

The background is a light blue gradient. It is decorated with numerous water droplets of various sizes. Some droplets are large and prominent, while others are small and subtle. They are scattered across the frame, with a higher concentration in the top-left and bottom-right corners. Each droplet has a realistic highlight and shadow, giving it a three-dimensional appearance.

CORAL REEFS

OUR RAINFORESTS OF THE SEA

WHAT IS A CORAL?

- PHYLUM – CNIDARIA
- CLASS ANTHOZOA
 - SUBCLASS; OCTOCORALLIA AND HEXACORALLIA
- ANIMALS – CHARACTERISED BY STINGING TENTACLES
 - COMMONLY LIVE IN COLONIES OF IDENTICAL POLYPS
 - BOTH HARD AND SOFT VARIETIES



Bubble Coral (*Plerogyra sinuosa*)

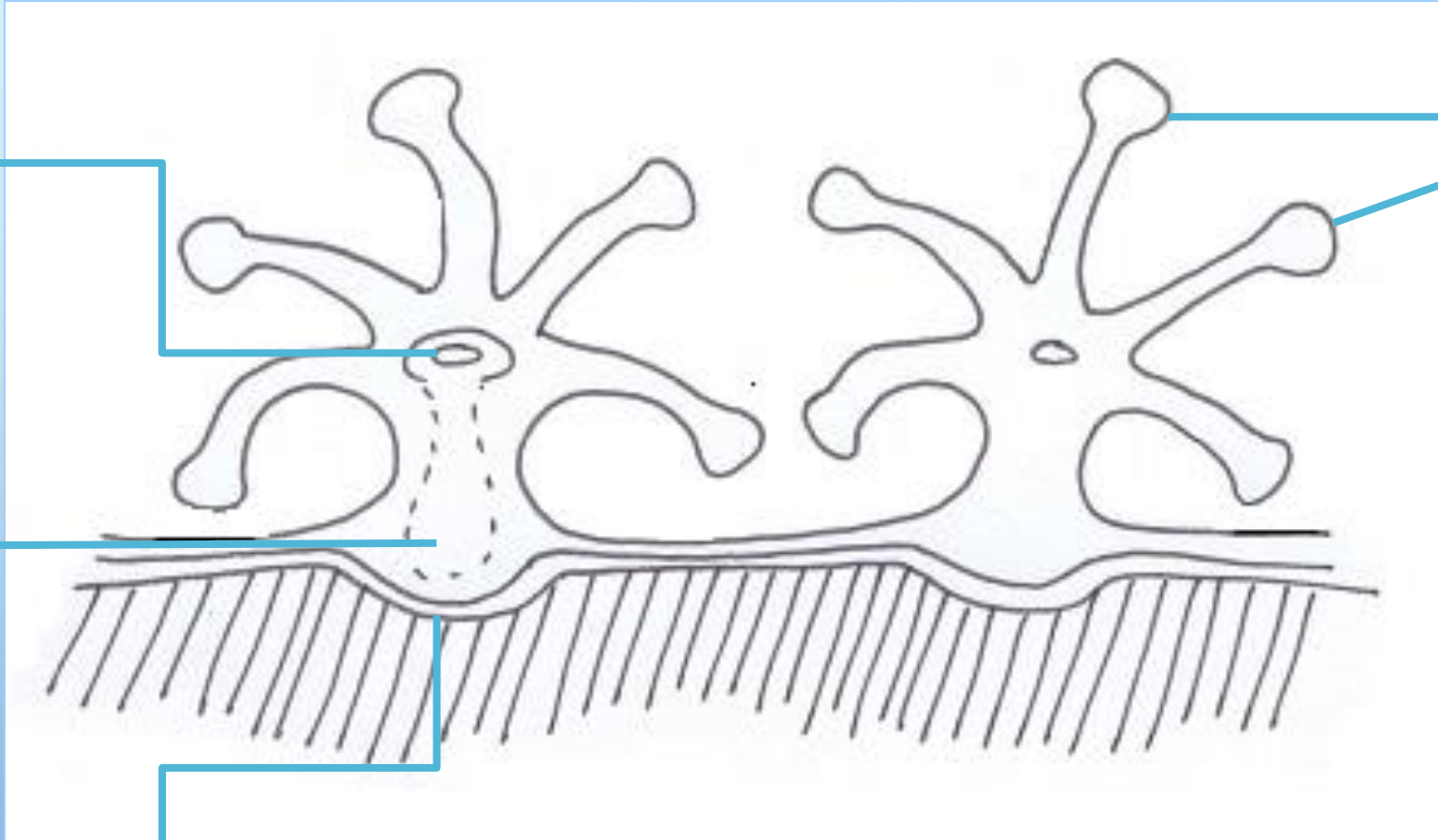
Mouth

Tentacles

Stomach

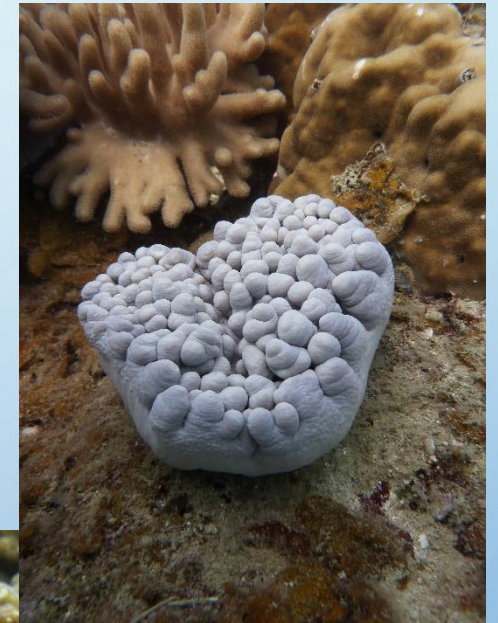
([Reef Check](#))

Coral Cup (hard coral only)



WHAT MAKES THEM COLOURFUL?

