

# Specimen-based research

Example  
I

- Stranding Program

Example  
II

- Contaminants

Example  
III

- Reproduction



# Example I: Stranding Program

## Health assessments:

Radiology

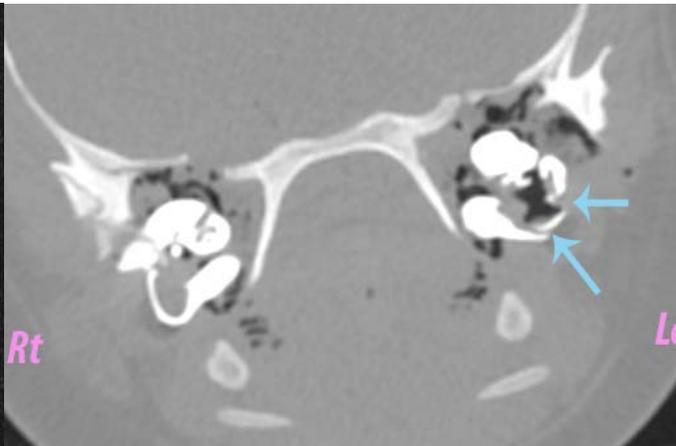
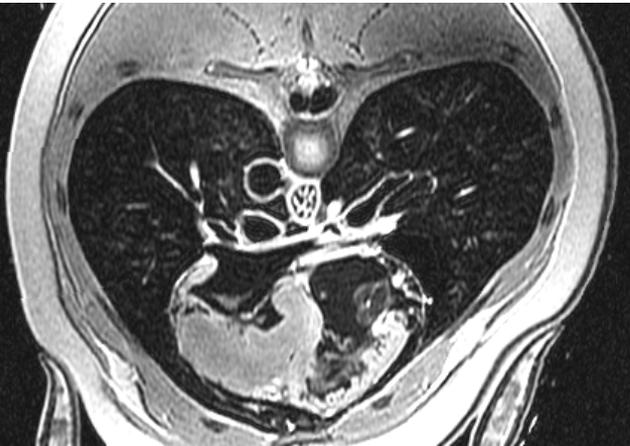
Histopathology

Biotoxins



## Innovative Tools and Partnerships

- Magnetic Resonance Imaging (MRI)
  - UCSD
- Computed Tomography (CT)
  - Veterinary Specialty Hospital
- Gas Composition Analysis
  - Woods Hole Oceanographic Institution



# Example II: Contaminants

## Coastal Bottlenose Dolphins

- Monitoring of population abundance and trends
- Assessing impacts of environmental perturbation, toxins and pathogens



Studied since 1981

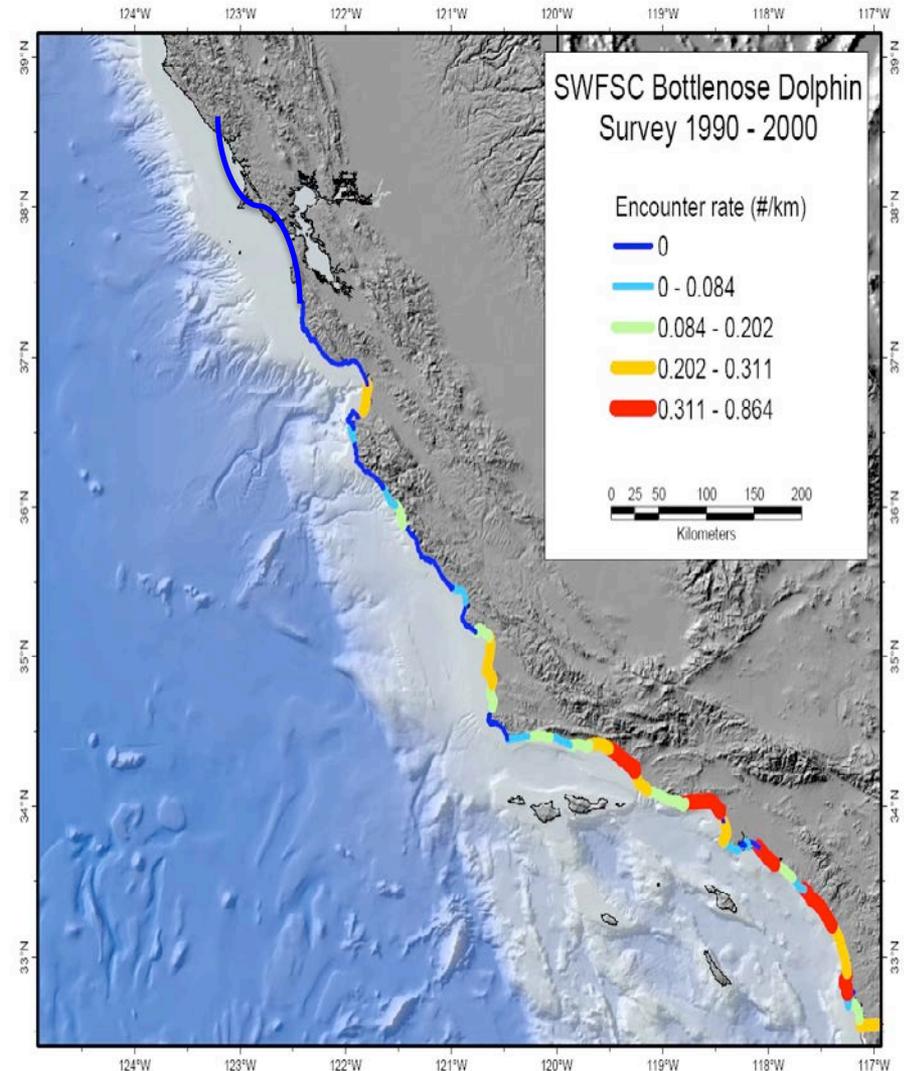
Small, stable population <500

Range: Ensenada to Bodega Bay  
>90%, < 1 KM off the beach

Coastal nomads

Coastal “hotspots”

