

# Introduction to Cetacean and its interaction with fisheries

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# Cetacean research in Thailand (1993)

Dr. Carl Kinze  
Mr. Michael Andersen





# Why we have to study cetacean

- ⇒ Saving biodiversity (CBD)
- ⇒ High migratory species (CMS)
- ⇒ Share resources in the regions
- ⇒ Listed in CITES appendix



1. **Study on biology**
2. **Species identification**
3. **Morphology and anatomy:** Dissected dead specimens
4. **Osteology:** Measurements

### Data retrieving schemes

- *Interview survey*
- *Field survey*
  - Land-based investigation
  - Ship-based survey
  - Aerial survey
- *Stranding specimens*
  - Live-stranded specimen
  - Carcass management



# Study on biology of cetacean

- ⇒ Species and distribution
- ⇒ Morphology and anatomy
- ⇒ Pathology
- ⇒ Stomach contents
- ⇒ Heavy metal in organ tissue
- ⇒ Genetic variation
- ⇒ Osteology



# Interview survey

- Species
- Distribution
- Related to fishermen



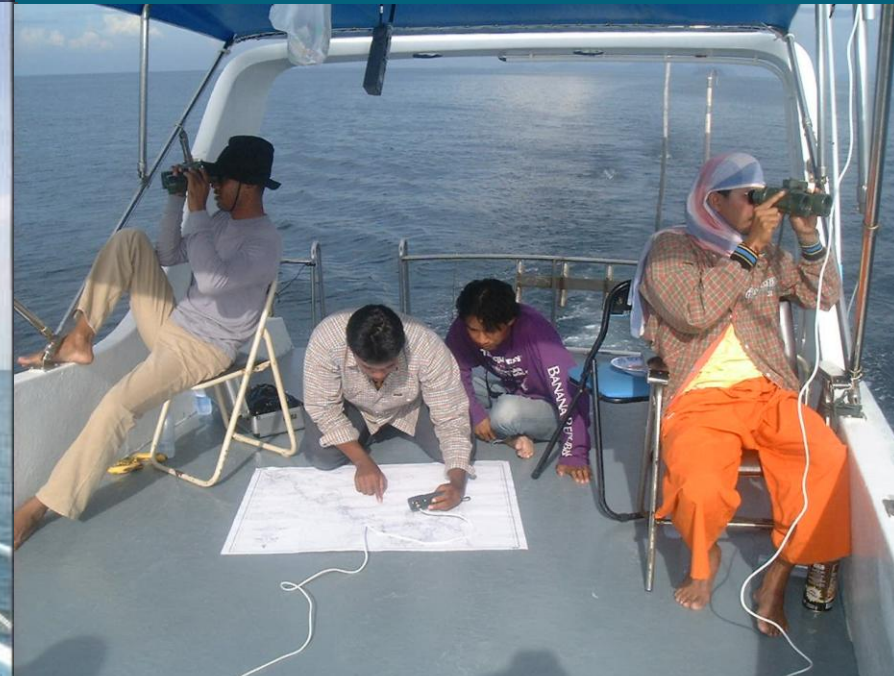


# Ship base survey



## Systematic survey

- Species
- Abundance
- Circumstance





# Arial survey





# Marine mammal survey





# Stranded animal



Marks and scars; disease symptom





# Stranded animals



Morphology





# Stranded animals



Baleen whale



# Marine Endangered Species Subdivision

Weight, measurement



Tissue sample



# Stranded animals



Internal organs: disease analyze

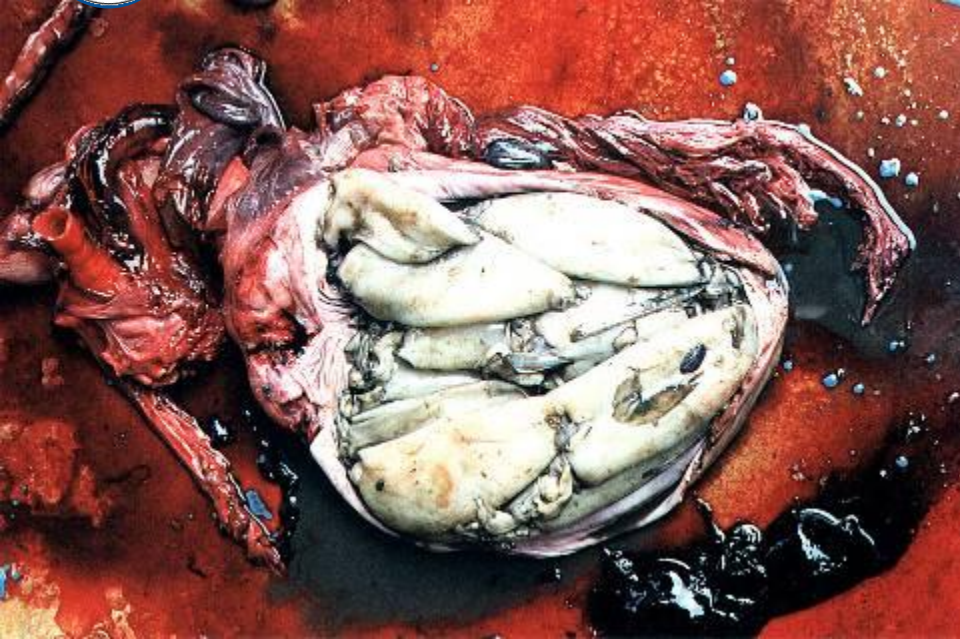


# Stranded animals



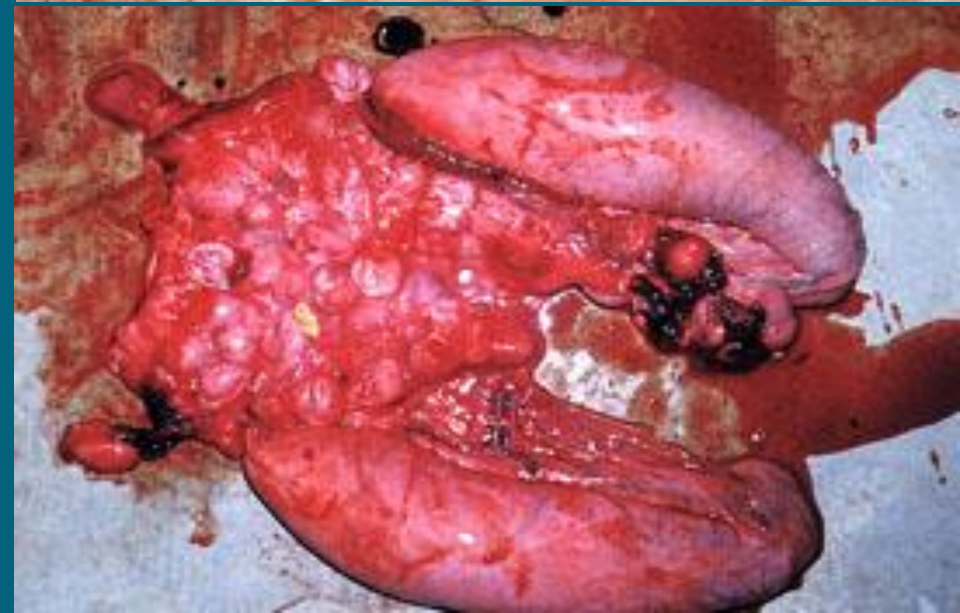


# Stomach contents





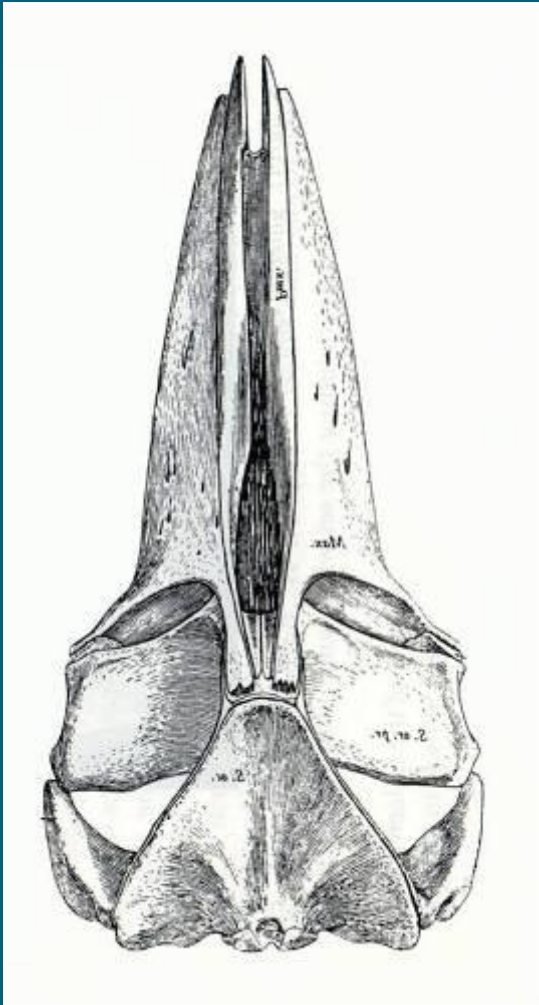
# Diseases and parasites observed





# Skull characters

Bryde's whale  
(*Balaenoptera  
edeni*)

