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Declining seagrasses in a changing world

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ABSTRACTS

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## Contents

**Keynote speech** .................................................................................................................................................. 1  
What Do Seagrasses Tell Us About the Global Oceans? ................................................................. 2  
Seagrass Factor in Meeting the Conservation Challenges of the 21st Century in SE Asian Coasts: From Science to Action ................................................................. 3  
Seagrass carbon: something old, something new, something borrowed, something blue... 4  
The Future of Seagrasses the China Seas and the Pacific ................................................................. 5  
Impacts of tsunamis on biological communities in seagrass beds: comparisons of the two cases in Thailand (2004) and Japan (2011) ................................................................. 6  
Seagrass research and management in China ........................................................................ 7  
**Workshop** .................................................................................................................................................. 8  
Knowledge gaps in tropical seagrass research .......................................................................... 9  
S3G – IUCN Seagrass Species Specialist Group ........................................................................ 10  
Seagrass Habitat Restoration and Rehabilitation in the Tropics ........................................ 11  
**Oral Session** ........................................................................................................................................ 12  
Species composition and depositional environments influence carbon stores in seagrass meadows .................................................................................................................. 13  
A first phylogenetic regionalization of the coastal phytoregions worldwide based on seagrass diversity .................................................................................................................. 14  
*In situ* transplantation experiment: effects on survival, morphology and reproduction of *Enhalus acoroides* .................................................................................................................. 15  
Effects of landscape configuration on the exchange of materials across habitats of a marine coastal ecosystem .................................................................................................................. 16  
Seagrass from North-Eastern Coast of Bay of Bengal, Indian Ocean: Five New Global Records and Ecological Aspects ........................................................................ 17  
Predicting seagrass connectivity in a disturbed environment .................................................. 18  
Species-specific response to stress: trade-offs between resilience and ecosystem engineering capacity ................................................................................................................................. 19  
Assessment of spatial structure and viability of the seagrass seed bank in Cairns Harbour, Queensland Australia following a large scale decline .................................................. 20
Positive interactions between fan mussel and sea urchins in seagrass meadows: can it increase herbivory pressure? ................................................................. 21
Deep-water seagrasses in the tropics – resilience, recovery and establishing thresholds and drivers of change ................................................................. 22
Palatability of marine macrophytes influenced by tissue properties, diversity and abundance ................................................................................................. 23
Carbon metabolism and biological carbon sequestration ability of major marine communities in Cadiz Bay (Southern Spain) ........................................ 24
*Ulva sp.* can ameliorate harmful eutrophic effects in the seagrass *Zostera noltei.* ....... 25
The South American seagrass *Zostera chilensis*: endangered or invasive? .................. 26
Meadow characteristics influence the strength of seagrass-sediment feedback: implications for seagrass conservation and restoration ............................... 27
Marine landscapes and their influence on seagrass fish assemblages in coastal shallow-waters in Sweden ........................................................................... 28
Unravelling seagrass structural complexity and its implications for contributing to long-term carbon storage ................................................................. 29
Diel oxygen consumption patterns of *Zostera marina* based on gas exchange measurements and gene expression changes. ................................................. 30
Dynamics of seagrasses in a heterogeneous tropical reef ecosystem ................................. 31
Does photorespiration play a role in photoprotection in the seagrass *Halophila ovalis*? .. 32
Temperature and salinity effects as a climate change impact on flowering of the seagrass *H. stipulacea* along the coast of Tanzania .................................................. 33
Strategies to address impacts on seagrass meadows in the Great Barrier Reef World Heritage Area, Queensland, Australia ......................................................... 34
Understanding the mechanisms driving variability of carbon content in seagrass systems ............................................................................................................. 35
Are episodic warning events a significant problem for eelgrass persistence in coastal areas worldwide? .................................................................................... 36
Different fates of eelgrass (*Zostera marina*) seedlings in the heterogeneous habitats in Moon Lake, Shandong, China ......................................................................... 37
Sea-grass Flora of China ............................................................................................... 38
The role of reproduction and dispersal in determining patterns of connectivity and genotypic diversity .................................................................................. 39
Bioturbators: What are they doing with seagrass carbon? ............................................................... 40
System biology approach to understanding seagrass loss and managing for recovery. ..... 41
Ecosystem diversity and the impact of human activities in Guangdong coastal sea .......... 42
The environmental education to the society, a necessary tool to increase the visibility of seagrass ecosystems .................................................................................................................. 43
Macroalgae blooms and increased nutrient loads synergistically affect seagrass properties during initial stages of eutrophication ........................................................... 44
Hot spots and hot moments in seagrass ‘blue carbon’ science ........................................... 45
Preliminary Analysis of Seagrass Habitats of Abu Dhabi Waters - Arabian Gulf .......... 46
Complex Halophila ovalis .............................................................................................................. 47
Will ammonium become a future threat for seagrasses? ............................................. 48
Interactive climate change effects on tropical seagrasses ......................................... 49
Nutrient enrichment does not enhance CO₂ response in tropical seagrasses .......... 50
Mobility of eelgrass (Zostera marina L) flowering shoots and seed in estuaries .......... 51
Using membranes as measures supporting the eelgrass seed bank and seedling survival 52
Species specific effects of seagrass belowground on sediment properties ............... 53
The effect of habitats, densities and seasons on morphology, anatomy and pigment content of seagrass Halophila ovalis (R.Br.) Hook.f. at Haad Chao Mai National Park, Southern Thailand ........................................................................................................................... 54
The resilience of inshore seagrasses of the Great Barrier Reef and their response to water quality and extreme weather events ................................................................. 55
Seagrass dynamics in a sandy lagoon at Ningaloo Reef, Western Australia .......... 56
Juvenile fish assemblage in a mariculture-impacted seagrass environment in Bolinao, northwestern Philippines ................................................................................................. 57
Feedbacks and local environmental settings affect resilience of seagrass beds .......... 58
In a changing environment, will Ruppia maritima provide similar ecosystem services to Zostera marina? .................................................................................................................. 59
Carbon Sequestered annually into sediment at a variety of 12 polluted, subtropical seagrass restored estuarine meadows ................................................................. 60
Evaluation of new hydroacoustic system for fine scale assessment and mapping of aquatic vegetation and substrate classification ................................................................. 61
Present status of Seagrass ecosystems in the Puttalam lagoon, Sri Lanka ............... 62
Evaluation of carbon sequestration in seagrass meadows of Malindi Marine Park .......... 63
Morphometric variation of seagrasses in Minahasa Peninsula waters................................. 64
Distribution and photo-degradation characteristics of chromophoric dissolved organic matter (CDOM) in seagrass bed in Xincun Bay, Hainan Island ......................................................... 65
Characteristics of sediment organic carbon in tropical seagrass bed along the nutrient gradient in the Xincun Bay, Hainan Island ................................................................. 66
The effects of air exposure on the desiccation rate and photosynthetic activity of Thalassia hemprichii and Enhalus acoroides ................................................................. 67

