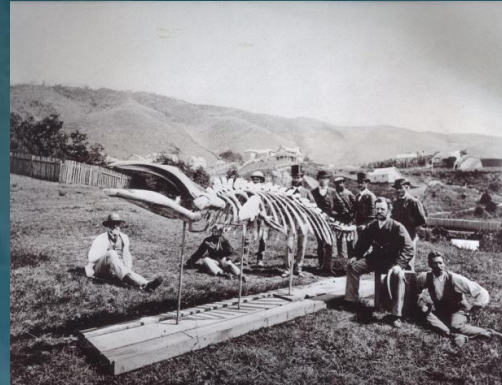


Whale Strandings in New Zealand





**Te Papa's Marine Mammal
Collection: One of the largest in
the world**



A few NZ Whale Stranding facts

- First recorded stranding 1840
- Largest Stranding 1000, 1918
- First rescued whales 1958 (36 animals)
- Largest rescue 324 Animals (1985)
- 41 Species (or subspecies) of Cetacean recorded from strandings
- Record keeping started at Museum 1865 (Sir James Hector Colonial Museum, plus regional museums)
- Museums continue to collate records (W.R.B. Oliver)
- 1960's and 70's Fisheries officers encouraged to keep records (Martin W. Cawthorn), records sent to Museum with Museum specialists (Charles McCann and Alan Baker) used to Identify whales.
- 1978 Marine Mammal Protection Act. Obligation to collect data
- 1987 DOC Statutory obligation to collect Data.
- 1987-89 Mark Brabyn created NZ Whale Stranding Database and collated previous data.
- 1990 First Marine Mammal Stranding Workshop held.
- 1991 Museum resumed collating data. (Anton van Helden)



