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The quality of effluents from WWTP in Słupsk
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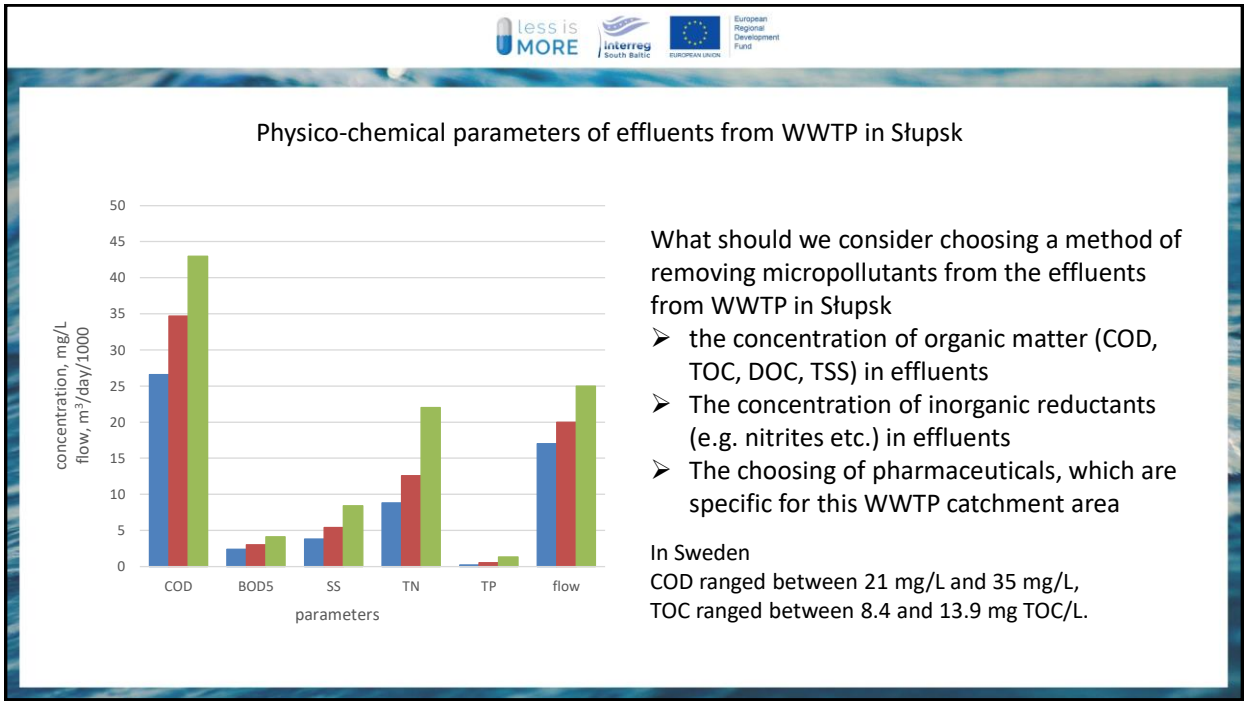
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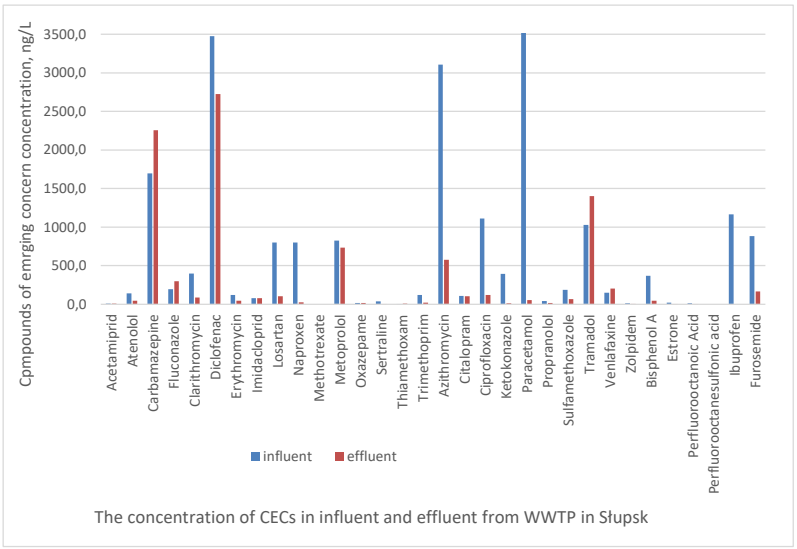
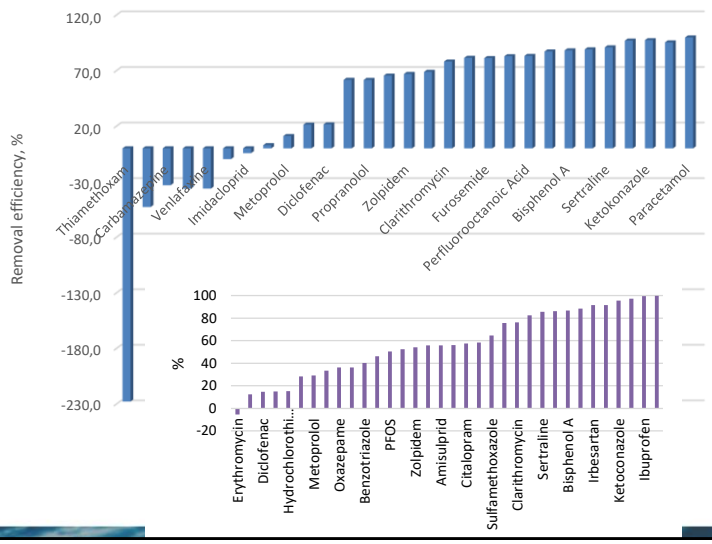
Physico-chemical parameters of effluents from WWTP in Słupsk
concentration, mg/L
flow, m3/day/1000
50
45
40
35
30
25
20
15
10
5
0
COD
BOD5
SS
TN
TP
flow
parameters
What should we consider choosing a method of removing micropollutants from the effluents from WWTP in Słupsk
the concentration of organic matter (COD, TOC, DOC, TSS) in effluents
The concentration of inorganic reductants (e.g. nitrites etc.) in effluents
The choosing of pharmaceuticals, which are specific for this WWTP catchment area
In Sweden
COD ranged between 21 mg/L and 35 mg/L,
TOC ranged between 8.4 and 13.9 mg TOC/L.



