

Dramatic increase in seaweed harvest: Sustainable exploitation or a serious threat to coastal ecosystems?

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The Breiðafjörður bay, West Iceland, is characterized by vast intertidal areas and shallows. It hosts a considerable part of all benthic seaweed biomass found in Icelandic waters, most of which is kelp (*Laminaria digitata* and *L. hyperborea*) and knotted wrack (*Ascophyllum nodosum*). The algae are the main primary producers in the area and sequester e.g. carbon, which thereby enters food chains through grazing and detrital pathways. The seaweed is also a three-dimensional habitat for other algae, invertebrates and fish, besides being a feeding habitat for birds and mammals. Knotted wrack and kelp have been harvested in Breiðafjörður bay for more than four decades (except *L. hyperborea* for only 8 years), with an annual combined harvest of approximately 20 thousand tons in the last 20 years. Now, new companies have ambitious plans for increasing harvest up to five-fold. Whether that is sustainable is unknown. Basic research is lacking and no studies have been conducted on the possible current or future impact of seaweed harvesting on other elements of the ecosystem. Some studies in other countries report negative effects, but local conditions and different methods of harvesting make direct comparisons difficult. It is in the interest of all stakeholders to preserve biodiversity in the area by ensuring a fully sustainable harvest, which can only be based on scientific evidence from improved monitoring and research of coastal ecosystems in the Breiðafjörður bay.