Types of Strandings

- Single strandings/Mass strandings
- Live strandings/ dead beach-cast animals



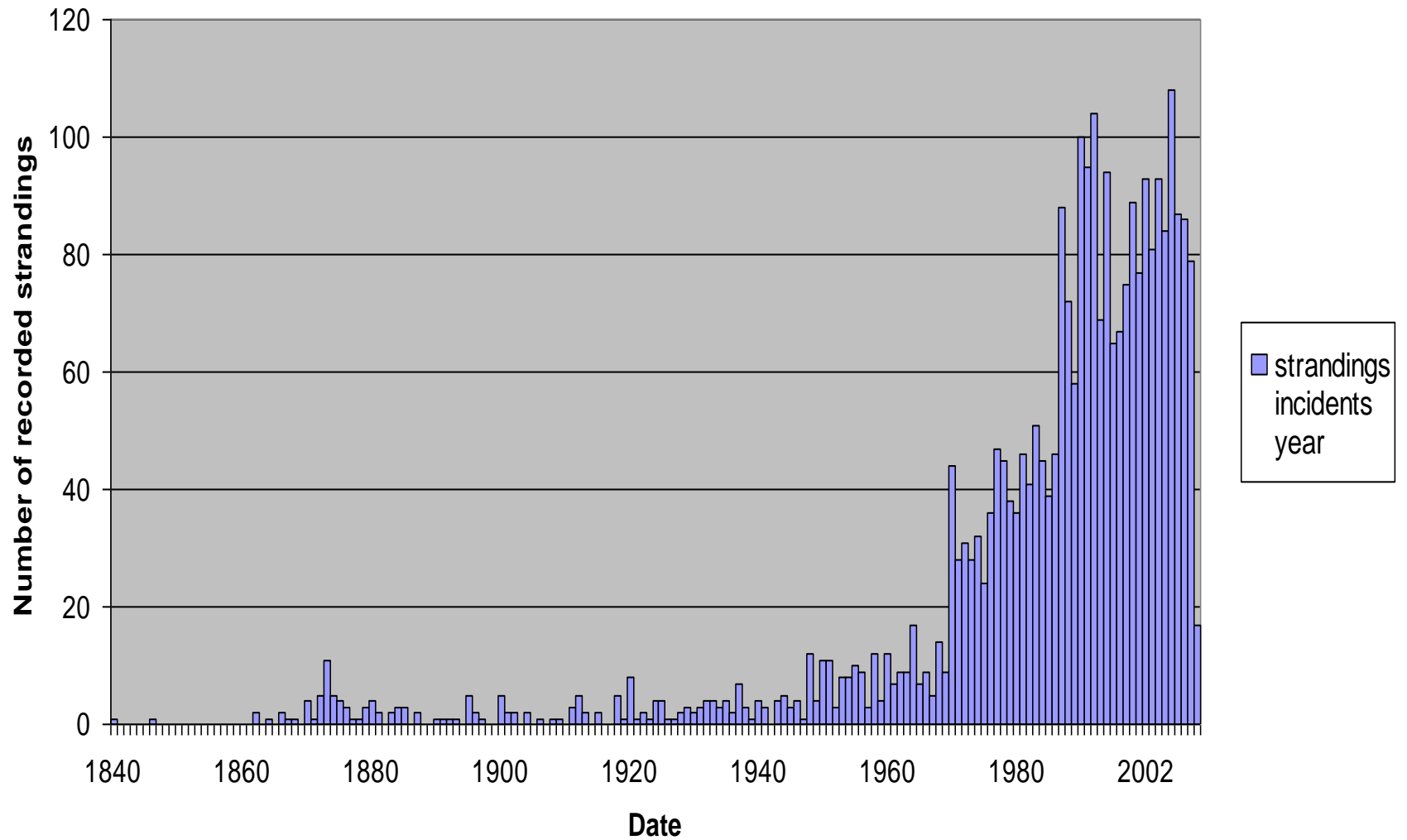
What information do we collect

Specimens and data that support research into:

- Taxonomy (morphometrics, genetics)
- Anatomy (Skeletons, organs)
- General Biology (colour patterns, measurements, life history, diet, etc...)
- Genetic relationships (populations, taxonomy)
- Health Status and Pathology
- Distribution
- Abundance?
- Social organisation
- Life History and reproductive data
- Pollutant analysis
- Diet Analysis
- Disease
- Mortality patterns
- Population structure
- Genetic information

