

Navigation Journey of Mankind

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On a rainy morning, I remember those innocent childhood days floating paper boats in puddles of water, cheering up friends, looking at each one's



boats advancing, was pure joy.



The journey of growing up and progressing from sailing small boats to ships, preparing maps, using compass to determine the direction, studying wind speed, understanding the depth of river and sea water, the types of tides and water velocity and navigating techniques to Marine



science and marine life threats and pleasures, had been a long journey through years of growing civilisation.

We grew up from paper boats to bigger boats, sailing on rough sea, risking lives and carrying on trade and commerce, as well as warfare.

Bangladesh is a country of rivers. Generations of people have grown up rowing boats in rain and sun shine, in high and low tides, for catching fish and transporting goods and human population to another shore.

Mankind's journey through rough waters and rough weathers, storms and rains, sunshine and rocky obstacles, has a very interesting and evolving stages. Conventional shipping with sails had extremely tough journey in rough waters in deep sea, often risking human lives, have been part of the entire journey.

Dutch history of naviagation goes back to 15th Century. Overseas trade was a traditional cornerstone of the Dutch economy; naval defence was indispensable for the protection of commercial interests.



Dutch Naval Ships

During the 17th century the Dutch Republic was involved in many wars, many of them at sea. The main goal of the Dutch navy was to protect shipping lanes.



Nutmeg cultivation in Indonesia and spice trade by the Dutch through

the sea route was a highly adventures yet profit yielding venture for years.

Spice Trade Routs through Sea of Dutch

Dutch Ships and **Sea** Routes to **Indonesia** ...

occupation of the Bandas from 1609 to 1623 gave them **control** of the **nutmeg** trade.



Dutch East India Company

It had been one of the most remarkable navigation journeys in the history when the Dutch established Trade Routes through the Sea, with a remarkable vision and management of the Trade, Finance, Marketing and advancing the Marine techniques in the deep sea. They had a very organised Ship Yard in Amsterdam in 1700s.



The [shipyard](#) of the United East India Company (VOC) in Amsterdam (1726 engraving by [Joseph Mulder](#)). The [shipbuilding](#) district of [Zaan](#), near Amsterdam, became one of the world's earliest known industrialized areas,



with around 900 wind-powered [sawmills](#) at the end of the 17th century.

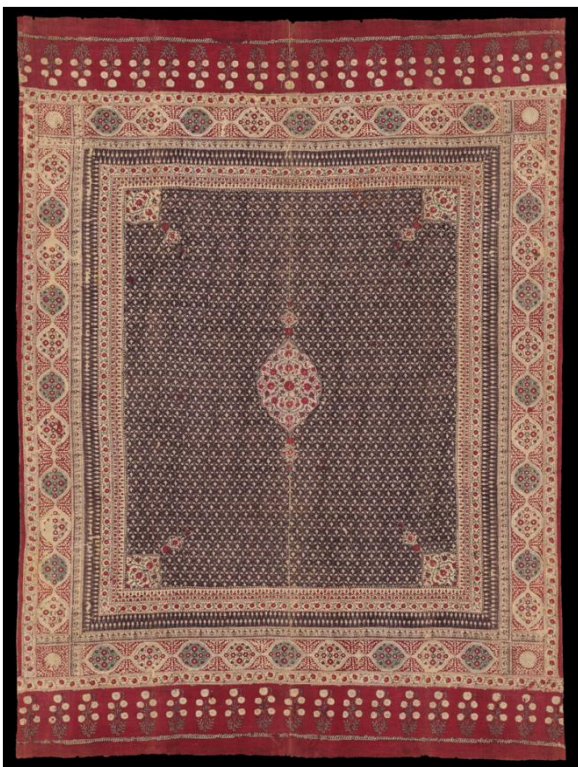
Dutch Stock Exchange in Amsterdam.

The Dutch flourished through Trade and sea routes were one of the important routes of travel.

Courtyard of the [Amsterdam Stock Exchange](#) (or [Beurs van Hendrick de Keyser](#) in Dutch), the world's first formal [stock exchange](#). The formal [stock market](#) in its modern sense – as one of the potent mechanisms of [modern capitalism](#)– was a pioneering innovation by the VOC managers and shareholders in the early 17th century.



Pink, White, Green and Black Pepper corns traded by the Dutch brought from several parts of the world.



