Record Nr. UNINA9910810651903321 Aquaculture ecosystems: adaptability and sustainability / / editors, **Titolo** Saleem Mustafa, Rossita Shapawi Pubbl/distr/stampa Hoboken, NJ:,: John Wiley and Sons, Incorporated,, 2015 **ISBN** 1-118-77851-0 1-118-77852-9 1-118-77853-7 Descrizione fisica 1 online resource (419 p.) Disciplina 639.8 Soggetti Sustainable aquaculture Aquaculture - Environmental aspects Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Title Page: Copyright Page: Contents: Contributors: Preface: Chapter 1 Sustainability of seafood production - challenges and the way forward: 1.1 Sustainability issues and concerns; 1.2 The emergence of aquaculture; 1.2.1 Selecting culture sites; 1.2.2 Effects of climate change; 1.2.3 Impact of aquaculture on climate change; 1.2.4 Adaptation to climate change; 1.3 Biotechnology intervention; 1.4 Ecological fisheries-ecological aquaculture synergy; Chapter 2 Biology of aquaculture animals - learning from nature to manage culture; 2.1 The aquatic ecosystems 2.2 Attributes of aquatic animals for production efficiency 2.3 Biological characteristics; 2.4 Diversity and general organization; 2.4.1 Molluscs; 2.4.2 Echinoderms; 2.4.3 Crustaceans; 2.4.4 Fish; 2.5 Selection of species for culture; 2.5.1 Market demand; 2.5.2 Tolerance to crowding; 2.5.3 Feeding habits and nutritional requirements; 2.5.4 Resistance to environmental variations; 2.5.5 Disease resistance; 2.5.6 Captive breeding; Chapter 3 Fish behaviour and aquaculture; 3.1 Introduction; 3.2 Sensory systems and functions; 3.2.1 Vision; 3.2.2 Photopic and scotopic vision 3.2.3 Ultraviolet vision 3.2.4 Colour vision; 3.3 Photoreception by the pineal organ; 3.3.1 Chemoreception by the olfactory organ; 3.3.2

Chemoreception by taste buds; 3.3.3 Mechanoreception by the lateral

line organ; 3.3.4 Mechanoreception by the inner ear; 3.4 Ontogeny of the sense organs in fish larvae; 3.5 Effect of colour on fish larvae and juveniles in tanks and cages; 3.6 Preference of fish for colour of prey or feed; 3.7 Effect of turbidity on fish feeding; 3.8 Food search, taste preference and feed stimulants; 3.9 Prey preference of captive tuna 3.10 Net collisions of juvenile Pacific bluefin tuna in cages 3.11 Predator attacks and escape of farmed fish from cages; 3.12 Spawning of broodstocks in cages; 3.13 Effect of cage design and materials on fish: 3.14 Effect of cage aquaculture on wild fish: 3.15 Stress factors for fish sensory systems; 3.15.1 Total dissolved gas supersaturation and exophthalmia; 3.15.2 Betanodavirus infections or viral nervous necrosis 3.15.3 Parasite infections: 3.15.4 Chemotherapeutants: 3.15.5 Acidification of natural waters; 3.15.6 Underwater noise; 3.15.7 Crowding or high stocking density 3.16 Behavioural signs of stress in captive fish Chapter 4 Biofouling challenge and management methods in marine aquaculture; 4.1 Introduction; 4.2 Vulnerability of a floating cage to biofouling; 4.3 Community structure and colonization of biofouling organisms; 4.3.1 Diversity of macrofouling assemblages; 4.3.2 Depth distribution of sessile macrofouling; 4.3.3 Colonization dynamics and succession of

rates of net mesh size; 4.4 Factors affecting biofouling assemblages; 4.4.1 Effect of season; 4.4.2 Effect of rearing fish

4.4.3 Effect of water flow rates

## Sommario/riassunto

Aquaculture Ecosystems contains a thorough and exciting synthesis of current information on aquaculture practices and substantial discussion of the way forward in transforming the aquaculture industry by improving its sustainability. This important book includes discussion of all the current major issues relating to aquaculture practices in relation to the ecology of their situations, environmental concerns, and details of how sustainability can be improved. Efforts have been made to include chapters that go beyond the stage of debate on old topics, providing conclusions to provide leads for

macrofouling organisms: 4.3.4 Biofouling development and occlusion