- PHOTOSYNTHETIC MICROSCOPIC ALGAE; **ZOOXANTHELLAE**
- SYMBIOTIC RELATIONSHIP
- CORAL COLOURS
- PRODUCES OXYGEN AND REMOVES WASTE
- CAN ALSO BE FOUND IN GIANT CLAMS!
- CORAL WITHOUT ZOOXANTHELLAE ARE CONSIDERED 'BLEACHED'





Hard Coral

- TENTACLES IN MULTIPLES OF 6
- CREATE LIMESTONE SKELETON
- THE MAIN REEF BUILDERS
- BOTH COLONIAL AND SOLITARY
- BLEACH WHEN STRESSED
- SKELETON REMAINS AFTER DEATH

VS

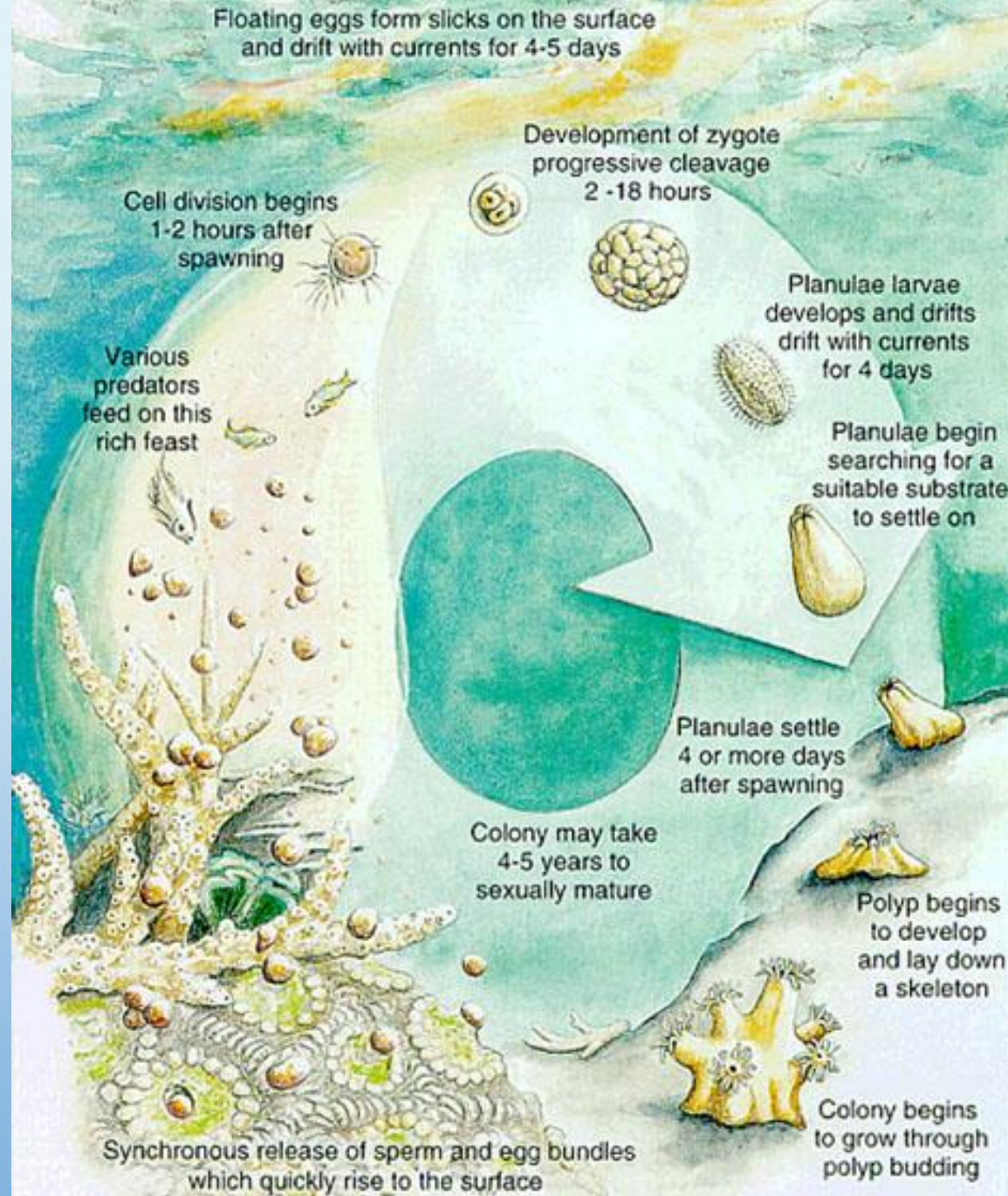


Soft Coral

- TENTACLES IN MULTIPLES OF 8
- NO LIMESTONE SKELETON
- VERY FEW REEF BUILDERS
- RESILIENT
- BOTH COLONIAL AND SOLITARY
- BLEACH WHEN STRESSED
- NO TRACE AFTER DEATH

