

Examining the interactions of growth, climate and recruitment of boarfish (*Capros aper*) for a better understanding of the recent population expansion

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The interannual growth patterns observed from otoliths of boarfish were examined from two geographically separate areas in the Northeast Atlantic. Given the observed increase in stock size and northward expansion of this species we chose an area “north” at the northern distribution range west of Ireland and “south” on the main fishing grounds south of Ireland. We investigated whether temperature changes influence the growth and recruitment dynamics of this species. Growth patterns were similar between the two areas with distinct years of faster and slower growth. The relationship between adult growth and temperature in the “north” was not significant whereas in the “south” the relationship was positive up to approximately 16 °C and growth rates suppressed in the years with temperature above that. Recruitment was positively correlated with adult growth the previous year and the relationships with various recruitment indices suggest spatial connectivity between the Celtic Sea and the Bay of Biscay. The age distribution in the two areas are similar and although boarfish can reach a maximum age of >30 years the younger age classes dominate. The observed stock expansion is therefore likely to be a consequence of increased recruitment under climatic conditions preferable to the physiological capabilities of the species.