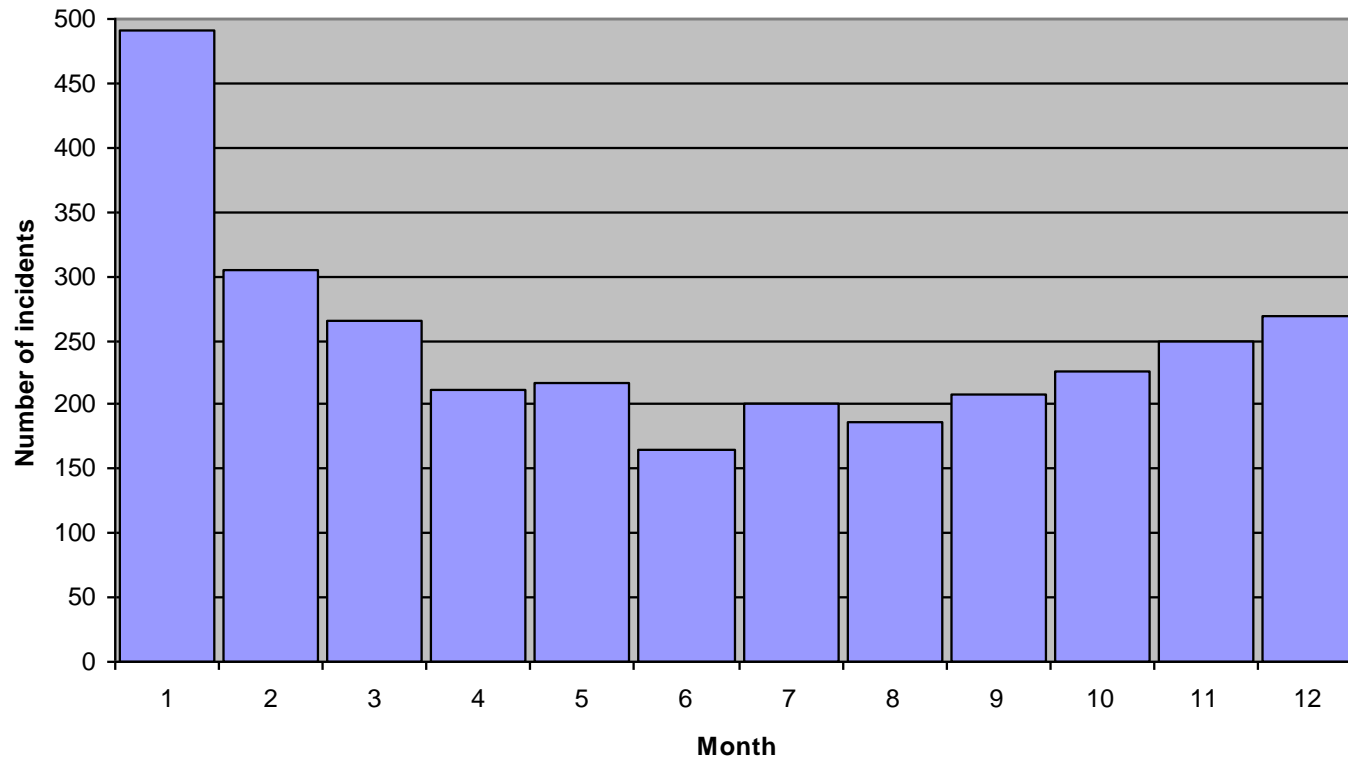


strandings incidents/year



Periodicity of strandings

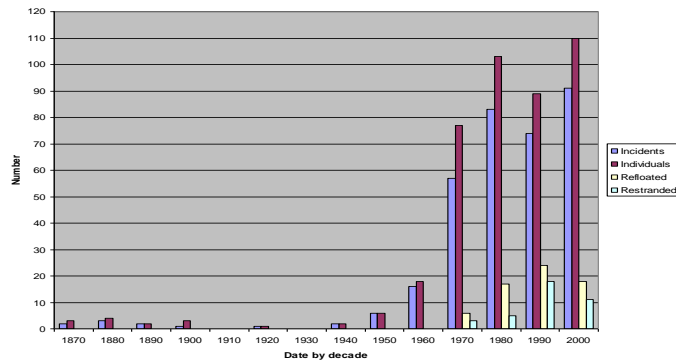
Stranding incidents by month



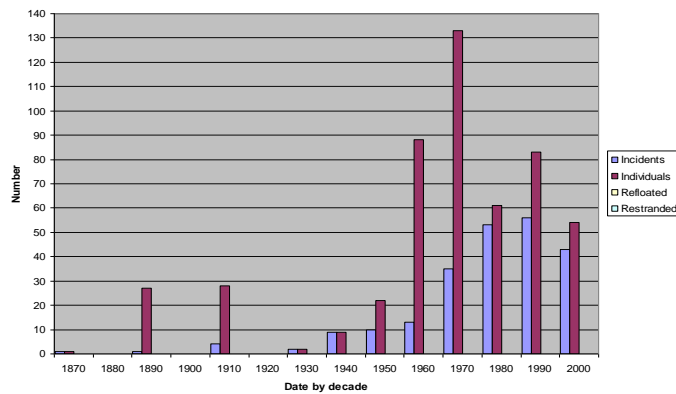
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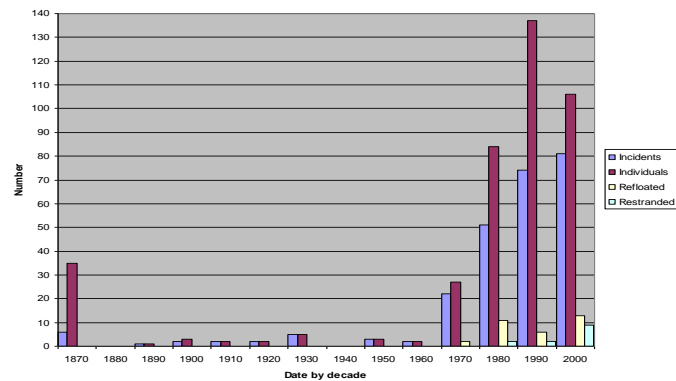
Pygmy sperm whales



