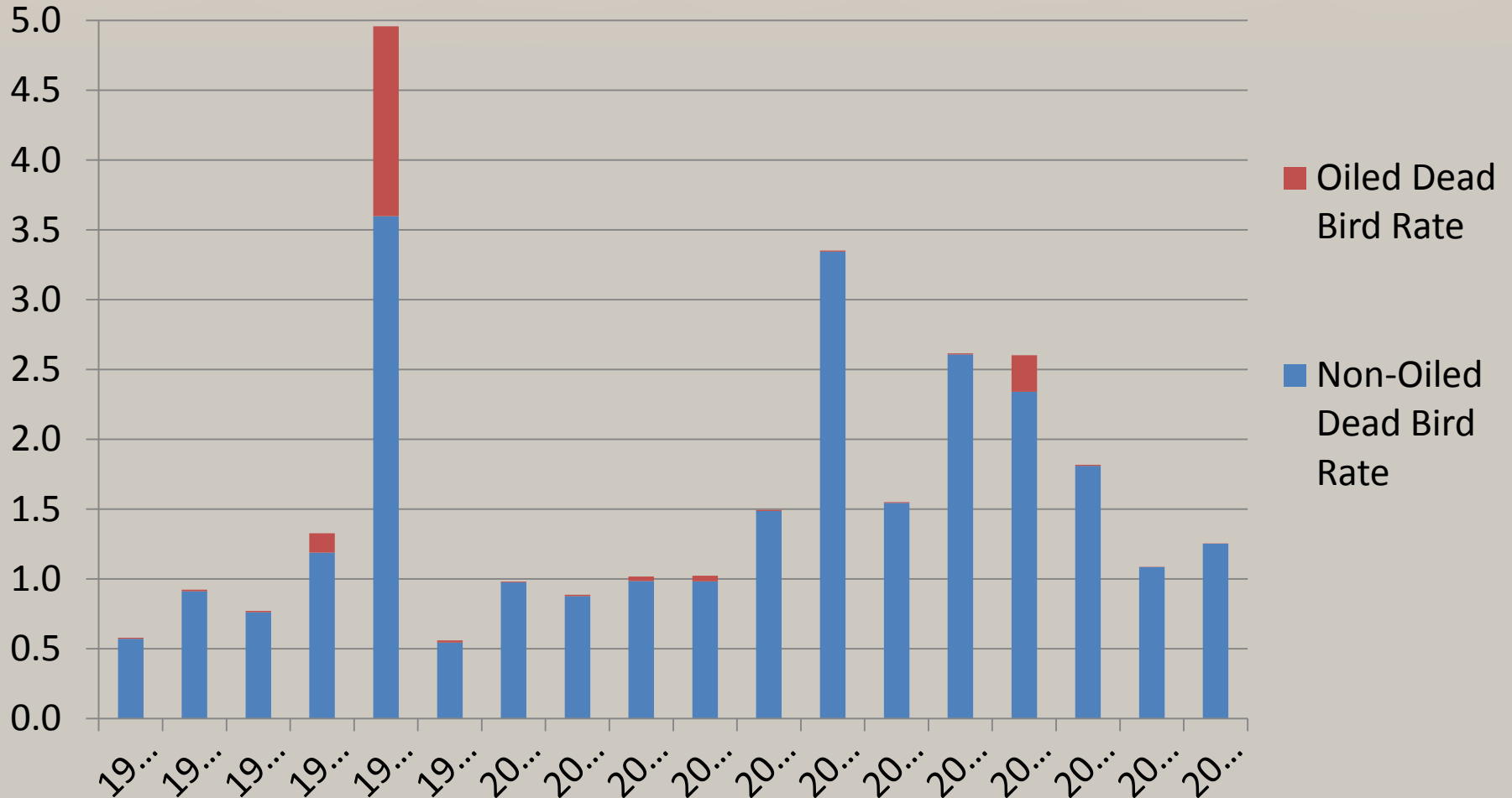




Data Analysis



Dead Bird and Oiled Dead Bird Deposition Rate (per km) By Year (Including Special Surveys during Spill Events)

