

WATERSHEDS AND HEALTHY REEFS: *continued*

International Policies & Agreements Supporting Management of Watersheds and Reefs:

Policies listed below support the implementation of ICZM and watershed management.

- The Montreal Declaration on the Protection of Marine Environment from Land-based Activities
- The Convention on Biological Diversity
- Agenda 21, United Nations Conference on Environment and Development (UNCED): Earth Summit
- The Convention on Wetlands, otherwise known as the Ramsar Convention

EFFECTIVE WATERSHED MANAGEMENT AND INPUT REDUCTION: BENEFITS TO REEFS AND PEOPLE

Inputs from watersheds into coral reef waters	Benefits to the reef by reducing input	Benefits to humans by reducing input
<p>Agricultural Industry Inputs Water discharged from agricultural sites contains herbicides, fungicides, pesticides, and nutrient fertilizers. Nutrient levels and pesticide concentrations in watersheds can be greatly elevated from unmanaged agricultural wastewater. Nitrogen and phosphorus from fertilizers are the main nutrients deposited in waterways.</p>	<ol style="list-style-type: none"> 1. Reduces excess nutrients and prevents algae from growing over corals and blocking sunlight. 2. Decreases risk of toxic algal blooms. 3. Reduces threats from pesticides, herbicides, and fungicides that accumulate and weaken immune systems in corals and other reef animals and plants. 4. Protects biodiversity. 	<ol style="list-style-type: none"> 1. Reduces cancer risk from nitrates and pesticides, herbicides, and fungicides in contaminated drinking water. 2. Increases availability of other natural resources such as fresh water through sustainable agriculture practices.
<p>Sewage Sewage is made up from solid and liquid human waste, which contains nutrients, bacteria and viruses. Sewage enters reef systems from rivers and outfall pipes (point source) as well as runoff and ground water (non-point source). Sewage discharged into waterways is often minimally or not treated.</p>	<ol style="list-style-type: none"> 1. Decreases diseases associated with contamination of marine life from synthetic hormones. 2. Decreases coral disease caused by fecal bacteria, such as White Band Disease. 3. Protects biodiversity. 4. Reduces water cloudiness, which improves coral feeding, reproduction, and overall health. 	<ol style="list-style-type: none"> 1. Decreases infectious diseases related to bathing and swimming in coastal waters contaminated with sewage discharge. 2. Decreases infectious diseases associated with the consumption of seafood harvested from coastal waters. 3. Improves quality of drinking water by reducing the presence of fecal coliform bacteria.
<p>Sedimentation Sedimentation occurs when particles of soil and other solid materials become suspended in water. Agricultural activities, deforestation, and urbanization are the key sources of sedimentation. Mangrove trees and seagrasses, which normally act as filters for sediment, are being rapidly destroyed, further increasing the amount of sediment reaching coral reefs.</p>	<ol style="list-style-type: none"> 1. Decreases wastes from industries such as mining, which produce toxic wastes and heavy metals that accumulate in coral tissue. 2. Reduces water cloudiness, which improves coral feeding, reproduction, and overall health. 3. Protects biodiversity. 	<ol style="list-style-type: none"> 1. Improves ecosystem health resulting in economic benefits to society, including fisheries and tourism sectors. 2. Improves quality of drinking water. 3. Promotes sustainable land development and agricultural practices.

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