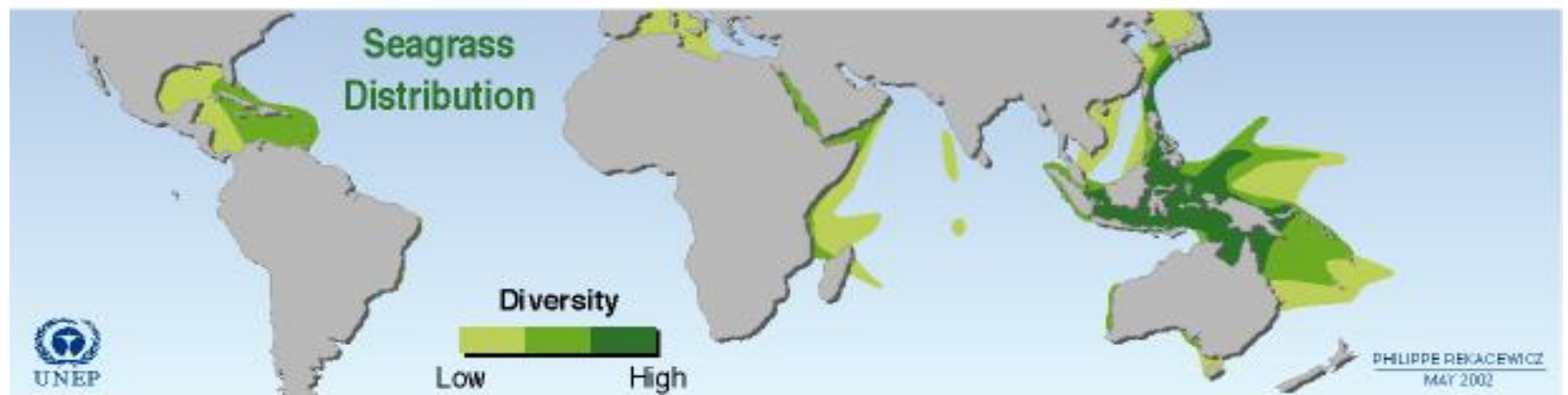
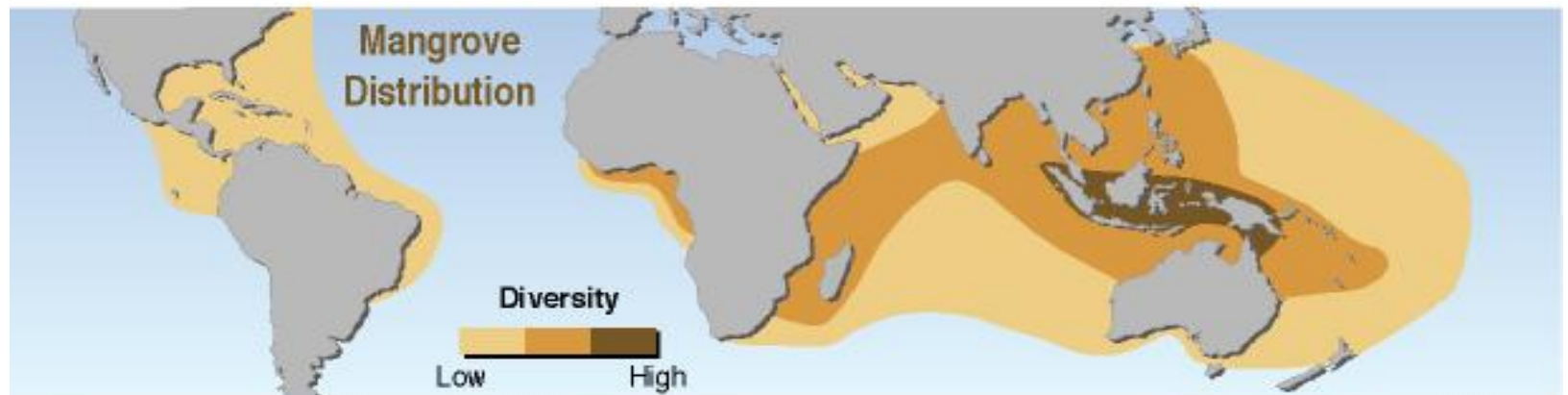
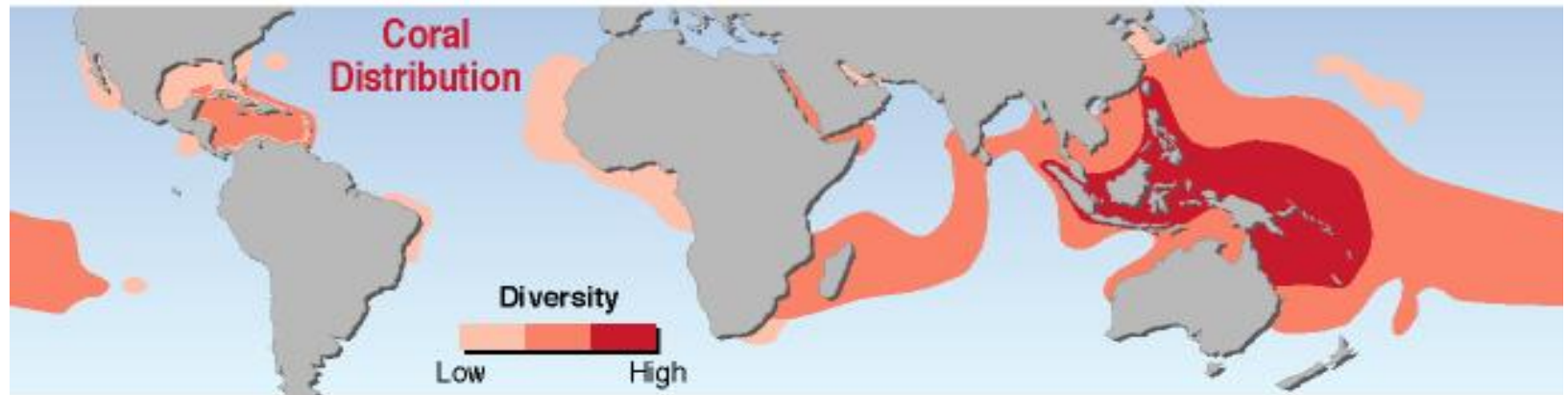


