The science of 30x30 ocean protection

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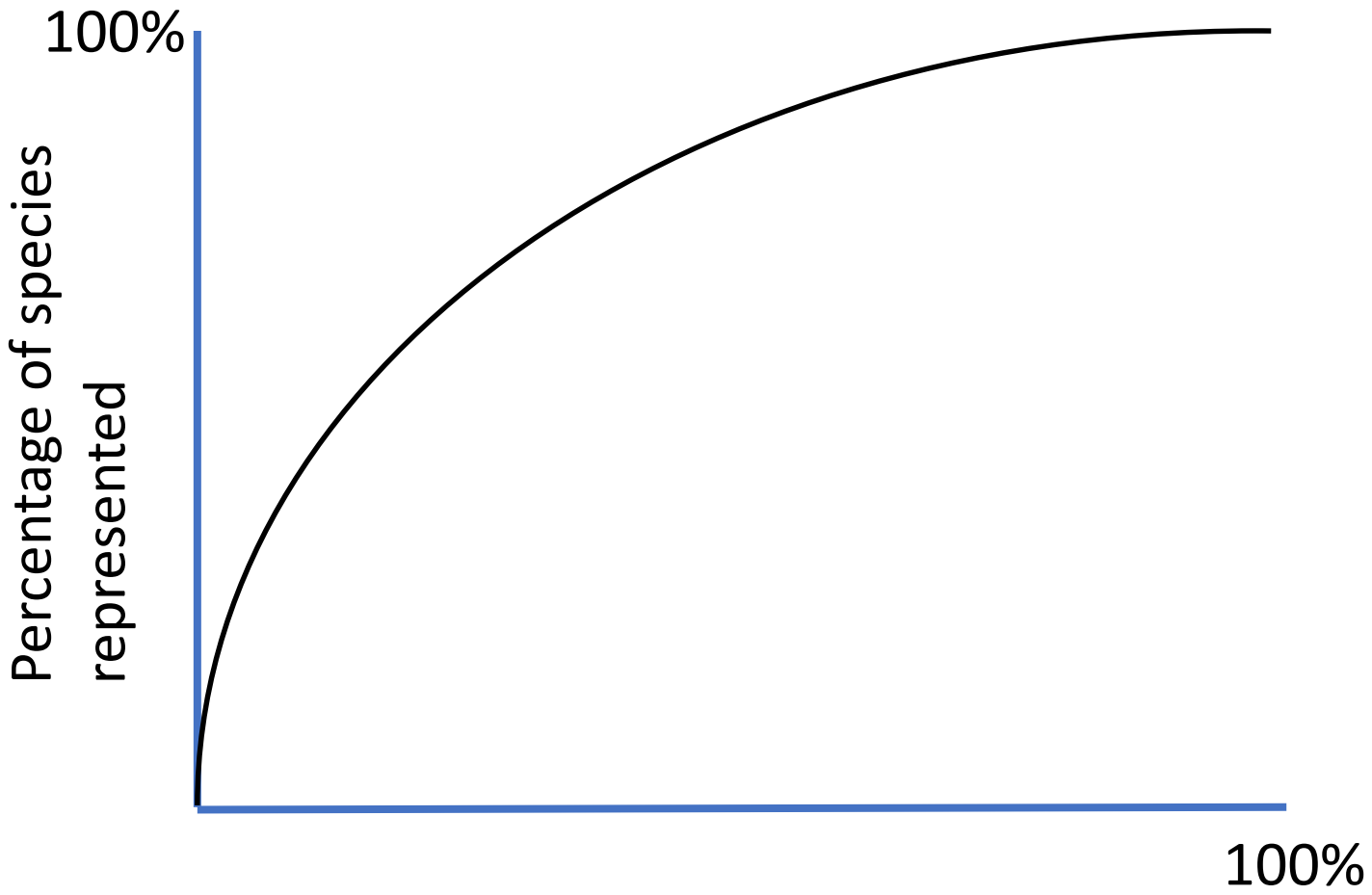
