Spatial and temporal variation in Baltic sprat (Sprattus sprattus balticus S.) batch fecundity - DTU Orbit (06/08/2016)

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Over the last decade the size of the Baltic sprat spawning stock declined from a record highof over 1.7 million tonnes in 1996 to 910.000 tonnes in 2008. From the perspective of stockrecovery it is of central interest how reproductive parameters have changed over this periodof strongly changing stock size. Batch fecundity of Baltic sprat (Sprattus sprattus balticusS.)during peak spawning time was investigated in relation to fish length and weight applyingthe hydrated oocyte method. A series of ten years was established covering importantspawning areas in the Central Baltic Sea, i. e., the Bornholm Basin, the Gdansk Deep and forsome years the Gotland Basin. Analysis of Covariance (ANCOVA) showed significantdifferences in batch fecundity of Baltic sprat between areas and years. To detect possiblecauses for this variation in batch fecundity environmental factors such as water temperature,salinity, oxygen content as well as fish and stock size were tested as explanatory variables. The data obtained in this investigation were used to develop a predictive model of Balticsprat batch fecundity. Coupling these results with existing ichthyoplankton survey and stockstructure data will allow applying the daily egg production method

General information

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