

IUCN World Conservation Congress Barcelona 2008

Workshop 252

Whales and fisheries interactions:

Are the great whales a threat to
fisheries ?

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“Whales eat from 300 to 450 million tonnes of fish each year ... while 800 million humans are undernourished ... and the annual catch from the sea by humans is only 85 million tonnes. ”

Fisheries and Agriculture Minister of Japan, Tsutomu Takebe (Press release, 17 June 2006)

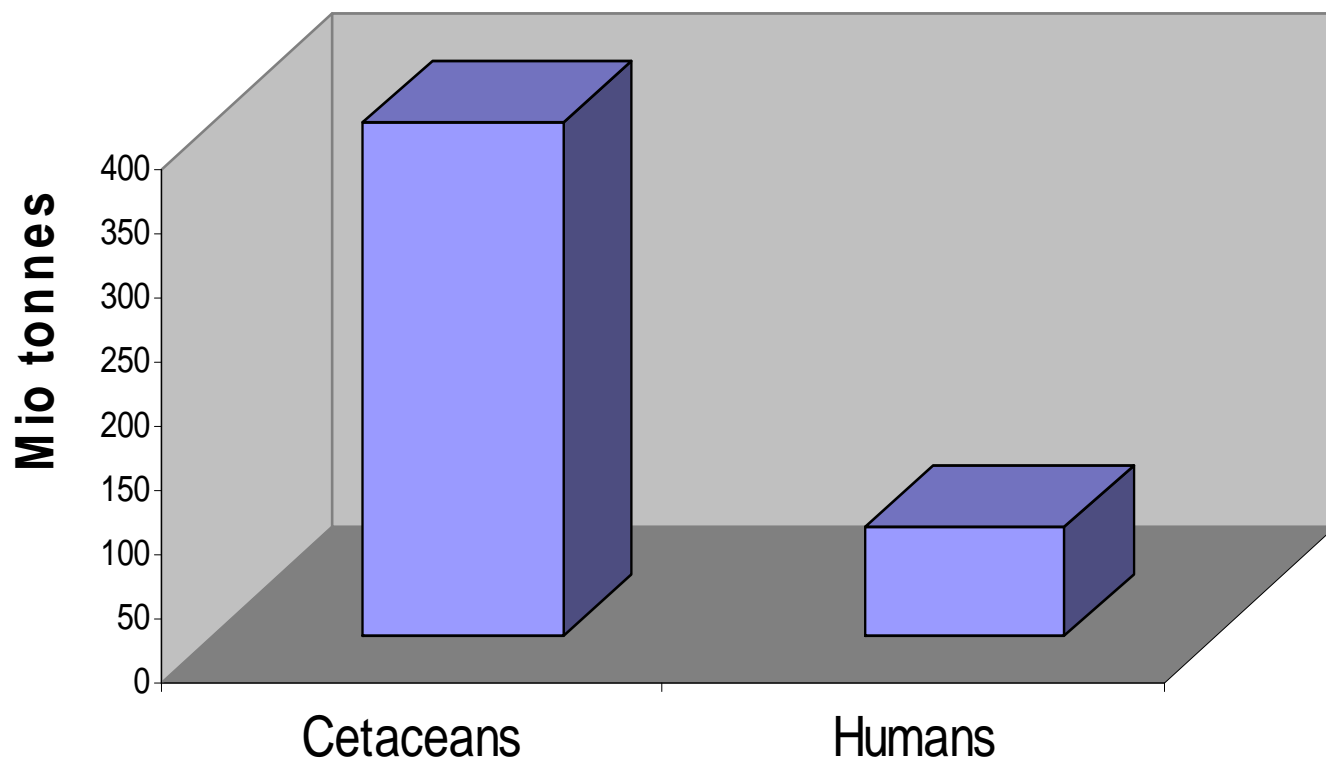
“ACCEPTING that scientific research has shown that whales consume huge quantities of fish making the issue a matter of food security for coastal nations and requiring that the issue of management of whale stocks must be considered in a broader context of ecosystem management since eco-system management has now become an international standard. ”

International Whaling Commission (Resolution 2006-1 adopted by majority vote at the 58th Annual Meeting, June 2006)

