



# MARINE ANIMALS

BY STAFF OF ACS DISTANCE EDUCATION

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# PREFACE

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This e-book is designed to provide a guide for some of the more common animals found in marine ecosystems around the world. The animals are presented in groups according to similar morphological features.

Chapter 1 of this e-book introduces the concept of taxonomic classification. It provides a general overview of how marine animals are classified into various phyla, orders, families etc. The larger groups are covered in further detail in following chapters. These are broken up into marine fish, birds, reptiles, mammals, invertebrates and zooplankton.

A guide to terminology used throughout the e-book is located at the end. Those words in the terminology section are highlighted using bold font throughout the passages. This e-book is aimed for anyone who has an interest in marine animals. .



# INTRODUCTION

Ocean environments cover more than 70% of the earth's surface; therefore it is no wonder that they also contain almost 50% of all species on earth. The exact number of marine species in existence is not known as there are many areas of the ocean that remain unexplored. Scientists believe there are over 2.2 million species in our oceans. Over one

million of these are marine animals. Marine animals can range significantly in size from microscopic krill through to the Blue Whale which is the largest animal to ever live on earth. The ocean environments they occupy can also vary from the intertidal zones along our coastlines through to the deepest depths of the oceans.



*Epinephelus lanceolatus* Qld Groper

Marine species are extremely sensitive to changes in their environment. There are many human activities that have led to the endangerment of marine animals. These include overfishing, bottom trawling, whaling, pollution, habitat degradation and climate change.

Climate change associated with human activities over the past one hundred years has impacted greatly on marine ecosystems. The temperature of sea water in many tropical areas has been rising over time which has led to the increased occurrence of coral bleaching worldwide. This is a stress reaction in coral in which corals expel microscopic algae which provides their food resource.



Foxface *Siganus vulpinus*



Pyramid Butterfly Fish *Hemitaurichthys polylepis*

The bleached coral can recover, but only if cooler water temperatures return and the algae are able to grow again. This is an incredibly slow process however, and the rate of destruction of the reefs is far quicker than the recovery rate.

We need to ensure the human impact on marine animals is reduced to ensure that future generations can also enjoy these fascinating creatures.



Pelican *Pelecanus conspicillatus*



Orbicular Batfish *Platax*



Polar Bear *Ursus maritimus*