

Impacts of visitors on the Australian sea lions hauled out on Carnac Island



Plan of the presentation

- Carnac Island: setting the scene
- Impact of visitors on sea lions
- Potential risks to public safety
- Visitor survey
- Implications for management





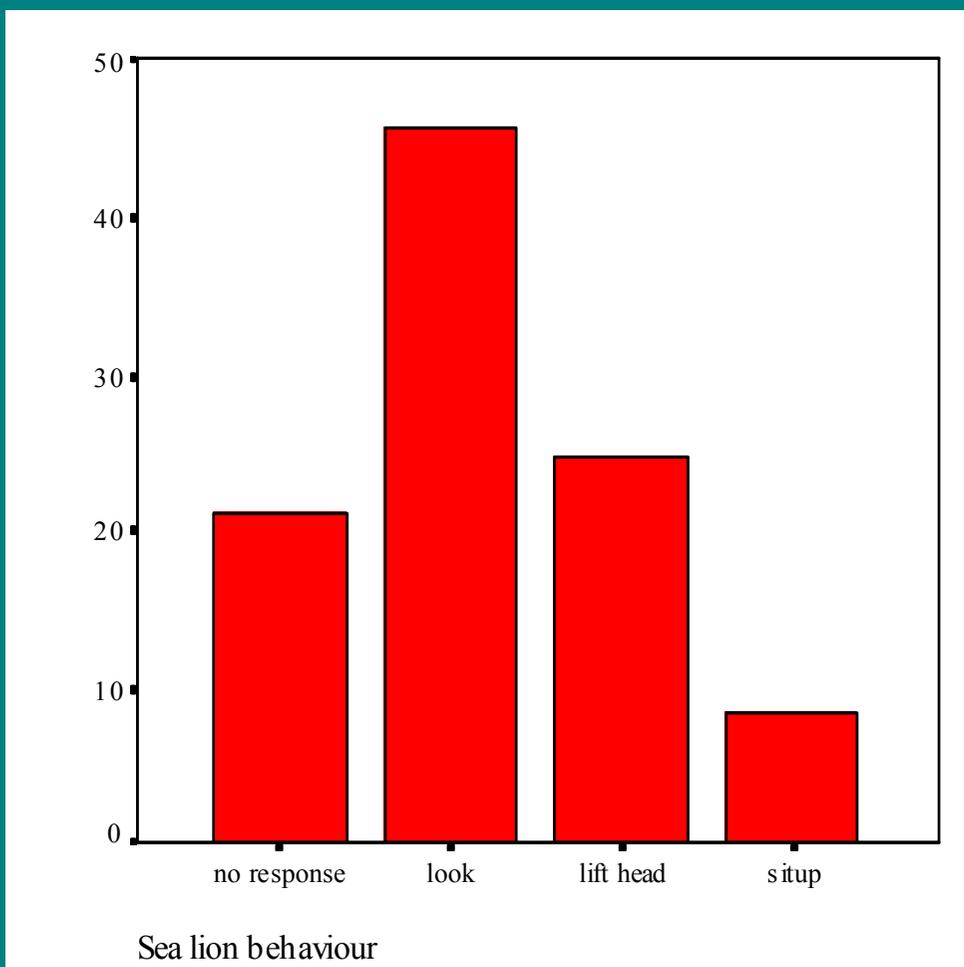
Recreation and tourism on Carnac Island

- Visitors to Carnac:
 - eco-tours (wildlife tourism)
 - charter boats (general tourism)
 - private boats (recreation)