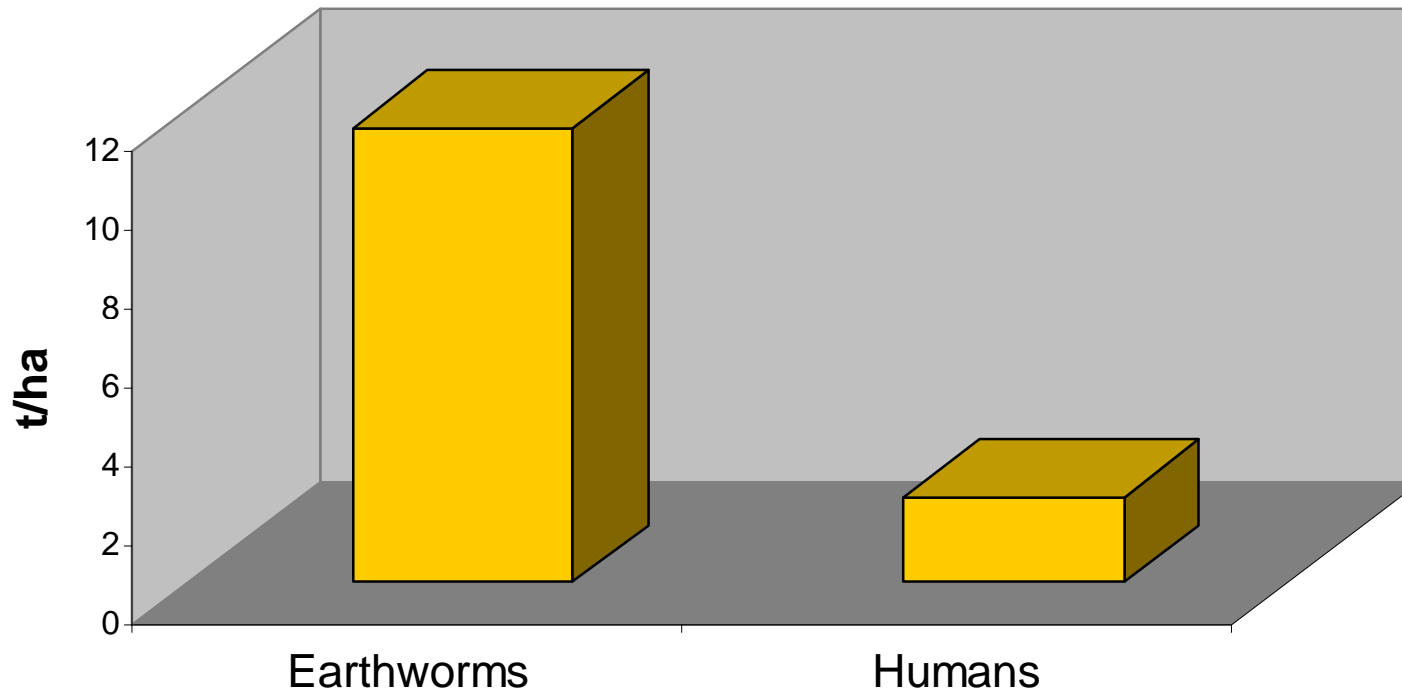
Potential whale-fishery interactions

- Operational: e.g. killer whales taking fish from long-line hooks
- Operational: whales get entangled and killed in fishing nets
- Local: whales and fishing vessels target same fish aggregations
- Large-scale, direct: whales feed on same fish stocks as fisheries
- Ecological: whale feed on species that interact with commercial fish species

Annual catch/consumption of marine resources (Tamura and Ohsumi 2001)