LIFE

CYCLE



Growth Forms



Branching



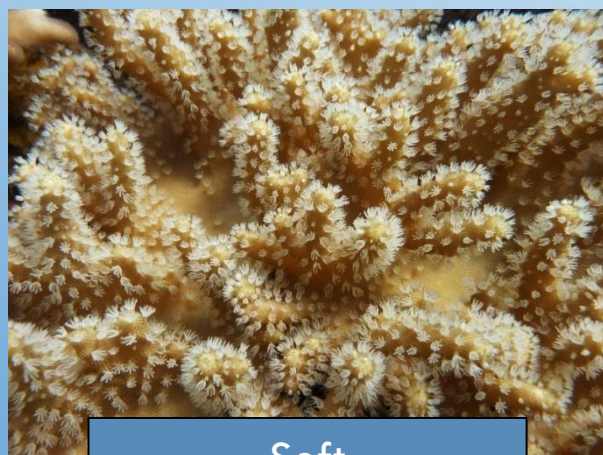
Tabular / Plate



Massive / Boulder



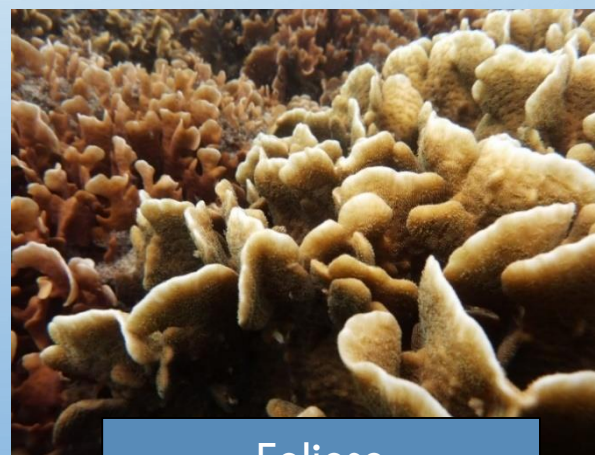
Mushroom



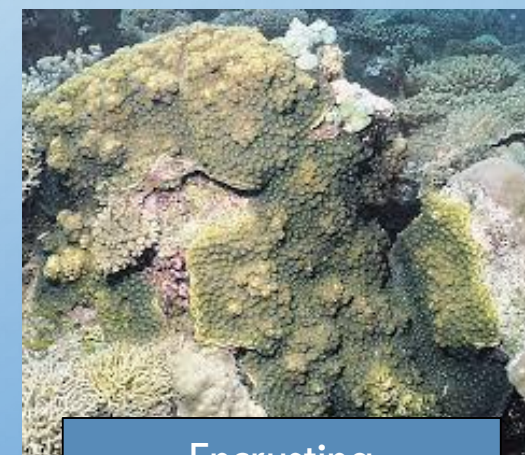
Soft



Sub-massive

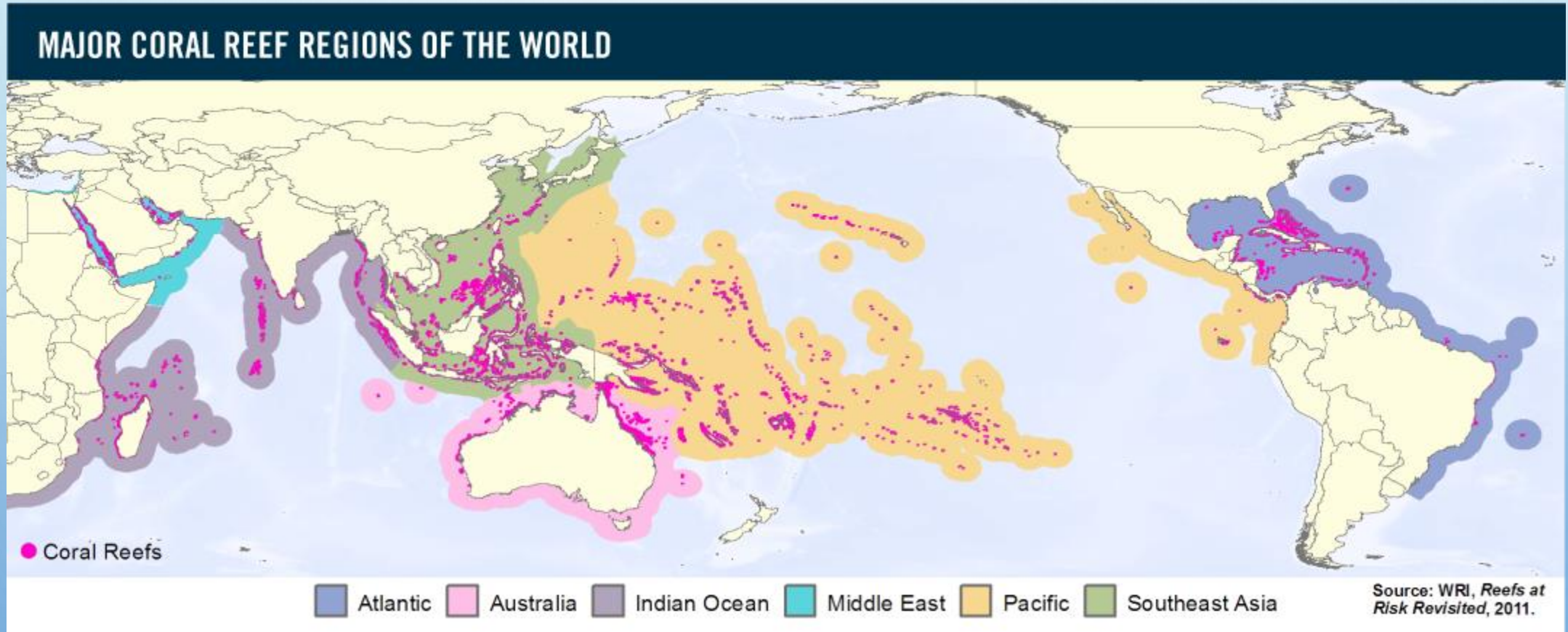


Foliose



Encrusting

WHERE DO THEY LIVE?



