

The science of 30x30 ocean protection

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A vibrant underwater photograph of a coral reef. The foreground is filled with diverse coral structures, including large, rounded, yellowish-brown corals and smaller, more intricate purple and green ones. Several colorful fish are visible, including a prominent purple and yellow striped fish in the center-right, and other smaller fish in various colors like blue, yellow, and black. The background shows a deep blue ocean with sunlight filtering through the water, creating a dappled light effect on the coral.

Why 30% ocean protection is necessary

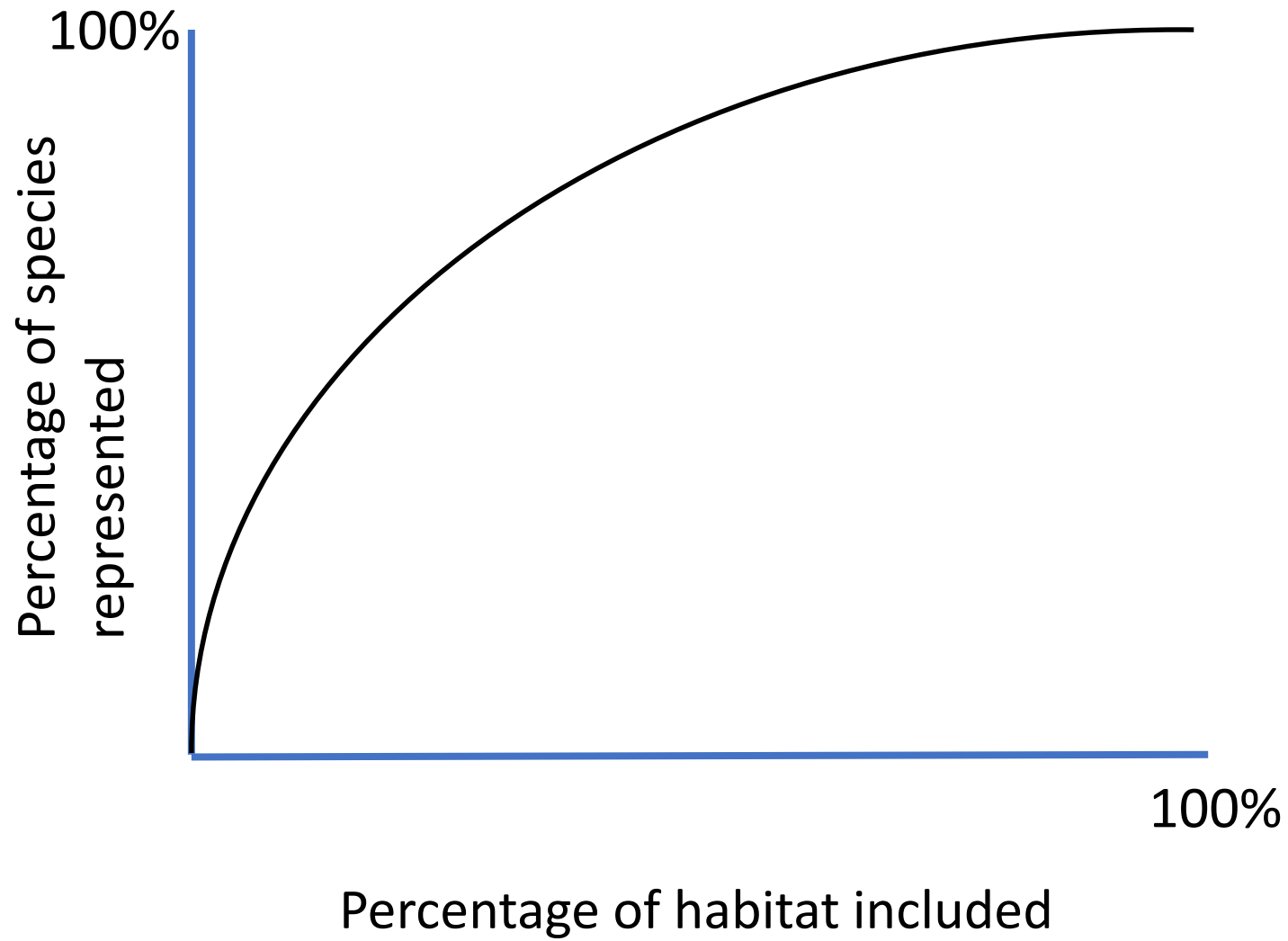
Why a high level of protection is critically important