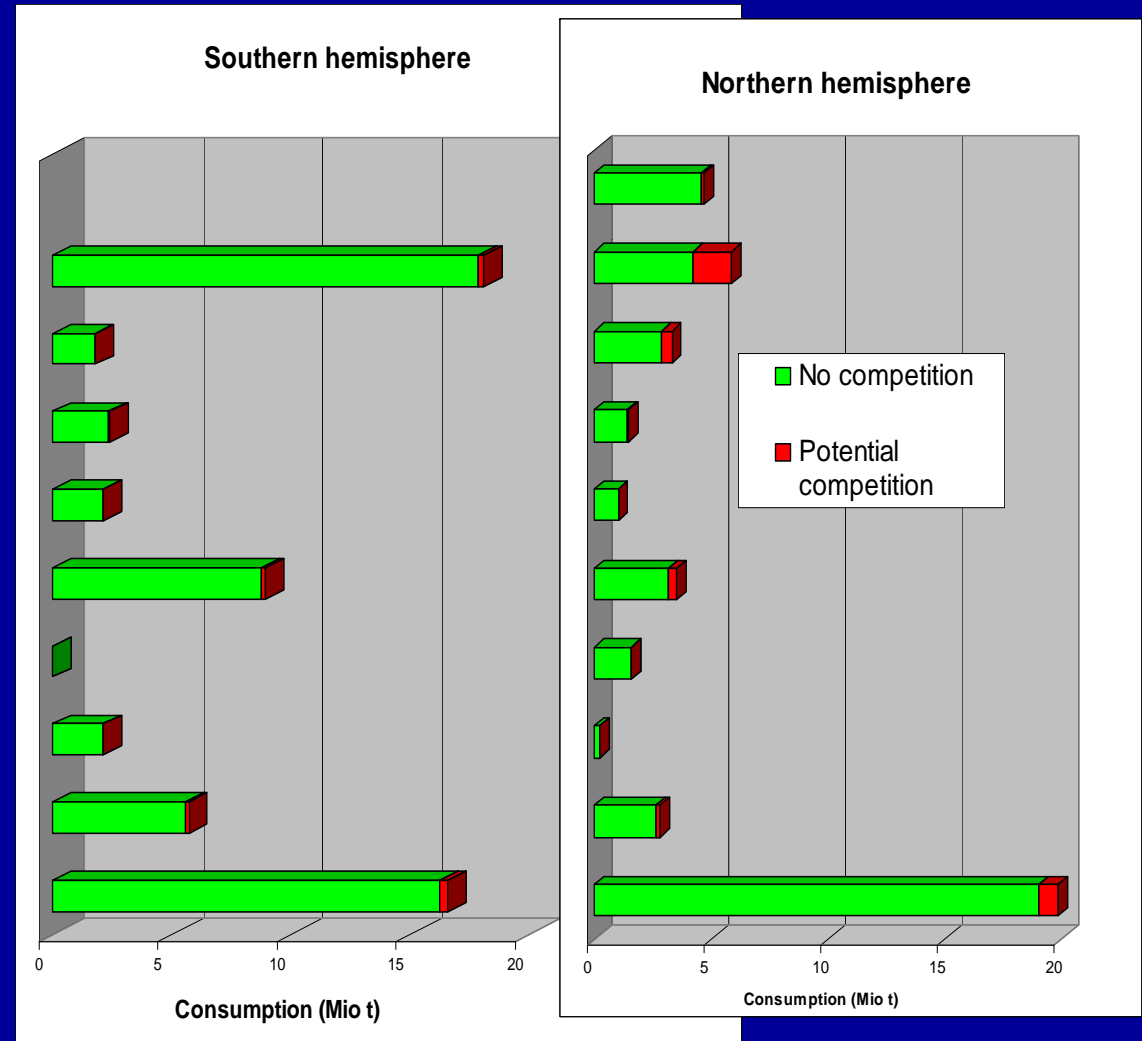


Average annual biomass consumption/yield in temperate agricultural systems

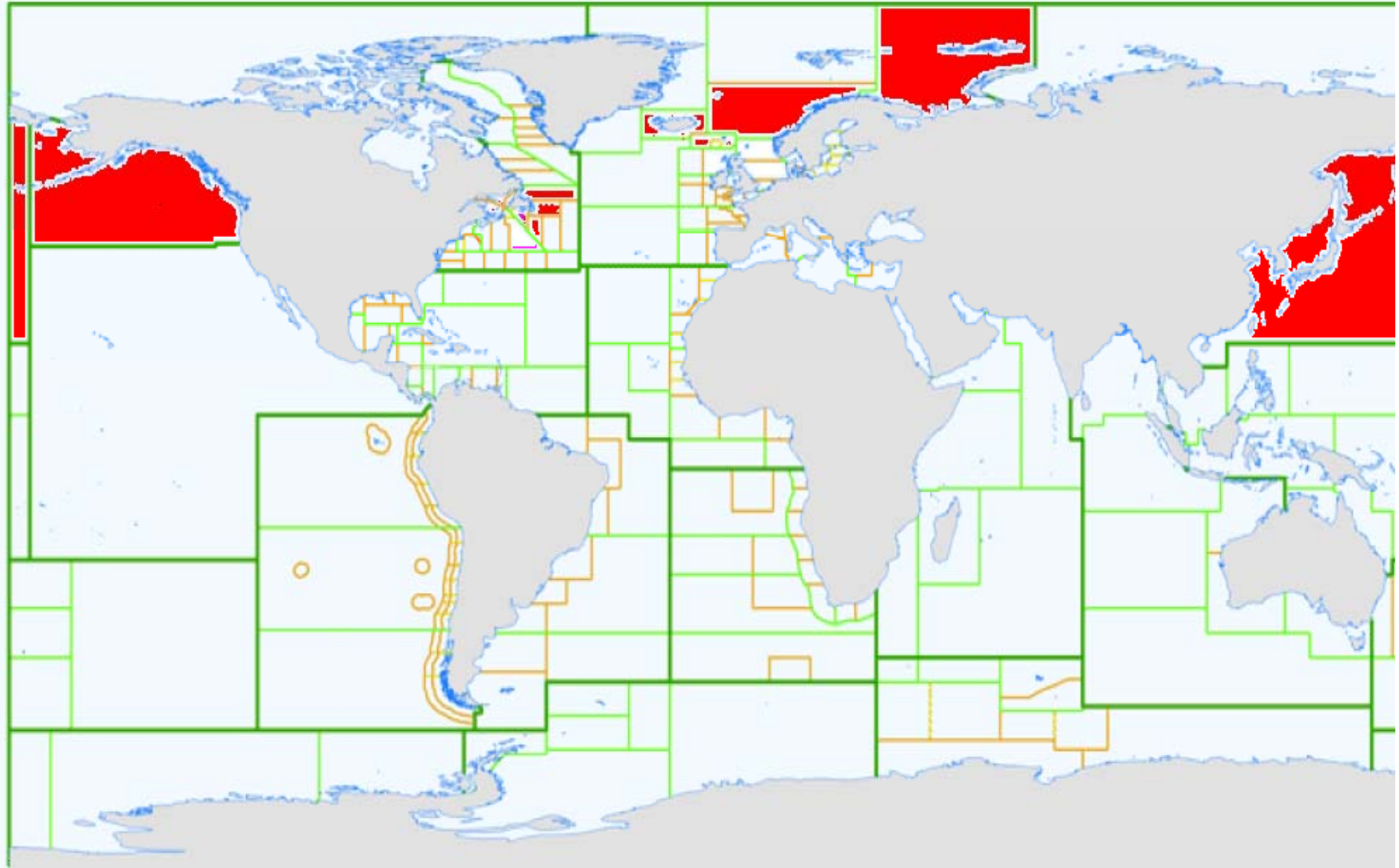


