

- 1 Trophic Cascade Carbon** Food web dynamics help maintain the carbon storage and sequestration function of coastal marine ecosystems (e.g. the health of primary producers such as seagrass meadows and kelp forests is maintained by herbivory and predation).
- 2 Biomixing Carbon** Turbulence and drag, associated with the movement of marine vertebrates, causes enhanced mixing of nutrient rich water from deeper in the water column towards the surface, where it enhances primary production by phytoplankton and thus the uptake of dissolved  $CO_2$ .
- 3 Bony Fish Carbonate** Bony fish excrete metabolised carbon as calcium carbonate ( $CaCO_3$ ) enhancing oceanic alkalinity and providing a buffer against ocean acidification.
- 4 Whale Pump** Nutrients from the faecal material of whales stimulate enhanced primary production by phytoplankton, and thus uptake of dissolved  $CO_2$ .
- 5 Twilight Zone Carbon** Mesopelagic fish feed in the upper ocean layers during the night and transport consumed organic carbon to deeper waters during daylight hours.
- 6 Biomass Carbon** Marine vertebrates store carbon in the ocean as biomass throughout their natural lifetimes, with larger individuals storing proportionally greater amounts over prolonged timescales.
- 7 Deadfall Carbon** The carcasses of large pelagic marine vertebrates sink through the water column, exporting carbon to the ocean floor where it becomes incorporated into the benthic food web and is sometimes buried in sediments (a net carbon sink).
- 8 Marine Vertebrate Mediated Carbon** Marine vertebrates consume and repackage organic carbon through marine food webs, which is transported to deep waters by rapidly sinking faecal material.

# Regional Ecosystem Profile Results

9 ORs

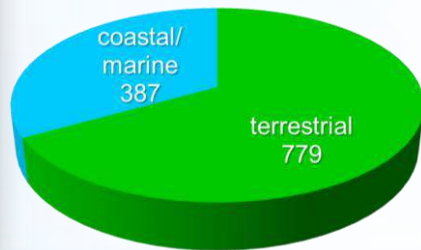
24 Marine Key Biodiversity Areas (KBAs)

4 Marine Corridors

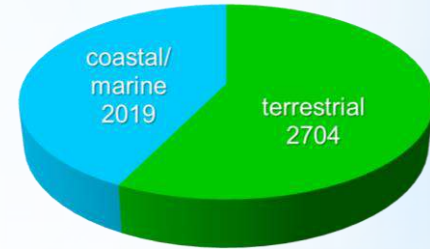
1 Key Biodiversity and Ecosystem Services Area (Littoral)



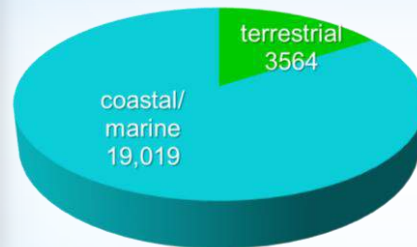
**Caribbean - 3 ORs  
8 marine/coastal KBAs  
+ 3 marine corridors**



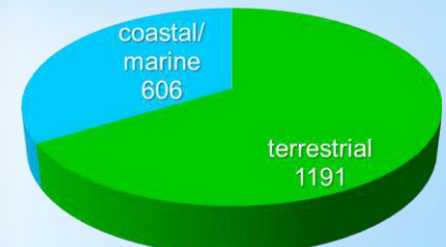
**Marañonesia - 3 ORs  
3 marine/coastal KBAs  
+ 1 marine corridor**



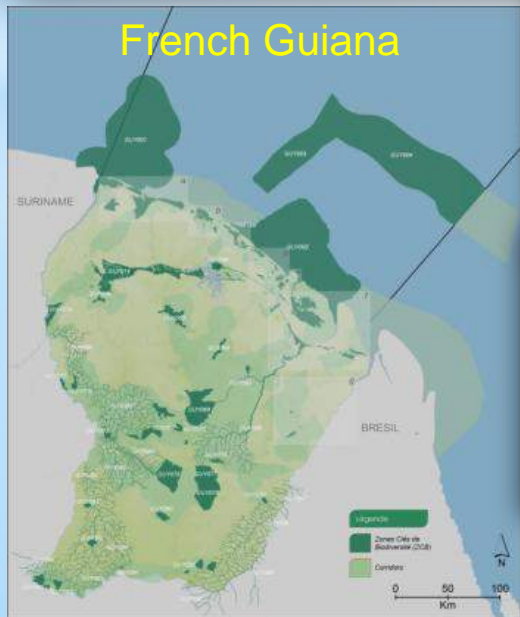
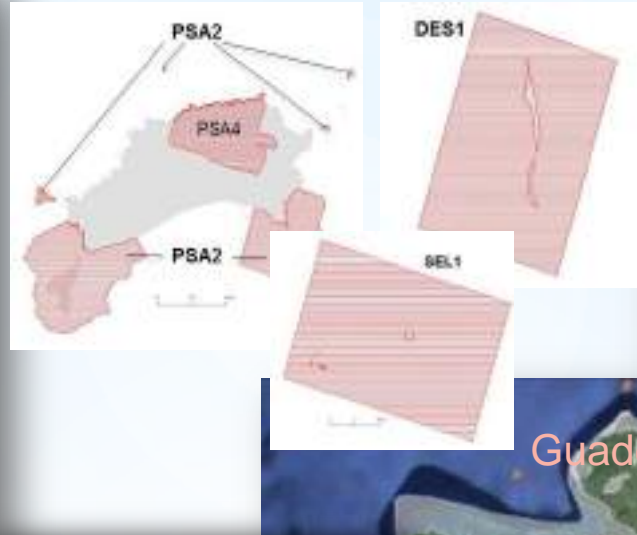
**French Guiana  
3 marine/coastal KBAs  
+ 1 KBESA (littoral)**



