

## **CAN STOCKING WITH VENDACE LARVAE SUSTAIN YIELDS?**

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Enhancement stocking with eleutheroembryos is a widespread but poorly understood management practice in vendace (*Coregonus albula*) fisheries. Usually it is difficult to quantify the contribution of stocked fish to commercial harvests when hatchery-bred larvae are added to a self-sustaining population. Low informative value of indirect methods such as correlation of stocking intensity and responding yield and the deterrently high effort of mark-recapture studies are reasons why the efficiency of this fisheries practice has rarely been evaluated. The opinion that enhancement stocking of vendace larvae has rarely increased yields and does not buffer against strong annual yield fluctuations is based on only a few studies. We challenge this assumption by comparing data from vendace populations in two German lakes. By analyzing fisheries yields from six decades, larvae catches and monitoring data of a highly fluctuating vendace stock, we conclude that enhancement stocking might be a suitable tool to stabilize the fisheries yield at the currently low population density. This conclusion is supported by observations in another lake with low natural reproduction. In this population, enhancement stocking was found to be highly efficient because about 90% of a year class was repeatedly recruited from the marked stocking material over several years. Our studies demonstrate that enhancement stocking with vendace larvae may be efficient and sustain fisheries yields if a low spawning stock biomass and/or low reproductive success result in limited recruitment. Potential early indicators of year-class strength to facilitate decision-making on stocking effort will be discussed.

Poster presentation