Food consumption by whale species: overlap with fisheries

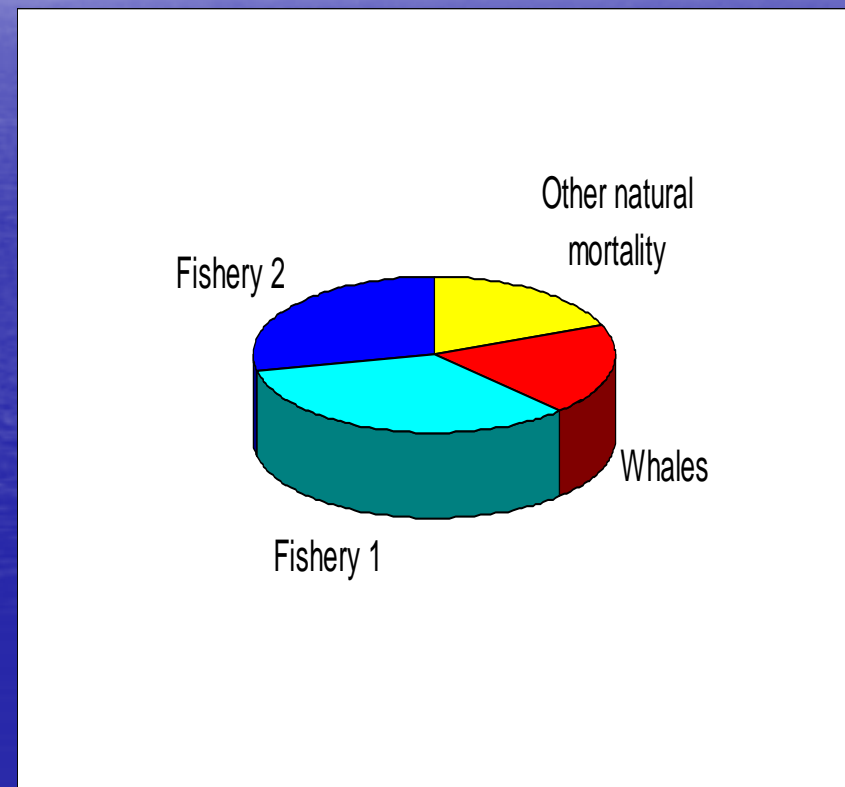
