



# Nuredrain: filtration systems for nutrient recovery

## phosphorous removal:

The Belgian drinking water utility De Watergroep is testing together with research institute VITO - P filtration systems in their drinking water production center De Blankaart where surface water is being treated to high drinking water standards. Since some years De Watergroep has to cope increasingly with the consequences of eutrophication caused by nutrient input from the surrounding area.

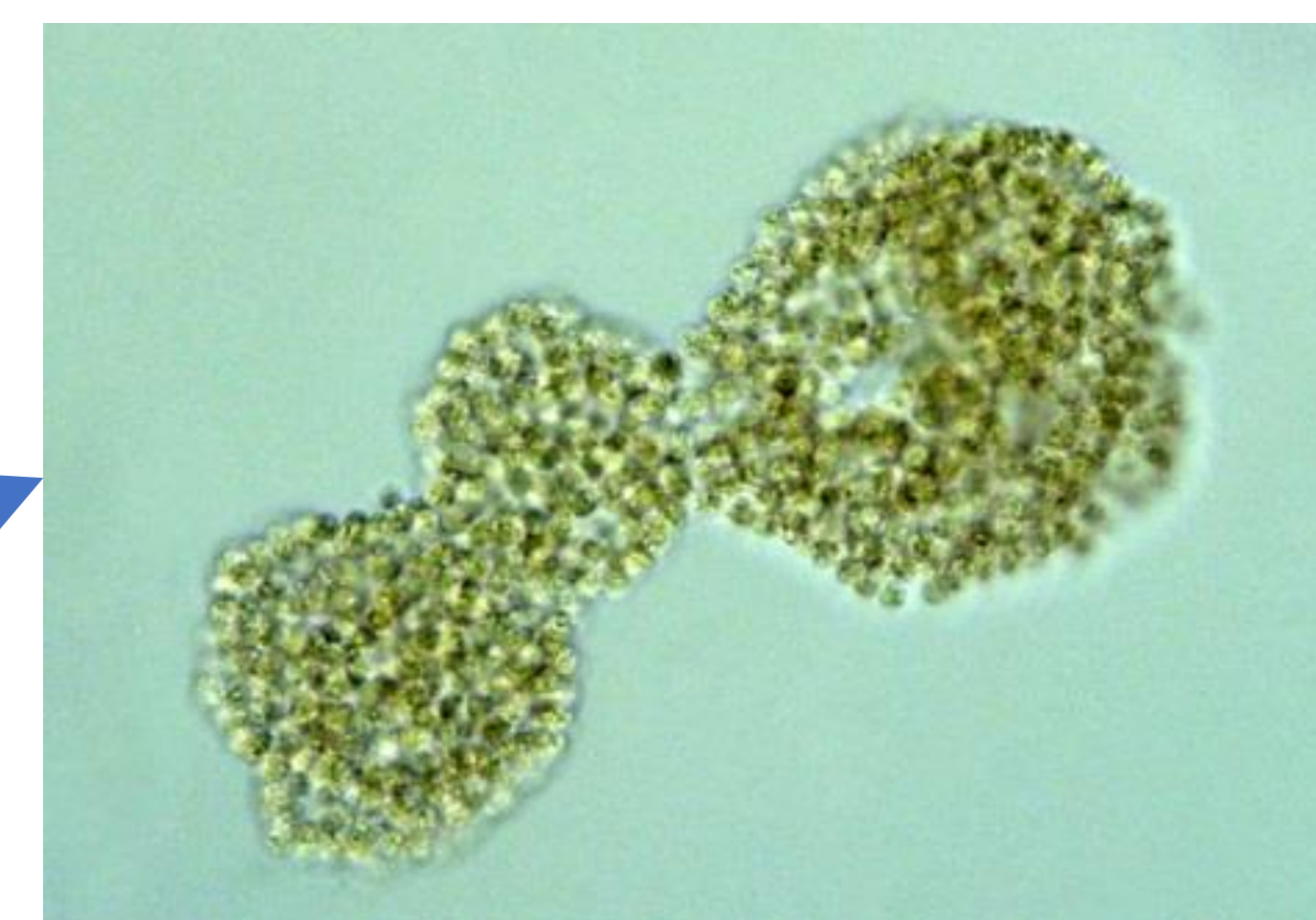
### Objective:



phosphate rich  
surface water



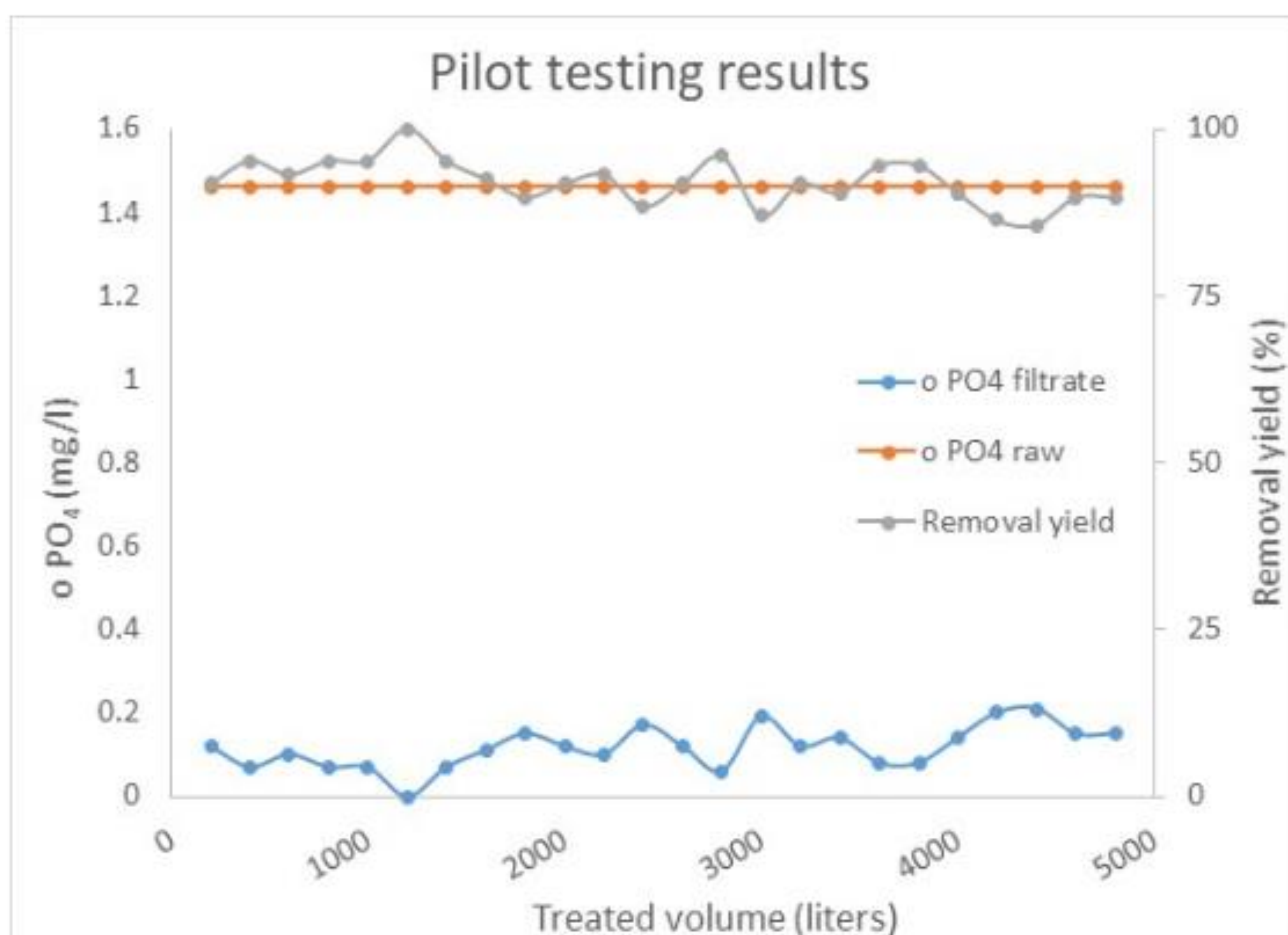
Pilot: phosphate  
removal using sorbents



Limiting algae  
growth

### Results:

In the first days of testing, removal yields of > 85% of ortho-phosphate (concentration in untreated water: 1.4 mg PO<sub>4</sub>-P/l) were obtained (figure above). In the following months, removal yields dropped due to lower phosphate concentrations in the raw water and lower water temperatures



### Outlook:

- In the next phase a small pilot will be build in order to test the sorbent's phosphate removal capacity on phosphate rich water on location. Due to the higher phosphate concentration it is expected that there will be a higher absolute phosphate removal.
- Regeneration (and P- recovery) will be tested on the pilot (intake water) in order to maintain a high removal rate and to recover the collected phosphate.