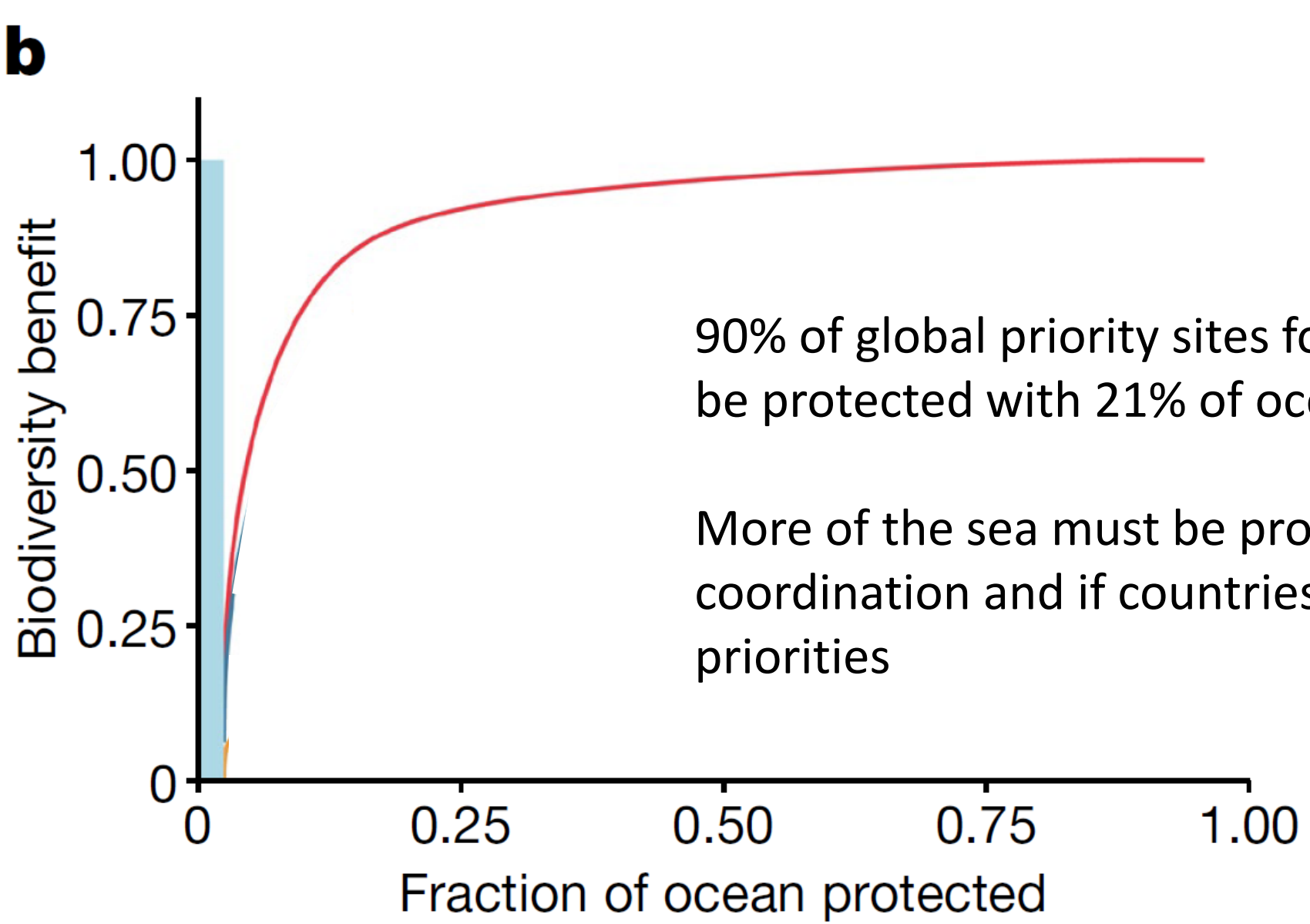
Why 30% ocean protection is necessary
Why a high level of protection is critically important
Photo: Alex Mustard