VOC (The Dutch Trading Company) Trade Cloth, 1675-1725, with Mughal tent hanging / summer carpet motif. Made in India for the Indonesian market. Fine textiles from India were a popular luxury import into Indonesia, and some still survive as treasured heirlooms.

[Kopi luwak](#), coffee seeds from faeces of [palm civet](#), Lampung, Indonesia. [Coffee cultivation in Indonesia](#) began in the late 1600s and early

1700s, in the VOC period. Indonesia was the fourth-largest producer of coffee in the world in 2014.



[Groot Constantia](#), the oldest [wine estate](#) in South Africa. The [South African wine](#) industry ([New World wine](#)) is among the lasting legacy of the [VOC era](#). Like [native economy of Taiwan in pre-VOC era](#),^[253] [pre-1652 South](#)

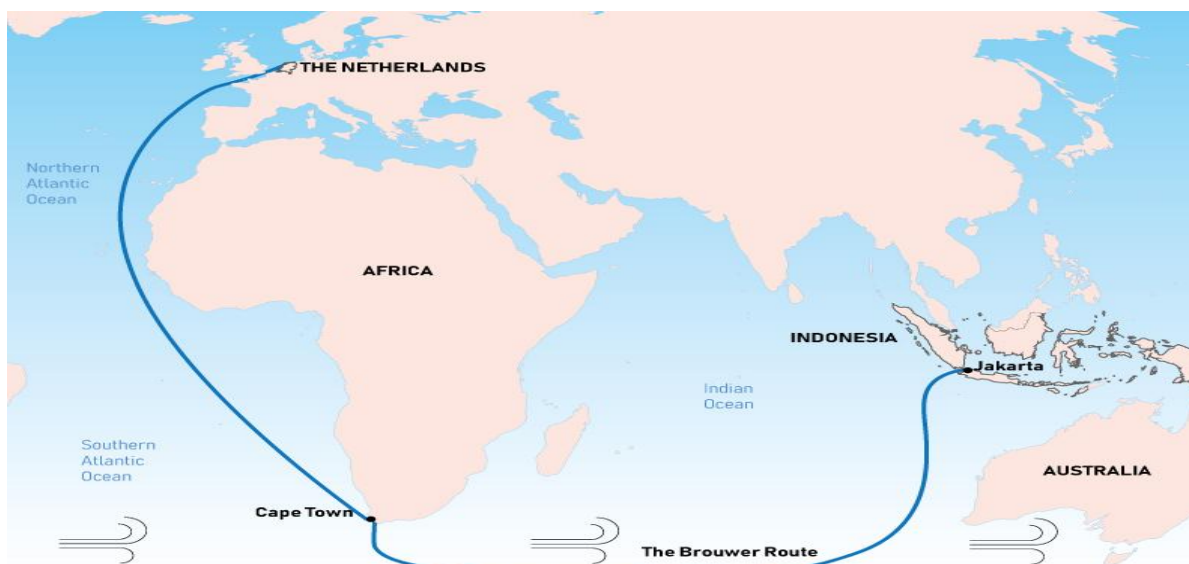
[Africa](#) was virtually undeveloped or was in almost primitive state



[Hansken](#), a young female [Asian elephant](#) from [Dutch Ceylon](#), was brought to Amsterdam in 1637, aboard a VOC ship. [Rembrandt's](#) Hansken drawing is believed to be an early portrait of one of the first Asian elephants described by science.



Regions of Oceania (including [Australasia](#), [Polynesia](#), [Micronesia](#), and [Melanesia](#)). "The Island Continent" [Australia](#) was the last human-inhabited continent to be largely known to the civilized world. **The VOC's navigators were the first non-natives to undisputedly discover, explore and chart coastlines**



In the [Age of Sail](#), the [Brouwer Route](#), devised by VOC navigator [Hendrik Brouwer](#) in 1611, greatly reduced the voyage between [Cape of Good Hope](#) ([Dutch Cape Colony](#)) to [Java](#) ([Dutch East Indies](#)) from almost 12 months to about 6 months, compared to the previous Arab and Portuguese monsoon route. The Brouwer Route played a major role in the European discovery of the west coast of Australia....



A replica of the VOC vessel [*Batavia*](#) (1620–29)

Christopher Columbus

Christopher Columbus born in 1405, was an Italian explorer and navigator who completed four voyages across the Atlantic Ocean, opening the way for the widespread European exploration and colonization of the Americas.



