

# THE YELLOW SEA ECOREGION: A GLOBAL BIODIVERSITY TREASURE

## A global biodiversity treasure under pressure

The Yellow Sea LME is an important global resource. This international waterbody supports substantial populations of fish, invertebrates, marine mammals, and seabirds. Among the world's 64 large marine ecosystems (LMEs), the Yellow Sea LME has been one of the most significantly affected by human development. Large human populations live in the basins that drain into the Yellow Sea. Seaside cities with tens of millions of inhabitants include Qingdao, Tianjin, Dalian, Shanghai, Seoul/Inchon, and Pyongyang-Nampo. People in these urban areas are dependent on the Yellow Sea as a source of food, economic development, recreation, and tourism.

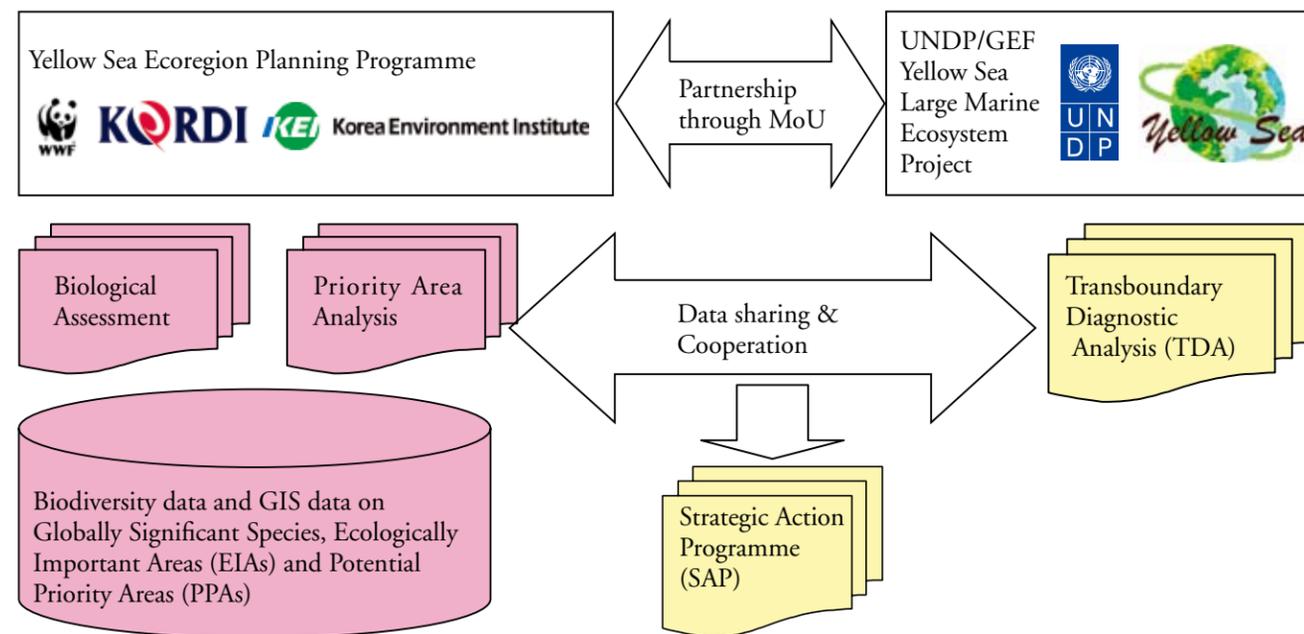
Yet the Yellow Sea is under serious threat from industrial and agricultural waste, extensive economic development in the coastal zone, the unsustainable exploitation of natural resources, and unsustainable fishery practices. This has resulted in the loss of biomass, biodiversity, and habitat.

## A regional strategy and action plan

The global importance of the Yellow Sea Ecoregion has been recognised by governments and the international community in recent years. Starting in 1992, the Chinese and South Korean governments together developed a transboundary approach to the management of the Yellow Sea area with the assistance of UNDP, UNEP, the World Bank, and NOAA. In 2005, a UNDP/GEF project, the Yellow Sea Large Marine Ecosystem project, was officially launched with participation of the Chinese and South Korean governments.

