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Subject: Re: Coral Amendment 10- To Allow Access to the OHAPC by the bottom shrimp trawling fishery

Re: Coral Amendment 10- To Allow Access to the OHAPC by the bottom shrimp trawling fishery

I am a Natural Product Chemist with experience in Biomedical Marine Research. I have worked in the field of pharmaceutical discovery from terrestrial and marine organisms. This research has taught me the incredible value in conservation of both terrestrial and aquatic habitats and organisms.

I strongly oppose amendment 10 to the Fishery Management Plan which “proposes to establish a shrimp fishery access area (SFAA) along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) where trawling for rock shrimp is currently prohibited.” I oppose this based upon sound scientific evidence showing that:

These are the only deep-water Oculina coral reefs in existence around the world. These Oculina corals are very slow growing, only 1/2” per year. A single coral colony of 12” diameter hosts up to 2,000 animals. This coral ecosystem supports over 230 species of mollusks, 50 species of decapod crustaceans, and 70 species of fish.

The areas adjacent to the reef that are proposed for trawling have high percentages of mud, which is easily resuspended by mechanical means such as bottom trawling. Excerpts from the EPA website (<https://www.epa.gov/coral-reefs/threats-coral-reefs>) state that “Coral reefs face many threats from local sources, including: Physical damage or destruction from coastal development, dredging, quarrying, destructive fishing practices and gear, boat anchors and groundings, and recreational misuse (touching or removing corals).” And “Sedimentation has been identified as a primary stressor for the existence and recovery of coral species and their habitats. Sediment deposited onto reefs can smother corals and interfere with their ability to feed, grow, and reproduce.”

In addition to corals, the reefs also contain numerous other potential marine sources of bioactive molecules with therapeutic potential including sponges, bryozoans, ascidians, mollusks, cnidarians, and algae, all of which occur on this unique reef system. Per the NIH website (<https://www.ncbi.nlm.nih.gov/books/NBK230700/>) “Today, over 50% of the marketed drugs are either extracted from natural sources or produced by synthesis using natural products as templates or starting materials.” Some marine drugs and potential drugs include the anticancer bryozoan Bryostatin and ascidian Ecteinascidin 743 and sponge derived anticancer compounds discodermolide and halichondrin B. A more recently relevant article from the NIH website titled “Biologically active compounds from marine organisms in the strategies for combating coronaviruses”

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7755586/#!po=34.3137>) describes potential coronavirus therapies from marine organisms including corals and sponges. Recent research from the University of Alberta titled “Sediment from fishing choking out sea sponges, study shows” (<https://www.ualberta.ca/folio/2019/06/sediment-from-fishing-choking-out-sea-sponges-study-shows.html>) states “The sediment is kicked up during human activities such as bottom trawling, where a weighted net is dragged across the seafloor. It includes organic matter as well as clay and silt, which can smother sponges from the outside or, if taken into their filtration system, clog them.” And establishes: “In 2017, Fisheries and Ocean Canada, which collaborated on this study, established a 2,410-square-kilometre protected area around four reefs in the Hecate Strait and Queen Charlotte Sound.”

The researchers recommended the boundaries of the existing buffer zone around this protected area, known as the Adaptive Management Zone, be expanded to at least 2.39 kilometres and up to six kilometres—about the distance the finest sediment particles can travel according to the research—to fully protect the sponges. The current zone varies from just over half a kilometre to four and a half kilometres wide.”

In conclusion, I believe evidence shows that the current OHAPC is the minimum required to protect this unique resource and that allowing this shrimp fishery access area (SFAA) will cause significant long term damage.

Sincerely,

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