Periphylla periphylla; from a problem to a resource?

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During the last 40 years, a silent invasion has taken place in Norwegian fjords from Bergen to Bodø. The coronate jellyfish *Periphylla periphylla* has established itself among the top predators in many fjord ecosystems, probably often at the expense of commercially valuable fish species.

Jellyfish; an increasing problem

P. periphylla is a deepwater, cosmopolitan jellyfish found in all world oceans including polar waters. It is holopelagic (no benthic stage), reproduces throughout the year and can be at least 30 years old and >5 kg. Its diet is similar to many top predator's among fishes such as the cod family, with which it competes for pelagic resources of plankton and nekton.

The reasons for its current successful invasion of Norwegian fjords are not clear but are under study. Typically so far, the densest populations are found in the inner parts of threshold fjords. Verran, in the inner part of the Trondheimsfjord, has been the home of a very dense P. periphylla population during the last decade, causing big problems for local fishermen. Main types of net gear like gillnets, shrimp trawl and Danish seine are heavily affected. Commercial fishermen have had to avoid some traditional fishing areas because of the jelly, which are caught in large quantities by those gears, at the expense of the target fish species.

Create a win-win situation?

Jellyfish is a highly appreaciated food item in parts of the world, with major markets like China within reach.

Figure 1: Example of CO2-emission per FU (1 kg of frozen fillet of Atlantic Herring) (Fet et al., 2010).

Moreover, jellies are rich sources of well-paid ingredients for medical and cosmetic industry, for example collagens. Possible utilizations of jellyfish from Norway were explored in a recent pilot project with the same name as the heading of this flyer and with partners from Sintef, IMRand NTNU. The project considered the current geographical spreading, population dynamics, diet, biomass, and possible uses of jellies like P. periphylla in Norway. The research location in focus was the inner Trondheimsfjord, where studies of population dynemics, and practical experiments with on-board extraction of collagen under winterly conditions were successfully carried out. It appears that a win-win situation can be achieved here; exploite the jellyfish commercially and thereby reduce its unwanted effects on local ecosystems and fishery resources, and allow fishermen to again use their traditional fishing grounds.

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