Main types of sea lion responses to human presence

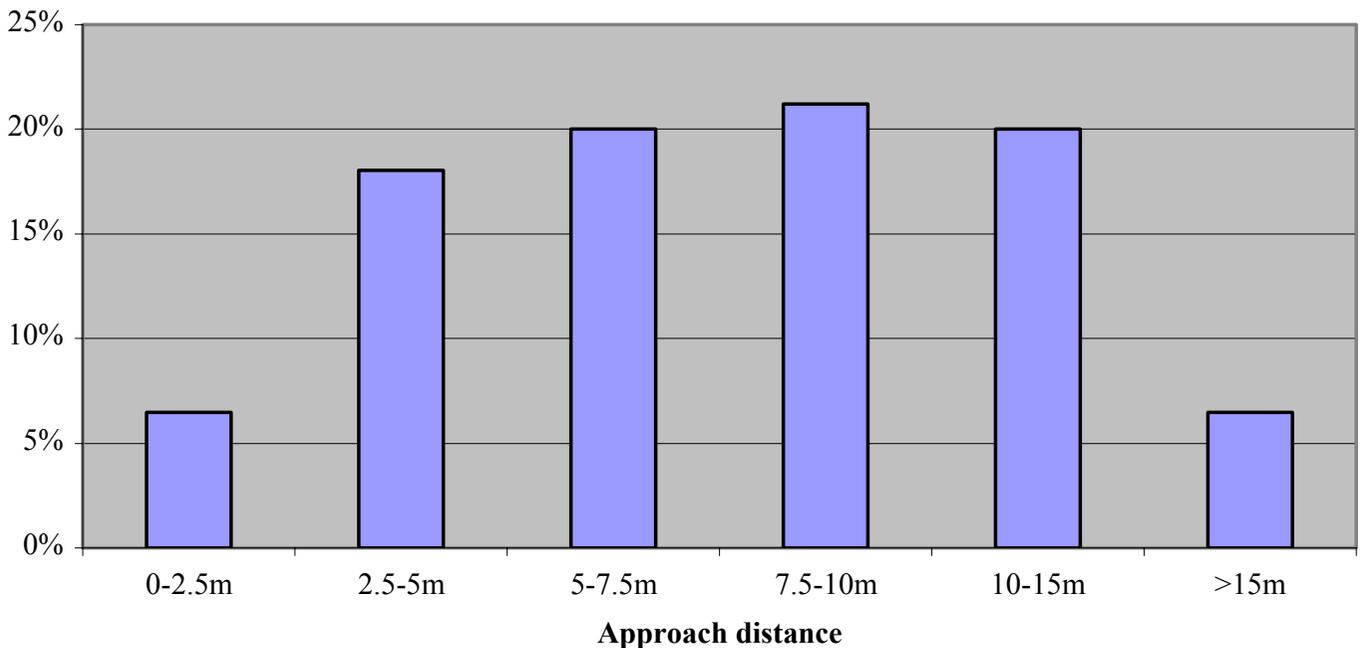
- Response profile: increase in sea lion vigilance due to humans



Sea lion response and approach distance

- Sea lions responded to human presence over the whole range of distances from <2.5m to up to >15m

Sea lion response to human presence - Carnac Island



Observations of direct disturbance

- Some visitors were observed:
 - getting too close
 - 150 observations $<2.5\text{m}$
 - trying to touch sea lions
 - throwing seaweed, sand
 - splashing water
 - playing ball games close
- Noises from boats disturbs sea lions