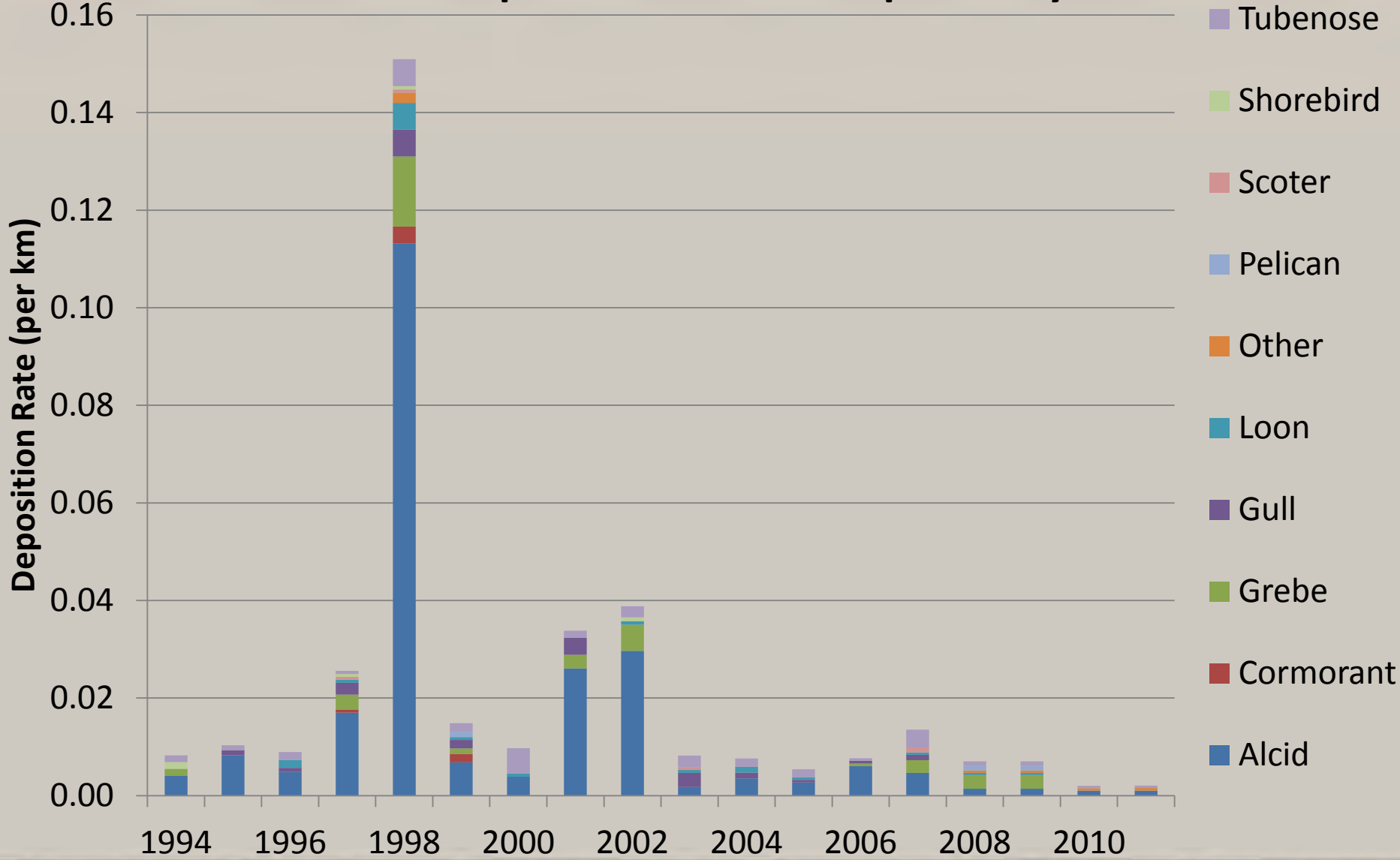




Data Analysis



Oiled Bird Deposition Rate and Species By Year

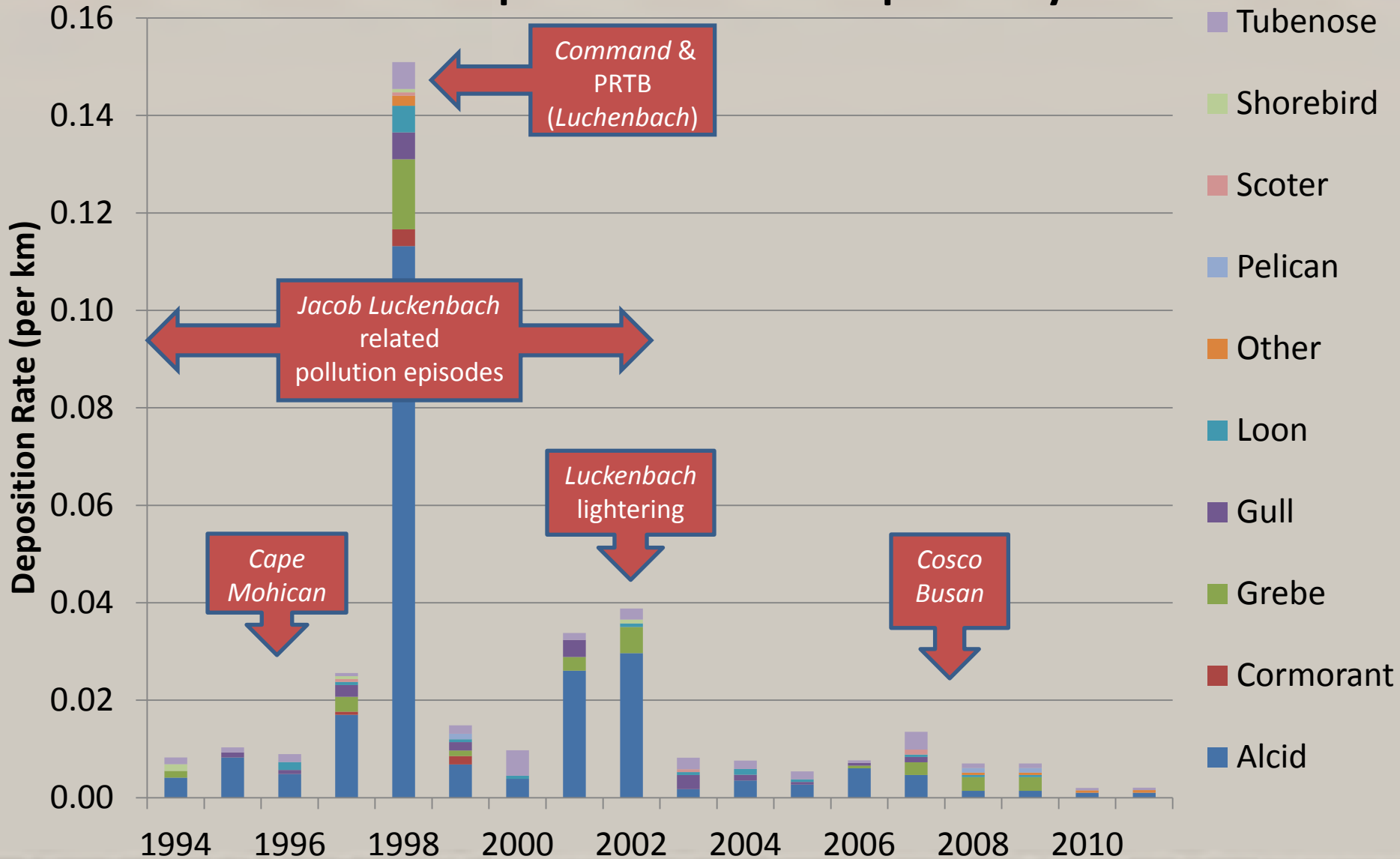




Data Analysis