Meanwhile, in 2002, WWF and other conservation NGOs and research institutes in China, South Korea and Japan began an assessment of Yellow Sea Ecoregion biodiversity. The objective of this regional partnership was to prioritise conservation actions based on scientific data.

In 2005, the Yellow Sea Ecoregion Planning Programme (a joint initiative between WWF, KORDI and the Korea Environment Institute) and the UNDP/GEF Yellow Sea Large Marine Ecosystem Project signed a memorandum of understanding (MoU). The MoU aims to promote one regionally coordinated biodiversity strategy and action plan amongst both projects and the sharing of biodiversity assessments and analysis data.



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About the Yellow Sea Ecoregion Planning Programme: The Yellow Sea Ecoregion Planning Programme is an international partnership between WWF, KORDI, and KEI for conservation of biodiversity of the Yellow Sea Ecoregion.

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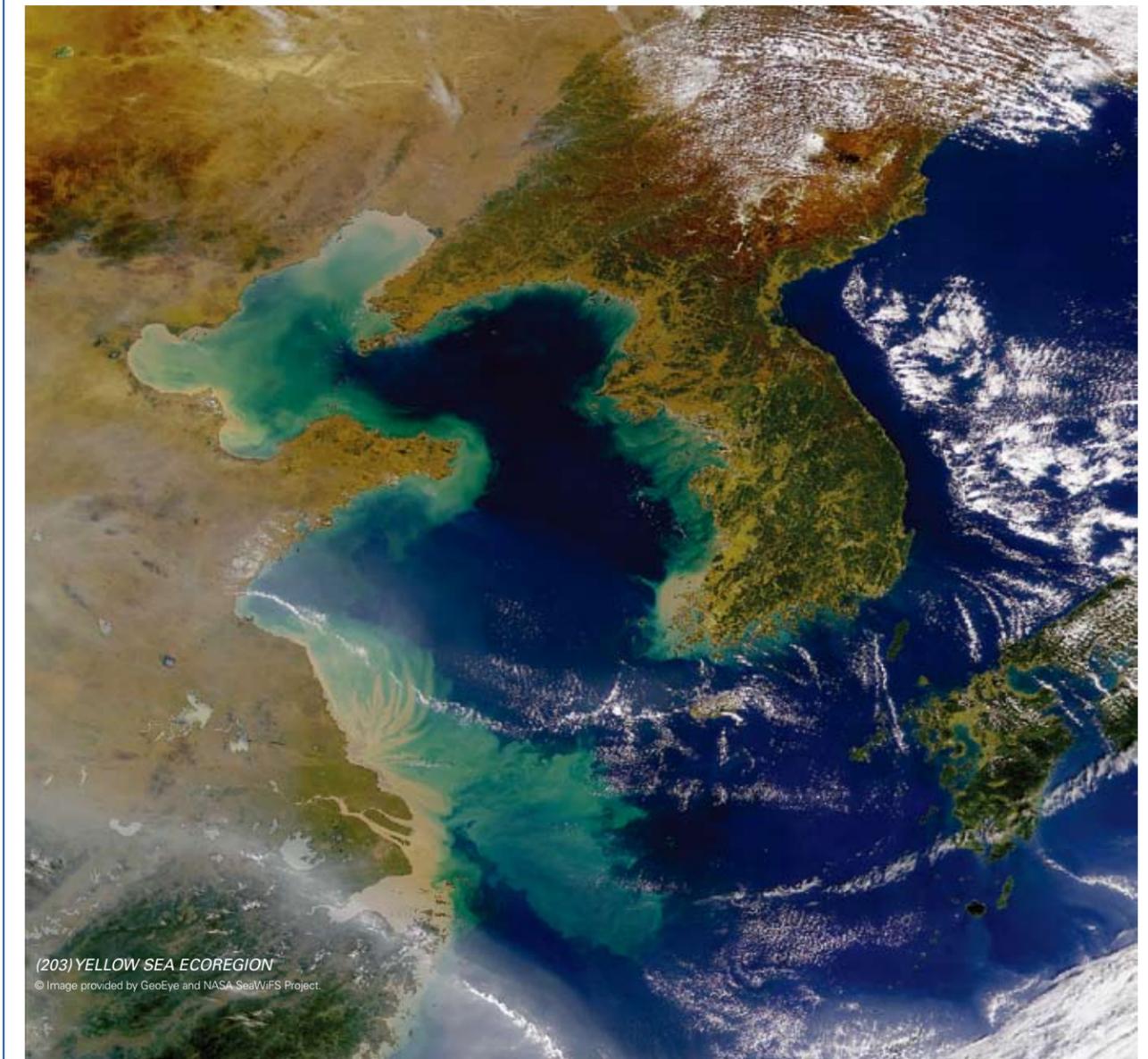
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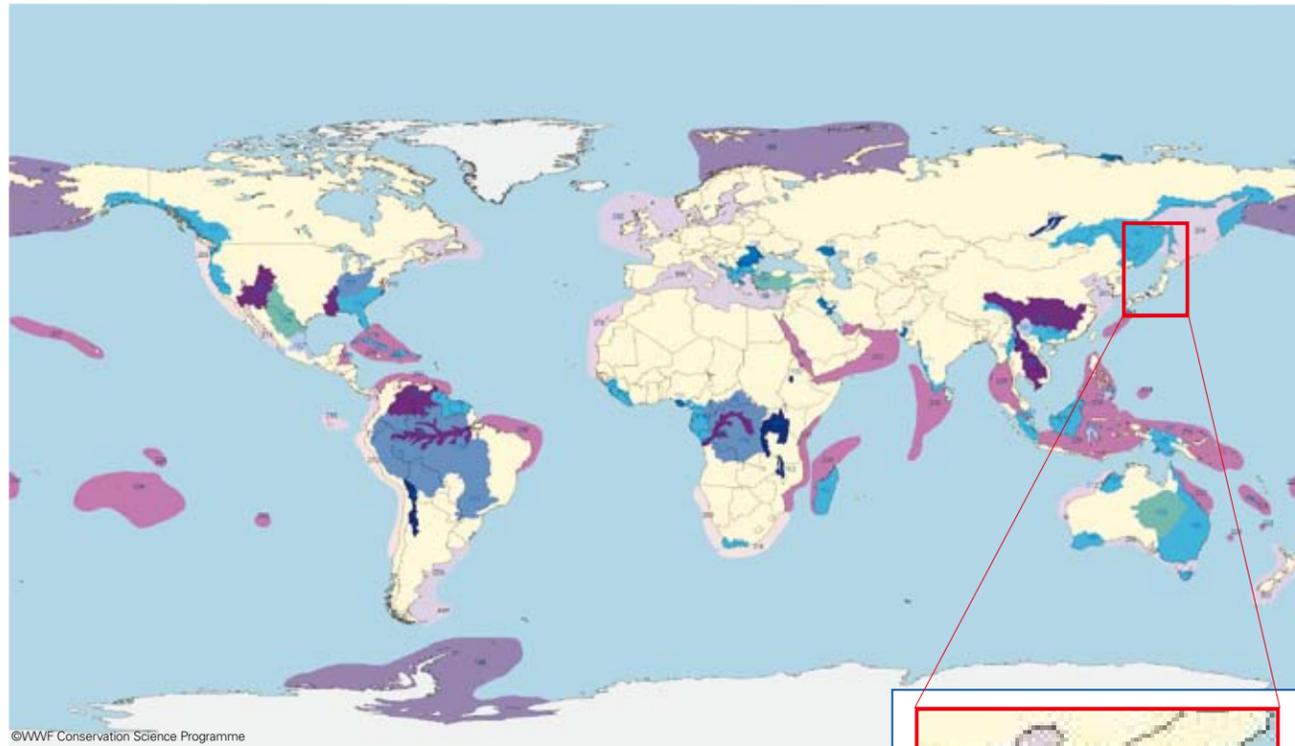
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# Yellow Sea Ecoregion

## A global treasure, a global responsibility



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Yellow Sea Ecoregion in the Global 200 (Marine and Freshwater Ecoregions only)

## The Global 200 - Blueprint for a living planet

In 1997, WWF embarked on ecoregion conservation as a response to the increased pace of degradation of the world's endangered habitats and species.