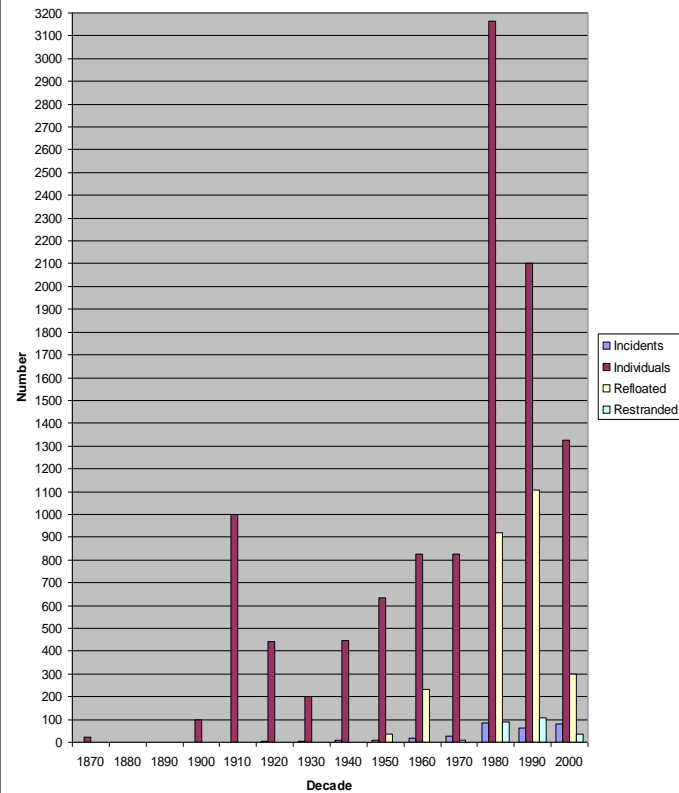
sperm whales



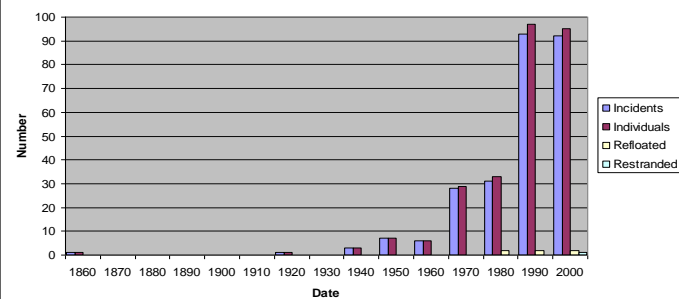
Gray's beaked whale



Long-finned pilot whale strandings



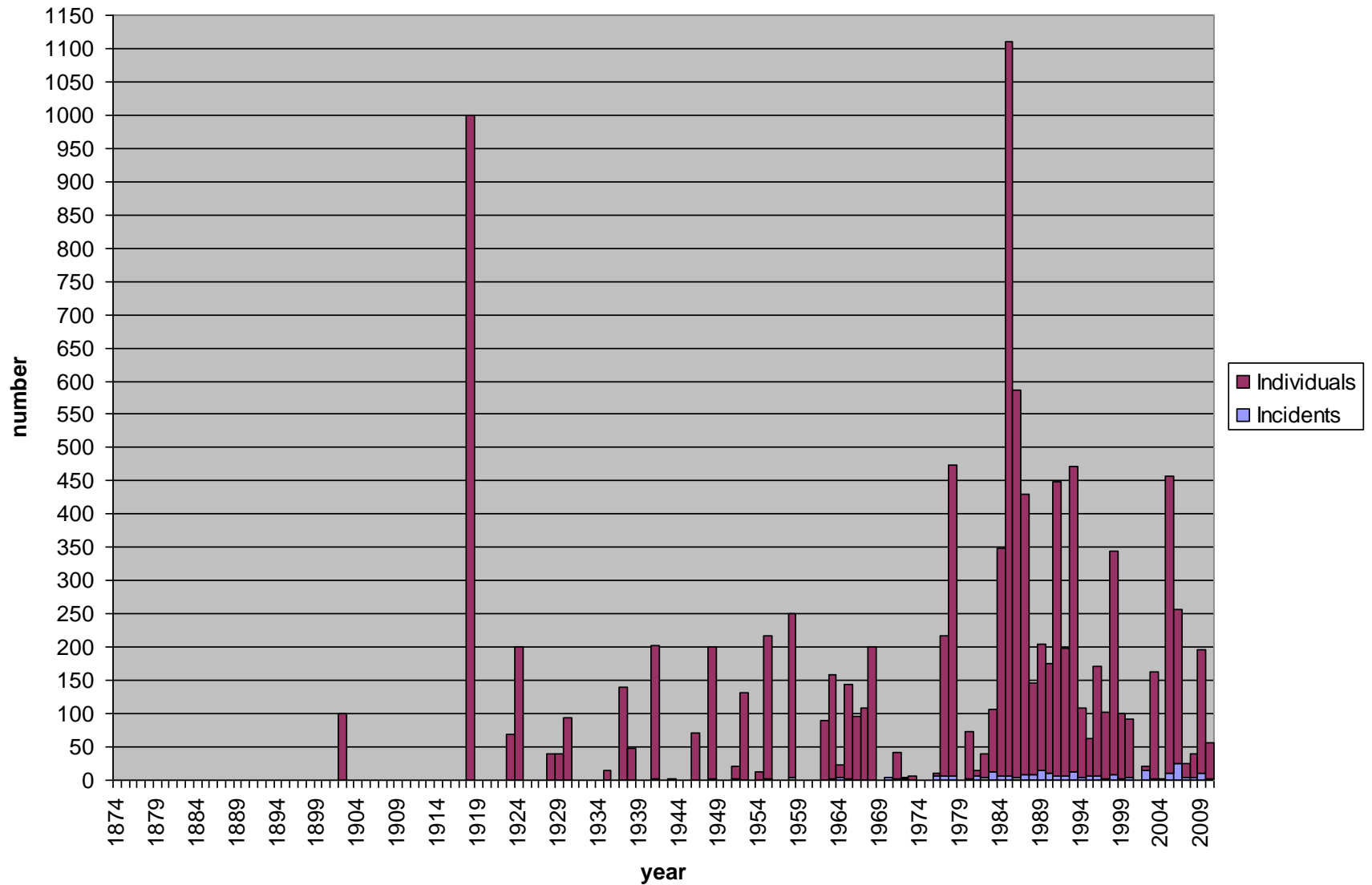