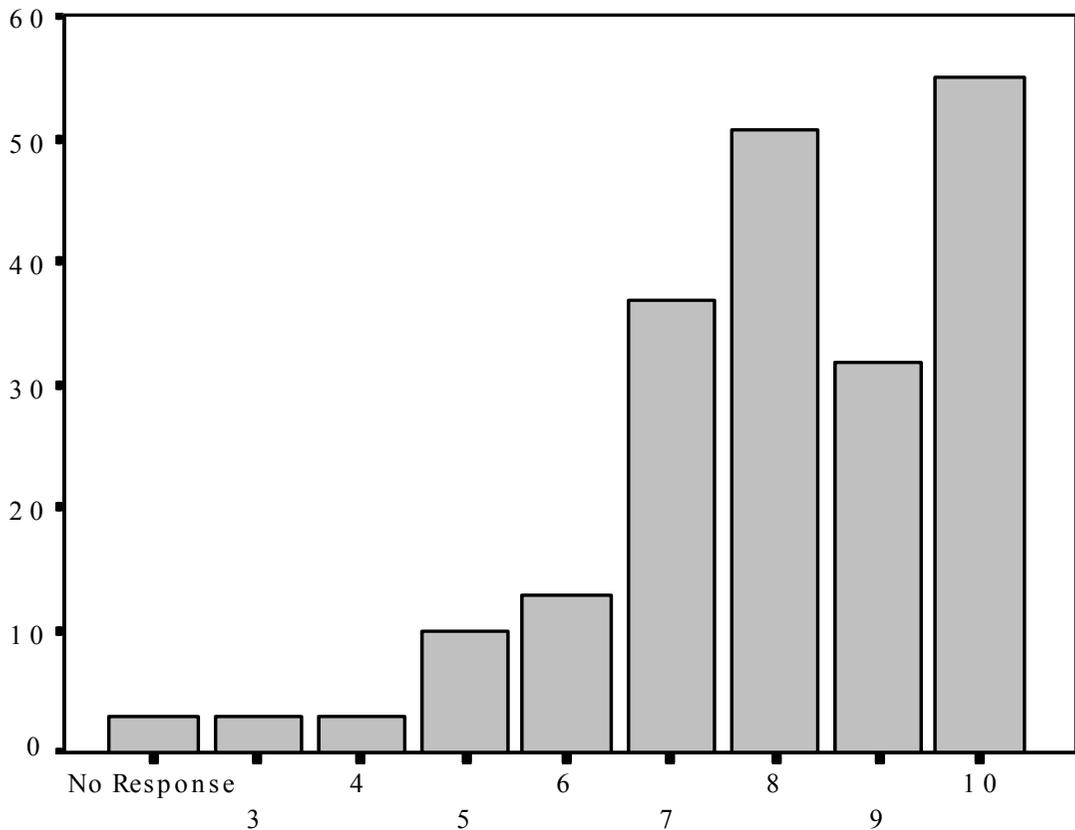
Visitor survey

- 207 visitors took part in survey
- 78% of respondents knew about sea lions before visiting the island



Appreciation of sea lion viewing experience

- Visitors' enjoyment high:
 - average 8 out of 10



Enjoyment viewing sea lions (1 -Low to 10 -High)

Visitors' perceptions of sea lion disturbance

- Q: During your visit, did you have a feel that a sea lion may have been disrupted by:
 - Your presence 10%
 - Other people's presence 19%
 - Not disrupted 75%
- Q: While you were on Carnac Island, did you see anything that you think may adversely affect the sea lions?
 - Yes 80%

Visitors' perceptions of the risk posed by sea lions

- 90% of respondents were aware that sea lions can bite,
however
- 70% of respondents believed that approaching sea lions at $<5\text{m}$ is safe
and
- 40% of respondents were not aware that a sea lion can outrun a person on the beach



Respondents' comments and suggestions

- 80% of respondents favoured a voluntary ranger on the beach (vs 20% for a CALM ranger)
- 60% would like to see an information display on the beach
- 20% don't want any change
- Little support for guided tours (9%)



Implications for Carnac Island management

- GOAL: reduce the impact of visitors on sea lions
 - Set aside the northern part of the beach for sea lions
 - On high visitation days, restrict the number of visitors accessing the beach
 - Consider setting a limit for the number of visitors per year
 - Require all tour and charter boat operators to have a trained guide

Interpretation, education, awareness

- Develop:
 - A sea lion interpretation program (to enhance visitor experience)
 - A visitor education program (to increase awareness of sea lions)
- Monitor change in:
 - visitor attitudes and expectations
 - the frequency of incidental disturbances on sea lions