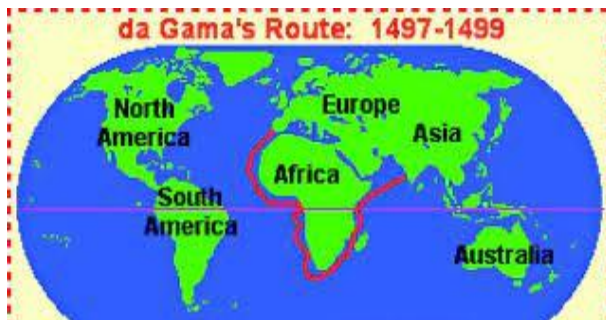
The explorer **Christopher Columbus** made four trips across the Atlantic Ocean from Spain: in 1492, 1493, 1498 and 1502. He was determined to find a direct water route west from Europe to Asia, but he never did. Instead, he stumbled upon the Americas.



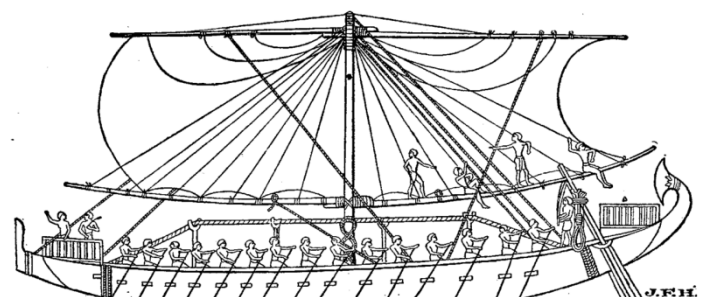
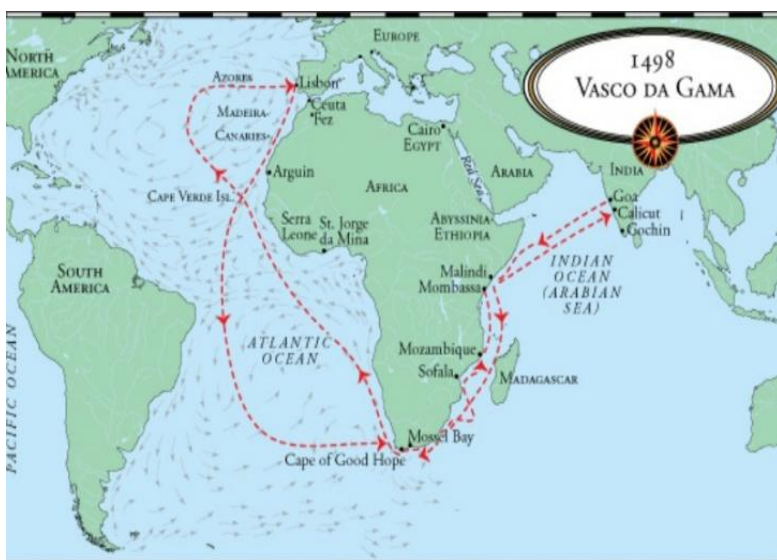
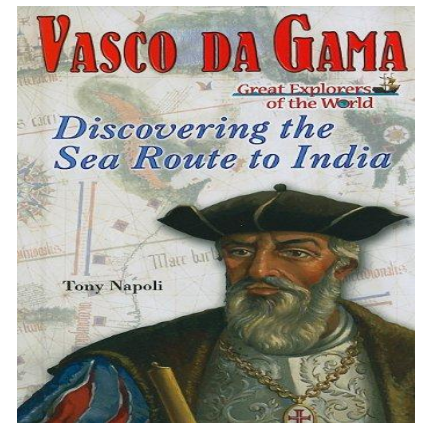
Nonetheless, Columbus remains one of the most well known explorers of his time — and he's still celebrated every year on Columbus Day.

Picture of Columbus's Ship Santa Maria

Vasco Da Gama reached India through sailing most difficult deep sea Voyage in 1498. He navigated through the following sea rout.



Vasco Da Gama reaching the shores of India. An European Portuguese; c. 1460s – 24 December 1524), was a Portuguese explorer and the first European to reach India by sea.