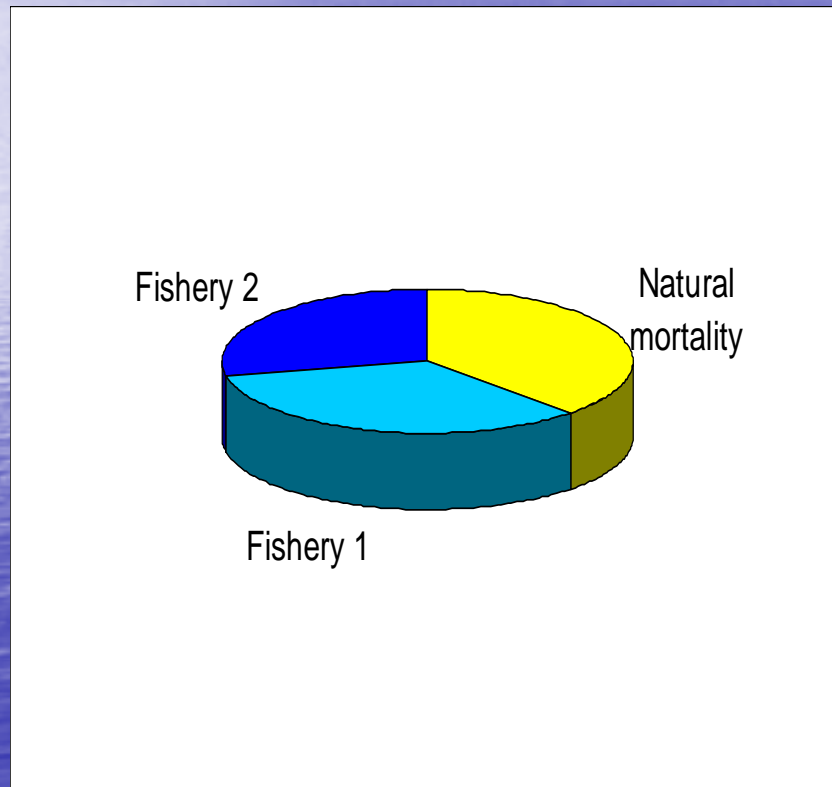
Species	Status
Bowhead	LC
Minke	LC/DD
Sei	EN
Bryde's	DD
Blue	EN
Fin	EN
Gray	LC
Right	LC/EN/EN
Humpback	LC
Sperm	VU