Oiled Bird Deposition Rate and Species By Year

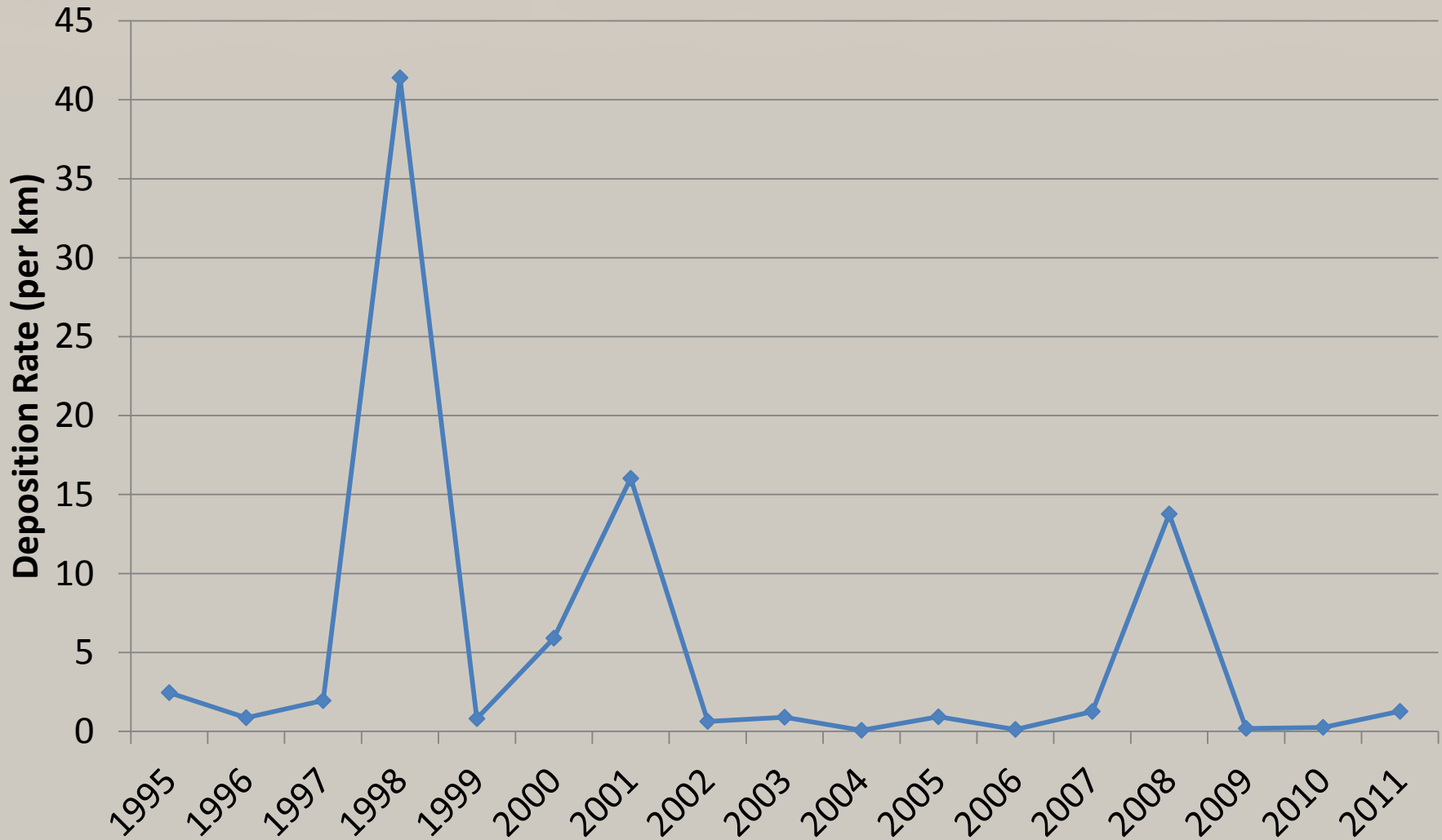




Data Analysis



Tarball Deposition Rate By Year

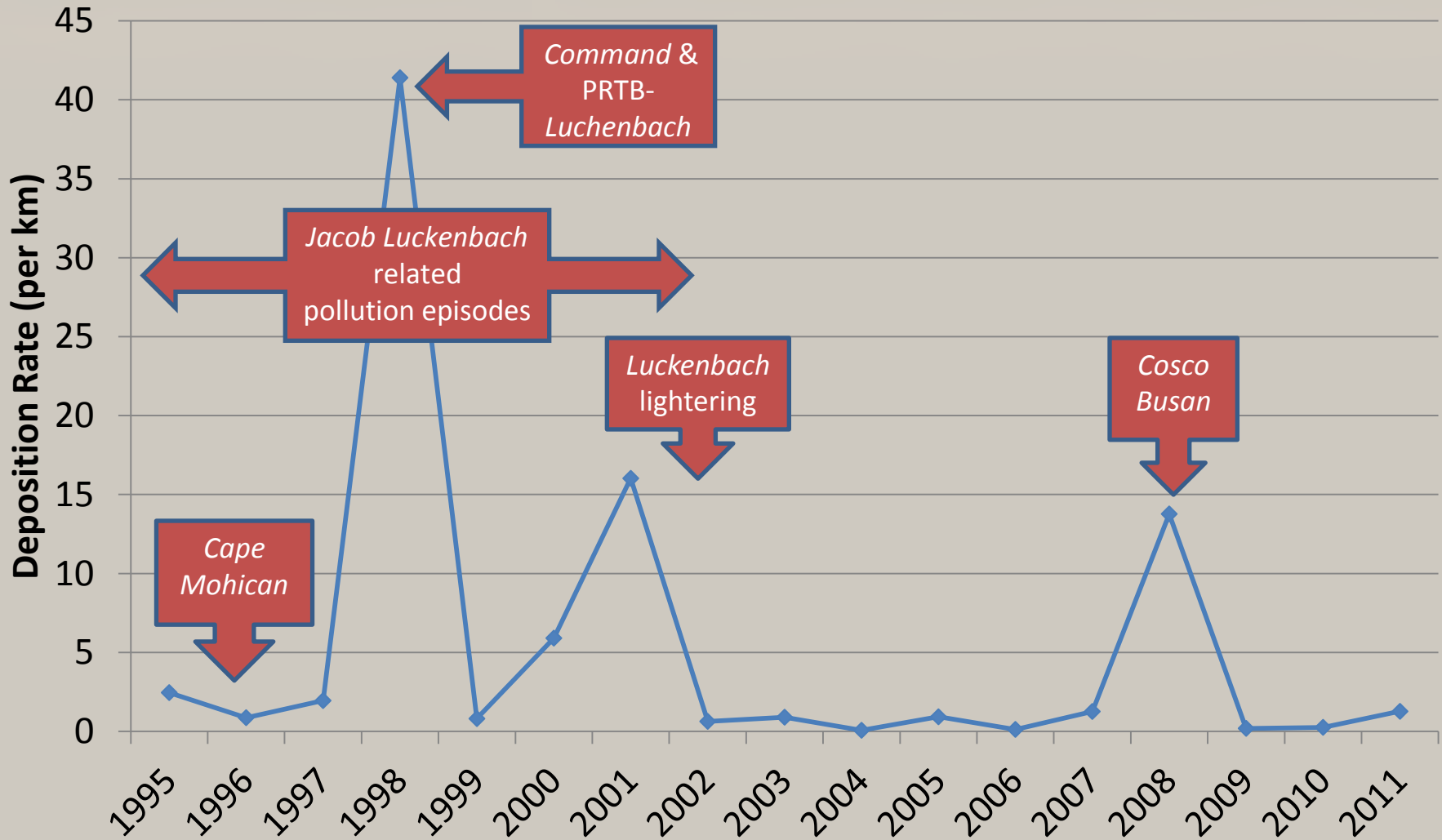




Data Analysis