Hector's dolphin



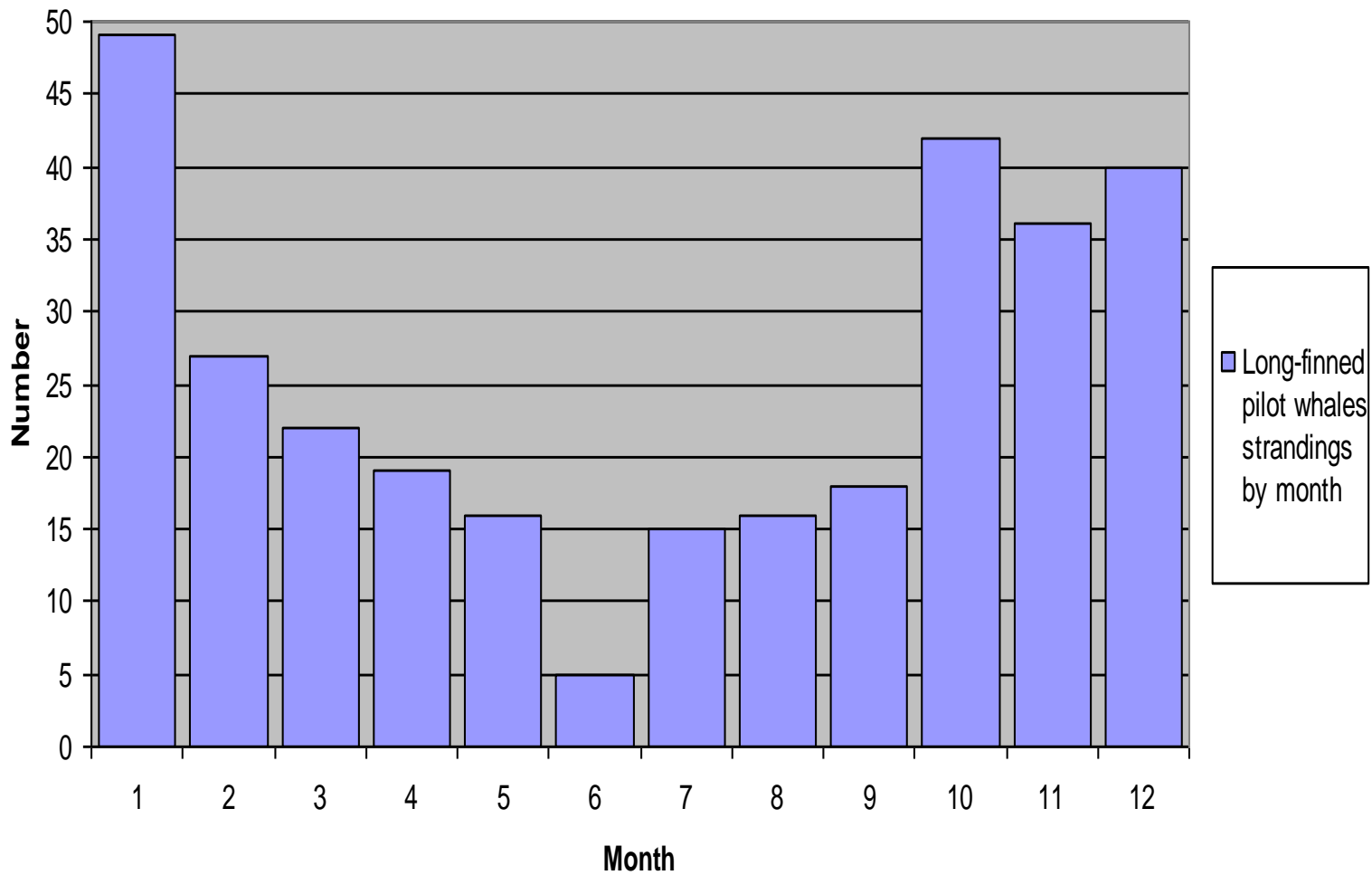
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Pilot whale strandings: Incidents and individuals by year



