





NAMMCO?

- IGO, RFB
- Parties: FO, GL, IS, NO all Arctic countries
- Study, conservation and management of marine mammals
- All cetaceans and pinnipeds species
- Area: North Atlantic
- Advisory mandate



Sustainability – Responsibility – Transparency



NAMMCO?

- Parties recognise
 - ✓ the rights, needs and duties of coastal communities
- Parties have committed to the
 - ✓ Effective Conservation of MM
 - ✓ Sustainable and responsible utilisation of MM
 - ✓ Management decisions based on best available scientific advice and local knowledge
 - ✓ Ecosystem-based approach





Harvest responsible in an ecosystem/blue perspective

Known: Human side - high societal footprint "Improve well being and social equity"

Wanted: Environment side - lowest ecological footprint

- Low impact on the environment
- Lowest relative impact



Marine Mammals: Situation by 2000

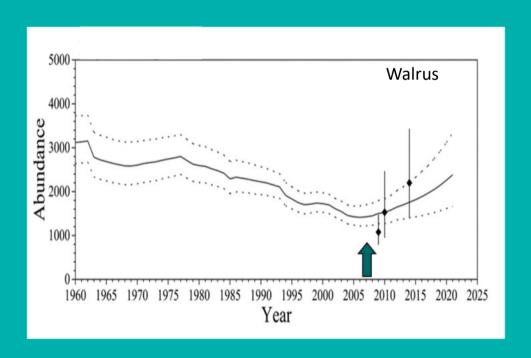
Many (most) MM stocks heavily depleted because of overexploitation from commercial whaling & sealing

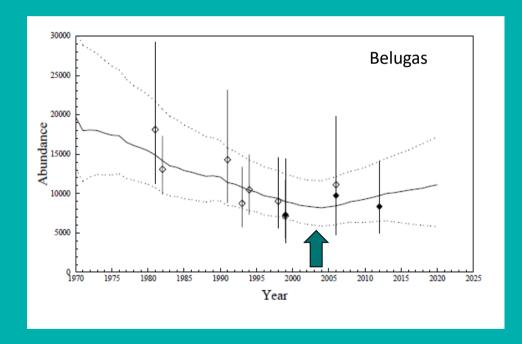
- > Decrease in abundance, down to 10% & some extinctions
- > Restriction in geographic range
- > Many stocks still decreasing





Systematic stock assessments & advice on quotas





Good management: harvest & recovery ©



SEALS: abundant

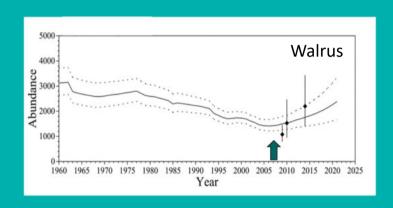
⊅ → Trend

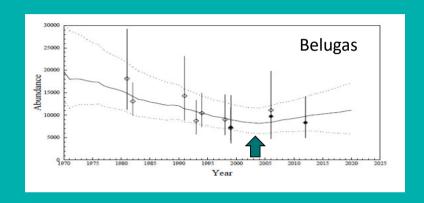
∠ Trend

?? Trend

Species	Stocks	Abundance	Trend	Catch	Annual Catch NAMMCO
Harp seal	Greenland Sea (West Ice)	650,000	7	DCQ & DC	< 18,000
	Northwest Atlantic	7,445,000	→	DCQ & DC	CA+GL < 170,000
Ringed seal	NE Can, Baffin Bay, WGL	~ 1,300,000	?	DC	CA+GL < 150,000
	Greenland Sea	?? > 30,000	?	DC	< 9,000
Hooded seal	Greenland Sea (West Ice)	80,000	И	P	(SC ~ 25)
	Northwest Atlantic	592,000	7	DC	< 2,000
Bearded seal	Canadian waters, WGL	?? ~ 250,000	?	DC	~ 1,000
	East Greenland	??	?	DC	< 250
Walrus	E High Arctic-W Greenland	> 5000	71	DCQ	< 150
	East Greenland	1,500	→	DCQ	< 10
Grey Seal	Greenland	??, new 2009	?	Р	0
Harbour seal	Greenland	?? < 500	?	Р	0







► Hunting: "Easy threat"

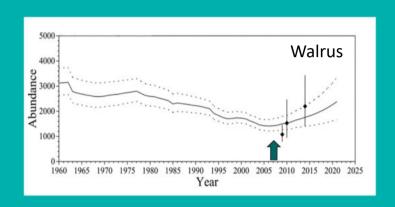
(i) Quantifiable

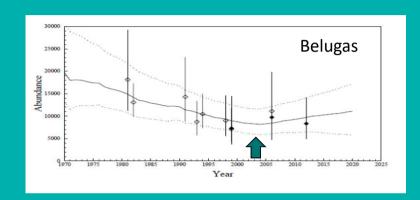
- Abundance (surveys)
- Catch reporting
- Regular assessments (biological parameters, population modelling, etc.)