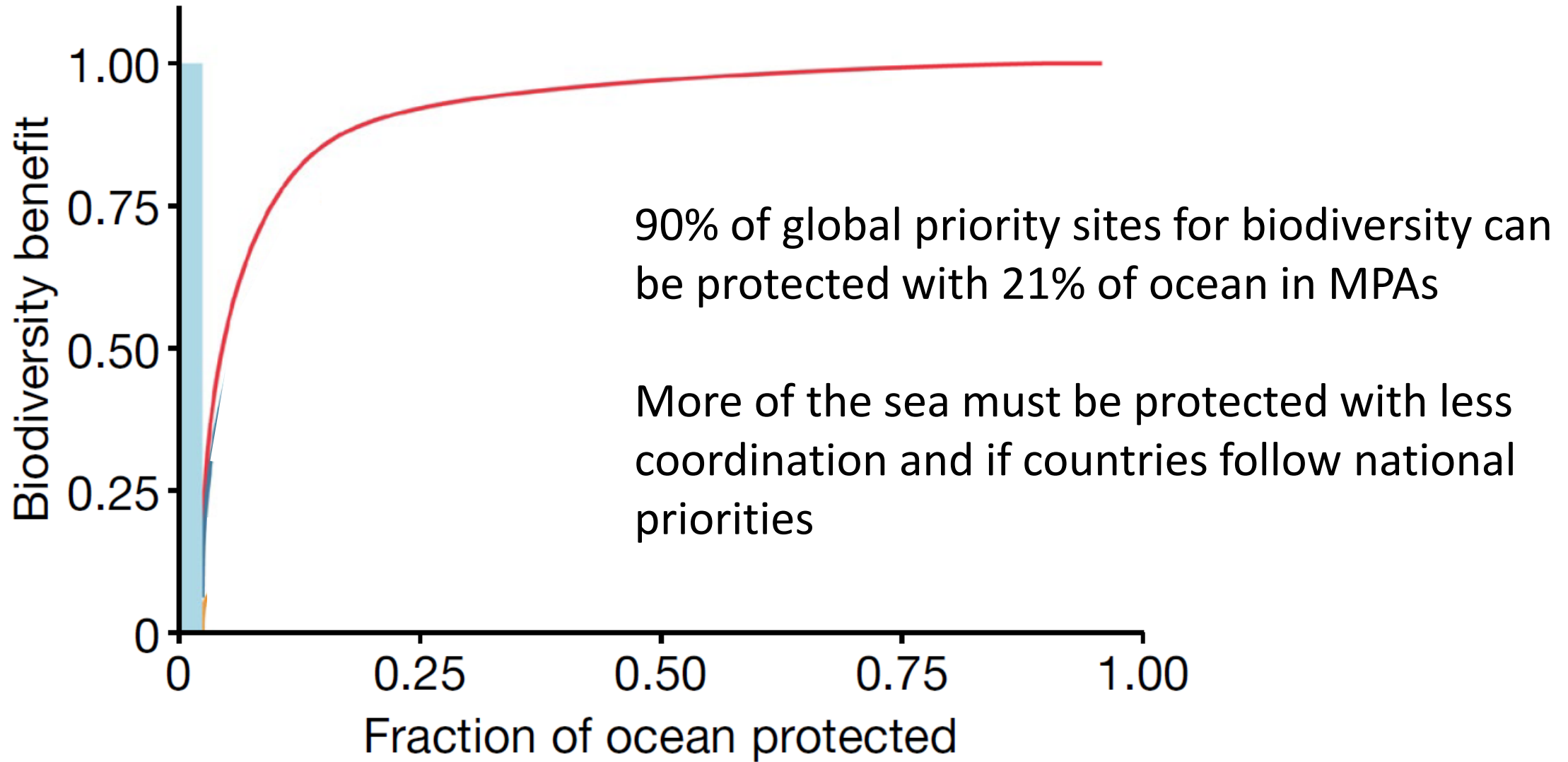
Biodiversity representation and protection
of threatened and declining species

