Quantifying predation on Baltic cod early life stages - DTU Orbit (03/01/2019)

Predation on cod (Gadus morhua) eggs by sprat (Sprattus sprattus) and herring (Clupea harengus) is known to be one of the processes influencing reproductive success of the eastern Baltic cod and has been reported to have contributed to lack of recovery of the stock in the 1990s. This study quantifies the predation on cod eggs in the Bornholm Basin, the major spawning area of cod in the central Baltic Sea, in the 1990s in comparison with the second half of the 2000s. The analyses involve estimating daily consumption rates of predator populations, which are then compared with corresponding daily egg production rates. As a methodological advancement compared with earlier studies, spatially resolved information on predator distribution and abundance is utilized in quantifying predator stock size. This resulted in more realistic consumption estimates in relation to overall egg production compared with earlier studies that consistently overestimated predation pressure by clupeids. Our results suggest a generally lower predation pressure on cod eggs in the mid- to late 2000s, due to a combination of reduced predator abundance and lower daily rations by individual predators.

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