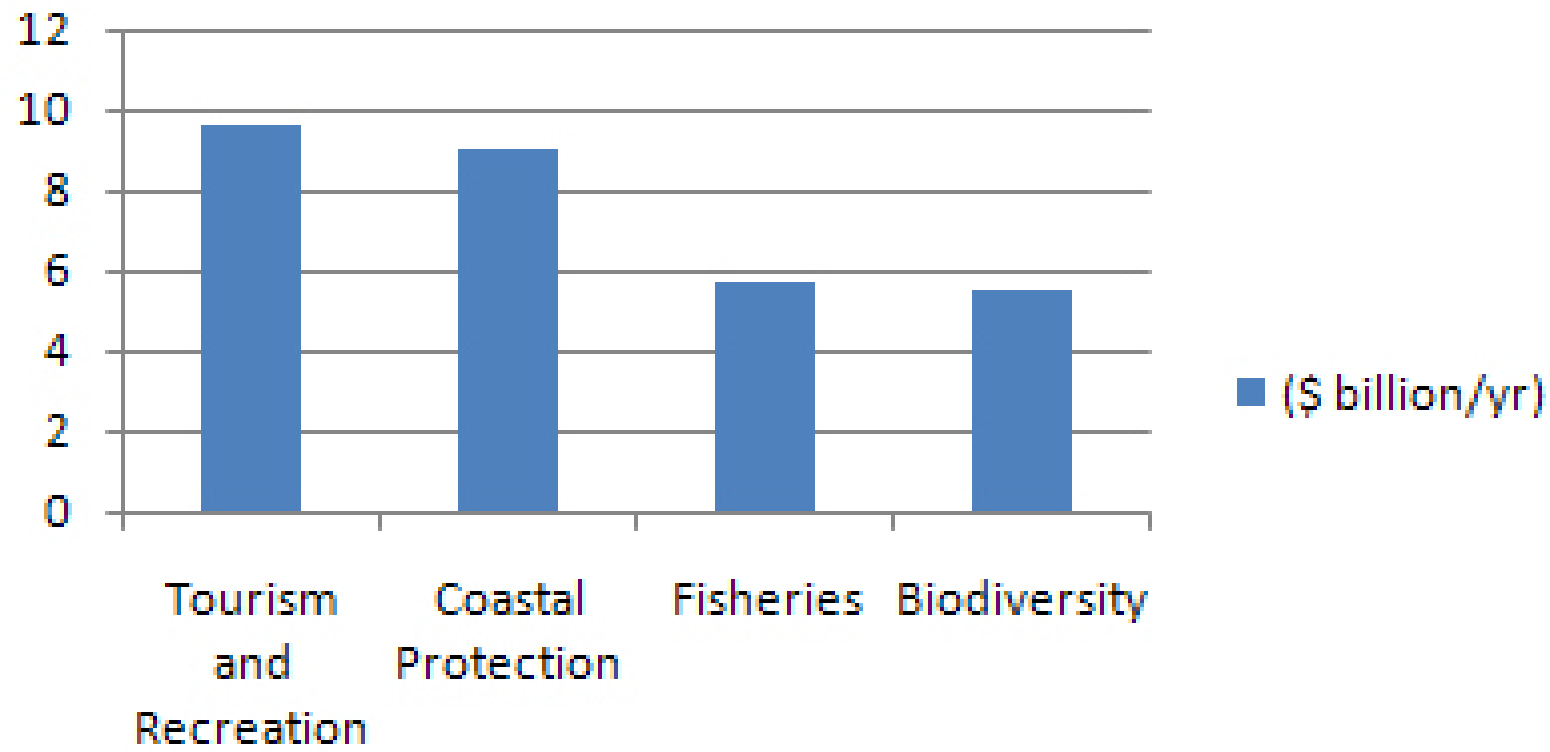
The Coral Triangle



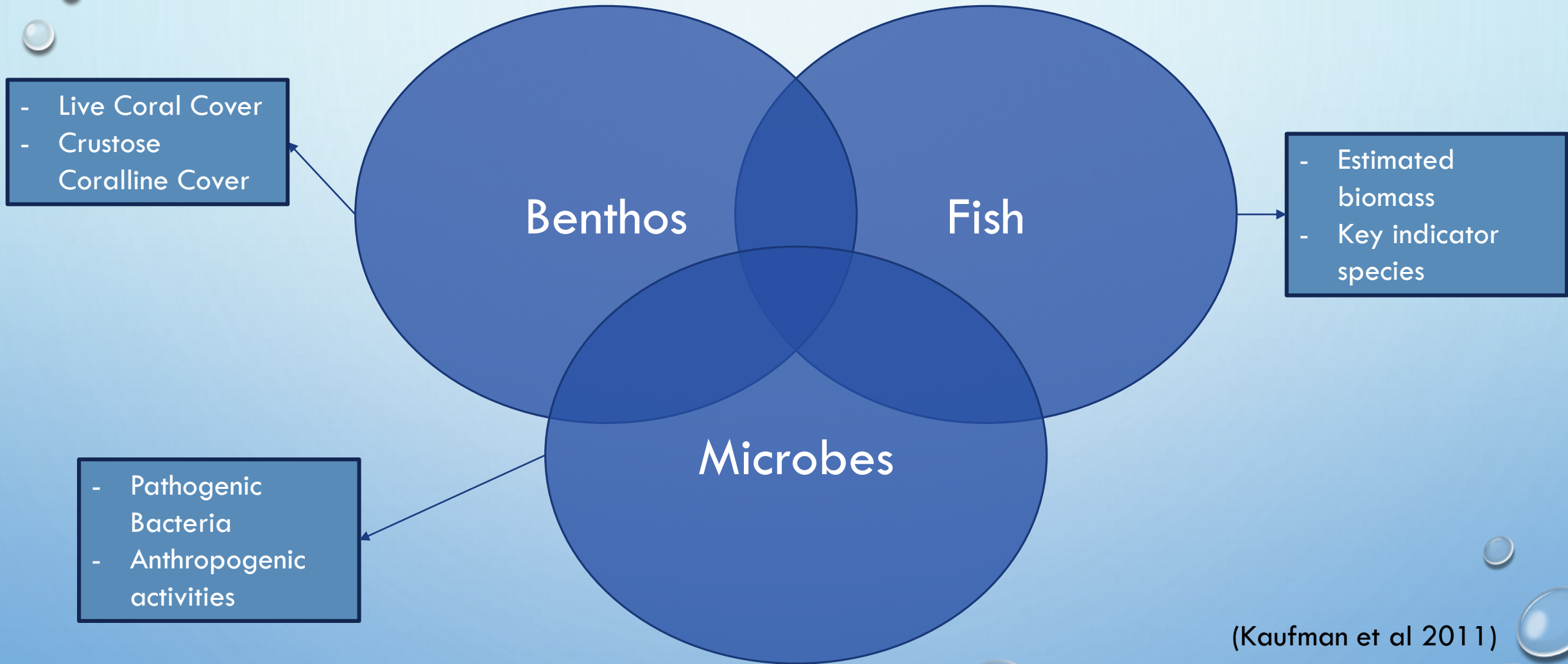
- 600 types of coral
- 6/7 turtles
- > 2000 fish species