Egyptian ship on the Red Sea, about 1250 B.C. [From Torr's 'Ancient Ships'.]
Mr. Langton Cole calls attention to the rope truss in this illustration, stiffening the beam of the ship. No other such use of the truss is known until the days of Modern engineering.

Marco Polo was a Merchant and Voyager from a very young age of 15

or 16. He travelled with his father and uncle through the silk route in Central Asia for trade.



Basic Information:

- Name: Marco Polo
- Date of Birth: September 15, 1254
- Native Country: Italy
- Country Explored For: No specific country
- Areas Explored: China and Central Asia
- Purpose of Exploration: He was a voyager and merchant
- Dates of Exploration: 1271-1292
- Name of Ship: Dummas
- Why he is Famous: His travels through Asia
- How he Died: natural causes
- Where he Died: Venice, Italy
- When he Died: January 8, 1324

He travelled from Trebizond, by **ship over the Black Sea** to **Constantinople**, and then crossed the

Mediterranean Sea to Venice. They arrived to Venice in the winter of 1295, after being away for 24 years, and loaded with many treasures from the Far East.

The navigation was extremely challenging and dangerous in the deep seas with ships with sails, driven by winds. The storms in the were life threatening often.

Marco Polo

- The account of his travels exercised deep influence on European readers. His book is a mix of accurate descriptions of things he saw and the passing along of fables about far away lands.
- His systematic observations of nature, anthropology, and geography were ahead of his time.
- For hundreds of years, his story was one of the only sources of European information about China (Columbus relied heavily on Marco Polo's geography when planning his own voyage to reach Asian markets by sailing west from Europe).

Most trade of spices and goods took place through deep sea and ancient ships, with many sailors engaged in navigating the ship. They depended on the direction and speed of wind in the deep seas and had a compass to understand the direction. War ships were developed and used extensively in 1500.



Naval Ships of the Middle Ages



Spanish and Dutch Warships



Modern Ships as the Times Progressed

River Cruise, Oil Tankers, Cargo Ships & Sea Cruise, Warships, Air-Craft Carriers & Sub-Marines. Today we have Artificial Intelligence to strengthen our warships for most modern warfare in deep Sea.



Oil Tanker in deep sea



Cargo Ship in Mid-Sea



Cruise Ship for Passengers in Deep Sea



Luxurious Cruise Ship for Tourists.



A Bed Room in the ship

The Cruise Ships are luxurious and provide a very relaxing environment in well designed interiors. Some passengers prefer them for working holidays, and some are tourists and look forward to beautiful sight seeing on voyage.



Dining Hall in a Cruise Ship





Dinning Area in a Cruise Ship
Dinning area on the Deck



Dining area in Royal Caribbean; a Luxurious Cruise Ship

India warship

As of July 2021, the Indian Navy possesses 1 aircraft carrier, 1 amphibious transport dock, 8 Landing ship tanks, 10 destroyers, **13 frigates**, 1 Nuclear-powered ballistic missile submarine, 16 conventionally powered attack submarines, 23 corvettes, 8 Landing Craft Utility, 10 large offshore patrol vessels, 5 fleet ...



War Ships



Aircraft Carrier Ships for Navy



Fleet of Warships in the sea



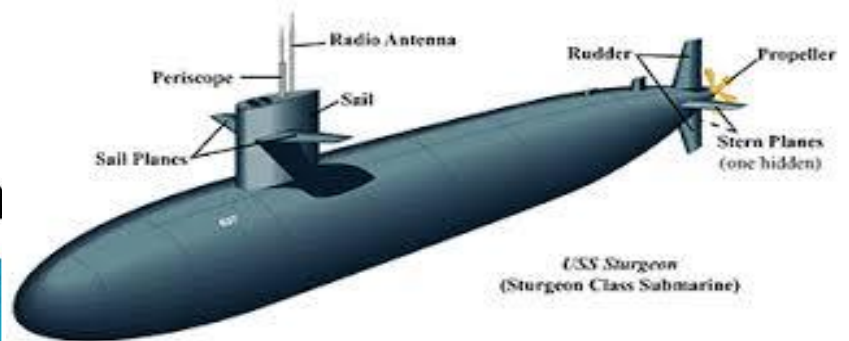
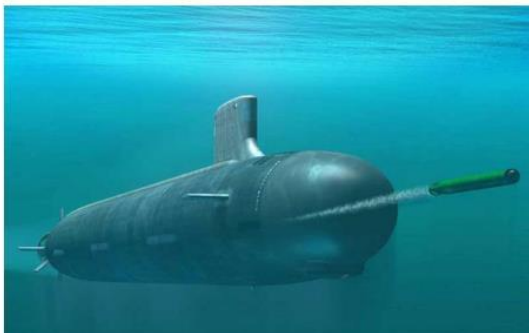
US Navy Submarines



