

1. Record Nr.	UNINA9910810478603321
Titolo	Coral reefs : biology, threats and restoration / / Thomas B. Davin and Anna P. Brannet, editors
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2009
ISBN	1-61209-076-1
Edizione	[1st ed.]
Descrizione fisica	xii, 269 p. : ill. (some col.), maps
Collana	Oceanography and ocean engineering series
Altri autori (Persone)	DavinThomas B BrannetAnna P
Disciplina	578.77/89
Soggetti	Coral reef biology Endangered ecosystems Coral reef restoration
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- CORAL REEFS: BIOLOGY, THREATS AND RESTORATION -- CORAL REEFS: BIOLOGY, THREATS AND RESTORATION -- CONTENTS -- PREFACE -- ADVANCES IN MARINE ORNAMENTAL AQUACULTURE: BREEDING AND REARING STUDIES -- ABSTRACT -- 1. OVERVIEW OF THE MARINE ORNAMENTAL TRADE -- 2. CAPTIVE BRED ORGANISMS -- 2.1. DEMERSAL SPAWNERS -- 2.1.1. Breeding and Rearing Damselfishes -- A) Clownfishes (Anemonefishes) -- B) Yellow-Tailed Damselfish -- 2.1.2. Breeding and Rearing Gobies -- A) Cleaner Goby -- 2.2. EGG BALL LAYERS -- 2.2.1. Breeding and Rearing Dottybacks -- A) Sunrise Dottyback and Orchid Dottyback -- 2.2.2. Breeding and Rearing the Comet -- 2.3. PELAGIC SPAWNERS -- 2.3.1. Breeding and Rearing Pigmy Angelfishes -- 2.3.2. Breeding and Rearing Wrasses -- CUBAN HOGFISH -- 2.3.3. Breeding and Rearing Sciaenidae -- A) Jackknife Fish -- B) Cubbyu -- 2.4. MOUTH BREEDERS -- 2.4.1. Breeding and Rearing Cardinal Fish -- A) Banggai Cardinal -- 2.5. DECAPOD SHRIMP -- 2.5.1. Breeding and Rearing Cleaner Shrimp Hippolytidae -- A) The Peppermint Shrimp -- B) The Fire Shrimp -- 3. DISCUSSION -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- FREE-LIVING ZOOXANTHELLAE: BEHAVIOR, ECOLOGY AND IMPORTANCE ON THE CORAL REEF -- ACKNOWLEDGMENTS -- REFERENCES -- THE COSTS AND BENEFITS OF DEVELOPING SUSTAINABLE USE STRATEGIES AND

RESTORATION ACTIVITIES FOR CORALS AND CORAL REEFS -- ABSTRACT  
-- 1. INTRODUCTION -- 2. MORE CORAL ATTRIBUTES -- THE CORAL (GOLDEN) TRIANGLE -- 2.1. More about the Tropical Coral Marine Environment -- 2.2. The Coral Triangle -- 2.3. Coral Habitat Provision -- Coral Biodiversity -- 3. FISHERIES AND CORALS -- 3.1. Tropical Reefs -- 3.2. Fisheries and Deep Sea Corals -- 3.3. Coral Triangle Fisheries -- 4. THREATS TO CORALS AND REEF FISHERIES -- 4.1. Threat Overview -- 4.2. Marine Predators--the Crown-of-Thorns Starfish -- 5. MORE ON ANTHROPOGENIC THREATS.  
5.1. Temperature and Sea Level Rise Impacts -- 5.2. Loss of Marine Carbonate Material from Increased Atmospheric CO<sub>2</sub> -- 5.3. Tourism -- 6. PROTECTION, PRESERVATION AND RESTORATION MEASURES -- 6.1. Reserves -- 6.2. The Nwhi Monument -- 6.3. The PIPA of the Kiribati Republic -- 6.4. Rezoning of the Great Barrier Reef Marine Park (GBRMP) -- 6.5. Marine Park Areas -- 7. RESTORATION -- 8. SOCIO-ECONOMIC VALUES -- 8.1. Social Cost versus Private Returns to Destructive Activities -- 8.2. MPA Benefits -- 8.3. Non-Market Valuation -- the Contingent Valuation Method -- 8.4. Unintended Consequences of Land Use Regulation -- 9. SOME CLOSING COMMENTS -- REFERENCES -- ANTHROPOGENIC SURFACE OCEAN ACIDIFICATION WITH INCREASING ATMOSPHERIC CARBON DIOXIDE AND ITS IMPACT ON CORAL CALCIFICATION -- ABSTRACT -- INTRODUCTION -- CORAL CULTURE EXPERIMENTS -- CORAL CALCIFICATION -- PREDICTED CORAL CALCIFICATION IN FUTURE -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- ECONOMIC ANALYSIS OF LOCAL AND GLOBAL THREATS TO CARIBBEAN CORAL REEFS\*,1 -- ABSTRACT -- INTRODUCTION -- METHODOLOGY -- Overall Approach -- Coral Reef Functions, Goods and Services -- Economic Benefits of Coral Reefs -- Valuation Techniques -- Data Collection to Quantify Costs and Benefits -- Tourist and Resident Survey -- Benefits Transfer -- Literature Review and Key Informant Interviews -- THE MODEL -- Ecological Module -- Tourist Module -- Amenity Module -- Fisheries Module -- Biodiversity Module -- CASE STUDY NEGRIL - JAMAICA -- Introduction -- Background -- The Survey -- Model Results -- CASE STUDY HOL CHAN - BELIZE -- Introduction -- Background -- The Survey -- Model Results -- CASE STUDY GRAND ANSE - GRENADA -- Introduction -- Background -- Threats -- The Survey -- Model Results -- CONCLUSIONS AND RECOMMENDATIONS -- REFERENCES -- PRECIOUS CORAL EXPLOITATION -- ABSTRACT -- 1. INTRODUCTION. 2. ECOLOGY OF PRECIOUS CORALS -- 2.1. Taxonomic and Functional Classification and Definition -- 2.2. General Biological Traits and Ecological Role of Precious Corals -- 2.3. Tropical Pink and Red Corals (*Corallium* sp.) -- 2.4. Mediterranean Red Coral (*Corallium rubrum*) -- 2.5. Black Coral (*Antipatharia* spp.) -- 2.6. Gold Corals (mainly *Gerardia* spp.) -- 2.7. Other Precious Corals -- 3. CULTURE AND HISTORY OF PRECIOUS CORAL EXPLOITATION -- 3.1. Cultural Importance and Use of Precious Corals -- 3.2. History of Coral Exploitation -- 4. MANAGEMENT AND SOCIOECONOMY -- 4.1. Modern Exploitation Methods -- 4.1.1. Harvesting Methodology Using SCUBA -- 4.1.2. Modern SCUBA technology -- 4.1.3. ROVs and Manned Submersibles -- 4.2. Use of Precious Corals -- 4.3. Economy and Trade -- 4.4. Recent Yield Data -- 4.5. Conservation and Management -- 4.5.1. Hawaiian Black Coral -- 4.5.2. Mediterranean Red Coral -- 4.5.3. Habitat Conservation Considerations -- 4.6. Active Restoration -- 4.7. Recommendations -- CONCLUSION -- REFERENCES -- ASSESSMENT OF MARINE POLLUTION IN TROPICAL AND SUBTROPICAL REGION USING TRACE ELEMENTS IN CORAL SKELETONS\* -- ABSTRACT -- 1. INTRODUCTION -- 2. CARBONATE REFERENCE MATERIALS -- 2-1.