Biodiversity representation and protection of threatened and declining species

Photo: David Liitschwager

The species-area relationship





90% of global priority sites for biodiversity can be protected with 21% of ocean in MPAs

More of the sea must be protected with less coordination and if countries follow national priorities

Sala et al. (2021) Protecting the global ocean for biodiversity, food and climate. Nature

Fisheries values of MPAs

- Promote spawning-stock build-up, especially of big, old animals
- Increase reproductive output and export eggs and larvae
- Produce spillover to surrounding fishing grounds
- Protect nursery habitats
- Provide safe-havens for reproduction
- Increase feeding opportunities for mobile target and non-target species
- Provide refuges for vulnerable species and habitats

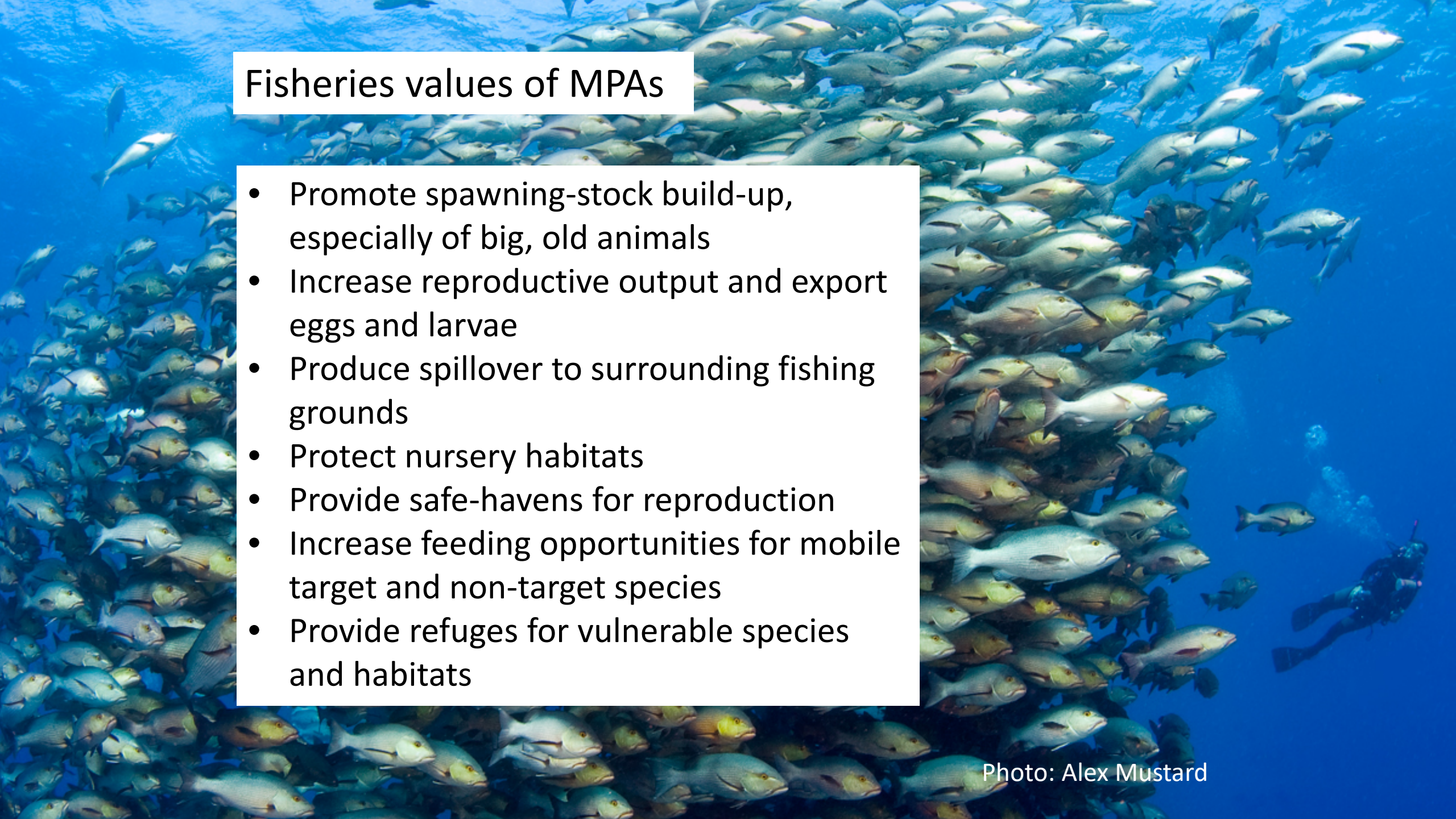
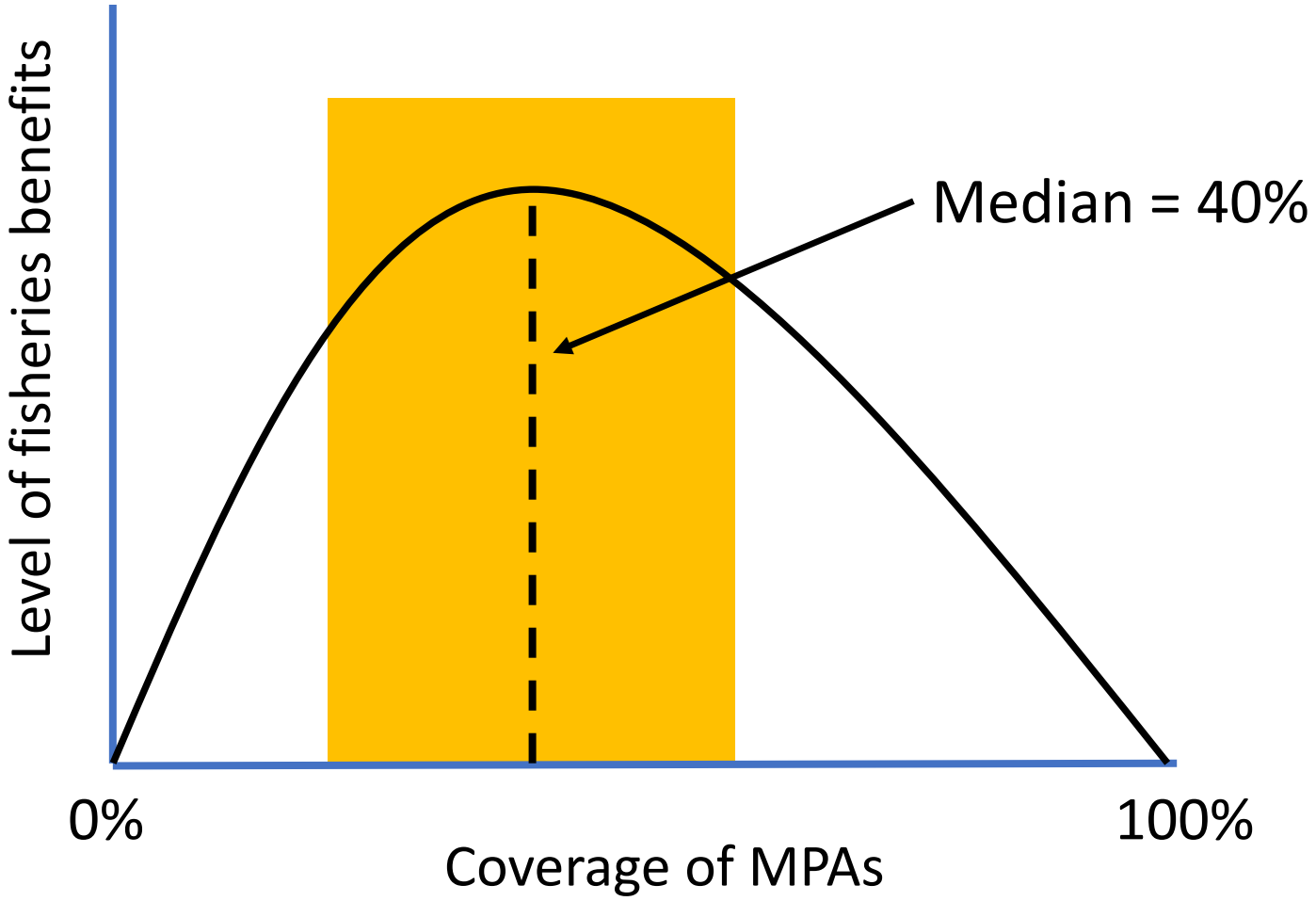


