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Annual and inter-annual trends in the zooplankton prey and growth of Atlantic cod (*Gadus morhua*) and haddock (*Melanogrammus aeglefinus*) larvae on Georges Bank

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The dominant copepod taxa on Georges Bank were monitored between January and June of 1995 through 1999, using a pump sampler and a 1-M MOCNESS. Between March and May of these years over 10,000 cod and haddock larvae were collected and recent growth of individual larvae estimated using RNA/DNA ratio analysis. Undertaken as part of the US GLOBEC NW Atlantic Georges Bank Program, the zooplankton sampling was completed on broadscale cruises covering much of the Bank, while most of the larval collections were made on process cruises concentrated on the southern flank. Together the two data sets afforded the opportunity to examine prey abundance and larval growth over extended spatial and temporal scales. Indices of prey abundance were estimated for different size-classes of larvae. Normalized prey counts ($\# \cdot M^{-3}$) and prey biomass concentration ($\mu\text{g dry weight} \cdot M^{-3}$) increased between February and May of each year. Following a similar trend, larval growth increased between March and May. Particularly strong correlations were observed between the biomass of *Pseudocalanus* spp. and larval growth. Residuals from models relating larval growth to larval size and photoperiod were highly correlated with normalized residual prey concentration. The spring of 1995 and to a lesser extent 1996 appeared to be periods of poor growth and low prey availability for cod and haddock larvae on Georges Bank. Although no large year-class of cod was produced during the study period, the 1998 year-class of haddock was among the largest produced over the previous 20 years on Georges Bank.

Key words: Atlantic cod, haddock, *Pseudocalanus* spp., *Calanus finmarchicus*, larval growth, prey availability

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