Tarball Deposition Rate By Year



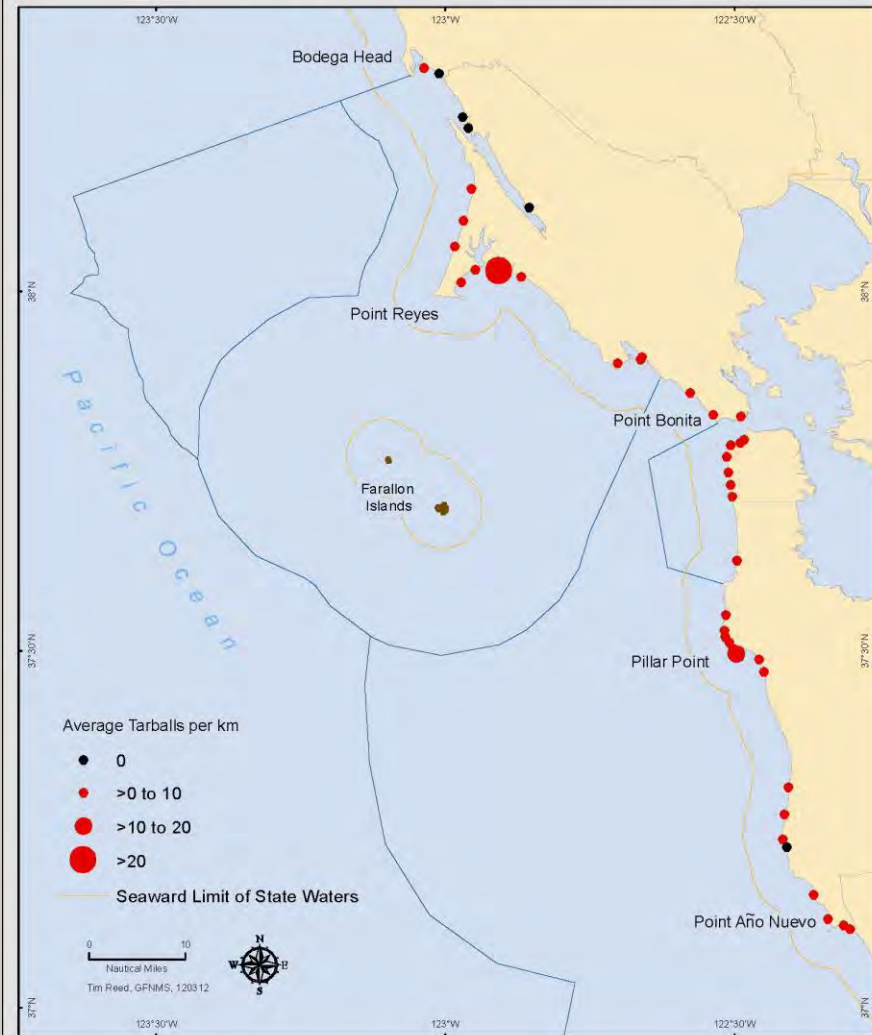


Data Analysis



“Baseline” Tarball Encounter Rates (per km) Oct 1994- Sept 2011

“Baseline” = only oil from CA seeps. Does not include oil that can be attributed to an oil spill. Data might include some winter mystery tarball samples and samples that may have been contributed from *J Luckenbach*.