Photo: Alex Mustard

Fisheries benefits from MPAs



O'Leary, Hawkins, Roberts et al. (2016) **Effective coverage targets for ocean protection** *Conservation Letters* DOI: 10.1111/conl.12247

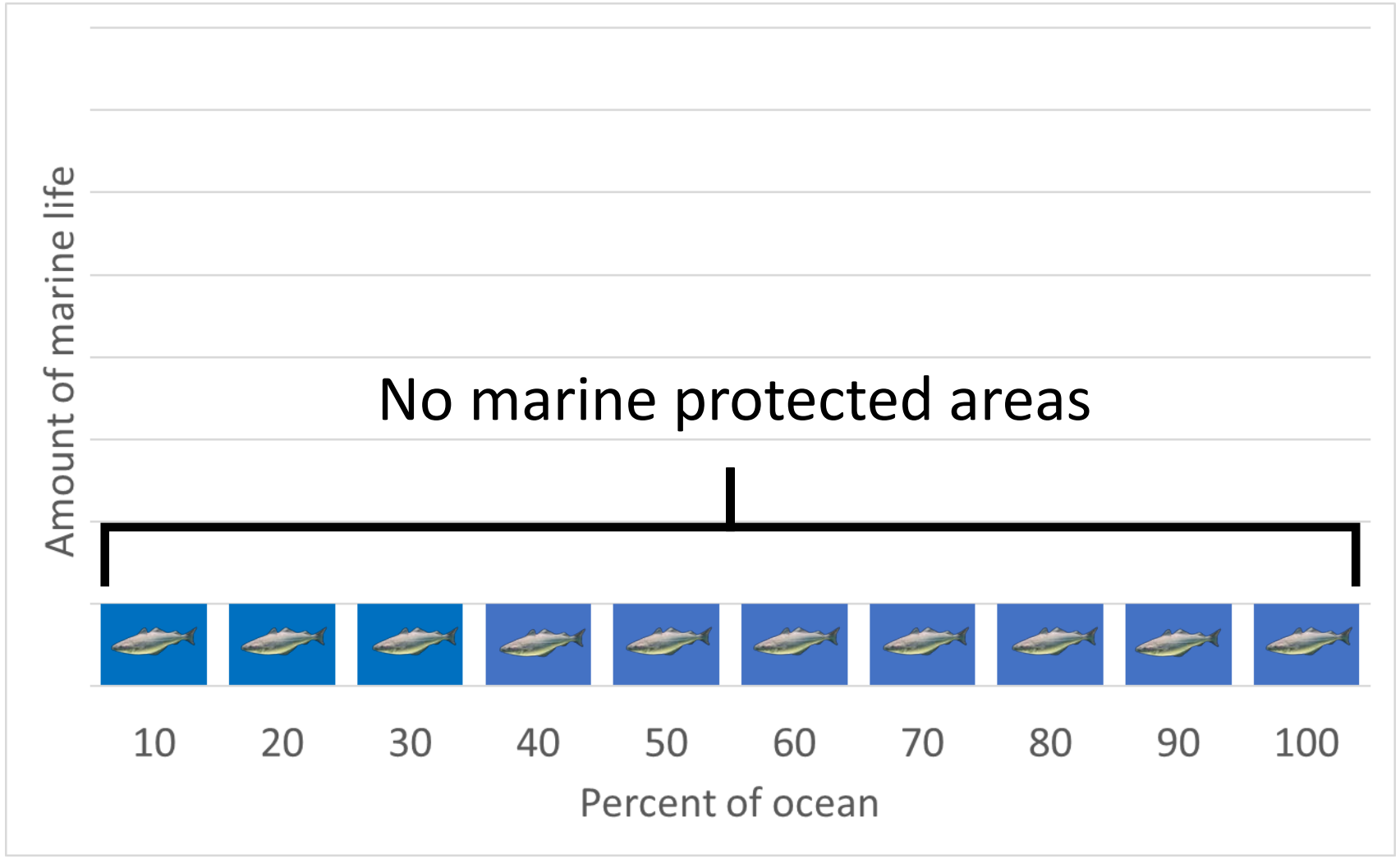
Two faces of the same coin

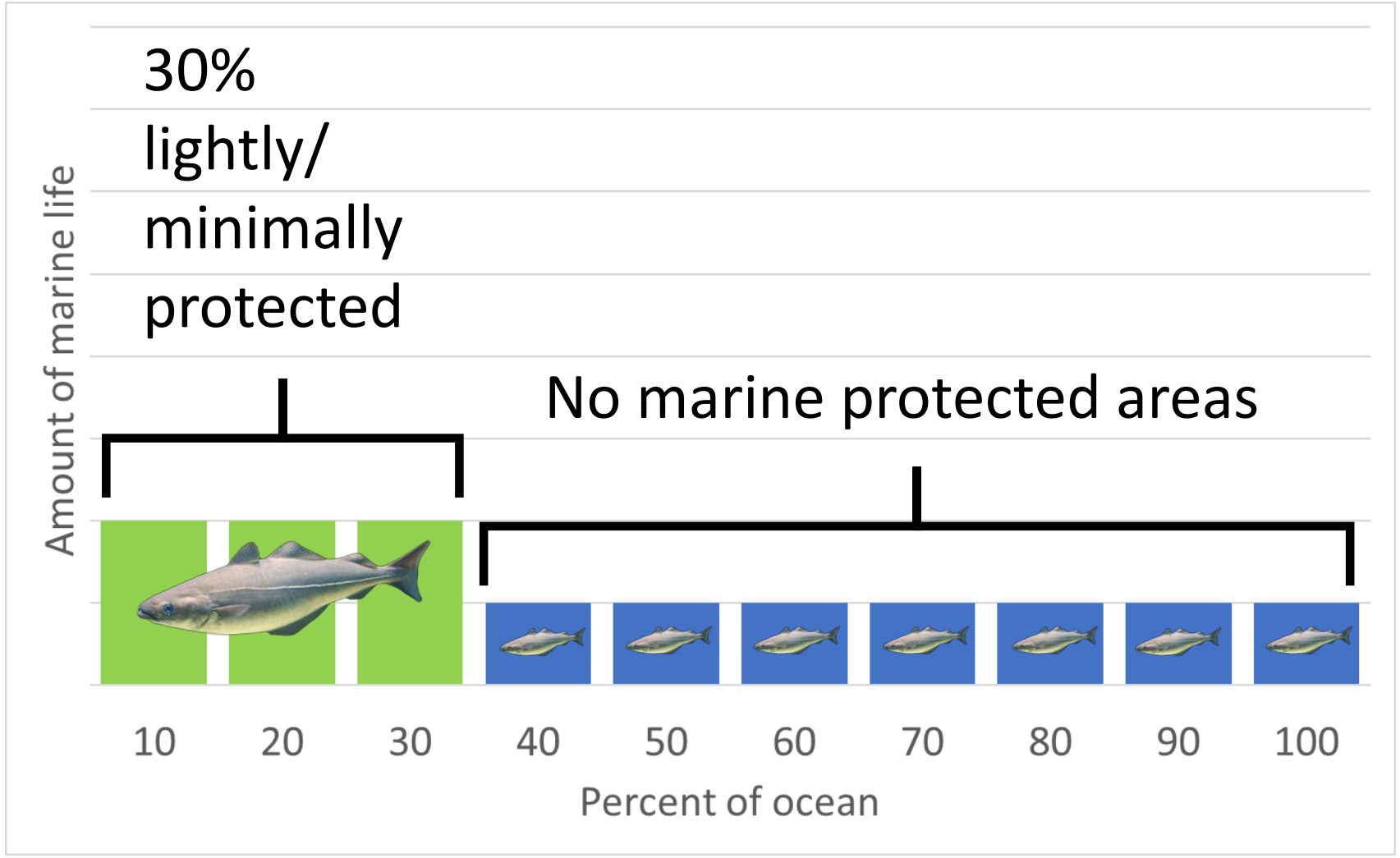