# Global Distribution of Coral, Mangrove and Seagrass Diversity



# Reefs at Risk

## Major Observed Threats to the World's Coral Reefs

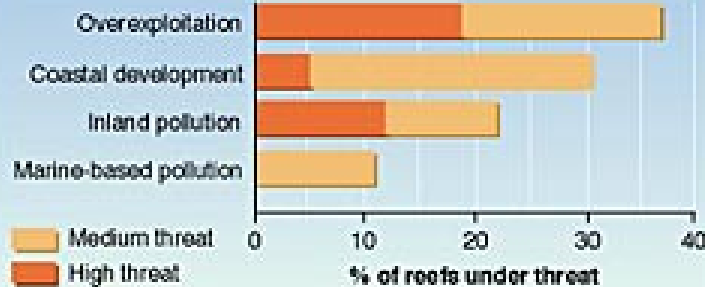


FIGURE 10.10  
MAY 2002

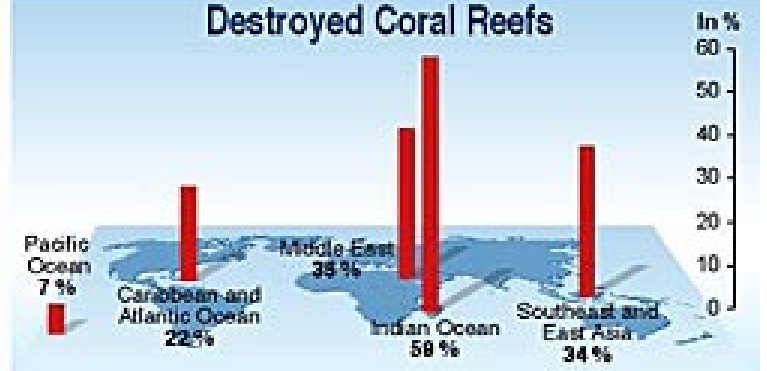
### Categories

- Tourism
- Poison fishing
- Overexploitation
- Sedimentation
- Coral harvesting
- Dynamite fishing
- Pollution

### Major Threats to Reefs



### Destroyed Coral Reefs



Source: Bryant et al., *Reefs at Risk: a Map-Based Indicator of Threats to the World's Coral Reefs*, World Resources Institute (WRI), Washington DC, 1998.