FAO Statistical Areas for Fishery Purposes



Allocation of catch/mortality for a fish stock: „cake model“



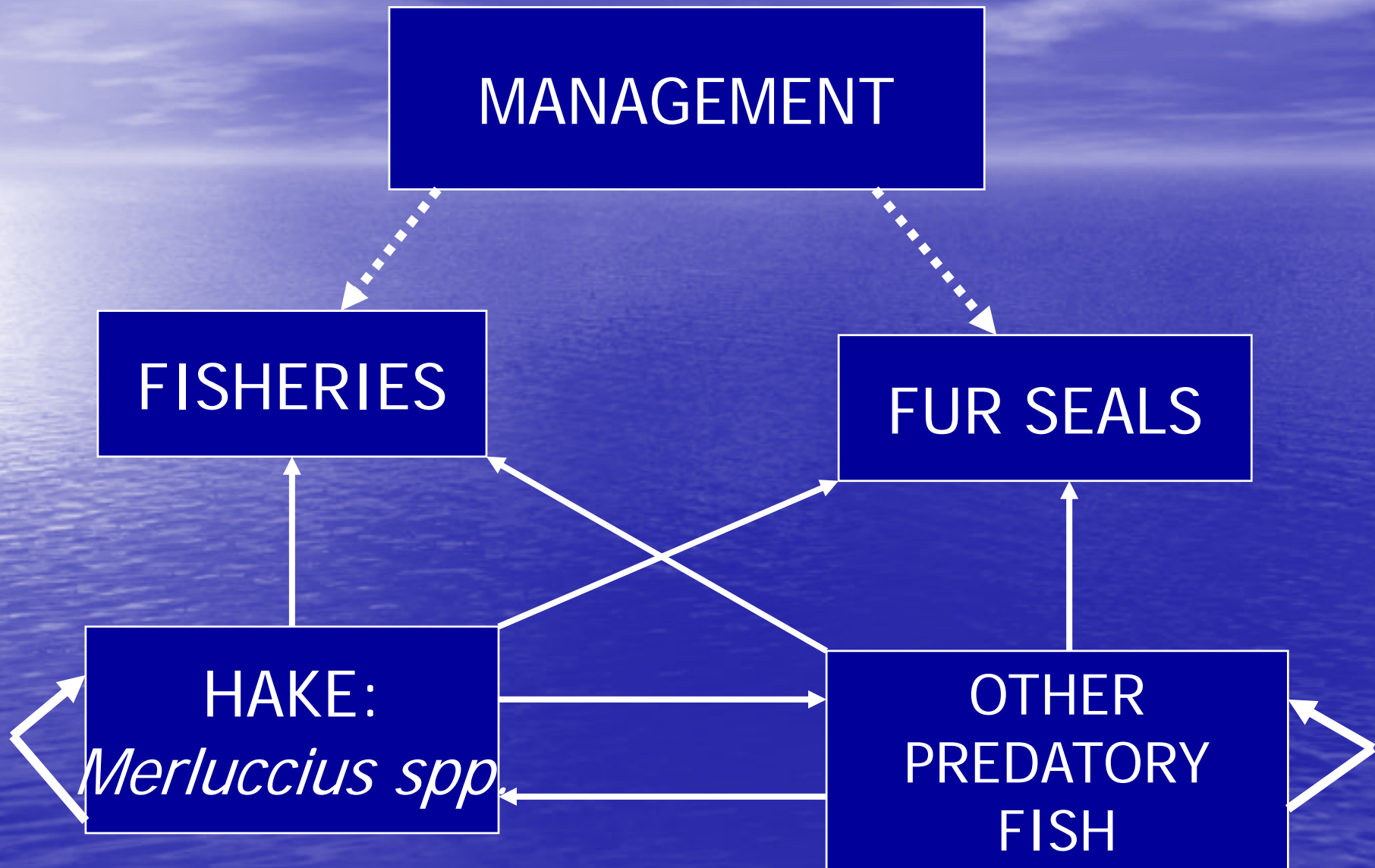
How different are whales and fisheries ?

	Whales vs. fisheries	Different fisheries
Consume a different mix of prey	✓	✓
Focus on different areas and seasons	✓	✓
Target different area/size classes of fish	✓	✓
Consumption only known approximately	✓	✓
Management options differ	✓	✓