- Over 120 million people

WHY ARE CORAL REEFS IMPORTANT?

Economic Value of Reefs

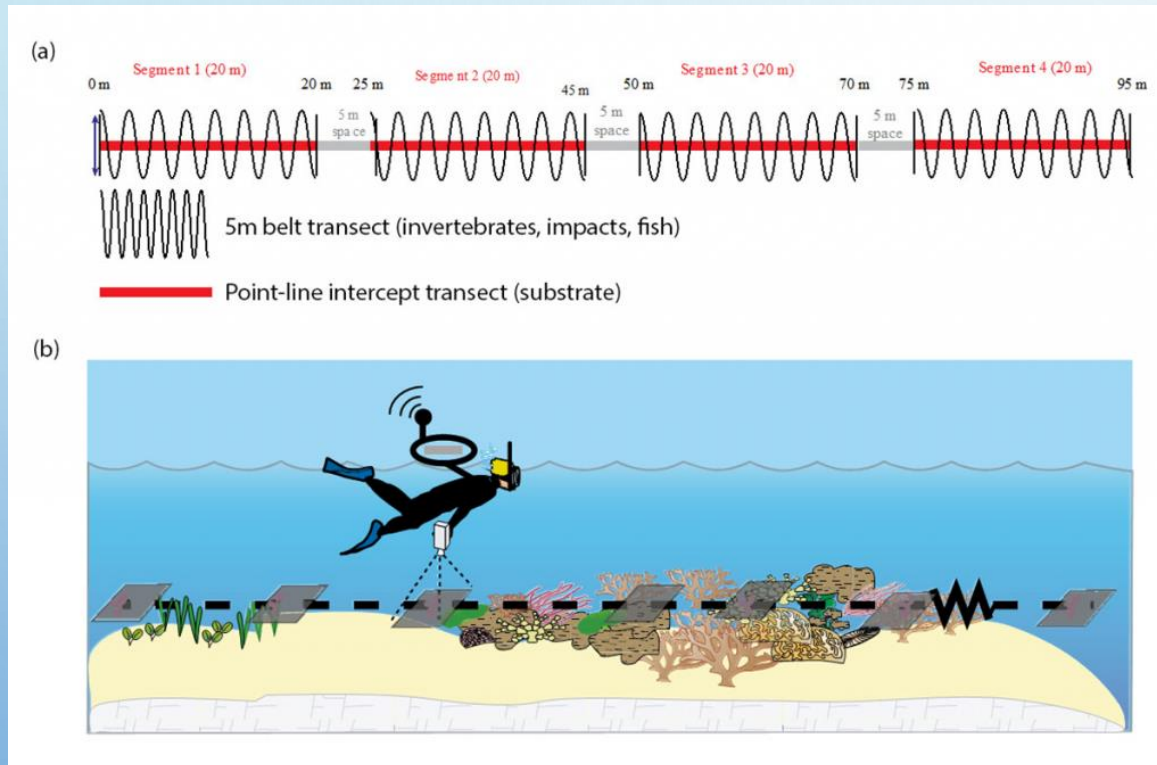


CORAL HEALTH INDEX



(Kaufman et al 2011)