# Coral bleaching



# Reef Fish



**Figure 17** Bluestriped snapper.  
*(Photo: Getty Images)*

# Floodplain Loss

Due to:

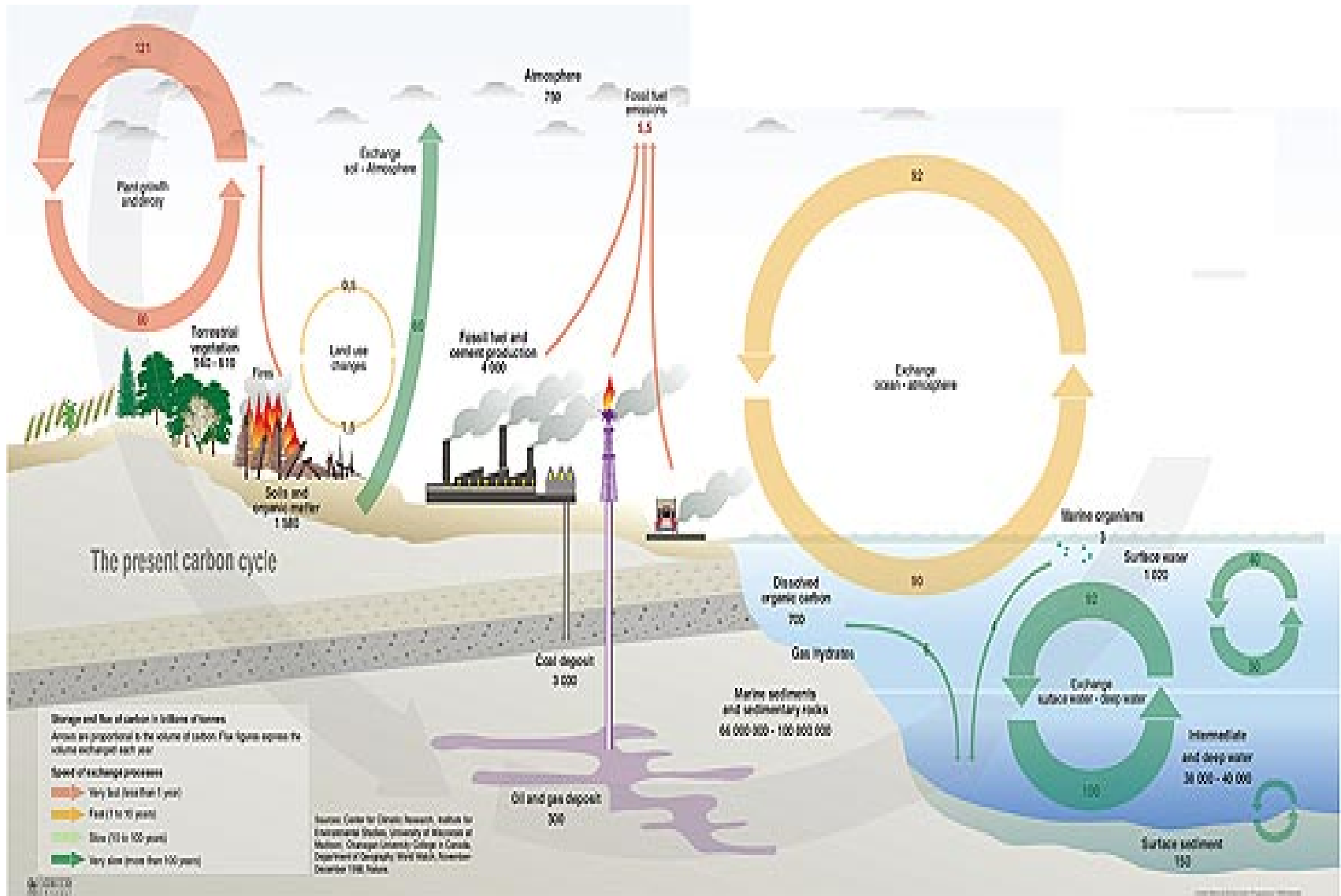
- Draining wetlands for farming and housing
- River training
- Damming
- Destruction of mangroves