Photo: David Liitschwager

The species-area relationship



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

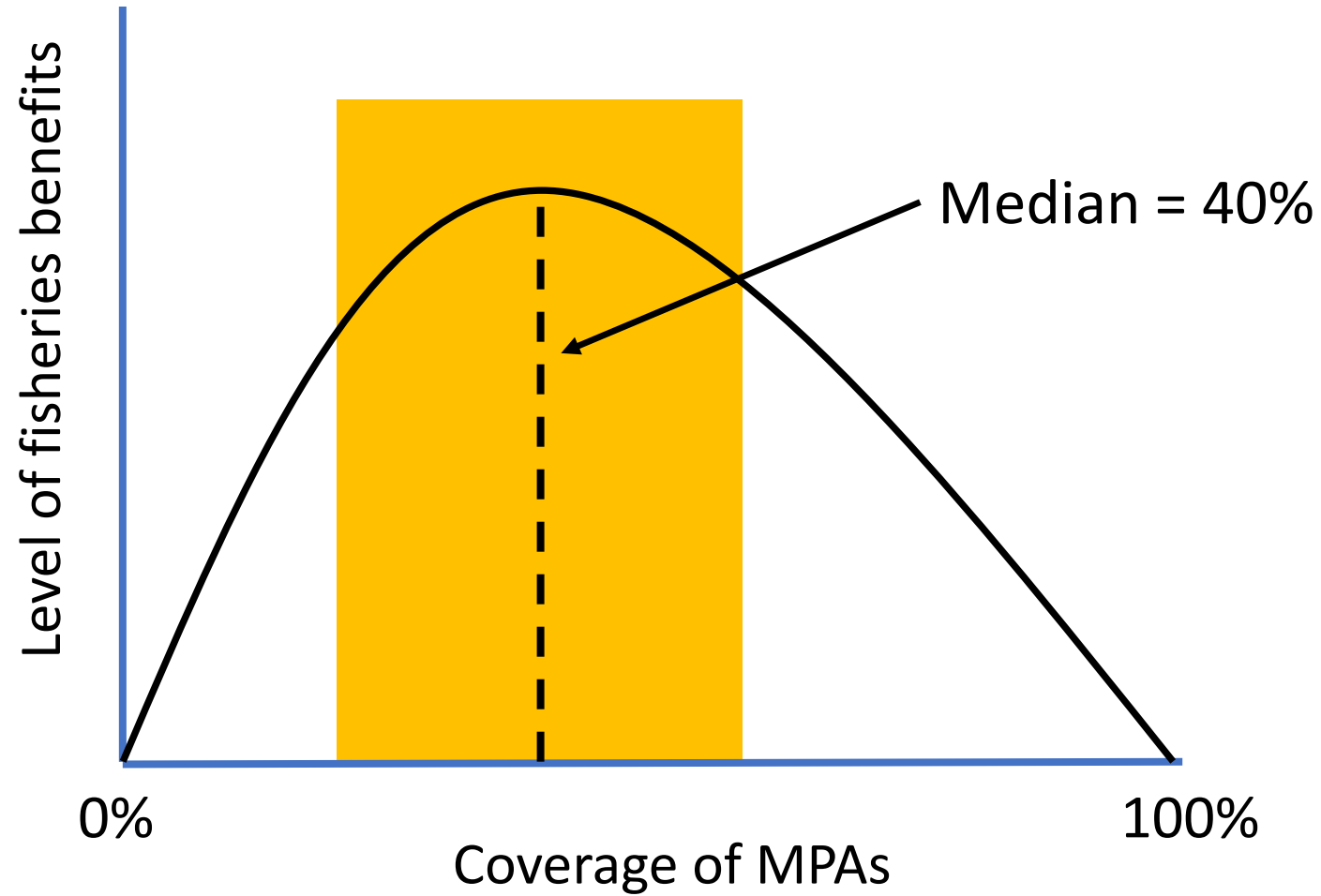