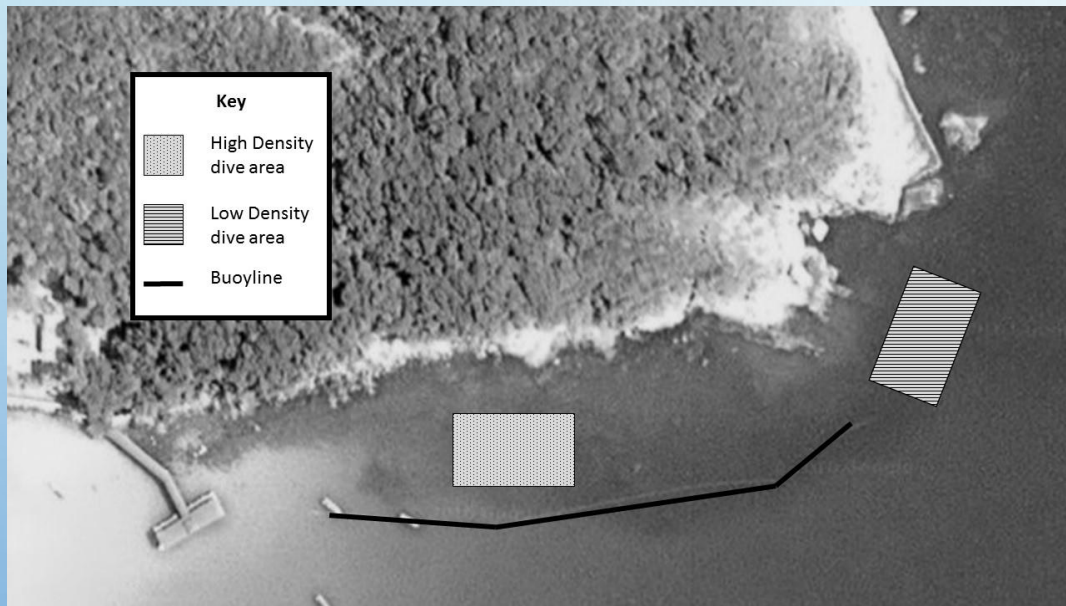
RAPID CORAL SURVEY – REEF CHECK



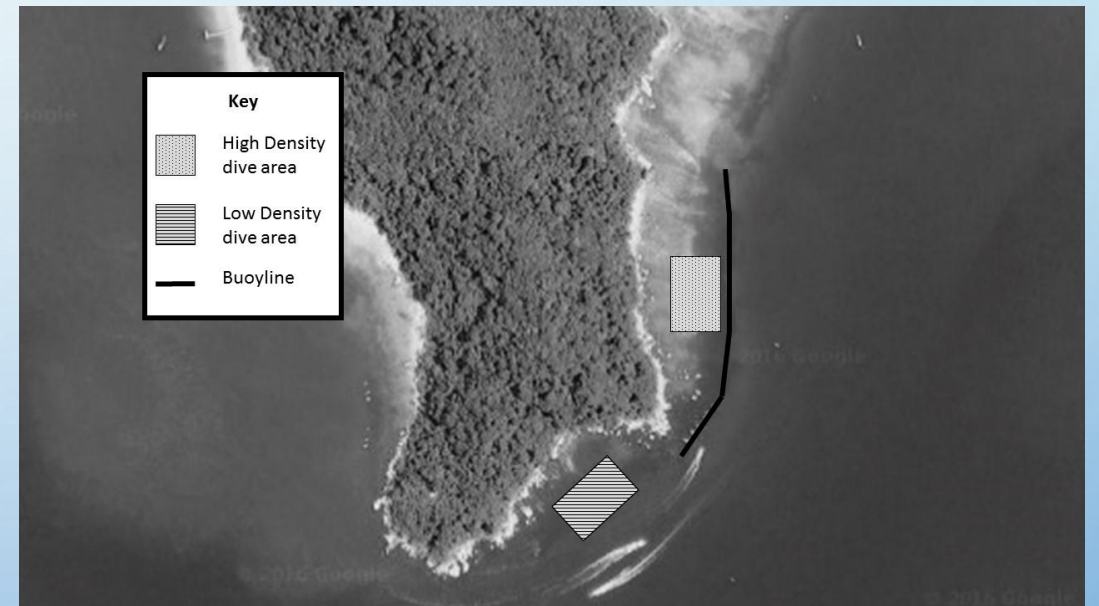
(Moreton bay Foundation 2018)

- ANNUAL SURVEYS
- GLOBALLY ACCEPTED STANDARDISED METHOD FOR
 - LIVE CORAL COVER
 - KEY INDICATOR SPECIES
 - FISH
 - BENTHIC ORGANISM
- NO CONSIDERATION TO RUGOSITY