# Pollution

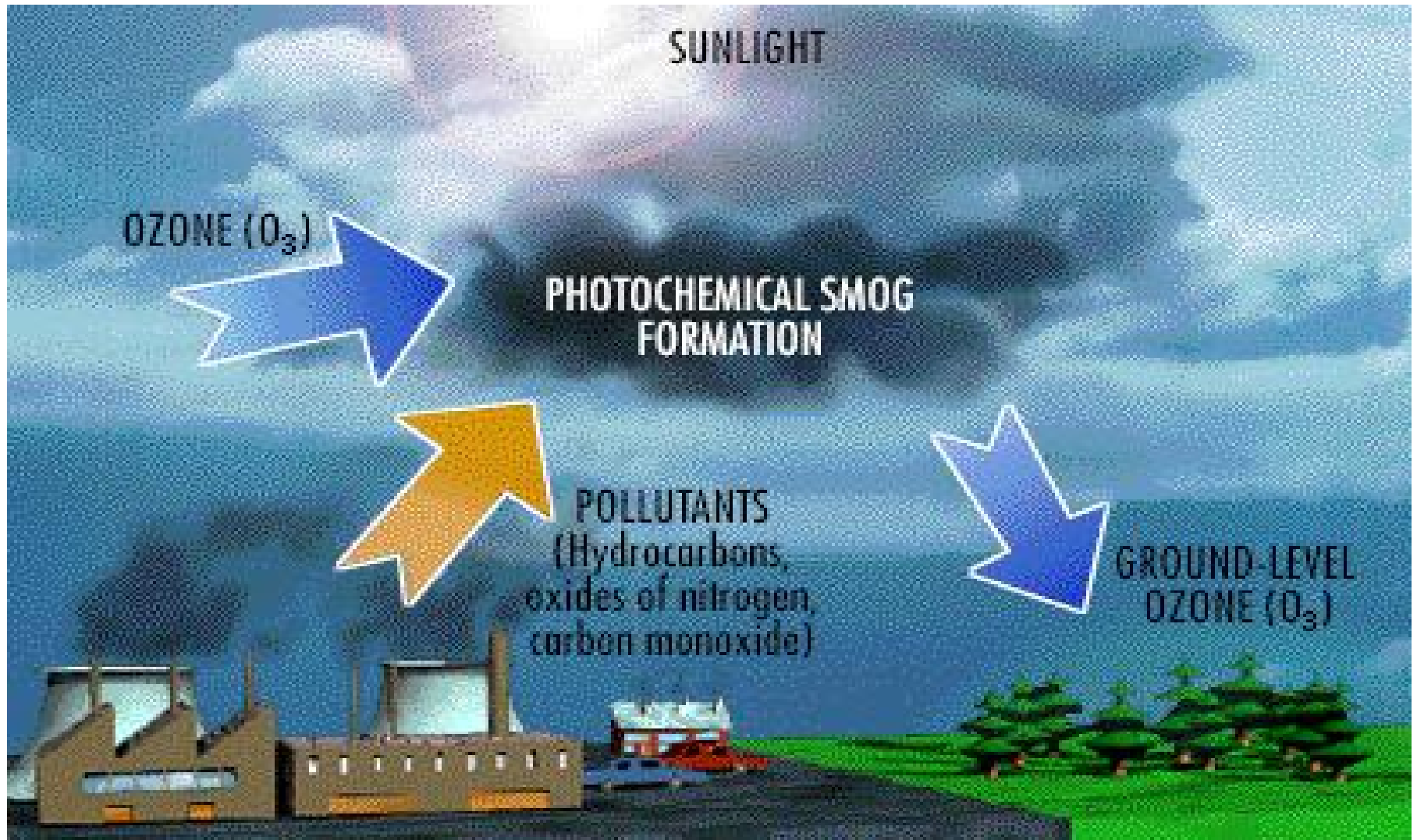
## Types:

- Water – Domestic and industrial effluent, mining and agricultural runoff (pesticides, fertilisers)
- Air – Smoke, Acid Rain, Vehicle exhaust, industrial emissions
- Land – Waste disposal, mining, intensive agriculture, industry

# Carbon Cycle - Air



# Smog



# Water pollution



Ben Osborne



# Less visible pollutants

- Pesticides, fertilizers
- Leaching of toxic metals e.g. arsenic
- Dunder from sugar from sugar cane manual
- Untreated sewage
- Domestic substances – detergents
- Leachate from mining operations
- Oil spills
- Land runoff

# Land pollution





# Loss of Traditional Food Sources

- Intensive agriculture depends on few species so many traditional foods have been replaced in the marketplace ~15 plant and 8 animal species supply about 90% of our food
- Lifecycles disturbed so plants and animals become endangered or extinct
- Overharvesting of natural stocks e.g fish

# Intensive agriculture



# Fisheries



# Species Extinction

- Centres of origin contaminated by:
  - invasive species
  - crossing with related species
- Habitat destruction
- Climate change
- Life cycle disruption

# Unsustainable harvests





- Many species have been hunted to or near to extinction for various reasons – for materials – fur, meat, blubber, or as vermin

# Loss of Traditional Lifestyles

- Nomadic societies becoming sedentary
- Displacement for alternative land use e.g. mining, urbanisation, agriculture
- Loss of species on which they depend
- Land degradation

# Other factors affecting marine environmental balance

- Pollution from land based activities – agriculture, tree logging, industrial runoff, sewage
- Pollution from the atmosphere
- Sophisticated fishing technologies have improved catch significantly in some instances removing species quicker than they are being replaced
- Destruction of habitat