Why protect seagrass beds?

Fish need healthy places to live, feed and reproduce. They also need corridors or pathways to migrate between these places. Those places that supply fishes with their life cycle requirements are called fish habitats.

Seagrass beds are habitats to many fish species, invertebrates, crustaceans, marine turtles and the dugong (sea cow).

Marine fisheries are a vital, economic, ecological and food resource. Without habitats such as seagrasses that nurture them, fish and other marine life lose their productivity. Restoring fish populations and rehabilitating degraded fish habitats are essential steps in ensuring continued food supply from the sea.

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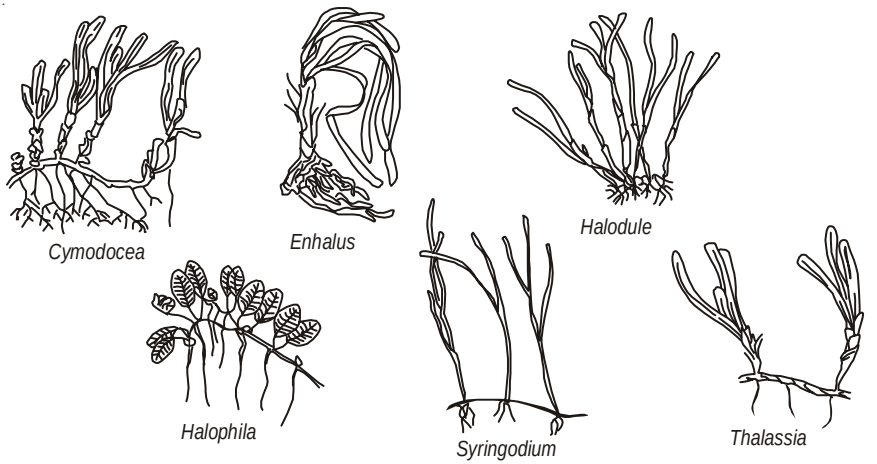
Seagrass Beds.

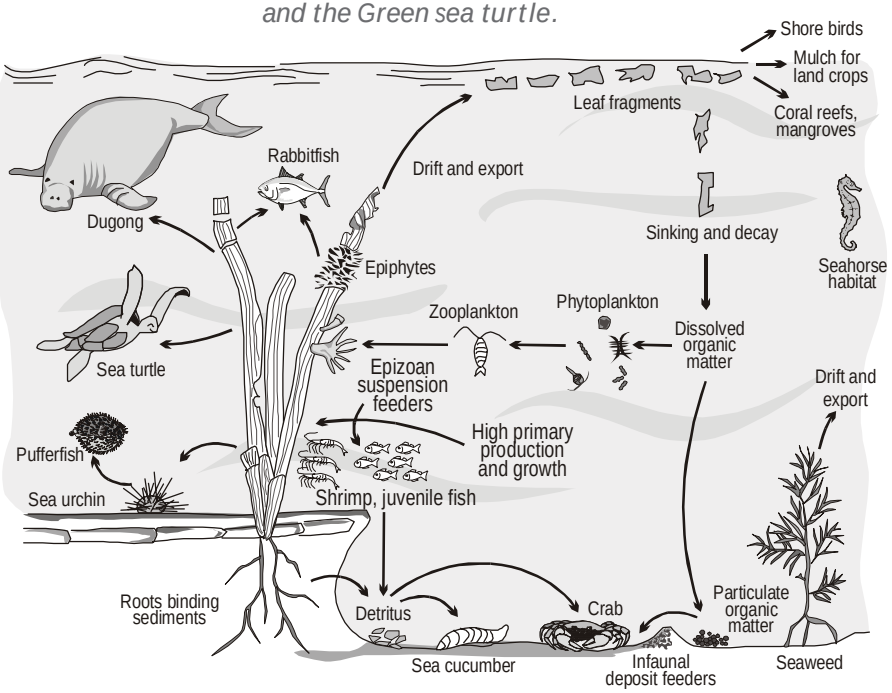
Seagrasses are seed-producing marine plants that occur in shallow, nearshore waters, the only group of submerged flowering plants in tropical and marine environments. Thriving in the shallow waters lining the shore, they have adapted life in saline waters with a root system that can withstand wave action and a reproductive system that distributes pollen by water. They are normally found in areas where light can easily penetrate (shallow, clear and calm waters) enabling photosynthesis to occur. *Seagrass beds are often found between coral reefs and mangrove areas, colonizing the soft, shallow and sandy-muddy bottom*.