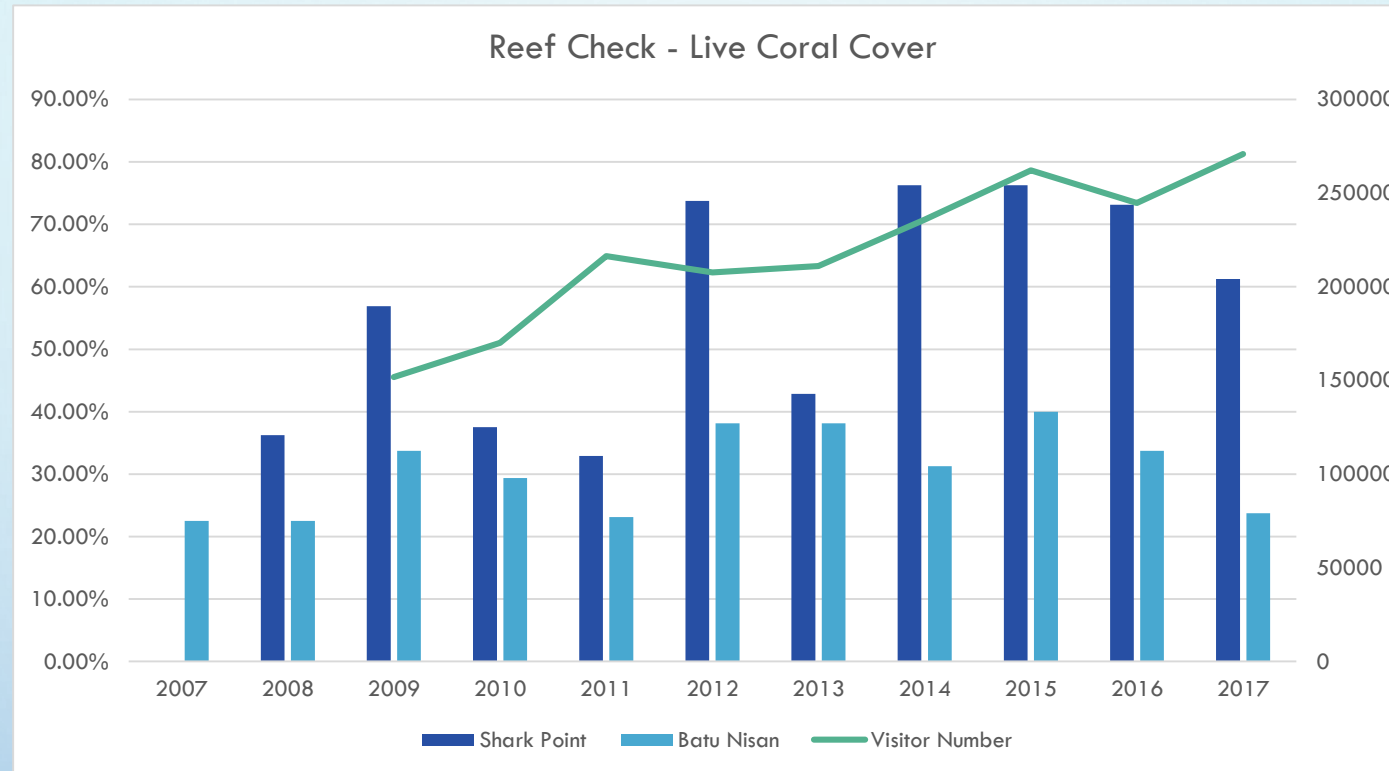
CORAL VIDEO TRANSECTS



Site A – Batu Nisan



Site B – Shark Point



Batu Nisan (Site A)

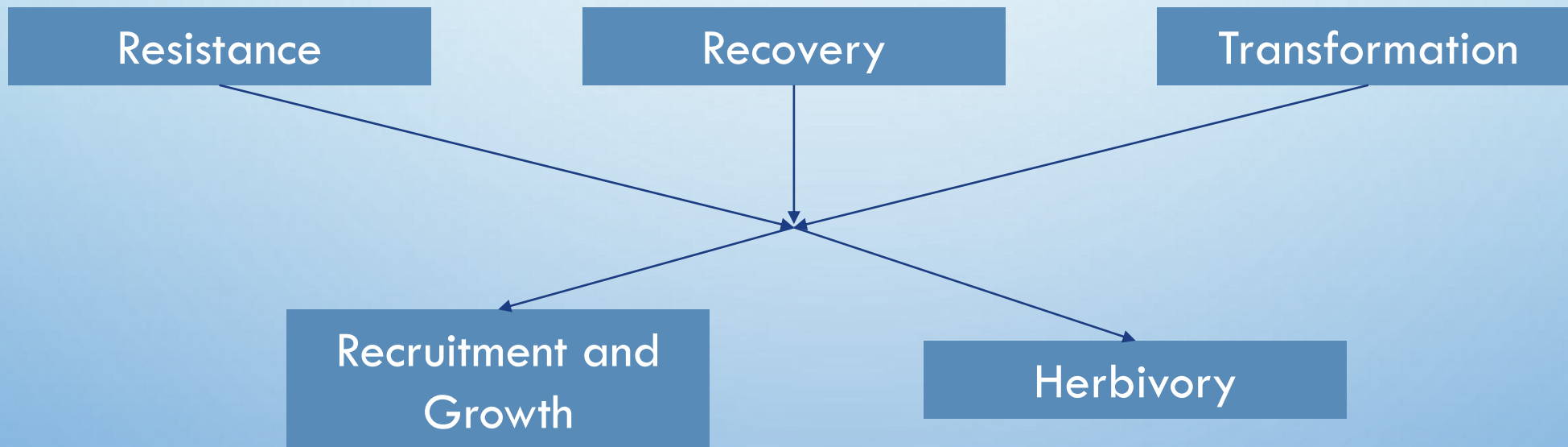
- 22.84% LCC at high intensity dive site
- 52.14% LCC at low intensity dive site

Shark Point (Site B)

