WHAT ARE THE BROADER CONSIDERATIONS NEEDED TO ENSURE THAT MPA NETWORKS ARE SET IN CONTEXT?

To help ensure the success of MPA networks, designers must also reflect on:

Economic and social considerations:

❏ **Integrate the network into the economic and socio-cultural setting and promote activities that maximize positive benefits.** Planners need to identify the broad costs and benefits provided by effectively managed MPA networks, as well as the indirect and opportunity costs incurred by people living in and around protected areas. One tool for making these calculations is economic valuation of consumptive and non-consumptive activities and non-use values, such as those provided by ecosystem services. Current social relationships and aspirations, cultural traditions and values, and political processes that influence attitudes and decisions about coastal and marine resource use and protection are also important considerations.

❏ **Evaluate the economies of scale provided by networks, as well as the costs of inaction.** Network planners should consider the increased benefits and economies of scale when moving from an individual MPA to a network of MPAs, as well as the costs of inaction – that is, of not creating a network. For example, MPA networks may provide value-added benefits over individual MPAs, such as increased ecosystem services and reduced management costs per unit area.

Spatial and temporal considerations reflect the fact that ecosystems function at different scales and change over time due to factors such as human activities or climate change. Planners should:

❏ **Take actions to address ecological processes, resources and impacts that extend beyond network boundaries or influence MPA networks.** Network design must account for connectivity within and between networks, as well as the impacts of activities outside network boundaries, including upstream areas such as catchments. Given the fluid nature of the ocean environment, network planners must apply all available information on biological, chemical, and physical linkages–within the network and beyond.

❏ **Address the concept of "shifting baselines" in network design.** The "shifting baseline syndrome" is the failure of managers and decision makers to fully grasp the enormous changes that have occurred in ocean ecosystems because they have occurred gradually over many years. Managers often fail to see that their baseline already represents a disturbed state. Therefore, it is especially important that planners set historically appropriate objectives for the MPA network.

Scientific and information management considerations. Science and information play fundamental roles in planning and implementing MPA networks. Yet managers must do more than apply available information; they must seek new information that is pertinent to management and create mechanisms for gathering such information. Network planners and managers should:

❏ **Develop and employ appropriate scientific skills, tools, training and partnerships to design and systematically monitor MPA networks.** Planners can address this in a number of ways: by setting research priorities and training requirements based on management needs; by creating auditing science programs that seek to assess and optimize results; and/or by incorporating end-user and manager input into multi-annual scientific work programs.

❏ **Ensure standardization, synthesis, storage and access to information across and among MPA networks.** Information on individual MPAs may be scattered across institutions and /or individuals. Planners should foster coordination among institutions, develop information archives and create mechanisms for ensuring broad access to information. Such systems should be actively managed and should provide relevant historical data as well as current scientific knowledge.

Institutional and governance considerations.

Institutional and governance arrangements can have a significant effect on network design and management. In some cases, these institutional arrangements have taken shape over many years and were devised to meet the demands of the time, rather than the need for developing representative and effectively managed MPA networks or meeting sustainability objectives. Network planners and managers should, therefore:

❏ **Develop and maintain effective coordination and linkages across sectors and jurisdictions.** Government agencies often fail to coordinate their marine-based activities, resulting in a divided and insular management approach aligned with sector-based laws. This can mean duplication of effort, failure to address cumulative impacts and a poor outcome

for the environment. This complexity is often exacerbated by the fact that government agencies may have different-and even opposing–mandates.

❑ **Develop the legal authorities and institutional frameworks needed to deliver MPA networks.** Where agency responsibilities and authorities overlap, participants will need to clarify responsibilities or elect one of the parties to play a leadership role. Effective coordination across agencies requires sustained leadership, either by one agency or a specially formed committee or council that can coordinate overlapping and complex jurisdictional arrangements. Complementary and/or consistent legal and institutional frameworks can help resolve inconsistencies where jurisdictions or institutional responsibilities overlap.

❑ **Clarify the legal framework for developing MPA networks.** Many countries have special or single-purpose legislation enabling individual MPAs, and often a variety of agencies share responsibilities for these areas. Only a few have legislative or institutional arrangements that provide a comprehensive basis for an MPA network. A poorly integrated array of legal and institutional responsibilities can lead to problems such as competing mandates, overlaps, gaps and inefficiencies.

❑ **Recognize that the diversity and capacity of the institutions and other groups involved in developing MPA networks can influence the network's efficacy.** It is rare for a single agency to have complete authority over a comprehensive MPA network. To develop effective arrangements for MPA governance, planners must consider the environmental and ecological circumstances, the cultural and socio-political context, and the economic and logistical aspects of management.

Creating an MPA network can proceed only as quickly as the institutions and individuals responsible for key functions develop the skills and attributes needed to manage the network and its component MPAs well. Frequently, existing organizations will need to take on new and different roles; sometimes, entirely new institutions will need to be created to oversee or coordinate activities at the network level.

❑ **Promote trans-boundary MPA networks as instruments for shared management, conservation and cooperation.** Ecosystems, habitats and species rarely correspond to political or jurisdictional boundaries. Therefore, they require cooperative management among states, regions, nations, and jurisdictions. Trans-boundary protected areas, those that straddle the boundaries of jurisdiction and sovereignty and often involve high-level political initiatives, represent one strategy for cooperative management.