Fisheries values of MPAs

- 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



MPA coverage



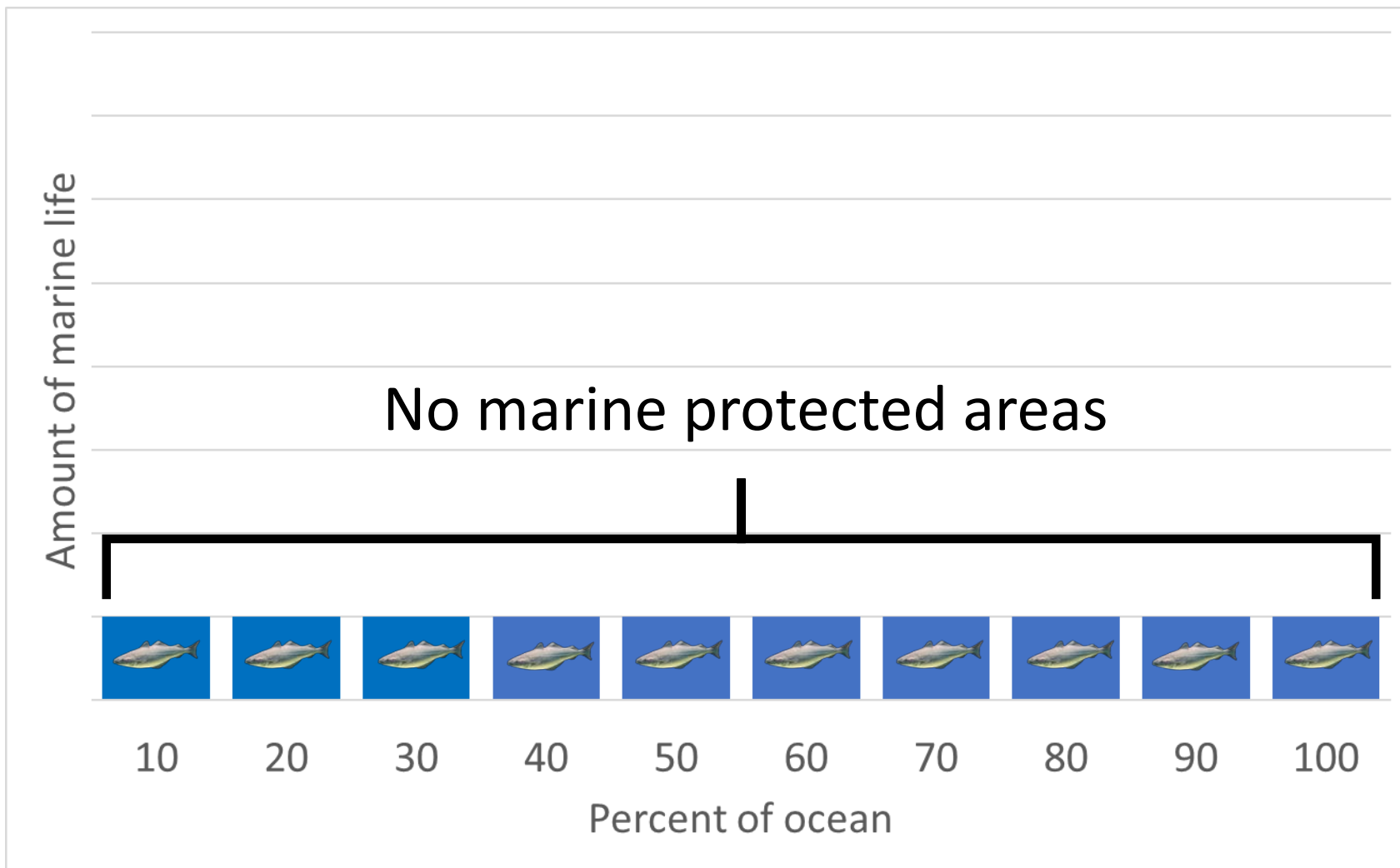