Photo: Alex Mustard

Fully/highly protected MPAs are the gold standard for effective ocean conservation

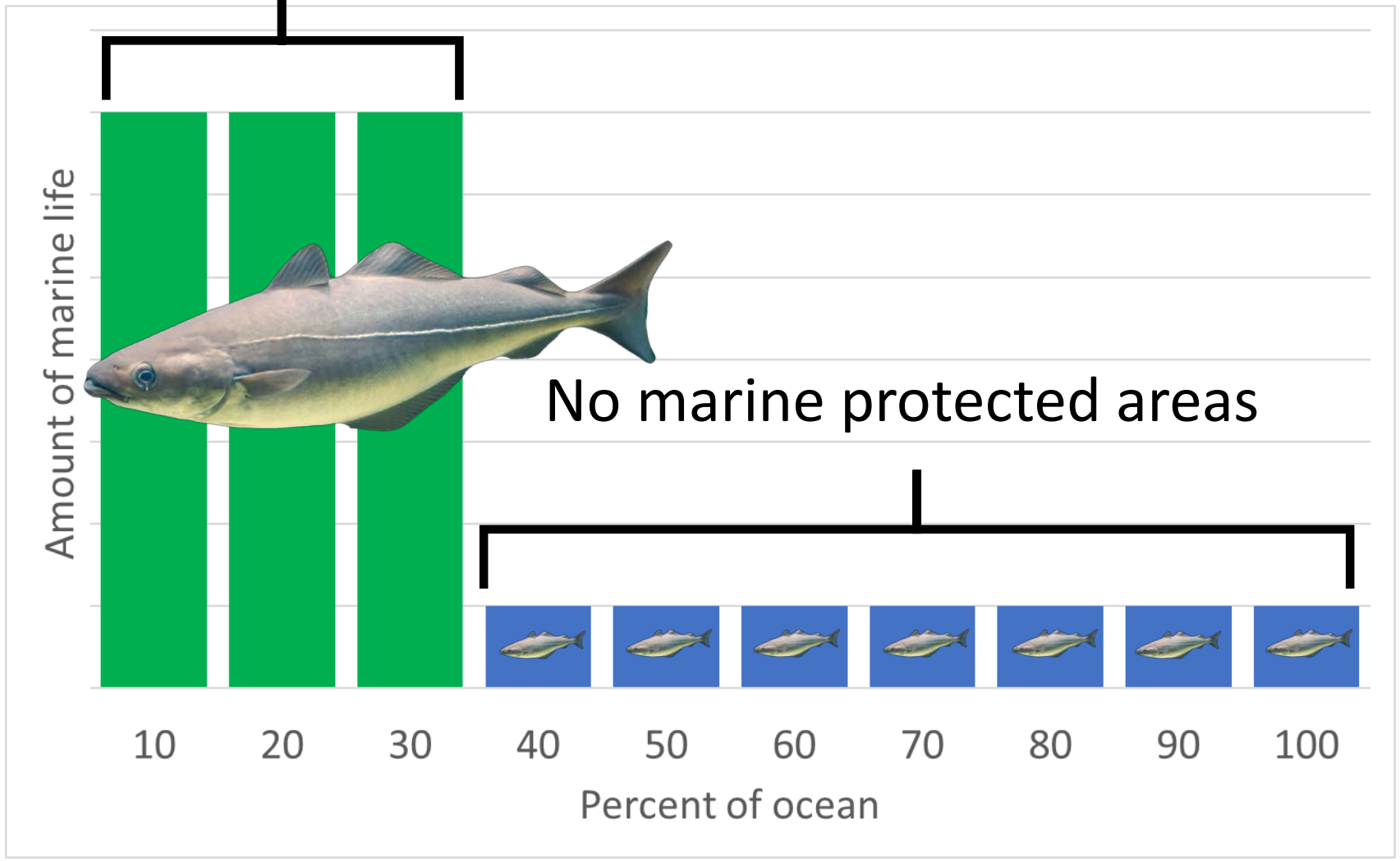
Fully/highly protected MPAs had 7x more fish than unprotected areas, while lightly protected areas only doubled biomass

