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Long-term drivers of bream (Abramis brama) somatic growth in a temperate reservoir

Fish populations play an important role in freshwater ecosystems and provide crucial ecosystem services such as nutrient recycling and food for humans and other animals. Given the importance of fish to both ecosystems and people, it is critical to monitor fish populations over time to ensure their health and sustainability. Population monitoring provides important data for scientific research aimed at understanding fish ecology and dynamics as well as the environmental drivers that influence individuals and population. In this study, we focus on the analysis of the bream (Abramis brama) population in the Římov reservoir in Czechia for four decades (1980 to 2020). This species is widely distributed across Europe and is an important component of many freshwater ecosystems. Based on a detailed analysis of somatic growth data from the bream population across different environmental conditions, we identified key drivers of somatic growth in this species. Our results indicate that temperature, water transparency, and chlorophyll content are key factors influencing somatic growth in bream. These findings can help inform management decisions designed to promote healthy fish populations and sustainable stock for this species. Overall, our results highlight the importance of studying fish at both the individual and population levels to fully understand their ecology and dynamics and hopefully help inform management decisions aimed at conserving this important species.