High Contaminant Levels



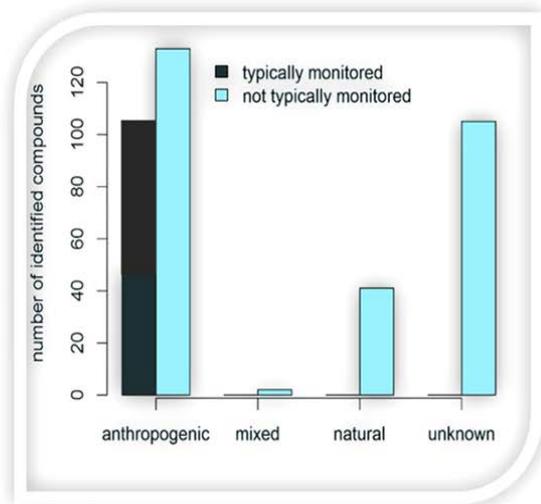
# Example II: Contaminants

## Which contaminants for which questions?

- Innovative Tools: non-targeted analyses

- Partnerships

- Scripps Institute of Oceanography
- Southern California Coastal Water Research Project
- San Diego State University



- Additional insight from

- Spatio-temporal patterns in legacy contaminants
- Non-targeted analyses of additional cetacean and pinniped species

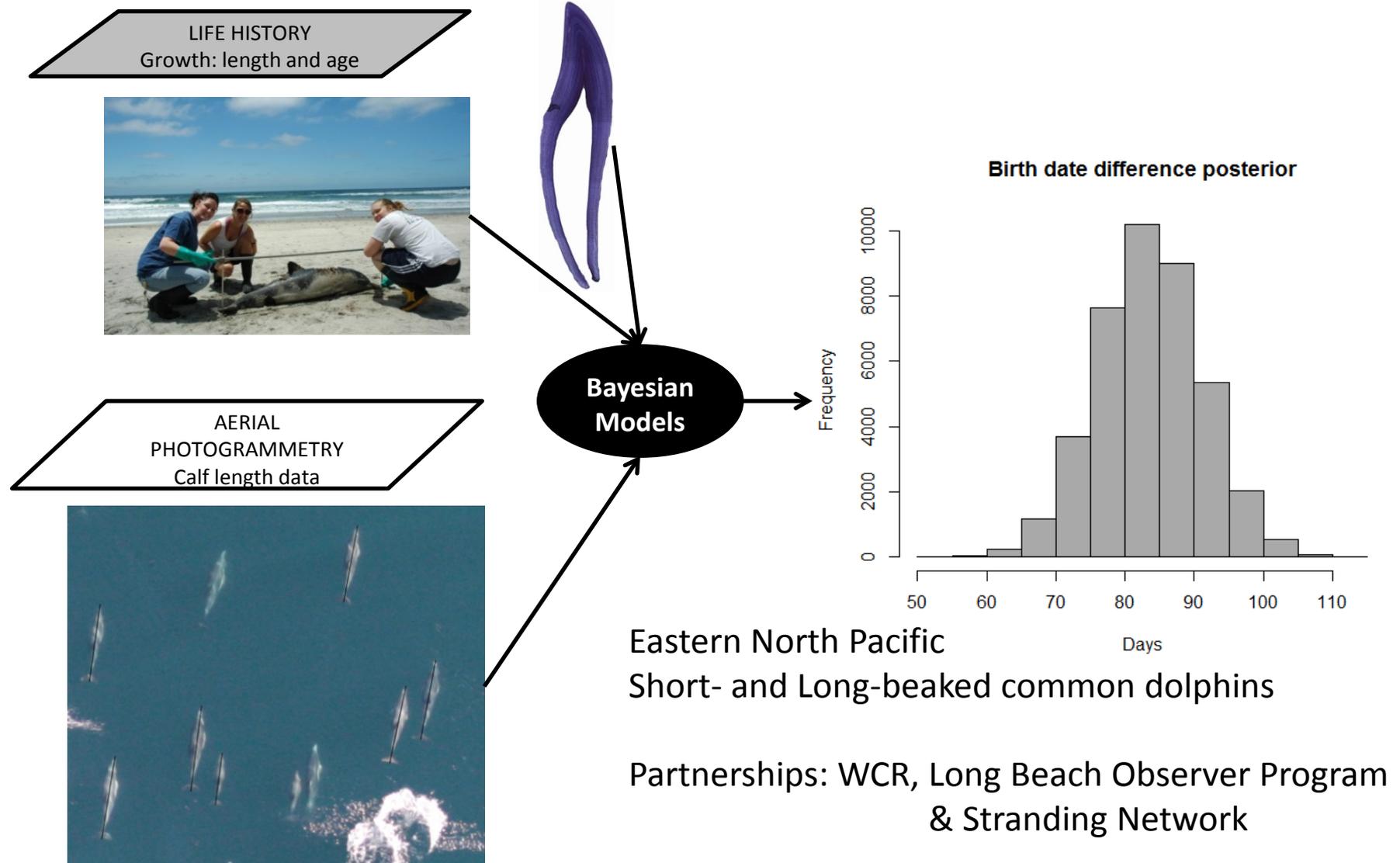
Inventory of Persistent and Bioaccumulative Compounds

Shaul et al. 2015



# Example III: Reproduction

## Integrating specimen and photogrammetric data sets



# Specimen-based research: Looking forward

- Continue monitoring and sampling projects
- Understand factors influencing reproduction and health
- Develop and implement new tools
- Build partnerships