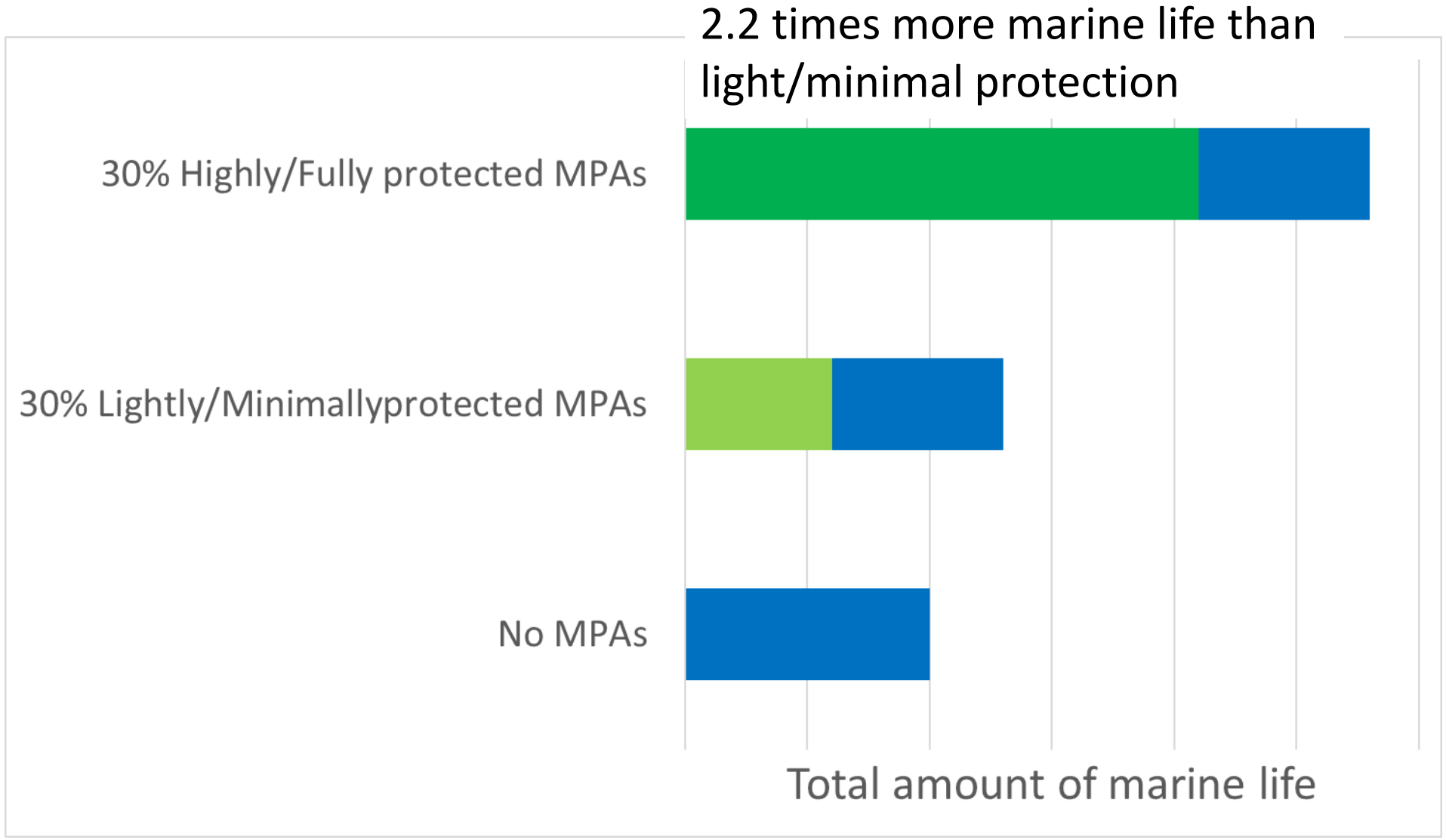
Sala and Giakoumi (2017) ICES J. Mar. Sci.


