

Critical Issue: Threats

Which threats can MCAs abate?

Before using Marine Conservation Agreements (MCAs) as a conservation strategy, organizations must consider whether the human and environmental threats¹ to the ocean and coastal systems of concern can be abated by the exclusivity, control, or management direction provided by MCAs. MCAs can be used to acquire sites and resources in fee or less-than fee-title or used to direct management of sites by others, such as local communities. But can MCAs be used to abate the specific threats that are occurring at specific sites?

MCAs often provide some form of exclusivity or management direction over sites. This exclusivity and management creates the ability to directly or indirectly control or restrict some activities and structures at specific sites. Some measure of control in and around a site may be needed to protect priority species, habitats, resources, and ecological processes from current and future harm; but exclusivity may not be needed (or useful) when other uses and activities are compatible with the conservation goals identified for the site or when off-site threats are the cause of the site's vulnerability. If achievement of the conservation goals do not require complete elimination or partial restriction of other uses at a site, then a MCA is likely not necessary. However, if there are on-site threats that need to be controlled or excluded, MCAs could be the appropriate tool.

Typical activities and structures that might be excluded or restricted from sites via MCAs include, but are not limited to:

- Aquaculture;
- Commercial uses;
- Navigation;
- Non-water dependent uses;
- Over-water structures;
- Public access;
- Recreation;
- Resource extraction such as fishing;
- Shoreline development and armoring;
- Transportation infrastructure; and
- Utility lines.

Some of the above listed activities and structures may be more difficult to restrict than others (e.g., navigation). Site-specific circumstances as well as applicable laws and policies will ultimately determine what activities can be excluded, how they can be excluded, and to what degree.

Discussion Questions

Primary questions -

1. What are the primary threats MCAs are abating currently? What threats are MCAs capable of abating but are not being used as such?
2. How can MCAs address threats that are not place-placed or local, such as sea-level rise and some sources of pollution (non-point source run-off)? Are other mechanisms needed to address in concert with MCAs or along (such as zoning, enforcement, education, regulation, and community involvement).

Follow-on questions if time/desire allows -

3. How do MCAs affect, initiate, or codify protection from the threats?

¹ A classification system of direct threats can be found below.

A Private Sector Approach – Conservation Agreements in support of Marine Protection

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4. How do we measure whether MCAs are actually abating the threats?
5. Are there threats that can undermine the effectiveness of MCAs?
6. How do we take advantage of the CMP threat classification scheme to improve the effectiveness of MCA strategies?
7. What are other issues related to abating threats with MCAs that we should be aware of and work to resolve?
8. Using the classification system, which threats are we primarily concerned about in the ocean and coastal environment? Are they the standard ones consistently being discussed: resource use/over-fishing, development/habitat destruction, pollution, and global climate change?

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Summary Findings

MCAs can address threats that are not place-based. For example:

- Pollution from cruise ships may be addressed through agreements with the cruise ship companies.
- Pollution from non-point sources may be addressed through agreements with landowners within watersheds.
- Over-fishing and destructive fishing practices may be addressed through MSC certification/agreements.
- Sea-Level Rise may be partially adapted through agreements such as those in the Philippines that protect mangroves.
- Loss of local control over resources may be addressed through agreements between local communities and state governments.

MCAs allow conservation organizations to act without other supporting mechanisms or outside requirements, such as legislation.

MCAs can address urgent threats, but NGOs need to change their financial structures to be able to respond as quickly as private commercial investors.

IUCN/Conservation Measures Partnership - Proposed Classification of Direct Threats

UCN-CMP. 2006. Unified Classification of Direct Threats, Version 1.0.

<http://www.iucn.org/themes/ssc/sis/classification.htm>

1 Residential & Commercial Development

Threats from human settlements or other non-agricultural land uses with a substantial footprint

1.1 Housing & Urban Areas

Human cities, towns, and settlements including non-housing development typically integrated with housing

1.2 Commercial & Industrial Areas

Factories and other commercial centers

1.3 Tourism & Recreation Areas

Tourism and recreation sites with a substantial footprint

2 Agriculture & Aquaculture

Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture

2.1 Annual & Perennial Non-Timber Crops

Crops planted for food, fodder, fiber, fuel, or other uses

2.2 Wood & Pulp Plantations

Stands of trees planted for timber or fiber outside of natural forests, often with non-native species

2.3 Livestock Farming & Ranching

Domestic terrestrial animals raised in one location on farmed or non-local resources (farming); also domestic or semi-domesticated animals allowed to roam in the wild and supported by natural habitats (ranching)

2.4 Marine & Freshwater Aquaculture

Aquatic animals raised in one location on farmed or non-local resources; also hatchery fish allowed to roam in the wild