MPA protection level

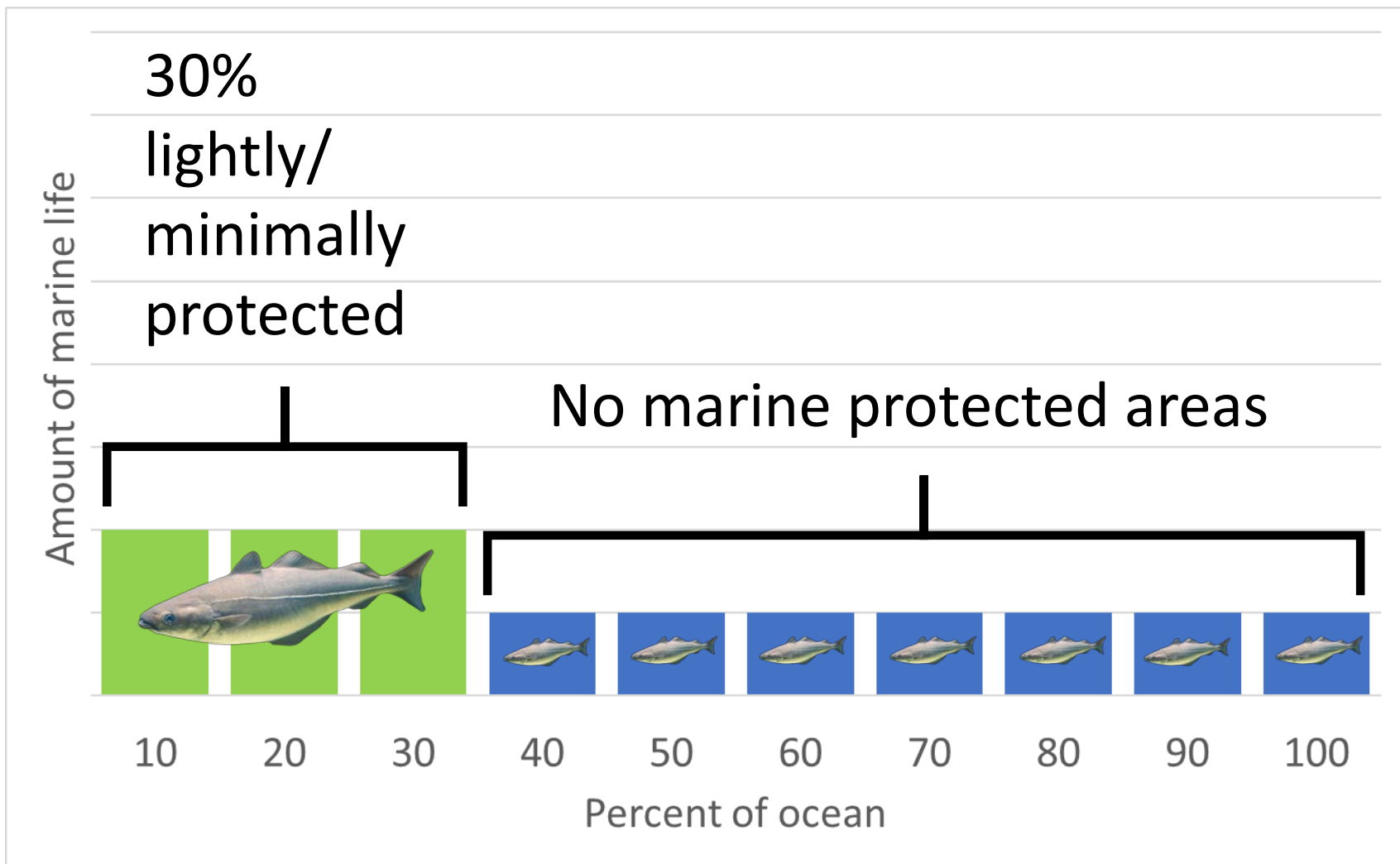


Fully/highly protected MPAs are the gold standard for effective ocean conservation

