



## Control of Marine Pollution (Text book)

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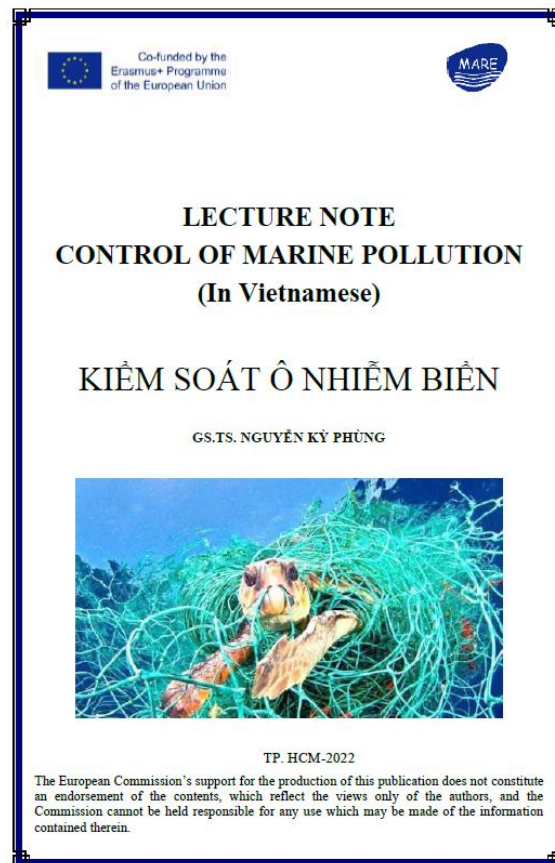


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## Innovative teaching and learning strategies in control of marine pollution for student.

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### PREFACE

Marine pollution is becoming a very serious and urgent problem, threatening the environmental, economic and social sustainability of many countries around the world. According to estimates by scientists, 80% of the waste entering the sea comes from activities on land.

A huge amount of garbage is dumped from the mainland to the sea every day by many different routes. Many coastal estuaries have been polluted by industrial and urban wastewater. In many coastal provinces, there is a discharge of untreated or untreated waste not meet the standards, causing great damage to the economy, life and livelihoods of coastal communities and unpredictable damage to ecosystems and marine life.

The biggest danger comes from the huge amount of plastic waste that is floating day and night on the ocean currents. Although warnings about plastic pollution are continuously raised to a higher level, although countries have been trying to solve the problem from plastic waste and recycling, it is difficult to solve the problem on the basis of one early afternoon.

In fact, plastic waste has been slowly accumulating in the marine and ocean environment since the 1960s, to the point where we have huge mountains of plastic floating in the ocean and other plastic waste drifting across the oceans. Beautiful clean beaches in the world. There are an estimated 580,000 pieces of plastic of different sizes per square kilometer, with more than 8 million tons of plastic waste entering the oceans each year.

The amount of plastic from waste can release harmful chemicals that seep into the surrounding soil, which can then seep into groundwater or other surrounding water sources and the world's ecosystems. This can seriously harm water-drinking species, including marine and terrestrial creatures, including humans.



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Environmental activists have warned that there could be more plastic waste than fish in the oceans by 2050. Globally, it is estimated that more than 100 million marine animals are killed each year by plastic waste. Sea pollution directly affects the ecosystems and components of the sea, thereby affecting the socio-economic activities of people.

The lecture on marine pollution control consists of 4 chapters with the following contents:

CHAPTER 1: Sea pollution

CHAPTER 2: Limited concentrations of pollutants in the sea

CHAPTER 3: Pollution control and management of marine resources and environment

CHAPTER 4: International law on the prevention of sea environment pollution by waste

This book offers an introduction to the sea pollution and how to control and manage the marine resources and environment. This textbook also introduces the international law on prevention of sea environment pollution by waste.

The target audience are bachelor's level students, interested in marine pollution control and management of marine resources and environment.



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### Biography of author

Professor Nguyen Ky Phung have been working as a Senior Lecturer – Faculty Leader of Faculty of Marine Resources Management, Ho Chi Minh City University of Natural Resources and Environment – HCMUNRE, Vietnam. Professor Nguyen Ky Phung completed his M.Sc. in Oceanography and then pursued a PhD in Oceanography at St. Petersburg Hydro-meteorological University, Russia in 1993, and he has held postdoctoral fellowships at the Russian state Hydro-meteorological Institute. For eight years, he was Vice Director of Department of Science and Technology – DOST, Ho Chi Minh City, Viet Nam and Director of Institute for Computational Science and Technology – ICST, Vietnam. He also was Board member of National Marine Science and Technology Program, Ministry of Science and Technology; Environmental Protection and Climate Change Program, Department of Science and Technology, HCMC, Vietnam; Water and Environment Association, HCMC, Vietnam and also served for 4 years on the Board of the Sub Institute of Hydro-meteorology and Environment of South Vietnam, Ministry of Resources and Environment; 8 years on the Board of Faculty of Environment, University of Science, VNU-HCM.

Professor Nguyen Ky Phung’s research interest is sustainable water resources management. His research focus on hydrodynamic in river estuary and sea; modelling sediment transportation in river and coastal area (waves, tides, distribution of salt); modelling and forecasting the distribution of pollution. He involves in a variety of national and international research and development projects, he was Project Coordinator of 49 research projects, author and co-author of 157 paper. He was also author of ten books: Characteristics of Hydro-meteorology in Ho Chi Minh City (2018); Coastal zone management in Southern Viet Nam (2016); Coastal resources and environmental management (2016); Environment statistics (2014); Hydro Meteorological Maps of Ho Chi Minh city (2014); Interaction of Land-Ocean in the South Viet Nam (2014); Climate Change and its Impacts on Ho Chi Minh City (2013); Calculation Methods in Environmental (2009); Ocean Resources and Environment, (2008); Modelling of surface water pollution (2007).