Amount of marine life
No marine protected areas
10
20
30
40
50
60
70
80
90
100
Percent of ocean

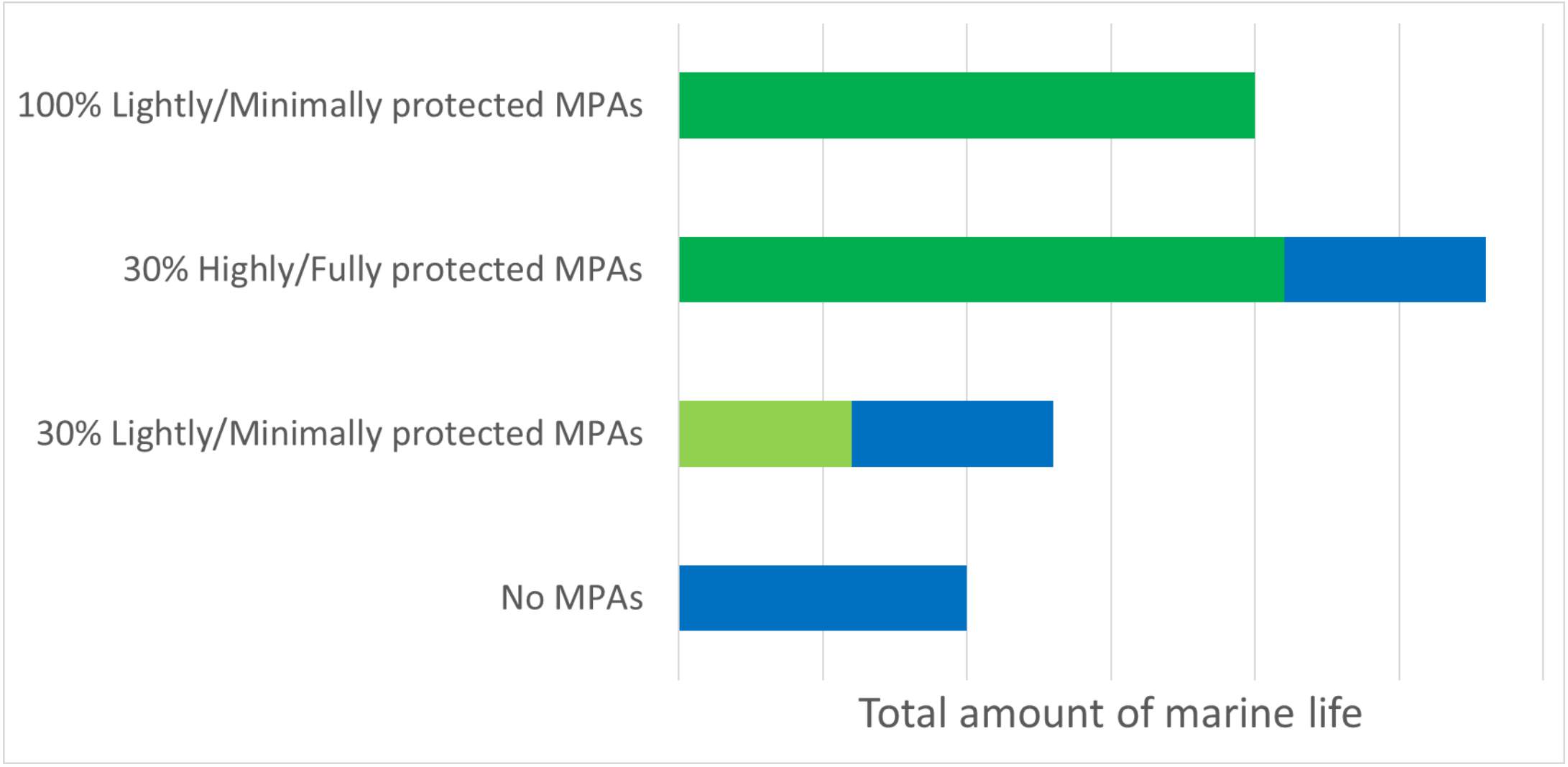

30%
lightly/
minimally
protected
No marine protected areas
Amount of marine life
10
20
30
40
50
60
70
80
90
100
Percent of ocean

30% fully/highly protected




2.2 times more marine life than light/minimal protection
30% Highly/Fully protected MPAs
30% Lightly/Minimallyprotected MPAs
No MPAs
Total amount of marine life

Giving all of the sea light/minimal protection would not provide as much benefit as 30% highly/fully protected



Fully and highly protected MPAs encourage many uses


All MPAs need good management and community support to succeed
Luciano Candisani/ iLCP