- 36.26% LCC at high intensity dive site
- 38.39% LCC at low intensity dive site

CORAL REEF RESILIENCE

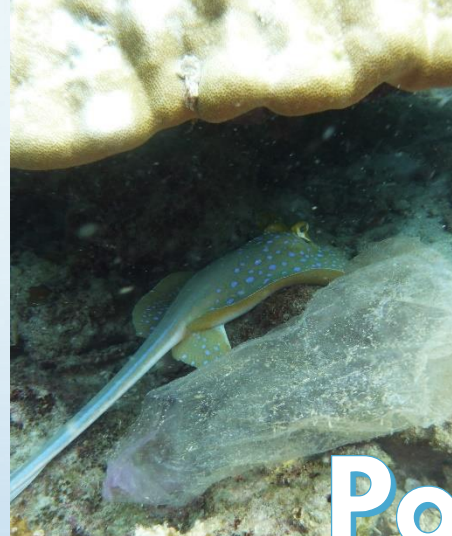
Resilience is defined as the ability of a system to maintain key functions and processes in the face of stresses or pressures by resisting to and then recovering or adapting to change (Holling 1973)



THREATS?



Tourism

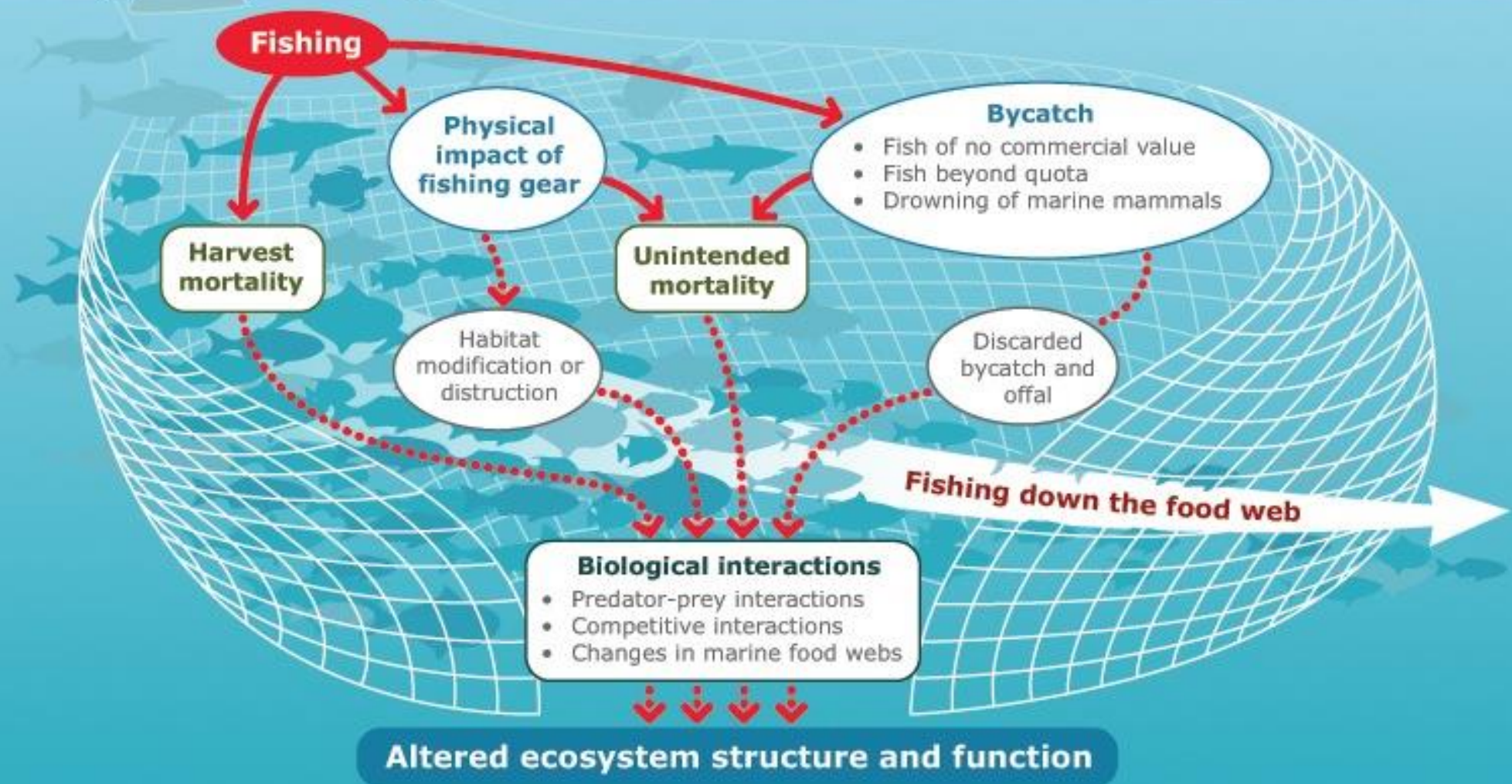


Pollution



(WNO)

Ecosystem Overfishing



(World Wildlife Org, 2015)



Deforestation and Development



(Coastal Care, 2015)

(Earth Times, 2011)



MANAGEMENT AND CONSERVATION

- LOCAL THREAT MANAGEMENT
- RESTORATION
- MANAGE LOCAL REEF FISHERIES
- CREATION OF MPA'S
- COMMUNITY FOCUSED, BOTTOM UP APPROACH
- OCEAN ACTION HUB – MULTISTAKEHOLDER COLLABORATION AND COMMITMENTS

AS INDIVIDUALS WE CAN:

- PETITION OUR GOVERNMENTS
- JOIN LOCAL GROUPS
- CONDUCT RESEARCH
- MAKE LIFE CHANGES

Think Global, Act Local.