Seagrasses have very high primary productivity that helps support and provides nutrients and physical habitat to a variety of organisms. Their main role as a nutrient source occurs when the dead seagrass decomposes and releases it nutrients to the water. Important fish species such as rabbitfishes (siganids), rely completely upon the seagrasses. Shrimps, sea cucumbers, sea urchins, seahorses, crabs, scallops, mussels and snails are economically important and abundant. Many resident and transient species also use the seagrass for refuge, spawning and nursery activities.



Types of seagrasses commonly found in the Philippines.
(White 2001)

Largely taken for granted, seagrasses perform many important functions. They stabilize and hold bottom sediment even under the force of hurricanes and storms. They provide shelter and refuge for adult and young marine animals, many of which are commercially important. They provide food for fish, sea turtles and other marine animals, including the endangered Dugong and the Green sea turtle.

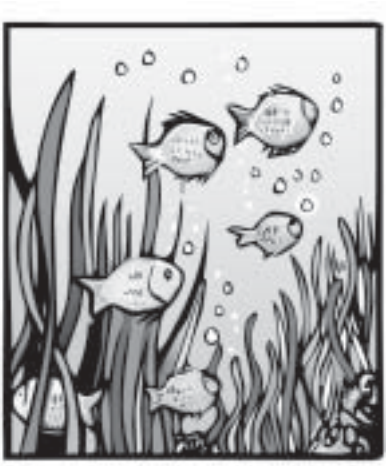


Food chain in Philippine seagrass ecosystems.
(Fortes 1989)

Seagrass beds slow down water velocity so that sediments settle out of suspension before they can be washed onto the reef. Without the seagrass roots anchoring the bottom sediments, they become loose, erode and smother nearby coral reefs. Scallops, clams, crabs, and many fish species suffer from the loss of protective seagrass habitat and from the sedimentation and erosion of the sea bottom.

The Value of Seagrasses.

"Within seagrass communities, a single acre (half a hectare) of seagrass can produce over 10 tons of leaves per year. This vast biomass provides food, habitat, and nursery areas for a myriad of adult and juvenile vertebrates and invertebrates. Because seagrasses support such high biodiversity, and because of their sensitivity to changes in water quality, they have become recognized as important indicator species that reflect the overall health of coastal ecosystems" (Smithsonian Marine Station).



Fish species such as rabbitfish spend their whole life cycle in seagrass beds; where they spawn, protect their eggs from predators and grow to maturity.

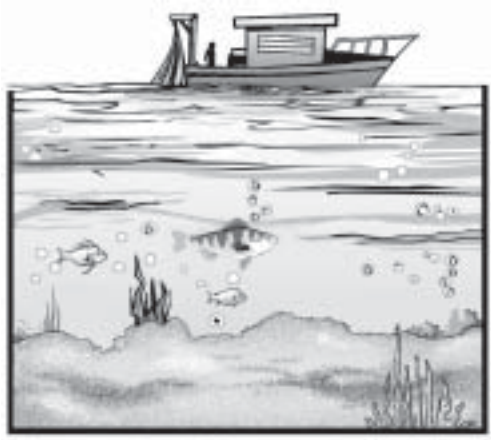
- Seagrass beds harbor a rich assemblage of marine organisms that all contribute to the important role of seagrasses in the marine ecosystem.

- Seagrass beds support at least:
  - 172 species of fish
  - 46 species of invertebrate
  - 51 species of seaweeds
  - 45 species of algal epiphytes
  - 1 species of sea turtle
  - 1 species of Dugong

Seagrass Resources in the Philippines.

The Philippines with its 18,000 km coastline, has sizeable seagrass areas spread discontinuously along the shallow portions of its coastline. Sixteen species that have been identified (Fortes 1986) are variably distributed in all parts of the country... From surveys in 96 sites, a total of 978 sq km of seagrass beds have been identified in the country, mostly in northwestern, western and southern portions, with outlying islands having sizeable beds.

A significant portion of the coastal habitats is at high risk of being lost in the next decade. About half have either been lost or severely degraded during the past 56 years (Fortes and Santos 2004).



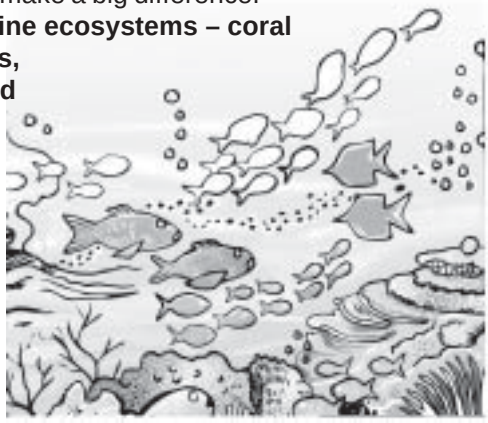
Loss of Seagrass Beds.