(ii) Can be acted upon

Quotas / TAC







Achievable

- Through sound SC and TK- based management,
- Regular assessments & monitoring
- Tuning of management measures dynamic process
- Precautionary approach

Status

Success stories and more to do



Sustainable Populations through sustainable harvest

But:

The top predator MM niche is not isolated

The quality and status of lower trophic levels impact MM



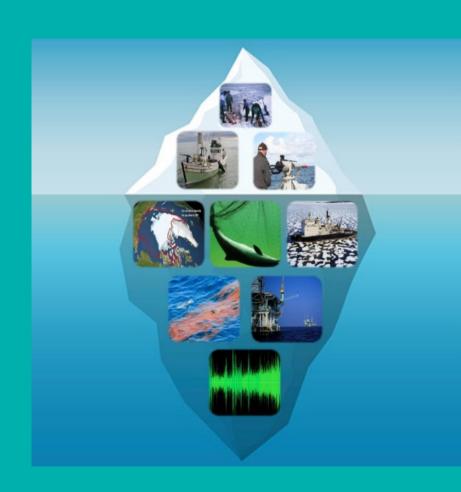


Sustainable Populations through sustainable harvest

But:

The top predator MM niche is not isolated

- The quality and status of lower trophic levels impact MM
- MM are impacted by other human activities than hunting





Ecosystem approach

Hunting

Climate Change

- Sea Ice (habitat loss / and opening of pristine habitat)
- Competition: new/invasive species
- Predator pressure
- Disease
- Ecosystem changes

Are the effects quantifiable?

How difficult is mitigation?

Which level is acceptable?

Fishing

- By-catch
- Habitat disruption & destruction
- Competition

Disturbance

Increased human activities

 (noise, habitat disruption & destruction)

Pollution

- Oil spills
- Contaminants
- Plastics
- Direct & indirect impacts

Shipping

- Ship strikes
- Habitat disruption & destruction





... Challenges

- Identifying all human impacts
- Qualifying & quantifying the impacts as best as possible
- Assessing cumulative impacts





... Challenges

Integrating findings into management advices

- What will our advice to managers look like?
 - Not only quota but options/trade offs between MM ecosystem services, so managers can make qualified choice
 - # e.g., who to allocate the sustainable takes to ?????
 - Hunting / local communities?
 - Fishing / By-catch?
 - Shipping / ship strikes?





Conciliating sustainable harvest and conservation And / Or Sustainable harvest sustains conservation

Compared to alternative (imported) resources, sustainable harvest supports conservation

- locally, decrease ecological cost of utilised resources
- globally, as reducing (delocalised) environmental costs



Conciliating sustainable harvest and conservation

Ecological footprint - LOW, lower than any alternatives

- ✓ Local raw material [no transport]
- Low Carbon footprint [no transport cost, no delocalised cost]
- ✓ Absent or limited collateral environmental costs
- ✓ High resource efficiency & little waste if use of skins supported

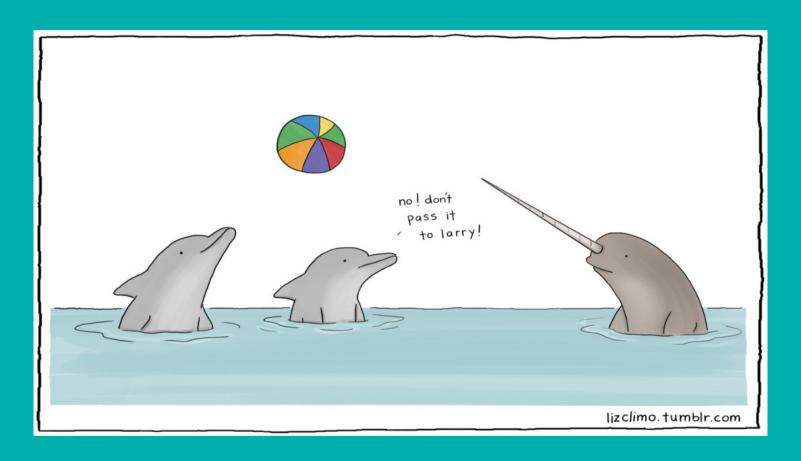


Sustainable local harvest: a resource in balance with the environment

Ecologically responsible --- an ecological ideal? ;-)



Thank you!



Southern species moving north – changing the game...