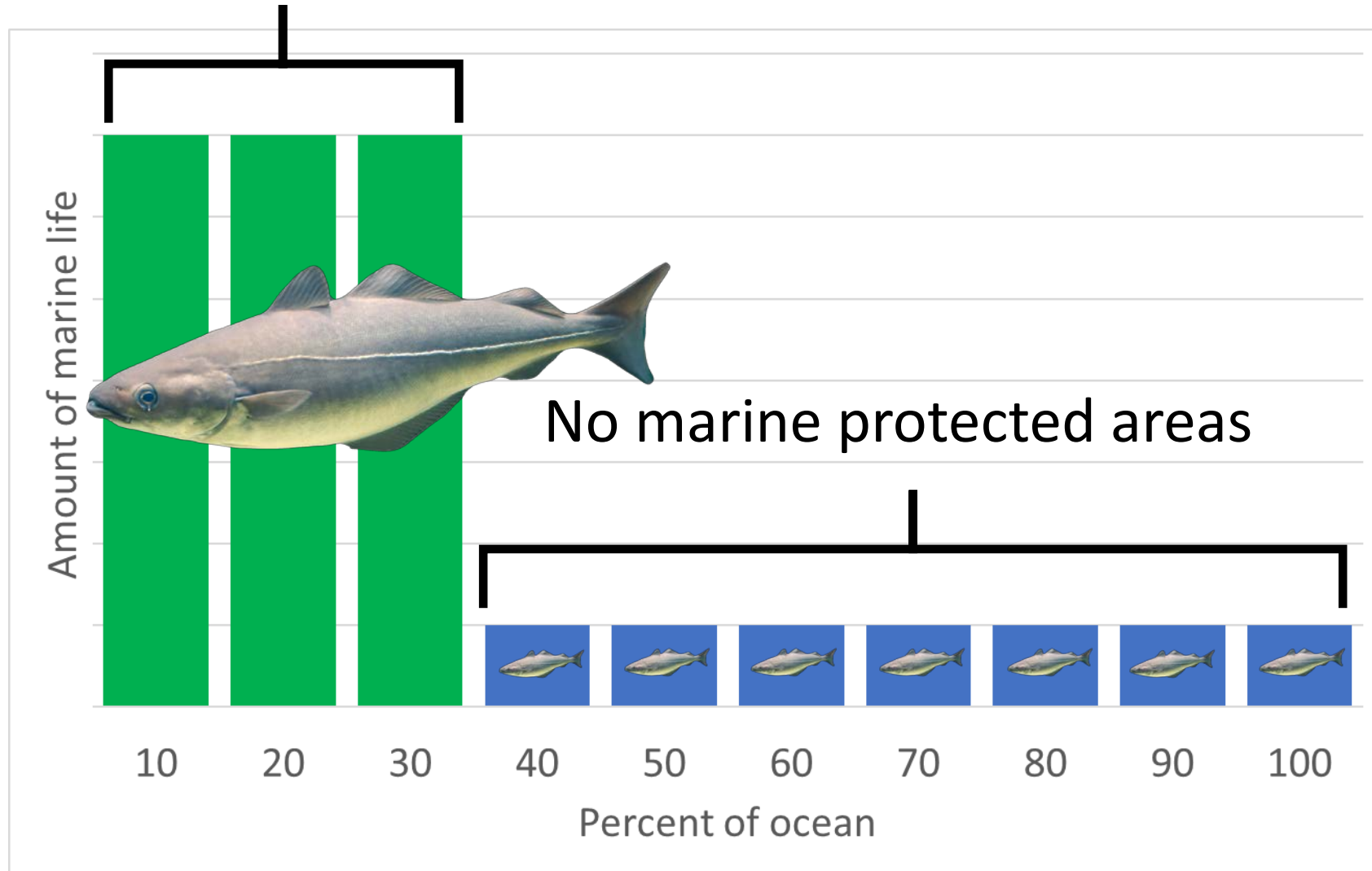
Fully/highly protected MPAs had 7x more fish than unprotected areas, while lightly protected areas only doubled biomass

