

Meeting with the National Advisory Panel on Marine Protected Area Standards

**Dr Rodolphe Devillers – Memorial University of Newfoundland
7 Mai 2018**

Thank you for inviting me to contribute to your very important study.

I am Professor of Geography at Memorial University of Newfoundland. I have been a scientist for over 20 years, specializing in geographic methods that can help understand and manage our oceans. One of my areas of expertise is marine conservation science, looking specifically at scientific methods used to design marine protected area networks and for assessing their effectiveness.

All around the globe, our natural environment is being degraded by humans at an alarming rate. A large body of scientific literature now clearly shows that current management measures are not sufficient to prevent the rapid decline of wildlife.

In our marine and coastal environments, marine protected areas have been proven to be effective tools to protect nature, also providing multiple benefits to people. When designed properly, MPAs work. However, MPAs are not all made equal and allowing too many activities within MPAs may not make much difference to business as usual. In the past decade, scientific studies have shown over and over that higher levels of protection generally leads to higher effectiveness. Canada is sadly notorious in the G8 countries for the very low level of protection afforded to its MPAs and this is why your committee's advice will be critically important.

For too long, Fisheries and Oceans Canada tried to use MPAs as it used fisheries closures or other spatial management tools. Managers thought that protecting specific species of interest only required protecting them from specific threats. Decades of research clearly point to a much more complex reality. Species interact with other species, interact with their habitat, move at different stages of their life, etc. This requires approaching protection in a much more holistic way. Much like fisheries management slowly moves from single species to ecosystem-based management, conservation using MPAs today is not only about specific species, but often aims at protecting areas of high species diversity or important habitats.

There is no shortage of scientific studies or recommendations from organizations like the International Union for Conservation of Nature (IUCN) that can guide your committee. In 2016, the

IUCN passed a resolution¹ calling on governments to prohibit environmentally damaging activities and infrastructure development in all protected areas, a resolution signed by Canada. I am personally concerned that most Canadian waters protected by MPAs remain open to extractive activities like commercial fishing and oil and gas extraction², despite the abundant scientific evidence that such practices negatively impact marine ecosystems.

I would like to shortly discuss four specific activities that I think should be clearly prohibited from any DFO Oceans Act MPA but also from all DFO marine refuges (OECMs). They are: bottom trawling, aquaculture, oil and gas activities, and seabed mining.

The first activity, bottom trawling, has been shown to be highly damaging for species located on and near the seabed. While all fishing gears impact the environment, bottom trawling not only catches fishes but also destroys fish habitats. A study published last year by Sciberras and her colleagues reviewed 122 experiments on the effects of bottom-contact fishing gears showing that one single gear pass removes about 26% of invertebrate species from the seafloor. Regular trawling of our territorial waters sterilizes those environments, impacting the entire ecosystem.

The second activity, aquaculture, is rapidly increasing in Canada and globally. While a positive change generally, reducing our reliance on capture fisheries, aquaculture comes with environmental impacts that are incompatible with the goals of a protected area. Examples include the impacts of escaped fishes on wild populations, impacts of fish wastes on marine ecosystems, spreading of diseases and parasites, etc.

The third activity, seabed mining, is an emerging threat that may become particularly important off the coast of British Columbia. Those activities were shown to impact species located on the seafloor through disturbance of the sediments and the noise and lights used by those activities.

The last activity, oil and gas, is one of particular interest to our province and the focus on your agenda tomorrow so I will discuss it in more detail. Many western countries see oil and gas activities as being clearly incompatible with protected areas, something Canadians also support. 90% of Canadians polled a few years ago supported a ban on oil and gas development in MPAs and DFO received tens of thousands of letters voicing their opposition to opening the Laurentian

¹ <https://portals.iucn.org/congress/motion/026>

² CPAWS (2015) *Dare To Be Deep*. Annual report on Canada's progress in protecting our ocean. http://cpaws.org/uploads/CPAWS_DareDeep2015_v10singleLR.pdf

Channel MPA to the oil and gas industry. Seismic surveys were shown to impact most organisms from plankton to whales, killing fish eggs and larvae, damaging fish hearing, disrupting navigation patterns and communication between marine mammals, etc. This impact is not only local. Some studies have linked impacts of seismic surveys to the ability of marine species to communicate thousands of kilometers away from the survey sites. In terms of oil and gas exploitation, a study from Gaines and Jones (2012) found that oil and gas drilling activities can impact seabed ecosystems and habitats for years around the well sites. At the surface, the lights and flares from oil and gas infrastructure have been linked to the death of thousands, if not millions, of seabirds. Major oil spills, although rare, do happen. The oil and gas industry operates under high standards but cannot prevent accidents from happening. Such risks are simply unacceptable as it could permanently impact ecosystems that took thousands of years or more to develop. There is simply no scientific rationale that could explain why oil and gas activities could be done safely in a marine protected area, but not in the middle of Banff National Park!

In only one year, Canada has seen the protection of its territorial waters increase from less than 1% to about 7.75%. However, over 60% of those newly protected waters did not come as Oceans' Act MPAs and were protected using other mechanisms, such as the Fisheries Act. While I truly commend our government for its efforts in marine conservation, dangerous shortcuts were taken to reach the targets on time and consequences have already been felt in the last few weeks. In both Newfoundland and Labrador and Nova Scotia, oil and gas activities may be approved to take place in marine refuges created only a few months ago. This clearly shows the inability of those alternative management tools to provide long-term protection to marine ecosystems, something required by the United Nations as part of the Aichi target.

Based on the best available science I provide four recommendations:

1. I very strongly recommend that this panel advise on regulations for both Oceans Act MPAs and marine refuges (or OECMs). The rationale is simple. Both are protected areas counting towards the Aichi Target 11 and both meet the IUCN definition of marine protected areas adopted by the Canadian Federal Marine Protected Areas Strategy. Having two mechanisms within DFO's protected areas portfolio has already led to negative outcomes

in marine refuges. Failing to do this will be heavily criticized by the Canadian and international scientific communities.

2. I recommend that this panel advise putting marine protected areas on par with terrestrial protected areas, ending 'double standard' in conservation and acknowledging that oceans too, need places that are protected from most human activities. I hence encourage the panel to recommend that MPAs protect the ecological integrity of marine ecosystems, something required from terrestrial parks. Achieving Aichi Target 11 will leave 90% of our oceans accessible to the industry, which does not seem a high price to pay to ensure a more sustainable future.
3. I recommend that this panel advise prohibiting bottom trawling, aquaculture, oil and gas activities, and seabed mining from all Canadian federal MPAs and marine refuges, activities that science has clearly proved to be damaging to the marine environment. I also recommend the panel provides advice on how to limit remaining extractive activities in protected areas.
4. I recommend that this panel advise using a precautionary approach when there is any doubt about potential impacts of activities that could take place in a protected area, reversing the burden of proof on the industry to demonstrate scientifically and in a transparent manner that the intended activity will not impact marine environments.

Thank you for the opportunity to present my view on key challenges I see with the questions of minimal standards for marine protected areas. As done for other committees I would be happy to provide you with a list of key scientific publications that support some of the points I covered. I look forward to your questions.