**Indian Ocean – 2 ORs  
10 marine/coastal KBAs**











# Regional Ecosystem Profile Results

[http://ec.europa.eu/environment/nature/biodiversity/best/regions/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/best/regions/index_en.htm)

## Common Critical areas for action

1. Control & management of invasive alien species
2. Improve protected areas management
3. Improve knowledge on species, ecosystem & services, in particular marine, for better ecosystem-based management
4. Strategies & actions to conserve threatened species & habitats
5. Strengthen local conservation capacity & increase environmental awareness and education
6. Illegal fisheries



# 4 LMEs - 3 Hotspots

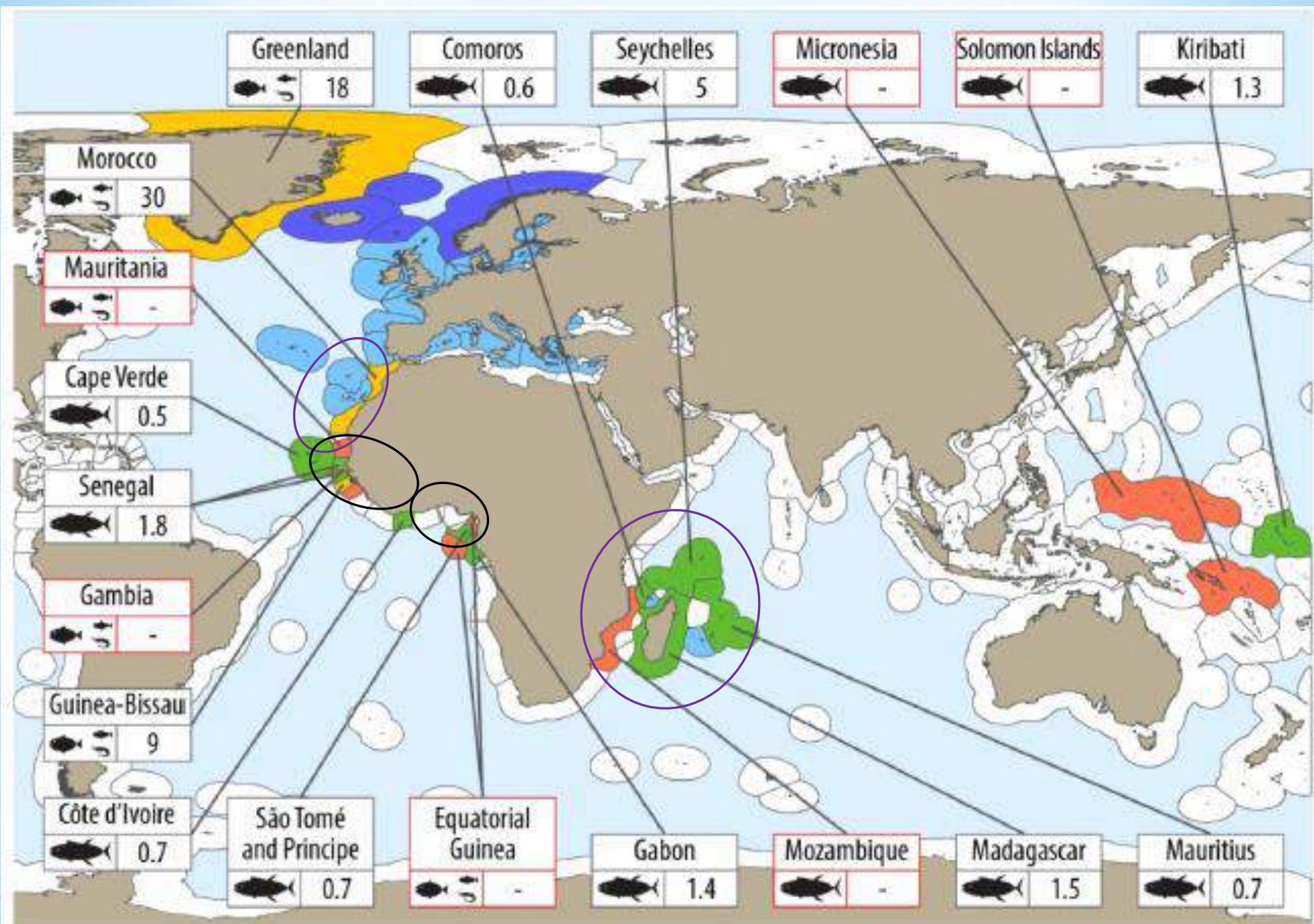
## 2 Conventions des Mers régionales





# Organes régionaux des pêches







A photograph taken from an underwater perspective looking up at a man in a kayak on clear, bright blue water. The man is shirtless and muscular, wearing dark shorts, and is captured in the middle of a stroke with his paddle raised high. The kayak is red and white, and its reflection is visible on the water's surface. The overall scene is serene and emphasizes the clarity of the water.

*Thank You*

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