To begin with, WWF identified the most valuable and sometimes vulnerable ecoregions in the world which best represent the breadth of biodiversity and ecological processes.

The list of priority ecoregions identified by WWF scientists is known as The Global 200 Ecoregions.

The Global 200 recognize the fact that, whilst tropical forests and coral reefs harbour the most biodiversity and are the traditional targets of conservation organizations, unique manifestations of nature are found in temperate and boreal regions, and in deserts and mountain chains, which occur nowhere else on Earth and which risk being lost forever if they are not conserved.

## The Yellow Sea Ecoregion

### Representative

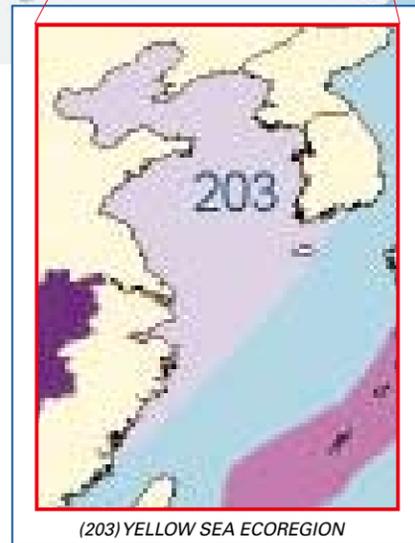
The Yellow Sea Ecoregion (#203) is a marine representative of the Temperate Shelf and Seas in the North Temperate Indo-Pacific Ocean. It is one of the 43 marine ecoregions in the Global 200, which encompasses the most distinctive examples of the five major marine habitat types, from polar seas to tropical coral reefs.

### Comprehensive

The Yellow Sea Ecoregion is not just a marine representative, but also a global representative of the earth's biodiversity. It is also one of the 238 ecoregions in the Global 200, which includes terrestrial and freshwater ecoregions.