Long-finned pilot whales strandings by month

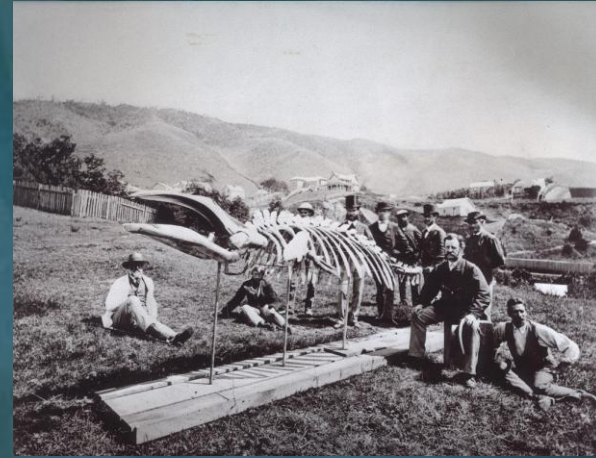


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WE STILL KNOW VERY LITTLE!!

- Many species only known from strandings, may be only access point for biological study and sampling
- Opportunity to study offshore animals that we would seldom otherwise see
- Some species spend little time at the surface and are therefore



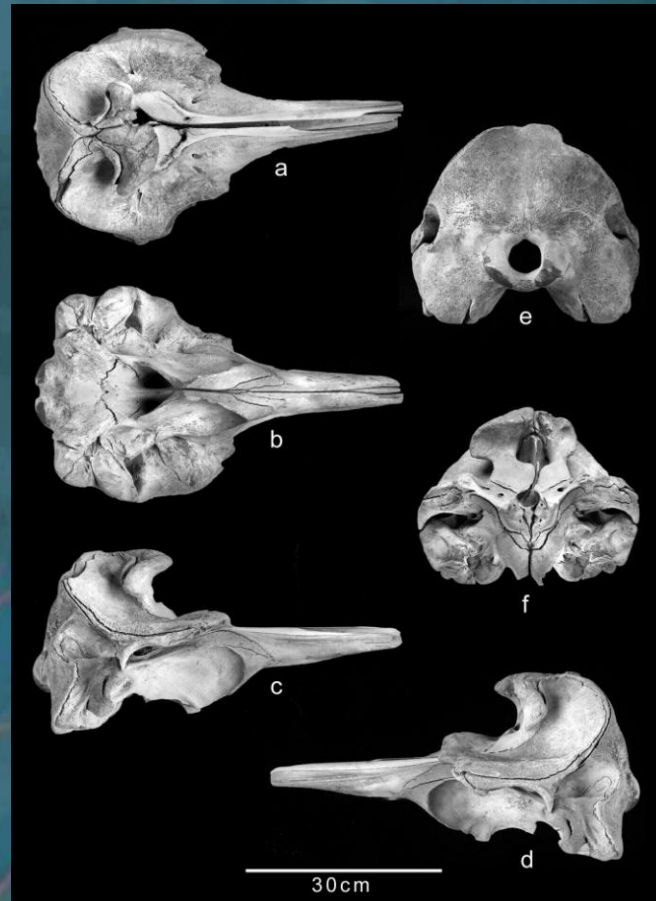
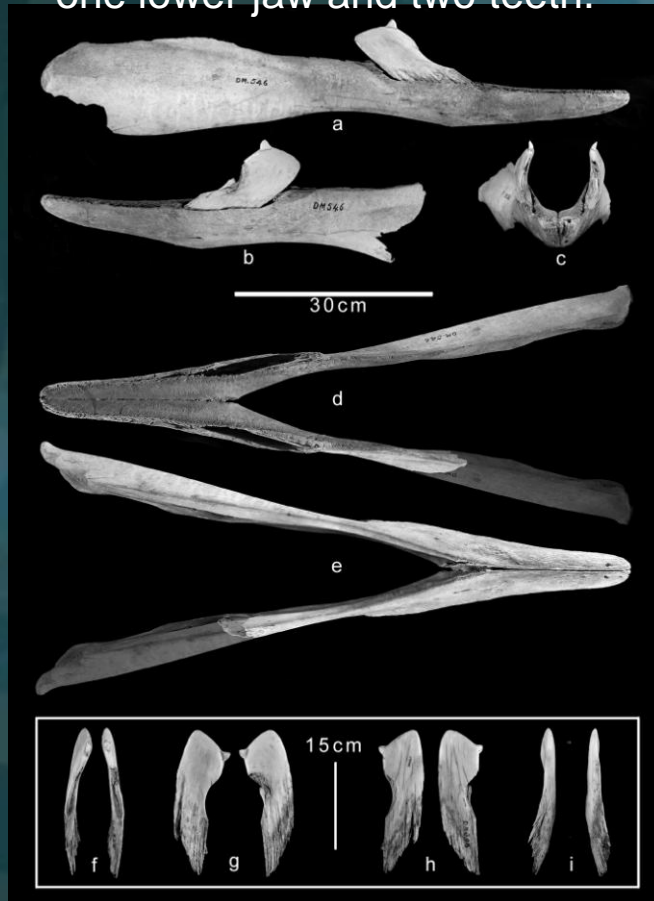
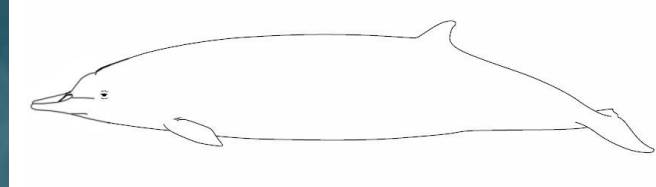
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The classic example!

