

Title: How Much Habitat is Enough? Evaluating Habitats in terms of their Ecosystem Function, Goods and Services (M)

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Many of the laws and regulations involving management of living marine resources include requirements to protect or conserve habitat. Ideally decisions on habitat management should be supported by quantitative assessments using measurable biological benchmarks based on an understanding of how the status of the living marine resource(s) varies with the amount and condition of available habitat. Significant amounts of data on the associations of habitat and species life-history stages have been collected and occasionally synthesized as maps. Nevertheless, huge gaps still remain in the inventory of habitats and in our knowledge of the functional relationships between habitats and their associated ecological services. The process for filling these gaps with empirical data will be slow and costly. Hence, it will be necessary to make habitat management decisions using ecological modeling approaches using best available but often very meager sets of data, and best practices in the analytical methods.

The main foci of this theme session are:

- a) The inventory and characterization of habitats and the role of habitats in the ecosystem with a focus on the contribution to ecosystem function, goods and services.
- b) Valuation of habitats in a socio-economic context taking into consideration not only the marketable value of harvested resources but also the sustainability of habitat services. Habitat properties such as uniqueness, vulnerability and resiliency may be important for this discussion.
- c) Habitat mapping and modelling, as tools to compensate for data paucity in order to meet management needs.

Topics for the theme could include the following:

- Indicators for relating benthic as well as pelagic habitat to ecological services;
- Habitat condition proxies;
- Accounting for degraded habitat;
- Accounting for cumulative impacts;
- Habitat standards for fisheries management, species protection, biodiversity conservation, etc;
- Habitat standards for managing species vs. ecosystems;
- Accounting for uncertainty in habitat standards;
- Market and non-market valuation and economic impact assessments of degradation and/or options for habitat management;
- Ecological risk assessments and cost/benefit analyses.

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