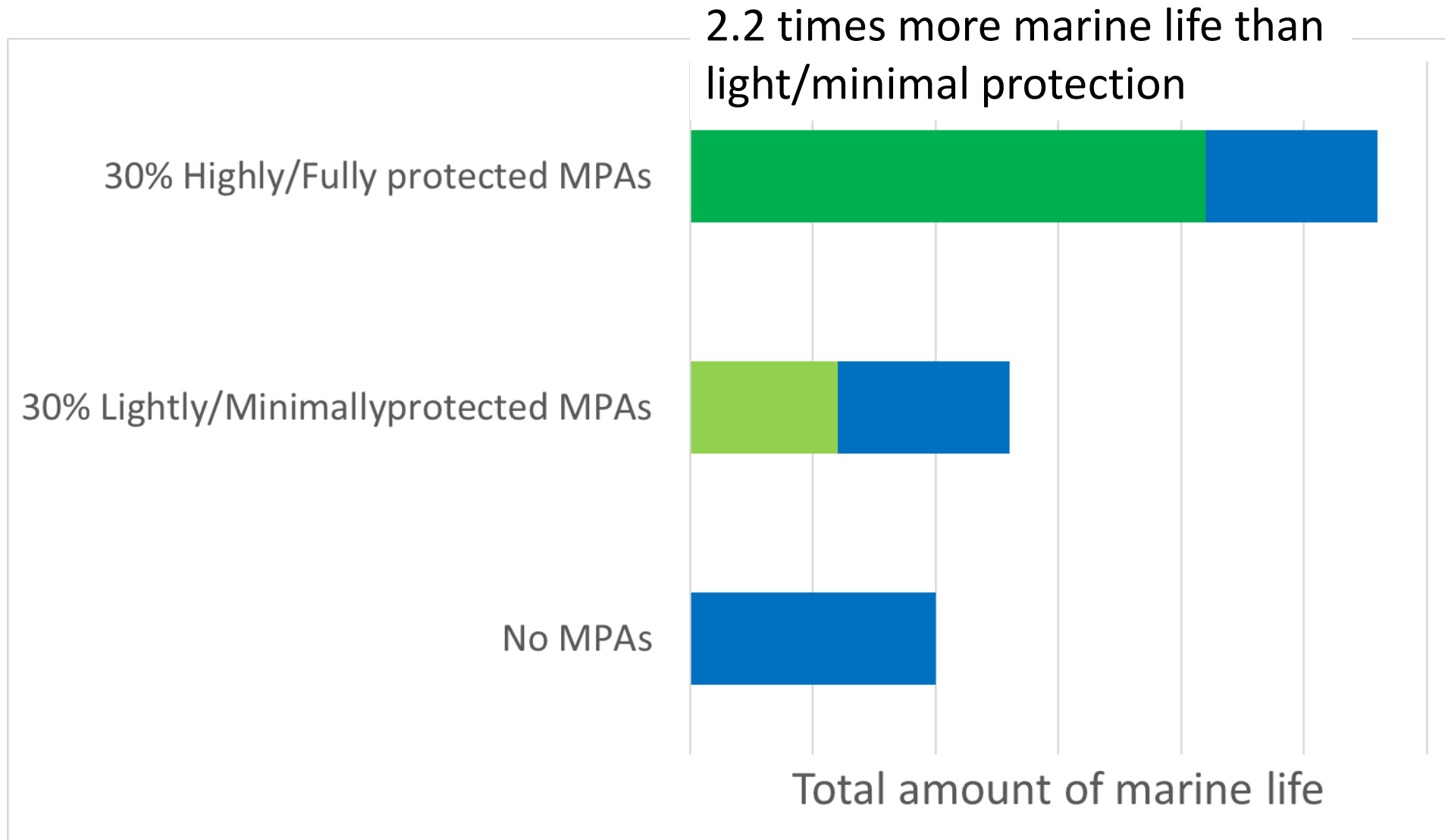
Sala and Giakoumi (2017)
ICES J. Mar. Sci.