3 Energy Production & Mining

Threats from production of non-biological resources

3.1 Oil & Gas Drilling

Exploring for, developing, and producing petroleum and other liquid hydrocarbons

3.2 Mining & Quarrying

Exploring for, developing, and producing minerals and rocks

3.3 Renewable Energy

Exploring, developing, and producing renewable energy

4 Transportation & Service Corridors

Threats from long narrow transport corridors and the vehicles that use them including associated wildlife mortality

4.1 Roads & Railroads

Surface transport on roadways and dedicated tracks

4.2 Utility & Service Lines

Transport of energy & resources

4.3 Shipping Lanes

Transport on and in freshwater and ocean waterways

4.4 Flight Paths

Air and space transport

5 Biological Resource Use

Threats from consumptive use of "wild" biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species

5.1 Hunting & Collecting Terrestrial Animals

Killing or trapping terrestrial wild animals or animal products for commercial, recreation, subsistence, research or cultural purposes, or for control/persecution reasons; includes accidental mortality/bycatch

5.2 Gathering Terrestrial Plants

Harvesting plants, fungi, and other non-timber/non-animal products for commercial, recreation, subsistence, research or cultural purposes, or for control reasons

5.3 Logging & Wood Harvesting

Harvesting trees and other woody vegetation for timber, fiber, or fuel

5.4 Fishing & Harvesting Aquatic Resources

Harvesting aquatic wild animals or plants for commercial, recreation, subsistence, research, or cultural purposes, or for control/persecution reasons; includes accidental mortality/bycatch

6 Human Intrusions & Disturbance

Threats from human activities that alter, destroy and disturb habitats and species associated with non-consumptive uses of biological resources

6.1 Recreational Activities

People spending time in nature or traveling in vehicles outside of established transport corridors, usually for recreational reasons

6.2 War, Civil Unrest & Military Exercises

Actions by formal or paramilitary forces without a permanent footprint

6.3 Work & Other Activities

People spending time in or traveling in natural environments for reasons other than recreation, military activities,

or research

7 [Natural System Modifications](#)

Threats from actions that convert or degrade habitat in service of “managing” natural or semi-natural systems, often to improve human welfare

7.1 [Fire & Fire Suppression](#)

Suppression or increase in fire frequency and/or intensity outside of its natural range of variation

7.2 [Dams & Water Management/Use](#)

Changing water flow patterns from their natural range of variation either deliberately or as a result of other activities

7.3 [Other Ecosystem Modifications](#)

Other actions that convert or degrade habitat in service of “managing” natural systems to improve human welfare

8 [Invasive & Other Problematic Species & Genes](#)

Threats from non-native and native plants, animals, pathogens/microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity following their introduction, spread and/or increase in abundance

8.1 [Invasive Non-Native/Alien Species](#)

Harmful plants, animals, pathogens and other microbes not originally found within the ecosystem(s) in question and directly or indirectly introduced and spread into it by human activities

8.2 [Problematic Native Species](#)

Harmful plants, animals, or pathogens and other microbes that are originally found within the ecosystem(s) in question, but have become “out-of-balance” or “released” directly or indirectly due to human activities

8.3 [Introduced Genetic Material](#)

Human altered or transported organisms or genes

9 [Pollution](#)

Threats from introduction of exotic and/or excess materials or energy from point and nonpoint sources

9.1 [Household Sewage & Urban Waste Water](#)

Water-borne sewage and non-point runoff from housing and urban areas that include nutrients, toxic chemicals and/or sediments

9.2 [Industrial & Military Effluents](#)

Water-borne pollutants from industrial and military sources including mining, energy production, and other resource extraction industries that include nutrients, toxic chemicals and/or sediments

9.3 [Agricultural & Forestry Effluents](#)

Water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include nutrients, toxic chemicals and/or sediments including the effects of these pollutants on the site where they are applied

9.4 [Garbage & Solid Waste](#)

Rubbish and other solid materials including those that entangle wildlife

9.5 [Air-Borne Pollutants](#)

Atmospheric pollutants from point and nonpoint sources

9.6 [Excess Energy](#)

Inputs of heat, sound, or light that disturb wildlife or ecosystems

10 [Geological Events](#)

Threats from catastrophic geological events

10.1 [Volcanoes](#)

Volcanic events

10.2 [Earthquakes/Tsunamis](#)

Earthquakes and associated events

10.3 [Avalanches/Landslides](#)

Avalanches or landslides

11 [Climate Change & Severe Weather](#)

Threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events that are outside of the natural range of variation, or potentially can wipe out a vulnerable species or habitat

11.1 [Habitat Shifting & Alteration](#)

Major changes in habitat composition and location

11.2 [Droughts](#)

Periods in which rainfall falls below the normal range of variation

11.3 [Temperature Extremes](#)

Periods in which temperatures exceed or go below the normal range of variation

11.4 [Storms & Flooding](#)

Extreme precipitation and/or wind events