Nuclear submarine

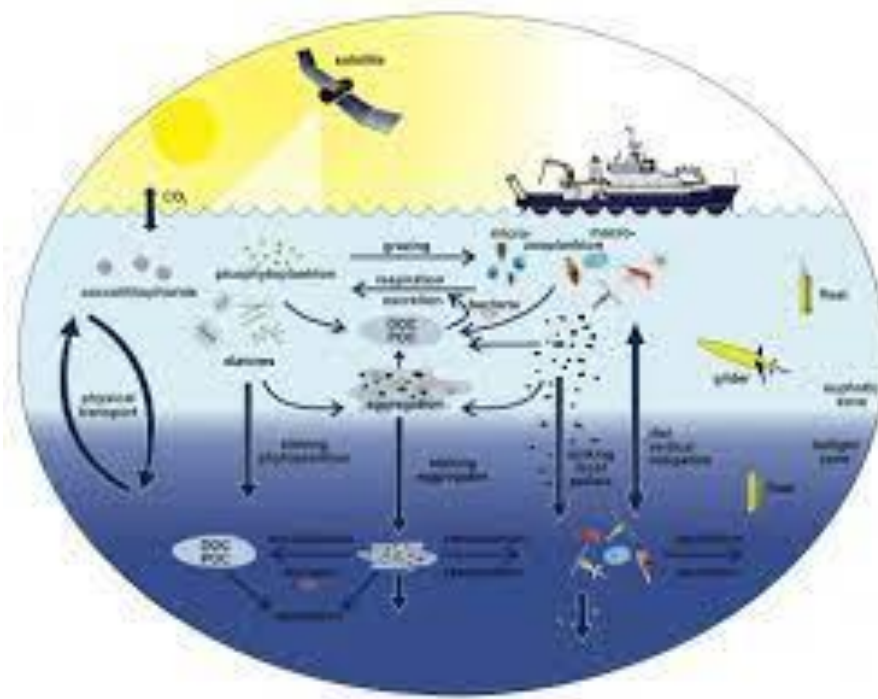
The Navigation journey has progressed with intense scientific research and development, enriching the warfare further with use of nuclear science.

Advancin





Marine Life –a Threat & Pleasure



Due to intensive Maritime activities, be it for pleasure, for Trade & Commerce or for winning battles, we the human being encroach upon the quality of lives of the Marine life. There is a biological ecosystem under the sea and the sea creatures live in that biological circle.



Our ocean, coasts, and estuaries are home to diverse living things. These organisms take many forms, from the tiniest single-celled plankton to the largest animal on Earth, the blue whale. Understanding the life cycles, habits, habitats, and inter-relationships of marine life contributes to our understanding of the planet as a whole.



Human influences and reliance on these species, as well as changing environmental conditions, will determine the future health of these marine

