SHARKS PLAY A KEY ROLE MAINTAINING THE HEALTH AND SUPPORTING THE UNIQUE BIODIVERSITY OF THE MESOAMERICAN REEF

ECOLOGICAL FUNCTIONS

- Maintain healthy and productive habitats (sea grass beds, coral reefs)
- Regulate marine food webs by increasing:
  - Species abundance and distribution
  - Ecosystem diversity
- Remove sick and weak individuals from prey populations
- Provide food sources for scavengers

THREATS

- UNSUSTAINABLE FISHING is the biggest threat!
  - Finning (great demand from Asian markets)
  - Overfishing
  - Bycatch
- Market demand
- Degradation of coastal and marine habitats (reefs, feeding and nursery areas)
- Water pollution
- Sensationalism and misleading perception caused by media

LOSS OF SHARKS PROMOTES ECOLOGICAL SHIFTS FROM CORAL TO MACROALGAE DOMINATED REEFS

HEALTHY AND FUNCTIONAL CORAL REEFS

- Sharks and other top reef predators play a key role balancing and maintaining healthy and functional marine food webs.
- Herbivorous fish populations graze macro-algae providing space for corals to settle and grow.
- Healthy reefs are more resilient to overcome other stressors such as climate change, water pollution, overfishing and coral disease.

DEGRADED REEFS

- Lack of sharks balancing reefs food webs causes negative impacts, reducing herbivorous fish populations, which results in degraded and more vulnerable coral reefs ecosystems.
- Reduced number of herbivorous fish populations are incapable of consuming and removing enough macroalgae, allowing algal overgrowth and ecosystem domination over coral reefs.

Coral Dominated Reefs provide three-dimensional habitats supporting a higher species diversity and abundance.

Algae-Dominated reefs are homogeneous, decreasing the number of niches for species and reducing its overall diversity.

SHARKS WORTH MORE ALIVE

- CARIBBEAN SHARK TOURISM annual revenue = 40% of the Global economic value of shark ecotourism 314 million
- PELEAGIC (live in the open waters of seas and oceans) and Reef Sharks (inhabit tropical waters near coral reefs, sea grass beds and mangroves) are INDICATOR SPECIES for marine ecosystem as a whole!

1/4 OF THE WORLD’S SHARKS AND RAYS ARE THREATENED WITH EXTINCTION

- Great whale shark Rhincodon typus
  - VULNERABLE
  - Appendix II of CITES
- Caribbean reef shark Carcharhinus perezi
  - NEAR THREATENED

DEGRADED REEFS PROMOTES ECOLOGICAL SHIFTS FROM CORAL TO MACROALGAE DOMINATED REEFS

 mesoamerican reef

CORAL DOMINATED REEFS provide three-dimensional habitats supporting a HIGHER SPECIES DIVERSITY and ABUNDANCE.

ALGAE-DOMINATED reefs are homogeneous, decreasing the number of niches for species and REDUCING its OVERALL DIVERSITY.