

Life in Ecosystems

Match up ecosystem services (jobs performed) with the letters labeling these essential shallow water marine ecosystems and their components. Some services will match multiple letters:

Ecosystem services provided (Jobs that are performed by ecosystems)	Match Letters	Letters label components of essential marine ecosystems
Example: Filter seawater, removing small particles, microbes and algae	X (List all)	X. Clams, mussels, oysters, scallops, sponges and sea squirts
Form natural breakwaters that reduce wave energy and shoreline erosion		A. Kelp Forests
These true plants with roots, flowers, and seeds make habitats for whole communities		B. Kelp fronds (also known as blades or lamina; like leaves)
Where photosynthesis takes place; fixes carbon and releases oxygen		C. All the spaces in the water between mangrove roots
Herring spawning habitat in northeast Pacific, provides shelter and O ₂ to developing eggs and larvae.		D. Eelgrass roots and rhizomes (like roots but go sideways (lateral).
Blue carbon' sink, where CO ₂ goes from air to water to biomass, which is buried in the seafloor, long-term (1000s + years)		E. The anoxic (no oxygen) mud in deep water, under eelgrass and below mangroves
Protects tropical shorelines from hurricanes and cyclones		F. Filter feeding, bottom dwelling animals like clams and sponges
In need of priority protection, restoration and public awareness		G. Eelgrass Meadows
Supports biodiversity from microbes to mammals (directly and indirectly)		H. Mangrove forests
A nursery for wild Pacific salmon smolts going from freshwater to the wild salty sea. Or a nursery for little coral reef fish.		I. Essential marine ecosystems

Reflection:

The ocean has incredible diversity of life but is not as boundless as we once thought. Now that we know our activities can make a big difference how can we change from the unsustainable ways of thinking to new sustainable ways of thinking and acting, that will sustain our ocean for generations to come. Use the example as a guide and the table, if you want, or make two lists.

Unsustainable ocean activities, from the old days when people thought the ocean was infinite.	Sustainable ocean activities now that we know that the ocean is finite and a treasure to take care.
Take as much as possible, as quickly as possible.	Only take a measured amount, in the knowledge that you leave enough to reproduce and to grow up to make more.