

AquaVlan; for a sustainable aquaculture.

The main goal of the Interreg IVA project AquaVlan is to lay the foundation for an economic, social and ecological sustainable aquaculture sector in the border region of Flanders and The Dutch province of Zeeland. In this region, the production, processing and trade in fish, shellfish and salty vegetables are an important sector for the economy and food supply. From the consumer's point of view, the economy and the history of the region, it is of key importance that this sector develops further into a sustainable sector, strongly relying on regional expertise and market perspectives. There are several challenges for the aquaculture sector in the border region:

The shellfish sector is confronted with increasingly regulated and restricted harvests of mussel seed, necessary for the production of mussels. In addition, the production of mussels in hatcheries is still sub-optimal due to high a mortality and low growth rates. The projects aims to increase the survival and growth rate in hatcheries by developing protocols for the use of suitable immunostimulants and probiotics to strengthen the immune system of mussel larvae.

Fish production on land in the border region makes use of recirculation systems. This technology is sustainable in many ways due to low energy and water usage, low emission of nutrients and biosecurity, but also not without problems. The sector is, especially in Flanders, not well developed and there are limited demonstration possibilities to introduce the technology. In addition, species diversification is needed to ensure the sales of regionally produced fish to the regional markets and further growth of the sector. With any choice for a new species, the market and consumers are leading, and not the fish producers. The consortium works to introduce in The Netherlands the saltwater yellowtail kingfish (*Seriola lalandi*), and in Flanders, the freshwater fishes pikeperch, jade perch and freshwater cod. The introduction of new species will require species specific adaptations in the recirculation systems and husbandry conditions to ensure a sustainable and profitable production. In addition, analyse of the markets and bio-economics will provide the necessary knowledge for a successful introduction of the new species.

Salty vegetables, which are traditionally cut in the wild, are associated with aquatic production within the border region. The vegetables are increasingly known by the public, resulting in an increasing demand. Harvest of these vegetables from the wild however is increasingly regulated and restricted to protect the delicate delta environment. The project works to professionalise this sector, working on heterogeneity, monoculture, greenhouse culture, species diversification, harvest methods and soil treatment with salt. A sustainable aquaculture sector in the region needs qualified staff and young people who have the knowledge of the technology and systems from the different disciplines. Therefore, an educational aspect is integrated in the project. On both sides of the border, experimental teaching facilities were realised, and two bachelor courses were set-up with a high grade of knowledge exchange.

The AquaVlan project is a prime example of collaboration between knowledge institutes from both sides of the border to strengthen an economic and historic important sector, the aquaculture sector in the border region of Flanders-The Netherlands. In the PDF a summary of the main results is given.

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