Spade-toothed whale *Mesoplodon traversii*

Known from just two beach worn skulls, one lower jaw and two teeth.



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Why do whales strand?

Single Strandings

- Biological factors
- Geographical factors
- Anthropogenic factors



Single strandings

Chance of Rescue

- Not usually very good
- “Mistake type” strandings, where animals have been caught by the tide (usually more coastal animals – present a good chance for refloating.
- Inshore species stand more of a chance of survival than off shore (deep water or oceanic) animals
- Dependent on access to rehabilitation and resources.



Why do Whales Strand?

Mass Strandings

- Gregarious/Social species - Odontocetes
- Social cohesion
- Applying an open ocean survival strategy in an inshore environment
- If one animal strands others may follow
- Disorientation and stress in inshore environment



Mass Strandings

Chance of Rescue

- Better than single stranding
- The Majority of animals are likely to be healthy (although there will be cases where this is not true e.g. viral infection)
- Time to recovery is crucial – lying on the beach will injure animals (overheating, organ collapse, sun burn)
- Consider resources, people? Time? People wellbeing as well as whales?
- If not refloating what will you do with the carcasses?



Causes

- Biological factors
- Geographical factors
- Anthropogenic factors

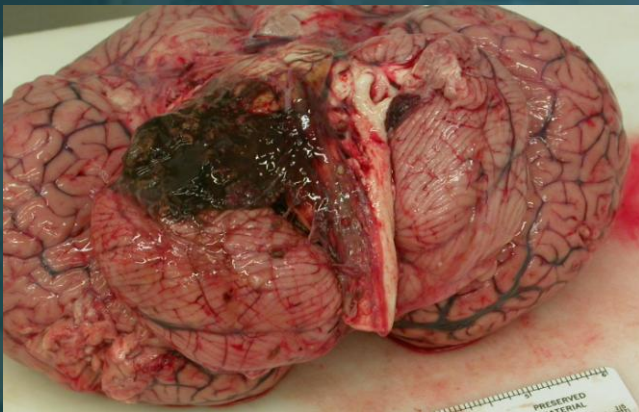


Biological: Parasites

- Even healthy whales will have some level of parasite load.
- Stranded animals may have infestation of parasites or lesions and infections caused



• Monorygmia grimaldii
ex Delphinus delphis peritoneum



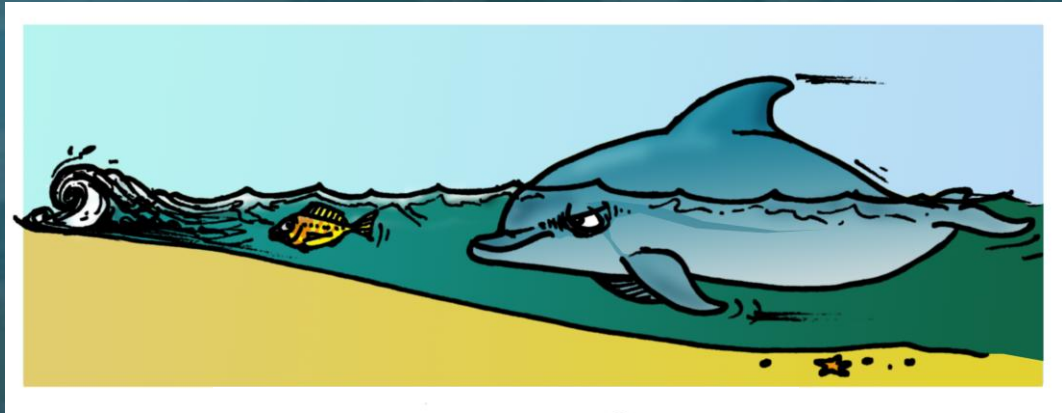
hemorrhagic and necrotic brain tissue resulting from
Nasitrema s. in *Tursiops truncatus*

