Scientific Consensus Statement on Marine Reserves

Problem Statement:

The declining state of the oceans and the collapse of some coastal fisheries creates a critical need for new and more effective management of marine biological diversity, populations of exploited species and overall health of the oceans. Fully protected marine reserves are a management tool that can alleviate many of these problems but there are currently very few such reserves in United States waters.

Ecological effects within reserve boundaries:

1) Reserves result in long-lasting and often rapid increases in the abundance, diversity and productivity of marine organisms.

2) These effects are due to decreases in mortality and habitat destruction and to indirect ecosystem effects.

3) Reserves reduce the probability of extinction for all marine organisms resident within them.

4) These benefits increase with larger reserves, but even small reserves have positive effects.

5) Full protection is critical to achieve this full range of benefits.

Ecological effects outside reserve boundaries:

1) The size and abundance of exploited species increase in areas adjacent to reserves.

2) There is evidence that reserves replenish populations regionally via larval export.

Ecological effects of reserve networks:

1) There is evidence that a network of reserves, connected by larval dispersal, buffers against the effects of environmental variability and provides greater protection for marine communities than a single reserve.

2) There is evidence that a network needs to span large geographic distances and encompass a substantial area and variety of habitats to protect against catastrophes and provide a stable platform for the long-term persistence of marine communities.

(over)
Based on this scientific consensus:

- There is sufficient scientific information to justify the immediate application of fully protected marine reserves as a critical management tool.
- Reserves conserve both fisheries and biodiversity.
- Reserves are the best way to protect resident species and provide heritage protection to important habitats.
- Reserves must be established and operated in the context of other management tools.
- Reserves need a dedicated program to monitor and evaluate their impacts both within and outside their boundaries.
- Reserves provide a critical benchmark for the evaluation of the threats to ocean communities.

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