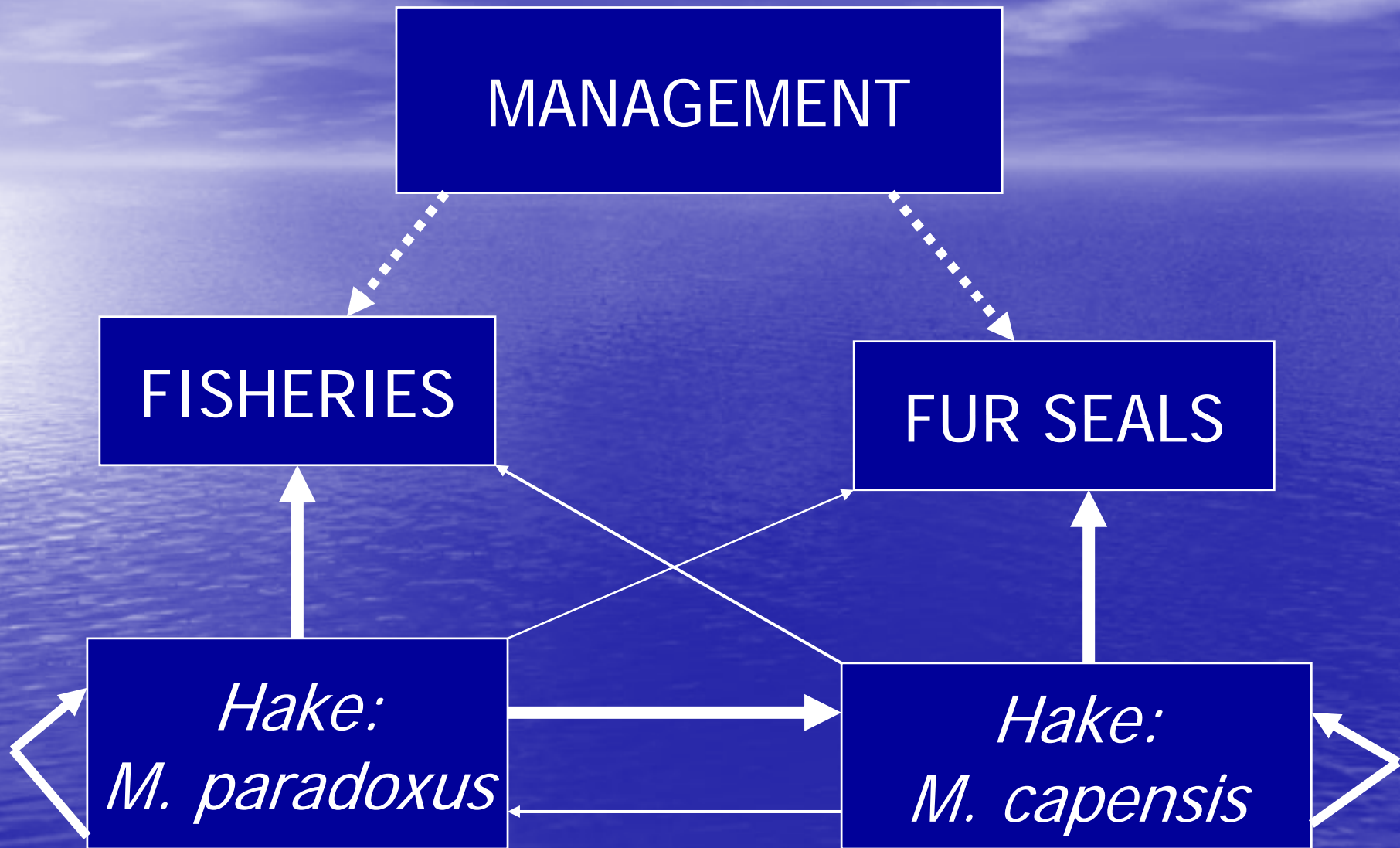
Protocol for evaluation of culling proposals. UNEP MMAP 1995.

- What are the main fisheries ?
- What are the species of overlap ?
- What else do the whales eat ?
- What else eats the species of overlap ?
(account for 80% of total mortality)
- How are the fisheries managed
- Simulation modelling of fisheries with/without culling

Cape fur seals and hake fishery, S. Africa



Cape hake and fur seals, rev. 1



Source: Punt and Butterworth (1995)

Summary:

Ecological competition between humans and whales

- Not an issue on a world level
- Nowhere a “threat” to fisheries
- May be an “opportunity” in some areas for some fisheries
- Each case requires specific analysis
- „Action“ to be taken, if any, also depends on political, economic and ethical factors
- No need for polemics

**EU members : fishery production
vs. net revenue from fisheries (2005)**