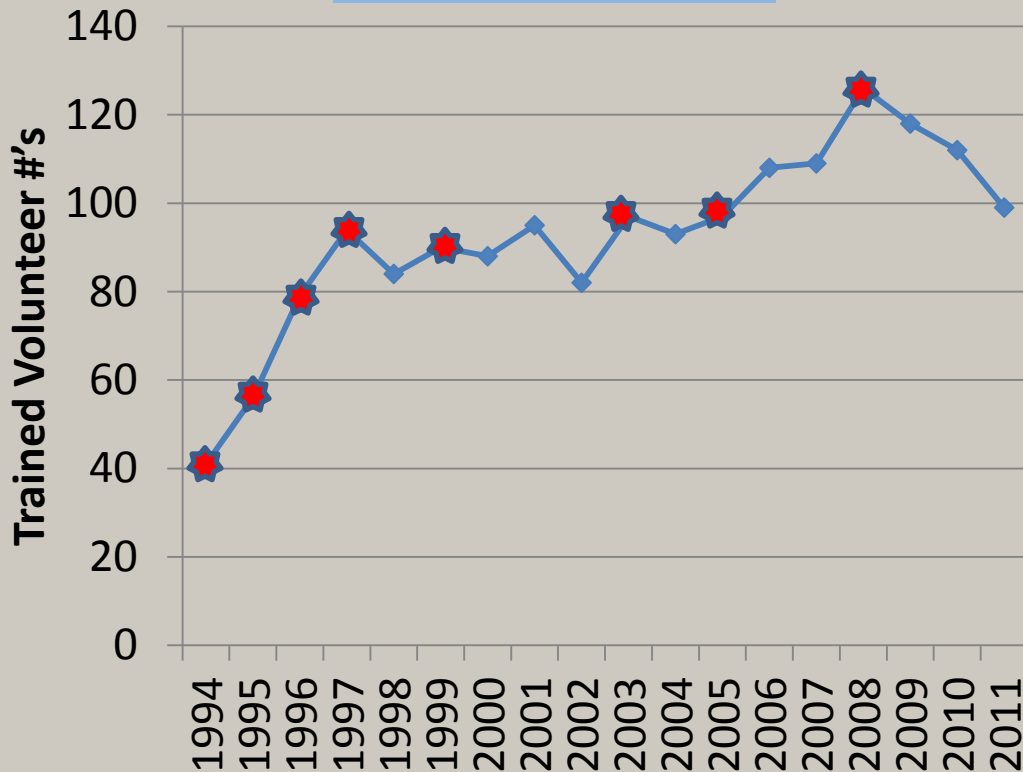
Volunteer Effort



Total Volunteers per Year

★ = new recruit training held this year

In 2010-2011 n = 99





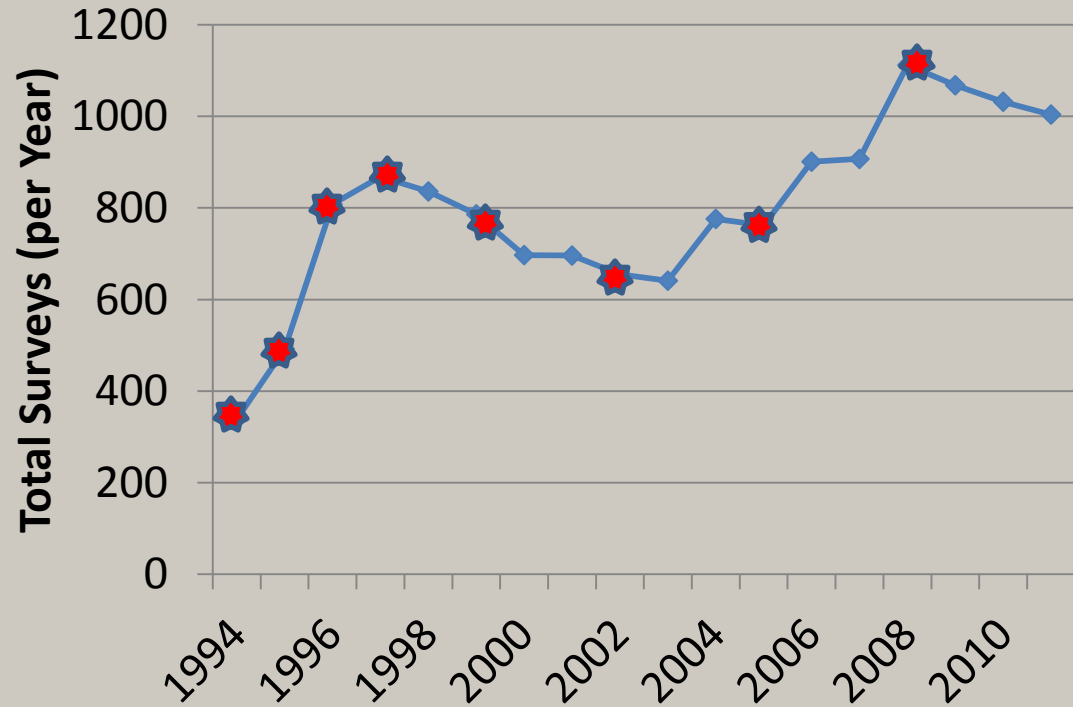
Volunteer Effort



Total Surveys per Year by Beach Watch

★ = new recruit training held this year

In 2010-2011 n = 1004





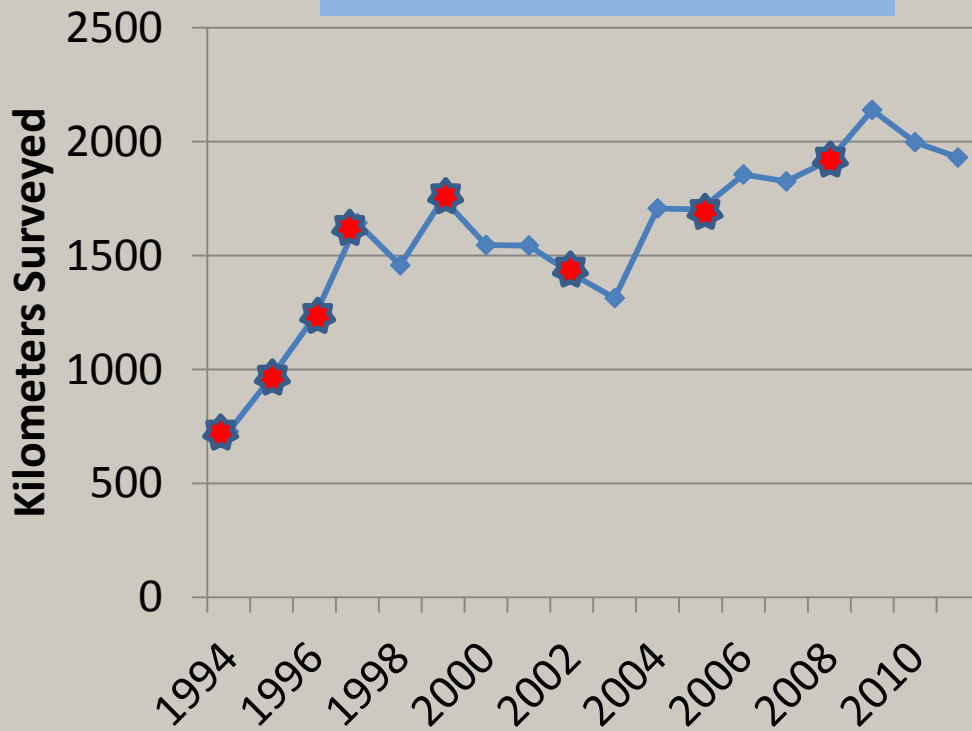
Volunteer Effort



Total Kilometers Surveyed per Year by Beach Watch

★ = new recruit training held this year

In 2010-2011 n = 1931 km





News from Behind the Scenes



Expanding our Resource Capacity Through Partnerships This Year

- Working with PRBO to create the online (near real time) Beach Watch Mapping Tool. Working with BeachCOMBERS and COASST to merge data and look at West Coast wide patterns
- Assisting NOAA and PRBO in the creation of the SW Region (Bay Area) Environmental Response Management Application (ERMA)
- Many of our historic photos have been archived in NOAA's online library
- Working to populate NOAA's Sanctuary Integrated Monitoring Network (SIMoN) Mapping Tool
- Working with NMFS Marine Mammal Stranding Network, for a joint marine mammal ID training series with CAS and NRDA planning with CAS and OWCN





News from Behind the Scenes



Beach Watch Online Mapping Tool: Real Time Mapping of BW Data

The screenshot displays the Beach Watch Online Mapping Tool interface. On the left is a Google Maps-style map of the San Francisco Bay Area, showing various beach locations marked with red and black icons. The map includes a navigation toolbar with zoom in/out, pan, and a scale bar.

On the right side of the interface, there are several control panels:

- Data Layers:**
 - Beach Watch (live birds and mammals)
 - Beach Watch (dead birds and mammals)
 - Beach Outlines
- Time Parameters:**
 - Select Month(s): [Jan] [Dec]
 - Select Year(s): [2006] [2007] [2008] [2009] [2010] [2011]
 - Aggregate data across selected date(s)?
- Species:**
 - [?] [Snowy Plover]
- Map Actions:**
 - Custom Summary [?]
 - Calculate Distance [?]
 - [Envelope icon]
 - [Hand icon]
 - Clear
 - Calculate
 - Redraw
 - Kilometers:

At the bottom right of the interface is the PRBO logo, featuring a stylized bird in flight above the text "prbo".



