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MEDUWA-Vecht(e)

MEDicijnen Uit het WAter / MEDizin Unerwünscht im WAsser /

MEDicines Unwanted in WAter

What is MEDUWA-Vecht(e)?

The four-year MEDUWA project (2017-2020) isfundedbytheEuropeanINTERREG-VA Deutschland-Nederland Programme.

The **main goal** of MEDUWA is to develop a set of innovative solutions that prevent the transfer of



The 12 innovations of MEDUWA address different stages of the medicine chain



medicines and multi-resistant micro-organisms from human and veterinary origins to water, food and air. These solutions can be implemented in various stages of the medicine chain from medicine development to environmental emissions. These interventions involve visualization and communication, prevention, mitigation, analysis, measurement, simulation and prediction under various management and climate scenarios.

The project is being carried out in the **Vecht(e) river basin** in Germany and the Netherlands, which serves as a transboundary case study in a region with intensive agriculture and numerous towns and cities. The innovations of MEDUWA also support regional development.

MEDUWA

Concrete tools being developed:

- a watershed information system to simulate the effect of measures on water quality under various climate scenarios;
- a tool expressing the level of water contamination per livestock farm, animal, kilo of meat or litre of milk;
- herbal and algal alternatives for antibiotics;
- advanced treatment technologies for point sources (homes, farms, hospitals, nursing homes);
- animal health monitoring to avoid or reduce the need for group treatment;
- the development of a biopharmaceutical for animals and humans.

Characteristics of the Vecht(e) Basin



In the Netherlands, the Vecht(e) River will become a **drinking water source** for up to 10% of the population of the province of Overijssel. Contamination of this river with micro-pollutants like pharmaceuticals and multi-resistant micro-organisms will make treatment for drinking water production difficult and expensive.



Vecht(e) River (Volker Lämmchen)

Pharmaceuticals have been found in relatively high concentrations throughout the watershed, in some cases above the limit of 0.1 microgram/L. The antibiotic sulfamethoxazole has been identified in the German and Dutch part of the river system, where feminized male fish have been observed.

The role of stakeholders

An inter-sectoral, cross-border coalition for action and change

Co-sponsors

Stakeholders in MEDUWA are those interested in the application of measures that are developed in the project. They are involved in one or more of the following activities:

- bringing in their perspective on water management issues in the river basin;
- identifying data sources and/or validating and

The project is led by Osnabrück University and involves 27 partners including SMEs, research institutes and governmental and non-governmental organizations in the Netherlands and Germany.



Europese Unie Europees Fonds voor Regionale Ontwikkeling





Niedersächsische Staatskanzlei



PROVINCIE FLEVOLAND

verifying data input and outputs;

• supporting the dissemination of project results and identifying product markets.

Contact

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Vecht(e) River catchment, Volker Lämmchen