Poster Session .......................................................................................................................... 68

Carbon stores in Posidonia australis meadows across differing depositional environments ................................................................................................................................. 69

Reproductive Ecology of Zostera marina inhabiting a wave sheltered cofferdam and an open bay in Yellow Sea, China ................................................................................................. 70

Horizontal rhizome properties of Thalassia hemprichii in two contrasting environments in Bolinao, NW, Philippines .......................................................................................... 71

Structural responses of seagrasses along nutrient and turbidity gradients in a mariculture site in Bolinao, Pangasinan ............................................................................................. 72

Seagrass settle and stay: assessing re-attachment and viability of vegetative fragments of subtropical intertidal seagrass .................................................................................. 73

The stimulation of root formation in sub-tropical seagrass .................................................................................................................................................................................. 74

The technique of artificial culturing the Zostera marina L.’s seedling in fresh and sea water ........................................................................................................................................ 75

The seagrass resources and restoration along the coasts of Shandong Peninsula, China.. 76

Exploring the functional landscape of the Z. muelleri light mediated transcriptome: Implications for adaptation in marine plants .............................................................................. 77

The importance of latitude for disturbance-recovery dynamics in intertidal seagrass beds: Preliminary results from a seasonal collaborative project in Western Europe .................. 78

Effects of salinity on the release of dissolved organic matter from two tropical seagrasses litters ........................................................................................................................................... 79

Seagrasses actively modify their below-ground geochemical microenvironment: a microsensor study of Zostera muelleri ..................................................................................... 80

Combined Effect of organic matter and nutrients in the sediment on Zostera japonica in Swan Lake, China ........................................................................................................ 81
Dugong grazing in seagrass beds in Davao Del Sur, Philippines ................................................... 82
Disturbance and recovery of seagrass beds in Shizugawa Bay after the huge tsunami of the 2011 Tohoku earthquake. .................................................................................................................. 83
Population Genetics of Zostera marina Linnaeus, 1753 ................................................................. 84
Quantitative evaluation of provisioning services from seagrass beds in Southeast Asian regions ........................................................................................................................................ 85
Modelling stressors on the eelgrass recovery process in Danish estuaries ................................. 86
Connectivity of Mangroves to Seagrass Beds in the Philippines through Fish Movement. 87
Chromosome numbers and karyotypes of some Halophila species in Thailand .......................... 88
Distribution and growth of an endemic seagrass species, Zostera caespitosa, and comparison with a non-endemic species, Zostera marina .......................................................... 89
Case studies of seagrass mapping in selected sea areas in the NOWPAP region .................. 90
Genetic diversity and population structure of the dwarf eelgrass, Zostera japonica Ascherson & Graebner, across temperate and subtropical coasts of China based on partial sequences of matK and ITS .................................................................................................................... 91
Trend of seagrass population recovering near eastern coast of Hainan island, Southern China ......................................................................................................................................................... 92
Promotion of aluminium on cyanobacteria growth and influence on biochemicals production, and P acquisition ................................................................................................................. 93
Swimming performance, ventilation frequency, and feeding behaviour of young seahorses under different water currents ......................................................................................................................... 94
Dynamics of seagrasses in a heterogeneous tropical reef ecosystem

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Abstract: In tropical Southeast Asia several species of seagrasses can often be found growing together on reef flats. These top-reef meadows are characterized by high temporal and spatial dynamics. Research conducted in the Spermonde Archipelago, Southwest Sulawesi, Indonesia, revealed that water motion and water depth are important structuring agents which influence the species composition of mixed meadows. Furthermore, burrowing alpheid and callianassid shrimp fulfill important roles in the meadows by enhancing nutrient recycling and controlling the lower boundary of the meadows. It is concluded that both abiotic (water motion and depth) and biotic (e.g. shrimp activity) factors affect the capacity of top-reef seagrass meadows to process and sequester carbon. The potential impact of sea level rise on these meadows, their influence on the sediment supply of nearby reef islands, and the advantages and disadvantages of different unmanned aerial monitoring systems such as kites, balloons and drones are discussed.