News from Behind the Scenes



Beach Watch Featured on Sanctuary Integrated Monitoring Network (SIMoN) Mapping Tool

SIMoN
SANCTUARY
INTEGRATED
MONITORING
NETWORK

HOME CORDELL BANK GULF OF THE FARALLONES MONTEREY BAY

NATIONAL MARINE SANCTUARIES

ROCKY SHORES
KELP FORESTS
BEACHES
CONTINENTAL SHELF
SANDY FLOOR
ESTUARIES
SEAMOUNTS & BANKS
SUBMARINE CANYONS
ROCKS & ISLANDS
DEEP SEA
OPEN OCEAN
GEOLOGY
OCEANOGRAPHY
WATER QUALITY
FISHES
SEABIRDS & SHOREBIRDS
MARINE MAMMALS

SPECIAL TOPICS
- Select a topic -

SEARCH
Enter search here GO

WHAT'S NEW

[New Federal Protections for Leatherback Sea Turtles](#)

[FREE EVENT! MBNMS Symposium – April 14, 2012](#)

[NOAA tracks tsunami debris](#)

[More News](#)

Photo Library

4166 images as of March, 2012 in the [SIMoN photo library](#).

Northern California National Marine Sanctuaries

Move your mouse over the Sanctuary outlines and click to learn about their monitoring of habitats and organisms.

[National Marine Sanctuaries](#) | [National Ocean Service](#) | [National Oceanic and Atmospheric Administration](#)
[U.S. Department of Commerce](#) | [NOAA Library](#)

For Website comments/questions, use the [comments form](#).
For programmatic comments and questions, contact the appropriate [SIMoN staff](#).
[Privacy Policy Statement](#).

URL: <http://sanctuarysimon.org>



Beach Profile Photos: What can they tell us over time?

Point Reyes Beach A, 1-14, Marin County



Beach profiles showing seasonal change Mar 2007 (left), Oct 2007 (right). Photo credit: GFNMS/FMSA



Snowy Plover Band Results

In 2010-2011 Beach Watch Resighted Snowy Plovers Originally Banded in These Locations:

Salinas State Beach
Moss Landing Salt Ponds
Salinas National Wildlife Refuge
Marina State Beach
Zumudowski State Beach
Fort Ord
Oceano Dunes
Bandon State Beach OR



Photo by: Matt Beals



Beach Watch Survey Photos Archived & Accessible on NOAA Photo Library Website

NOAA Photo Library

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COLLECTIONS

- [America's Coastlines](#)
- [Art of the Photo Library](#)
- [Beginnings/Endings](#)
- [C&GS](#)
- [Coral Kingdom](#)
- [Fisheries](#)
- [Flying with NOAA](#)

The NOAA Photo Library has been built so as to capture the work, observations, and studies that are carried on by the scientists, engineers, commissioned officers, and administrative personnel that make up this complex and scientifically diverse agency. [\(MORE\)](#)

Meet the Photographers - The NOAA Photo collection would not exist but for the generous individuals who are willing to share their remarkable images and observations with America and the rest of the world; [meet some of the men and women who have made the NOAA Photo Library possible.](#)



News from Behind the Scenes



Beach Watch Starts Geotagging!





News from Behind the Scenes



Beach Watch Data Used in Stinson Beach Boat Grounding Response and Clean Up





Training and Events



Advanced Training Held this Spring

- Geotagging Cameras
- Online Photo-uploading
- New data fields
- New field resources





Summary 2010-2011 Data Year

Decreased Deposition of:

- Marine Mammals
- Dead Local Breeding Species of Birds
- Dead Wintering Species of Birds
- Tarballs
- Oiled Birds

Increased Deposition of:

- Guadalupe Fur Seal
- Sooty Shearwater
- Brown Pelican
- Harbor Porpoise
- Brandt's Cormorant
- Northern Fulmar

Normal Natural Attrition:

- With less volunteers we are maintaining survey #'s and km surveyed





Summary 2010-2011 Data Year

Increased Partnerships:

- We have been busy working with PRBO, Cal Academy, COASST, BeachCOMBERS, as well as interns from Stanford and SF State.

Analysis:

- New analysis provide valuable tools for resource protection

Training:

- Held Advanced Training for experienced volunteers
- New volunteer recruitment and training this summer and fall





Thanks to All Our Peeps!



BW would not be possible without the dedication of all our volunteers and interns.

This year we are grateful for the financial support from PRBO Conservation Science, Norcross Wildlife Foundation, Firedoll Foundation, Patagonia, CA SeaGrant-Monitoring Enterprise, Prescott Grant.

