Lessons to be learned from exploitation of marine ecosystems

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Fishing and hunting for food have much in common. We have a long history of trying to manage fisheries that we can call upon in our efforts to manage hunting for meat. History tells us that attempts to manage fisheries on a species by species basis fail to deliver sustainability, and also fail to protect non-target species or ecosystem integrity. Recognizing this, the emphasis in fisheries is shifting towards ecosystem approaches to management, and the use of closed areas that are off limits to all fishing

Lessons from fisheries

It is theoretically possible to conceive of sustainable rates of hunting for any species. In reality, however, for many marine and forest species, there is no such thing as sustainable hunting. Rates of sustainable offtake are extremely low for many species, and can easily be overshot if capture rates cannot be tightly controlled. Moreover, rudimentary hunting technology is no protection against overexploitation.

Fishing has eliminated the giants of the sea, just as hunting is destroying forest megafauna. They will not come back in places where over-fishing or over-hunting continues.

Other core lessons learned from fisheries which are applicable to hunting management are:

- calculating sustainable capture rates is expensive and data intensive. It is impossible for species that are rare, elusive or cryptic. It is also impossible in rich habitats like sea or forest;
- many hunting methods are unselective, and where any hunting takes place there will always be considerable by-kill of certain species, to the point that elimination of some species is inevitable;
- limits on capture of only a few species lead to the temptation to catch many other species, and continued by-kill of non-target species;
- full protection is easier to implement and enforce than partial measures, and is more effective.There is no such thing as a natural, intact ecosystem where there is fishing or hunting;
- a protected area that allows fishing or hunting throughout is <u>not</u> a protected area. No hunting zones are an <u>essential minimum standard</u> for any protected area.

Fully protected marine reserves

Fully protected marine reserves are being implemented worldwide to protect marine wildlife and sustain fisheries. Evidence that they are successful in conserving fisheries includes:

- reserves all over the world show dramatic increases in spawning stocks;
- once an area has been made into a reserve, fish therein grow to much larger sizes;
- fishers begin to fish close to reserves, indicating that spillover is occurring;
- fishers fish for less time and catch more than before reserves were set up.

An example of a successful reserve is at Apo Island, the Philippines. Ten per cent of the reef was closed to all fishing. Since 1980, the hook and line catch-per-unit-effort has increased ten fold.

One concern is that no-hunting zones will rob forest dwellers of their livelihoods. Fisheries experience shows that this is unlikely. Community managed marine reserves have promoted fishery sustainability and tourism in many parts of the world. Indeed, integrating no-take zones with hunting areas is the only way to ensure that hunting and wildlife have a future.

From ocean to forest

Management of harvests of fish and rain forest animals are not so different. Specifically:

- all protected areas should contain fully protected zone(s);
- spillover from fully protected zones is the key to management success in forests. This might involve establishment of hunting zones next to fully protected zones;
- some species should never be harvested.