



# Alaska Marine Conservation Council

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To: U.S. Commission on Ocean Policy

Fr: Dorothy Childers, Executive Director

Re: Follow up questions from Anchorage hearing

Dt: Oct. 25, 2002

Thank you for requesting further information regarding our perspective on ocean management. You asked for definitions of ecosystem, biodiversity and habitat. These terms have scientific definitions which I'm sure are readily available to the commission. My comments below offer a perspective on how to consider ecosystems, biodiversity and habitat in management and policy.

## 1. Ecosystem

All aspects ocean management should account for impact on all aspects of the marine ecosystem to ensure that human activities do not damage systems, their ability to function or to provide essential ecological services – all of which are the basis for supporting fisheries and other living resources we depend on. There are numerous aspects of ocean ecosystems about which we have very little or no understanding including the ecology of specific species, food web dynamics, large oceanographic and climatic systems, and time scales governing fluctuations in the ocean. These large information gaps and inherent inability to control systems call for a precautionary approach in how we manage our own human activities.

## 2. Biodiversity

Management of human activities affecting the ocean must ensure protection for the natural diversity of species, and prevent manipulation of the relative abundance of species. In fisheries management, this would include preventing “fishing down the food chain,” alteration of sensitive habitats on which the diverse array of species depend, or disturbances that favor productivity of one species over the natural diversity of species that would otherwise thrive in a given area.

## 3. Habitat

Habitat is shelter, food and all the chemical and oceanographic features necessary for marine life to survive at each life stage. Marine habitats are shaped by

physical substrate (such as sand, cobble, seamounts), biotic features (kelp, eelgrass, corals) and by the assemblage of plankton, fish, and other species occupying a place. Management of human activities must prevent alteration of these features in order to protect the physical attributes necessary for biodiversity and to support ecological functions.

The challenge, of course, is to know how much impact human activities have and the ability of ocean systems to restore themselves. Since we know more about the surface of the moon than the Earth's oceans, management of human activities requires particular humility and caution. Ocean management should ensure that human-induced impacts fall within a range that does not impede natural resilience. Also, future plans should promote recovery of systems altered by previous mismanagement.