(Trematoda - flukes)



Biological:

- Bio-toxins
- Following prey
- Predation
- Disease
- Old Age
- Problems with Birth or infants

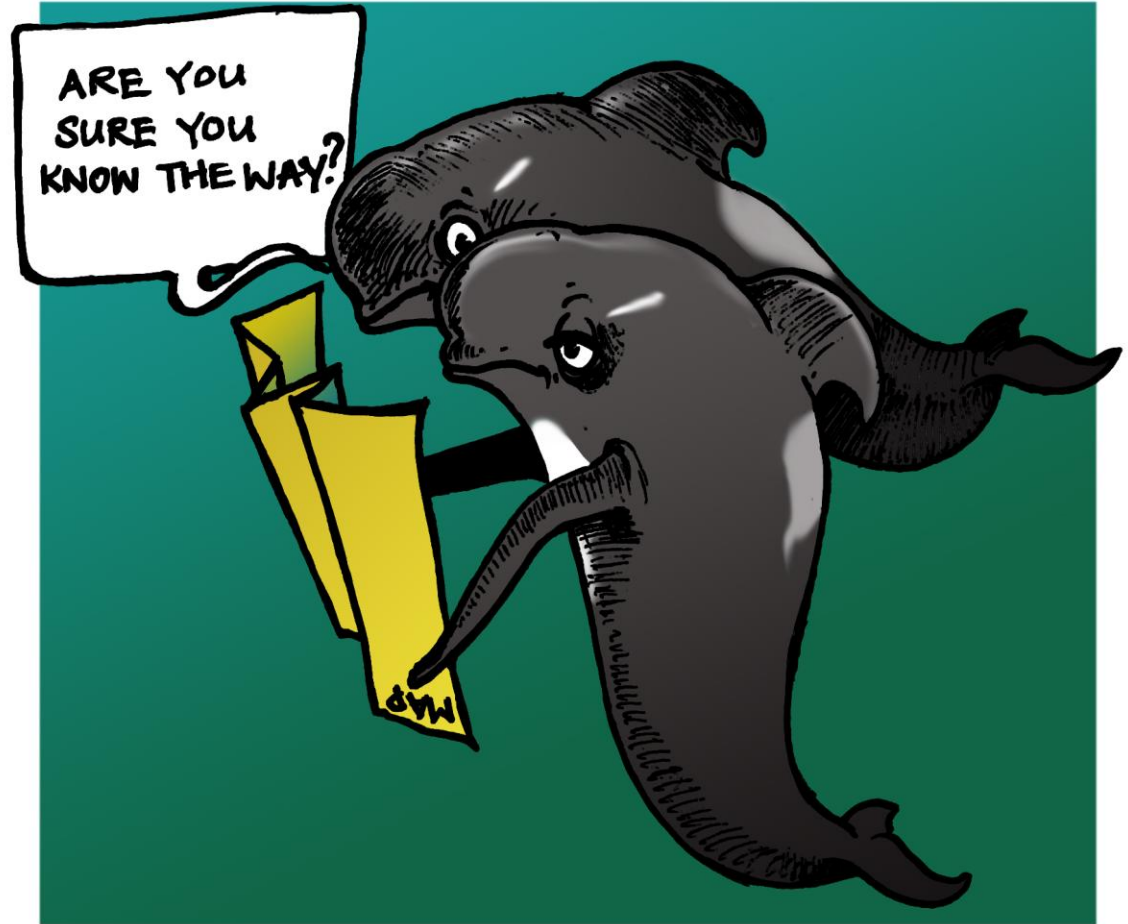


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Geographic al:

- Magnetic Anomalies
- Shallow grade beaches
- Reefs?
- Currents?
- Tides
- Lost??



Anthropogenic agents:



- Pollution and Debris
- Boat Strikes
- Fisheries related mortalities/injuries
- Gun Shots and knife wounds...what else?
- Sonar/Seismic blasting

