

will be needed. Such requirements are prejudiced by withdrawal of conservation agencies from field survey by experienced biologists and over-reliance on acoustic survey methods.

11:30 11:45 CONSERVATION OF BIODIVERSITY IN URBANIZED ESTUARIES BENEFITS FROM INNOVATIVE COLLABORATIONS BETWEEN SCIENCE AND MANAGEMENT

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Urbanization of marine habitats have largely focussed on contamination, with loss, alteration and fragmentation of habitats largely ignored. Coastal urbanization is predicted to be a major growth area and intertidal habitats will be most affected, replaced by built structures, such as seawalls. Intertidal habitats are under pressure from impacts on land and water and their loss affect many specialist taxa. Despite increasing numbers of built habitat on shorelines, there is generally little concern about their impacts from those who design them, who licence or regulate them, or who commission them. Yet they seldom provide suitable habitat for the organisms they displace. Conservation is increasingly being focussed not only on protected areas, but on environments subjected to human influences, including cities. I will describe innovative approaches to re-engineering built structures in Sydney Harbour (Australia) to enhance their value as habitat. These are based on strong collaborations among engineers, developers, managers and ecologists to bring together engineering expertise, ecological understanding and policy requirements to conserve biodiversity. From this research, new approaches to conservation, that are logistically feasible, inexpensive, ecologically sound and widely applicable, are suggested.

11:45 12:00 BIOLOGICAL VALUATION: GUIDELINES FOR A TRANSPARENT AND GENERALLY APPLICABLE PROTOCOL FOR THE MARINE ENVIRONMENT

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Policy makers and marine managers request reliable and meaningful biological baseline maps to be able to make well-deliberated choices concerning sustainable use and conservation in the marine environment. Biological valuation maps aim at the compilation of all available biological and ecological information for a selected study area and allocate an integrated biological value to subzones. They can therefore be used as baseline maps for future spatial planning at sea. This paper gives guidelines on the practical application of the concept of marine biological valuation to a study area. All steps in the valuation protocol are described, starting from the selection of the valuation criteria over the determination of the appropriate assessment questions and practical algorithms to evaluate the criteria to the final scoring of all assessment questions. The marine biological valuation protocol is illustrated using a hypothetical study area.

12:00 12:15 PICKING A WAY FORWARD: FITTING TRADITIONAL SHELLFISH GATHERING INTO A MARINE PROTECTED AREA

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Traditional hand gathering of shellfish is a highly visible activity that presents particular problems for managing coastal protected areas. Individual harvesters act informally and independently, harvesting both for personal consumption and commercially. The visibility of harvesters suggests to casual observers a lack of policing of activity in the protected area. The long standing nature of the activity can make conservation legislation difficult to apply and novel forms of regulation are contentious. An analysis of winkle picking in Strangford Lough (Northern Ireland) suggests that hand gathering could be promoted in a sustainable manner. An important part of this approach would be to make better use of the unrecognized synergies between fisheries, public health and conservation legislation.

12:15 12:30 ARTIFICIAL NEURAL NETWORKS AS A TOOL FOR MODELLING AZOREAN FISHERIES

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