

## Seasonal distribution and production of *Acartia* in Southampton

### Water (England, U.K.)

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In the past half century, a number of studies have described the general composition of the mesozooplankton of Southampton Water (U.K), highlighting aspects about the seasonality of the major components and identifying calanoid copepods of the genus *Acartia* as the major element. *Acartia* can be found from nearly fresh to hypersaline waters and from 0 to 40 °C, in clear or turbid estuaries from low to high latitudes resulting in it being one of the most abundant elements within estuaries, and despite its importance and the number of studies, only a single study conducted at a single station on the mouth of Southampton Water published results on the secondary production of this genus within this estuary. Because of this, a 120 µm net-haul study comprising upper, mid and lower stations was conducted over a period of 19 months, from 12/01/01 until 16/07/02 in order to critically re-evaluate the importance and production of *Acartia* to pelagic carbon fluxes in this estuary. Of the five species of *Acartia* recorded, *A.discaudata*, *A.margalefi*, *A.clausi* and *A.tonsa* were more abundant during summer – autumn while *A.bifilosa* peaked during winter-spring however, *A.margalefi*, *A.discaudata* and *A.clausi* were found throughout the year at all three stations. Total biomass of *Acartia* for the period was 990.95, 1221.45 and 873.38 mg C m<sup>-3</sup> at Cracknore, NW. Netley and Calshot, respectively. The overall average annual production of *Acartia* spp. was 290.16 mg C m<sup>-3</sup>, with copepodite stages I to V accounting, on average, for 75% of this value.

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