

Effects of elevated pCO₂ on Northern krill *Thysanoessa inermis*: survival, moulting, growth, grazing and respiration

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There is a concern of an increasing ocean acidification (OA), and the effects this might have on important species. The solubility of CO₂ is highest in cold water and polar oceans might be among the first marine environments to exhibit the effect. The most abundant euphausiid species in the northern waters e.g. Barents Sea, *Thysanoessa inermis* is a key prey of ecologically and economically important fish species such as capelin, young cod and herring.

Currently we know little about potential OA effects on such important krill species. We have used an experimental approach to study the effects of rising CO₂ levels on *T. inermis*. Individuals were exposed to two levels of pCO₂: ambient pCO₂ of 450 µatm and elevated pCO₂ of 1200 µatm for 75 days. During the experiment several biological response variables of individual euphausiids were monitored at the two exposed levels: 1) growth 2) survival, and 3) Inter moulting period. At the end of the experiment, short term trials were conducted to measure feeding and oxygen rates. In addition, total length, wet weight and RNA content of individuals exposed to the two different pCO₂ levels were measured.

From this experimental set up and investigated factors we only see minor effects from predicted near future changes in pCO₂.