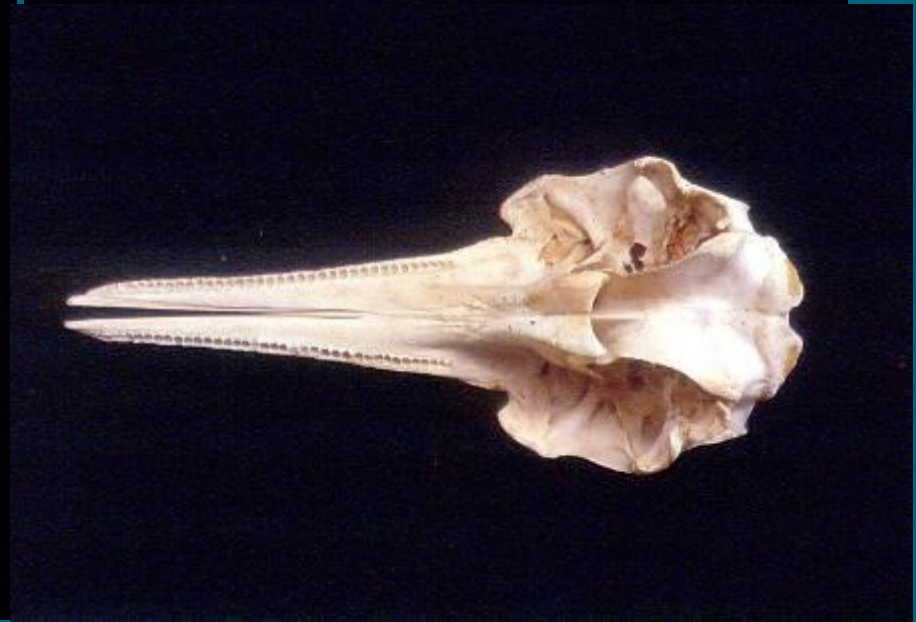
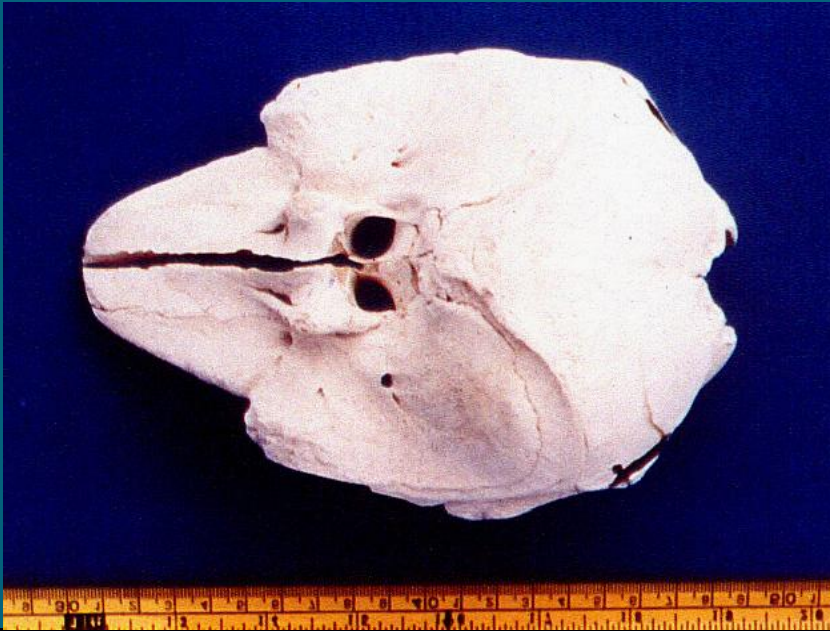


Sperm whale  
(*Physeter  
macrocephalus*)



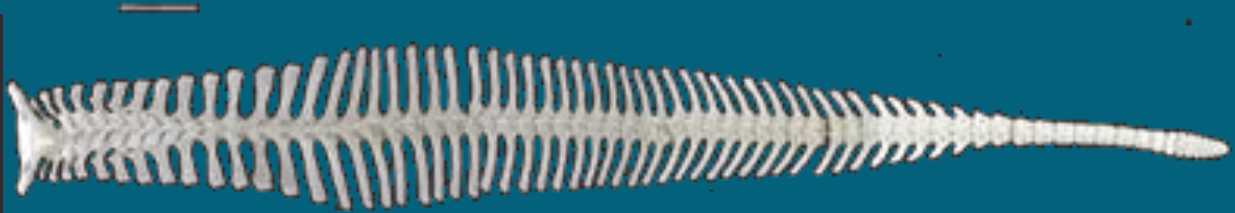


# Skull characters





# Dolphin skeleton





# Osteology study

- Species identification
- Population structure / geographical variation
- Polymorphism: maturity, sex
- Age determination
- Asymmetric development



## Sasaki, et. al., 2006

- From characters of the skeletons
- 2 species of Balaenoptera in Thailand
  - *Balaenoptera edeni*
  - *Balaenoptera omurai*





# Baleen whale bone characters





# Rescue of live stranding





# Rescue live stranding



Stranding network





# Cetacean in Thailand

- 25 species belonging to 6 families have been found in Thai waters
- Oceanic population
- Coastal population
  - Resident groups (mostly irrawaddy and humpback dolphin)



# Cetacean interaction with fishing gears

Few numbers of incidental catch were reported in two principal gears, purse seines and gill nets.