Necessity of Reference Material for Studies Using a Coral Skeleton -- 2-  
2. Preparation of Carbonate Reference Material JCp-1 and JCt-1 -- 2-3.  
Analytical Methods -- 2-4. Analytical Results -- 3. CORAL SAMPLES  
AND ANALYTICAL PROCEDURE -- 3-1. Coral Samples -- 3-2. Sub-  
sampling Procedure for Bulk Samples -- 3-3. Sub-sampling Procedure  
for Time Series Samples -- 3-4. Analytical Method -- 3-5. Stepwise  
Pretreatment Experiments -- 4. RESULTS AND DISCUSSION -- 4-1.  
Evaluation of the Data -- 4-1-1. Reliability of the Analytical Method --  
4-1-2. Comparison with Previous Values.  
4-2. Results of the Pretreatment Experiments on Copper and Tin in a  
Coral Skeleton and its Possibility as Proxies for Marine Pollution by  
Antifouling Paints -- 4-2-1. Lattice-bound Copper and Tin in Coral  
Aragonite -- 4-2-2. Copper and Tin Outside Aragonite Lattice -- 4-2-  
3. Possible Proxies for Marine Pollution by Antifouling Paints -- 4-2-4.  
Copper and Tin in Coral Bulk Samples -- 4-3. Spatial and Temporal  
Variations of Anthropogenic Lead in the Western Pacific -- 4-3-1.  
Previous Studies on Environmental Pollution by Anthropogenic Lead --  
4-3-2. Spatial Variation of Lead in the Western Pacific and the Java Sea  
-- 4-3-3. Historical Variations of Lead -- 4-4. Manganese and Barium  
in Coral Skeletons as a Proxy for Terrestrial Inputs -- 4-5. Variation of  
Vanadium Contents in Coral Bulk Samples -- 4-6. Uranium in Coral  
Bulk Samples as an Indicator of Regional Sea Surface Temperature -- 5.  
SUMMARY -- ACKNOWLEDGMENTS -- REFERENCES -- EL-NIÑO AND  
CORAL REEFS -- ABSTRACT -- INTRODUCTION -- EL-NINO -- CORALS  
AND CORAL BLEACHING -- CORAL BLEACHING AND EL-NINO --  
EASTERLY WAVES, HURRICANES AND EL-NINO -- CONCLUSION --  
REFERENCES -- REVIEW: CAPACITY BUILDING IN SCIENCE AND  
MANAGEMENT FOR SUSTAINABLE DEVELOPMENT OF CORAL REEFS. AN  
EXAMPLE FROM THE MESOAMERICAN BARRIER REEF. -- ABSTRACT --  
INTRODUCTION -- MARINE RESERVES IN SOUTHERN BELIZE AND THEIR  
MANAGEMENT -- Sapodilla Cayes Marine Reserve (Scmr) -- Port  
Honduras Marine Reserve (PHMR) -- METHODS -- Field Research  
Capacity Building -- Management Planning Capacity Building --  
RESULTS -- DISCUSSION AND CONCLUSIONS -- ACKNOWLEDGMENTS  
-- REFERENCES -- CHANGES OF CASPASES IN THE BRAINS OF HYPOXIC  
FISH - A COMPARISON BETWEEN A CORAL REEF AND A FRESHWATER  
TELEOST -- ABSTRACT -- INTRODUCTION -- MATERIALS AND  
METHODS -- RESULTS AND DISCUSSION -- REFERENCES.  
A SIMPLE NUMERICAL MODEL FOR THE DAMAGE OF CORALS BY  
TSUNAMI -- ABSTRACT -- 1. INTRODUCTION -- 2. METHODS -- 3.  
RESULTS -- 4. IMPLICATIONS FOR CORAL DAMAGE -- 5. MODEL  
IMPROVEMENTS -- 6. CONCLUSION -- ACKNOWLEDGMENTS --  
REFERENCES -- INDEX.

---