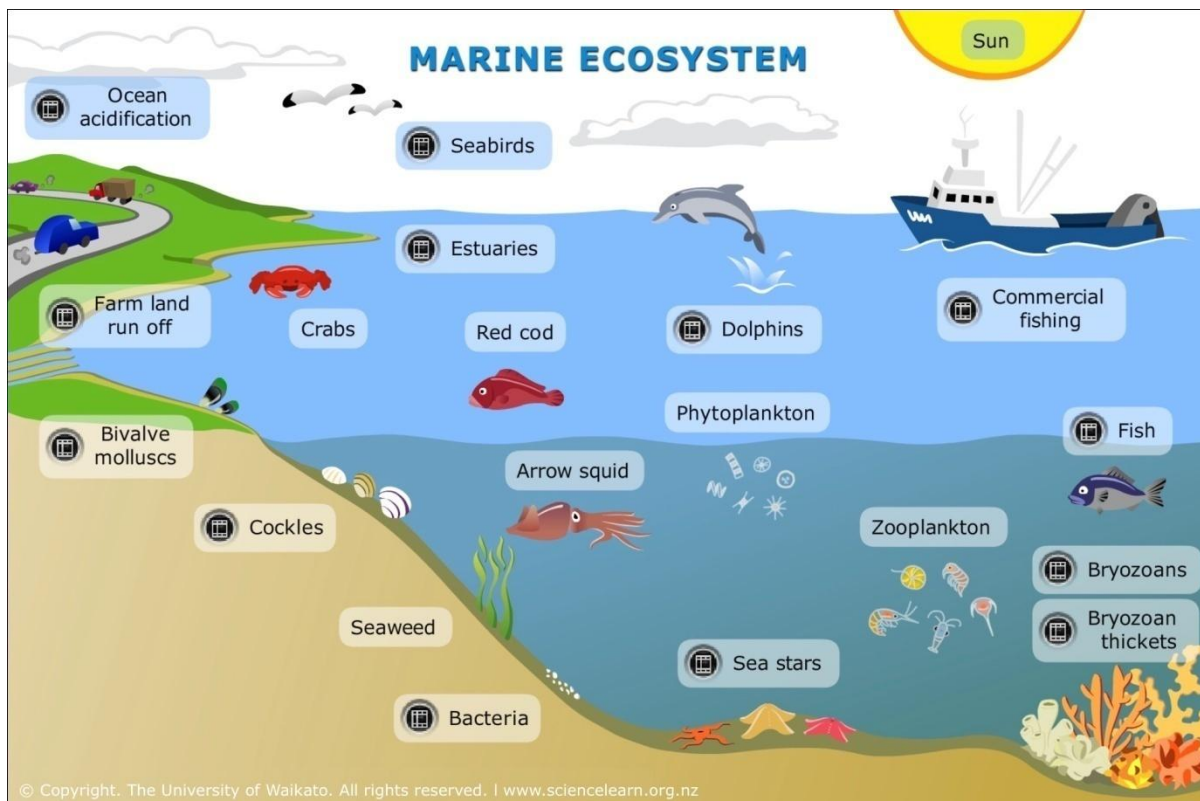
inhabitants. [Toxic spills](#), oxygen-depleted dead zones, [marine debris](#), increasing ocean temperatures, overfishing, and shoreline development are daily threats to marine life. Part of NOAA's mission is to help protect these organisms and their habitats.