### Ecoregion

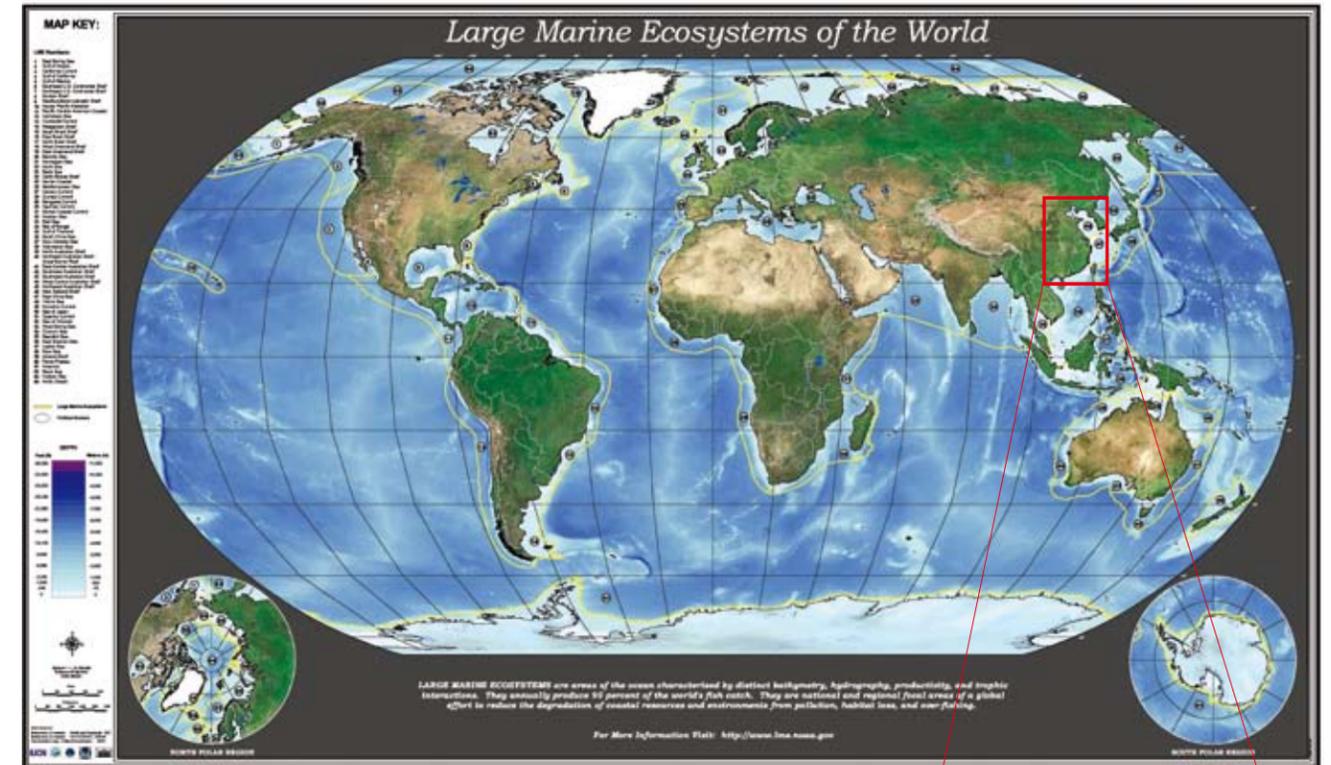
Yellow Sea Ecoregion follows the natural marine ecosystems unit, not political or administrative boundaries, therefore it is an appropriate scale for biodiversity comparison and analysis.



### What is an ecoregion?

Biodiversity is not spread evenly across the Earth but follows complex patterns determined by climate, geology and the evolutionary history of the planet. These patterns are called ecoregions. WWF defines an ecoregion as a large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions.

The boundaries of an ecoregion are not fixed and sharp, but rather encompass an area within which important ecological and evolutionary processes most strongly interact.



The Yellow Sea Large Marine Ecosystem (LME #48) and the East China Sea Large Marine Ecosystem (LME #47)

## Large Marine Ecosystems (LMEs)

**64 LMEs produce 95 percent of the world's annual marine fishery biomass yields**

LMEs encompass coastal areas of river basins and estuaries to the seaward boundaries of continental shelves and the outer margins of major current systems. They are relatively large regions on the order of 200,000 km<sup>2</sup> or greater, characterized by distinct: (1) bathymetry, (2) hydrography, (3) productivity, and (4) trophically dependent populations.

On a global scale, 64 LMEs produce 95 percent of the world's annual marine fishery biomass yields. Most of the world's ocean pollution, overexploitation, and coastal habitat alteration occur within their waters.

Studies have been conducted of the principal driving forces affecting changes in biomass yields for 33 of the 64 LMEs. They have been peer-reviewed and published in ten volumes (<http://www.lme.noaa.gov>). Based on lessons learned from the LME case studies, a five-module strategy has been developed to provide science-based information for the monitoring, assessment, and management of LMEs. The modules are focused on LME: (1) productivity, (2) fish and fisheries, (3) pollution and health, (4) socioeconomics, and (5) governance.

## Yellow Sea Large Marine Ecosystem and East China Sea Large Marine Ecosystem

The Yellow Sea Large Marine Ecosystem (LME #48) and the East China Sea Large Marine Ecosystem (LME #47) are part of this global map of the highly productive large marine ecosystems.

(Information on the Yellow Sea Large Marine Ecosystem is available at <http://www.lme.noaa.gov>, and is used here with the kind permission of Dr. Kenneth Sherman, Director of NOAA's Large Marine Ecosystem Program)