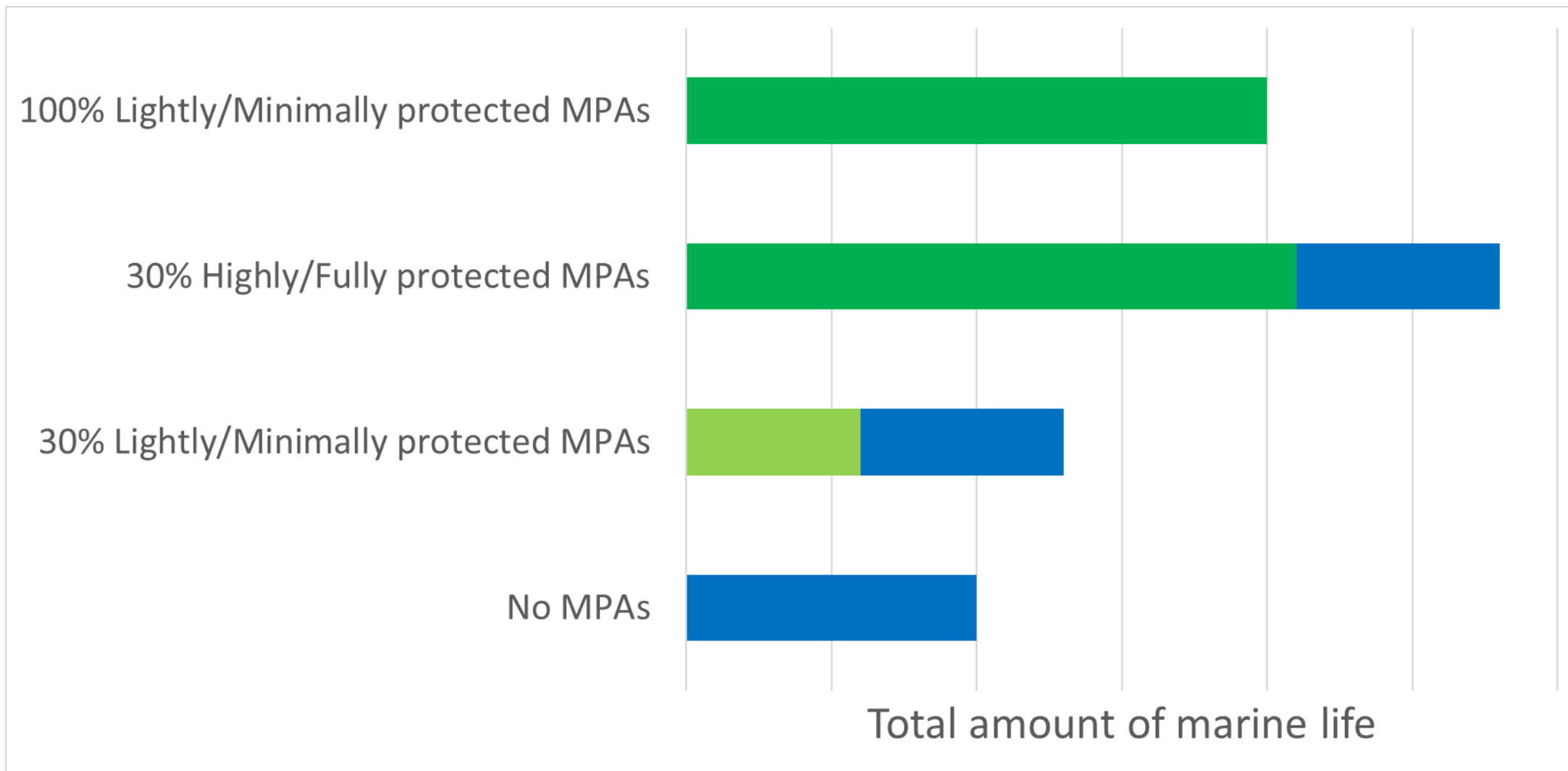


30% fully/highly protected






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



An underwater photograph showing two young boys snorkeling over a vibrant coral reef. The boy on the left is smiling at the camera, wearing a blue t-shirt and silver goggles. The boy on the right is wearing a blue t-shirt, plaid shorts, and black goggles with a green strap. They are both swimming horizontally. In the background, another person is visible near the water's surface. The water is clear, and sunlight filters through from above, creating a bright, lively atmosphere. The coral reef below is diverse, with various colors and textures.

All MPAs need good management and
community support to succeed