Most of the stranded animals of the oceanic species caused by other events such as got sick or injured, they were skinny and very weak when ashore.



# Various type of fishing gears





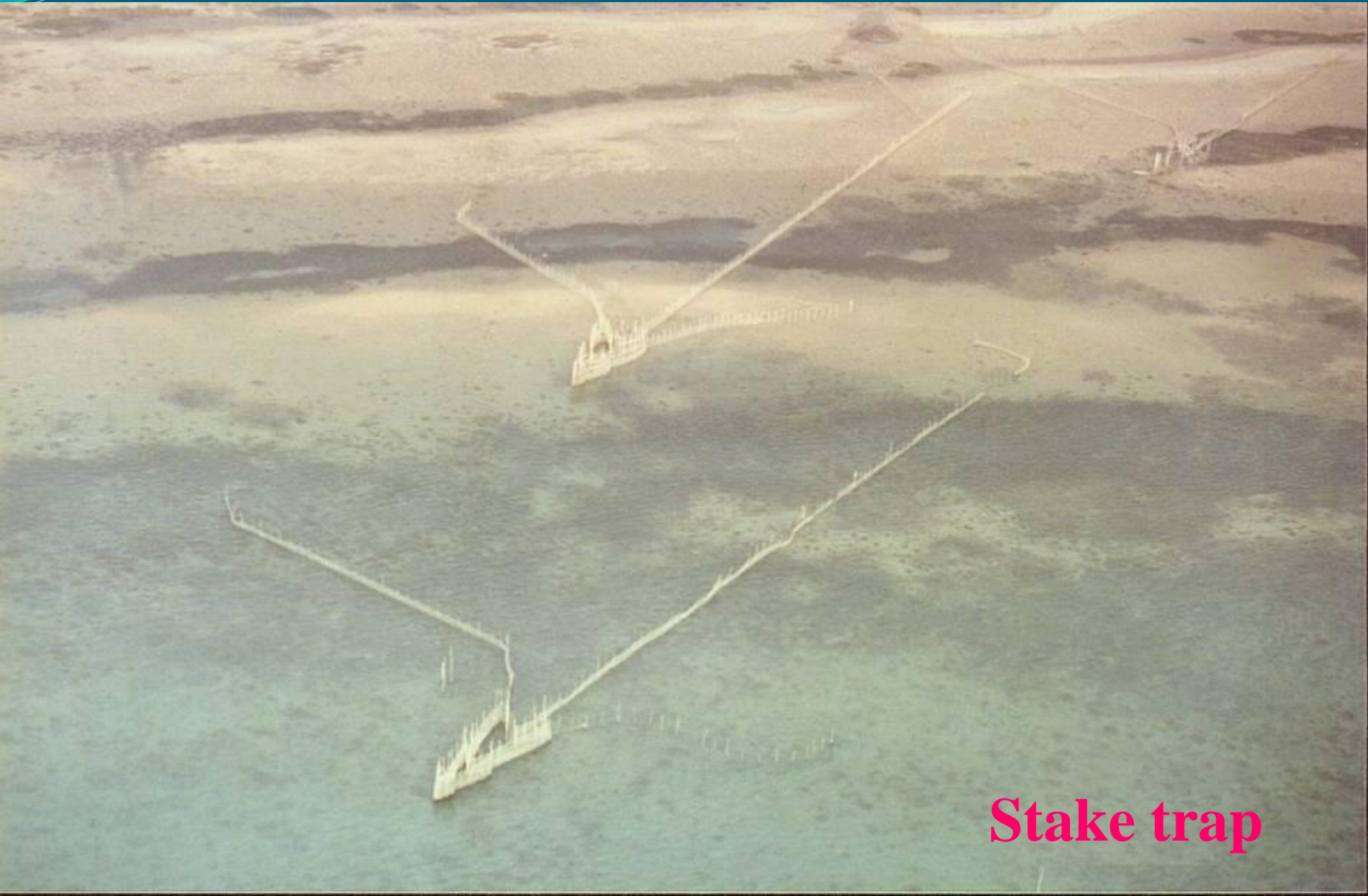
# Entangle in gillnets



Death; causing by gill net



# Stake trap in coastal areas



**Stake trap**



# Long line hooks harms to marine mammal and sea turtles





# Degradation of coastal areas

Push net; cause damage to  
seagrass bed





# Irrawaddy dolphin in Songkhla Lake





Thank You