

The Honourable Gail Shea, P.C., M.P.
Minister of Fisheries and Oceans
Government of Canada

Sent By Email

Dear Minister,

We, the undersigned scientists, urge the Federal Government to strengthen the proposed protection of the Hecate Strait glass sponge reefs and create an effective marine protected area that will ensure the future survival of this vulnerable marine ecosystem.

We commend the work done so far to understand the biology of the sponge reefs, evaluate the threats to their survival, and designate the reefs as a marine protected area. We are also pleased that the proposed regulations for the MPA will build on the mandatory groundfish trawl closures that were implemented in 2002 and that the core protection zone will prohibit all other fishing activities which are currently allowed to continue on the reefs, such as crab and prawn trap fisheries. However, we note that the proposed regulations (published in the Canada Gazette on 27th June 2015) permit several other harmful fisheries to continue in both the Adaptive Management Zone (AMZ) and Vertical Adaptive Management Zone (VAMZ).

The proposed regulations allow bottom trawling and other bottom-contact fisheries, as well as cable-laying, to continue in the AMZ. This is in spite of the known threats to the reefs from the sediment plumes that these activities can create, and the risk of accidental physical damage or destruction in the 200m AMZ.

A 2013 Canadian Science Advisory Secretariat report for DFO by Dr. Leys describes how glass sponges will stop feeding in the presence of re-suspended sediments, and that prolonged (>40 minutes) exposure to sediments will result in clogging of the sponges that can reduce filtration by 50-80%. According to Leys, smothering of other species of sponge by sediment can reduce respiration and feeding, with death occurring within 3-6 months. It is our view that allowing these activities to continue in the AMZ presents long-term risks to the glass sponge reefs and associated ecosystem that undermine the protection goals of the MPA.

Furthermore, midwater fishing activities permitted in the VAMZ, include midwater trawl as well as hook and line fisheries. According to DFO scientists "it is known that contact with the bottom during [midwater trawl] fishing operations can and does occur depending on the spatial distribution of the target species and the bottom type" (Boutillier et al. 2013). It is also documented in reports to DFO and the Marine Stewardship Council that the midwater trawl fisheries for Hake contact the seafloor (Pederson et al. 2013). Additionally, fixed gear including hook and line fishing can impact the seafloor and benthic ecosystems (Chuenpadgee et al.

2003). Midwater fisheries, particularly trawling, that have the potential to cause significant physical damage to the delicate reefs present an unacceptable risk to the glass sponge reefs.

Allowing these activities to continue in the AMZ and VAMZ is in contradiction of the available scientific information and of the precautionary approach that guides DFO's decision-making framework, and is not consistent with the conservation objectives for this MPA. The areas within the adaptive management zones should be managed to the same high protection standards as the core protection zone.

BC's glass sponge reefs are an important ecosystem and play a significant role in supporting commercial fisheries. The structural complexity of the reefs supports a high diversity and abundance of marine life (Conway et al. 1991, Cook et al. 2008), acting as a refugium and nursery habitat for numerous fish and invertebrate species (Conway et al. 2005). This includes commercially valuable juvenile rockfish, which have been the focus of conservation initiatives in recent years. Research shows that undamaged glass sponges have higher species richness and abundance of juvenile and adult rockfish in comparison to adjacent reefs that have been damaged by harmful fishing activities. Juvenile rockfish abundance on glass sponge reefs has been found to be five times higher than adjacent dead reefs and the surrounding non-reef areas (Cook et al. 2008). Therefore properly protecting the glass sponge reefs is not just a conservation concern, but has implications for the long-term sustainability of Canada's fisheries.

According to the Regulatory Impact Analysis statement commercial fishing activity in the vicinity of the reefs is limited. Of the coast-wide catch 0.24% of the shrimp and prawn catch, 0.59% of the halibut fishery and 0.9% of the bottom trawl originates in the AMZ. Rockfish and lingcod fisheries are intermittent in the AMZ. In the VAMZ, the hake midwater trawl fishery also does not recur annually and constitutes less than 1% of the total coast-wide catch share (Fisheries and Oceans Canada 2011, Pederson et al. 2013). Given the low economic importance of the area to fisheries and the small size of the MPA relative to active fishing grounds in the surrounding area, it is expected that the high level of protection afforded by the regulations for the core protection zone can be extended to the AMZ and VAMZ with limited socio-economic costs.

A marine protected area that excludes ALL potentially harmful activities in the vicinity of the reefs, would be consistent with Canada's commitment to the Aichi Biodiversity targets under the Convention for Biological Diversity, the Pacific Region Cold-water Coral and Sponge Conservation Strategy, DFO's Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas, the Fishery Decision-Making Framework Incorporating the Precautionary Approach, and the Rockfish Conservation Strategy (Campbell and Simms 2009).

Accordingly, we urge the Federal Government to extend the management standards of the core protection zone to the areas currently within the adaptive management zone and vertical adaptive management zone. This would require the prohibition of all bottom contact fishing and

cable laying, maintenance, or repair in the AMZ and midwater trawling and fixed gear fishing in the VAMZ.

The Hecate Strait glass sponge reefs were first discovered in 1987. Prior to their discovery glass sponge reefs were thought to have gone extinct 40 million years ago. Some of the glass sponge reefs in Hecate Strait have been growing on the seafloor for 9000 years (Conway et al. 2001). BC's glass sponge reefs are the only large glass sponge reef aggregations known to exist today. They remain essentially unchanged from their prehistoric forms (Goldberg 2013), earning them the title "living fossils" (Conway et al. 2001). Without adequate protection these globally unique sponge reefs could be destroyed forever.

We thank you for taking these critical steps to protect the glass sponge reefs of Hecate Strait and Queen Charlotte Sound and urge you to take further and stronger precautions to protect these ancient, unique, and incredibly valuable ecosystems. BC's glass sponge reefs are a biological treasure and one that needs to be fully protected.

Sincerely,

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