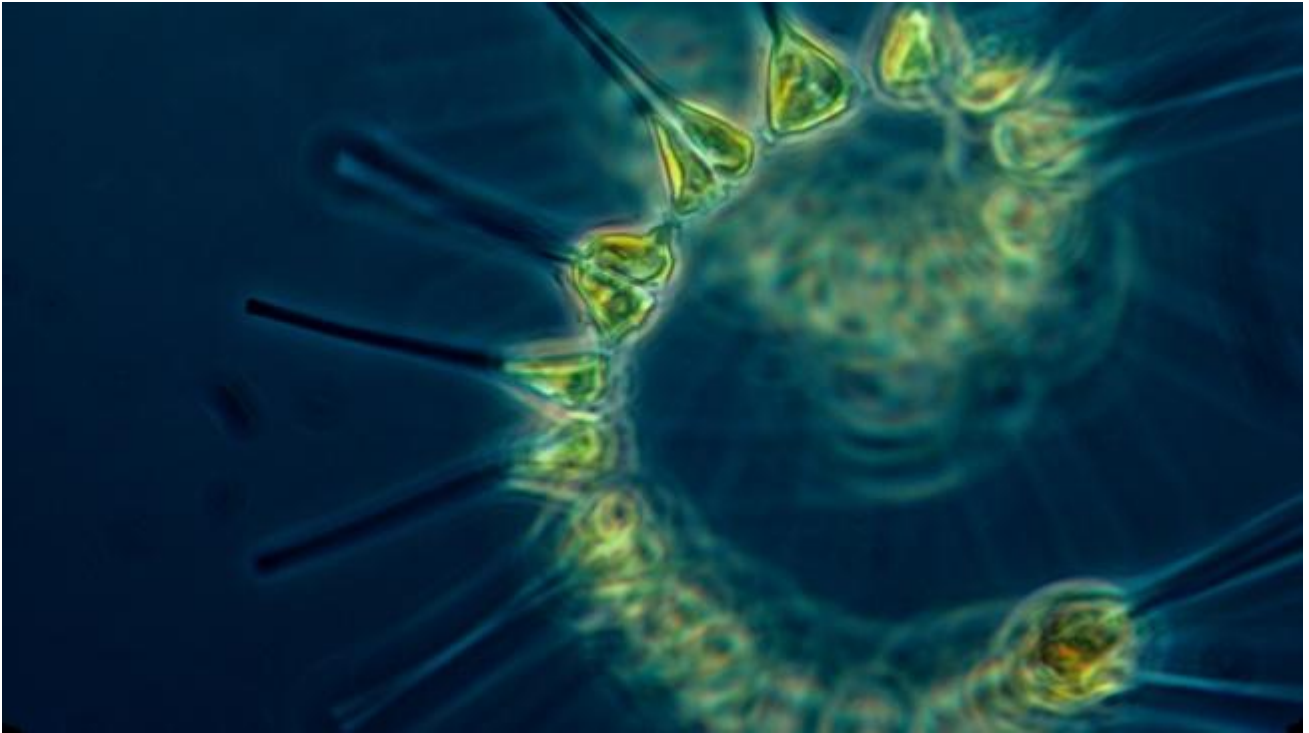
Aquatic Food Chain

Food webs describe who eats whom in an ecological community. Made of interconnected food chains, food webs help us understand how changes to ecosystems — say, removing a top predator or adding nutrients — affect many different species, both directly and indirectly.

Phytoplankton and algae form the bases of aquatic food webs. They are eaten by primary consumers like zooplankton, small fish, and



crustaceans. Primary consumers are in turn eaten by fish, small sharks, corals, and baleen whales. Top ocean predators include large sharks, billfish, dolphins, toothed whales, and large seals. Humans consume aquatic life from every section of this food web.



Coral reef ecosystems

Coral reefs are some of the most diverse ecosystems in the world. [Coral polyps](#), the animals primarily responsible for building reefs, can take many forms: large reef building colonies, graceful flowing fans, and even small, solitary organisms. Thousands of species of corals have been discovered; some live in warm, shallow, tropical seas and others in the cold, dark depths of the ocean.

Fisheries & Sea Foods

Seafood plays an essential role in feeding the world's growing population. Healthy fish populations lead to healthy oceans and it's our responsibility to be a part of the solution. The resilience of our marine ecosystems and coastal communities depend on sustainable fisheries.

Life in an estuary

Estuaries are areas of water and shoreline where rivers meet the ocean or another large body of water, such as one of the Great Lakes. Organisms that live in estuaries must be adapted to these dynamic environments, where there are variations in water chemistry including salinity, as well as physical changes like the rise and fall of tides. Despite these challenges, estuaries are also very productive ecosystems. They receive nutrients from both bodies of

water and can support a variety of life. Because of their access to food, water, and shipping routes, people often live near estuaries and can impact the health of the ecosystem.

What is an estuary?

Many different types of plant and animal communities call estuaries home because their waters are typically brackish — a mixture of fresh water draining from the land and salty seawater. This unique combination of salty and fresh water creates a variety of habitats. Some common [estuarine habitats](#) are oyster reefs, kelp forests, rocky and soft shorelines, [submerged aquatic vegetation](#), coastal marshes, mangroves, deepwater swamps, and [riparian](#) forests. With so many places to live and so many niches to fill it is no wonder why estuaries are some of the most productive ecosystems in the world.

Importance of estuaries

Estuaries are very important to the lives of many animal species. They are often called the “nurseries of the sea” because numerous animal species rely on estuaries for nesting and breeding. Most of the [fish and shellfish](#) eaten in the United States, including salmon, herring, and oysters, complete at least part of their life cycles in estuaries. Besides being a source for food, humans also rely on estuaries for recreation, jobs, and even our homes. A majority of the world’s largest cities are located on estuaries. This can be both a good and a bad thing. Estuaries filter out sediments and pollutants from rivers and streams before they flow into the ocean, providing cleaner waters for humans and marine life. However, coastal development, introduction of invasive species, overfishing, dams, and global climate change has led to a decline in the health of estuaries.



Oil Spill in Deep Sea

Maintaining a balance between human activity and the lives of marine ecosystem. Exploration of sea through voyages and warfare in the deep seas, indiscriminate fishing and also the amount of human waste, plastic waste is being dumped into the sea is causing serious damages to the environment & marine ecosystem. We need to be sensitive towards saving the sea from pollution due to increased maritime activity.



Best Regards

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