The disappearance of seagrass beds are largely attributed to the following:

- land use activities, such as encroachment in the habitat through reclamation and improper shoreline development including the construction of structures that impede natural water movement;
- increased human settlements along coastal areas fringed by seagrass beds;
- use of destructive fishing gears that scour and scrape the seagrass beds;
- sedimentation and siltation from upland areas;
- introduction of water borne pollutants as well as nutrient loading along the coasts from domestic, agricultural and industrial wastes.

What you can do to help protect our seagrasses:

1. **Practice responsible fishing.** Do not in any way engage in illegal or destructive fishing methods that destroy seagrass beds, other fish habitats and decimate fish populations. Stop others from engaging in these activities.
2. **Support the establishment of marine protected areas (MPAs) or marine sanctuaries**. MPAs are designated areas in the sea where fishing and other forms of human activities are restricted to protect the area's ecosystem and natural resources. Because fishing and other extractive activities are regulated if not allowed, MPAs help promote habitat recovery and restore fish productivity.
3. **Support the enforcement and implementation of fishery laws**. Fishery laws are clear against the use of dynamite, poison and other substances harmful to coral reefs as well asagainst coral gathering, extraction and selling. Report any violation of fishery laws to the police or the local government unit in your area.
4. **Advocate for and support the establishment of a coastal resource and fisheries management program in your local government**. Local government units are mandated to protect and manage coastal waters (15 km outward from the shoreline).
5. **Advocate for and support coastal zoning initiatives**. Mapping and identification of where seagrass beds and other coastal habitats are located allow for rationalization of fishing gear and other resource use.
6. **Support conservation organizations**. Many of them have coral reef programs and your much-needed financial or voluntary support to their activities will make a big difference.
7. **Learn more about our marine ecosystems – coral reefs, mangroves, seagrass, beaches, and estuaries and their importance to life on this planet.** Participate in training or educational programs that focus on marine ecology. When you further your own education, you can help others understand the fragility and value of the world's seagrass ecosystems.



8. **Spread the word and advocate for responsible and sustainable use of our natural resources.** Encourage your friends to "love and respect the ocean".
9. **Don't pollute. And stop others from polluting our coastal areas**. Don't leave trash on the beach or on the water. Make it a habit of picking up your own trash. Participate in organized coastal clean-ups.
10. **If you dive, be a responsible diver. Don't trample on the seagrass beds or pull these out of the water. Don't touch or disturb the underwater scenery.** Take only pictures, and don't stir up sediment or sand as these can settle on nearby corals and smother these.
11. **Volunteer.** Volunteer to be a sea guardian, a coastal law enforcer, a researcher, educator or advocate. The cause for sustainable seas and responsible fisheries need all the help it can get.
12. **Inform yourself**. Find out about existing and proposed laws that affect or protect the coastal and marine environment. Advocate for the passage or implementation of these conservation laws.

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MANILA OFFICE
18/F OMM-CITRA Bldg., San Miguel Ave.,
Ortigas Center, 1605 Pasig City, Metro Manila
Tel. nos: (02) 634-1617 to 21
Fax: (02) 634-1622
Email: FISH@ttemi.com.ph

CEBU OFFICE
5/F CIFC Towers, J. Luna Ave. cor. J.L. Briones St.,
NRA, 6000 Cebu City
Tel. nos.: (032) 232-1821 to 22, 412-0487
Fax: (032) 232-1825
Email: fishproject@oneocean.org

BOHOL FIELD OFFICE
2/F Robins Home Depot, 40 Palma St.,
6300 Tagbilaran City, Bohol
Tel. no.: (038) 501-7134
Cell no.: (0918) 906-1318

NORTHERN PALAWAN FIELD OFFICE
5 Redfern Apartment, Barangay 1,
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Cell. no.: (0917) 824-7696

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Rachel's Place Hotel and Restaurant Bldg.,
Ilmoh St., Lamion, Bongao, 7500 Tawi-Tawi
Tel. no.: (068) 268-1253
Cell no.: (0918) 906-1304

For more information, contact:

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The **FISHERIES IMPROVED FOR SUSTAINABLE HARVEST** Project

5/F CIFC Towers, J.Luna cor. J.L. Briones Ave., NRA, Cebu City 6000
Tel. nos.(032) 232-1821 to 22, 412-0487 Fax (032) 232-1825
Email: fishproject@oneocean.org Website: www.oneocean.org

The FISH Project is an initiative of the Government of the Philippines implemented by the Department of Agriculture-Bureau of Fisheries and Aquatic Resources, funded by the United States Agency for International Development and managed by Tetra Tech EM Inc.