The concentration of CECs in influent and effluent from WWTP in Słupsk

How does choose pharmaceuticals, which are specific for this WWTP catchment area?

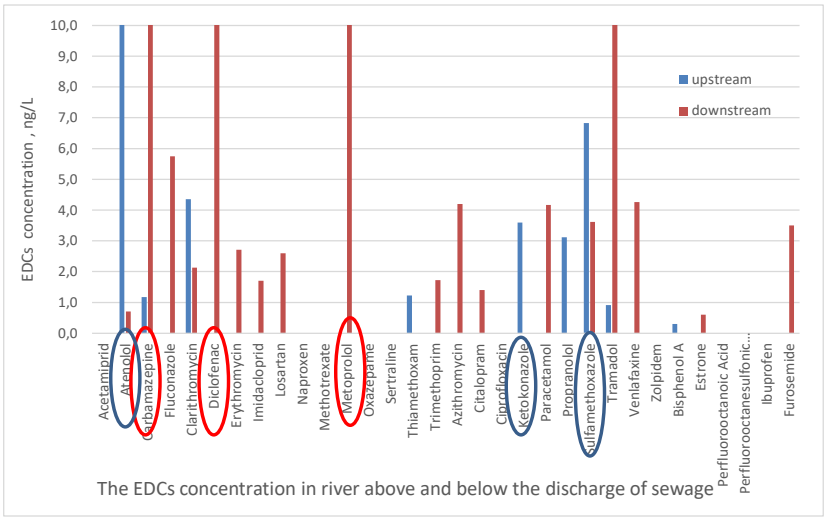
- consumption,
- concentration in raw wastewater,
- biodegradability
- removal efficiency in WWTP
- ability to adsorption



The most difficult was the removal of diclofenac, and carbamazepine as these substances showed low biodegradability.

An increase of concentrations of endocrine-disrupting chemicals (EDCs) in the effluent from WWTPs is observed for about 18% - 20% of all detected EDCs.

In several cases, the increase in final effluent concentrations of the compounds likely results from dissolution of persistent contaminants accumulated in aggregates and/or back-transformation or de-conjugation of metabolites into parental compounds



The EDCs concentration in river above and below the discharge of sewage

- Effluent from WWTP in Słupsk was the main source of carbamazepine, diclofenac, metoprolol etc.
- The concentration of atenolol, sulfametoxazole, ketokonazol and others was higher in upstream than in downstream, the main sources of these EDCs was not the WWTP in Słupsk.
- 6-10 representative substances or organic micropollutants: CBZ, SMX, DCF, TMX

DZIĘKUJĘ ZA UWAGĘ!

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