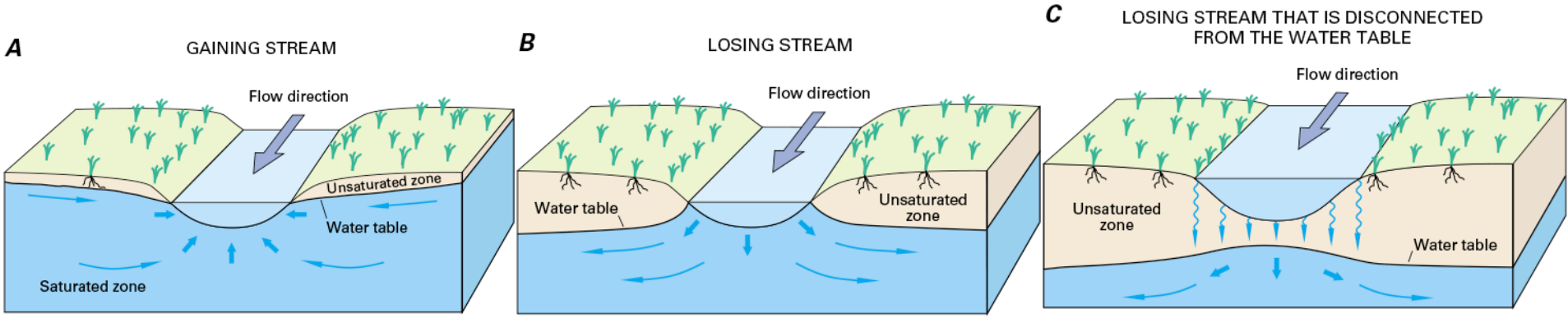
P4- Spread of organic contamination from a river to an aquifer

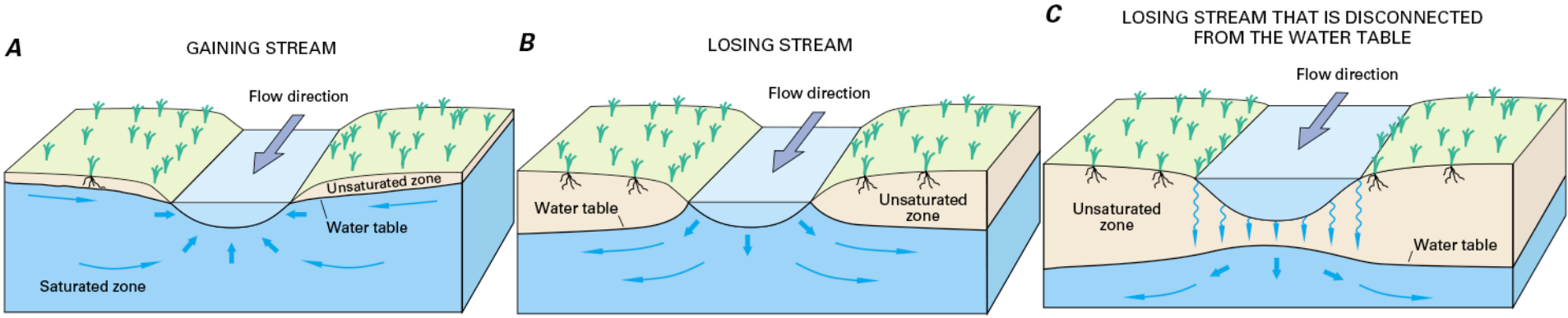
Surface-groundwater interactions



Source: www.e-education.psu.edu

P4- Spread of organic contamination from a river to an aquifer

Surface-groundwater interactions



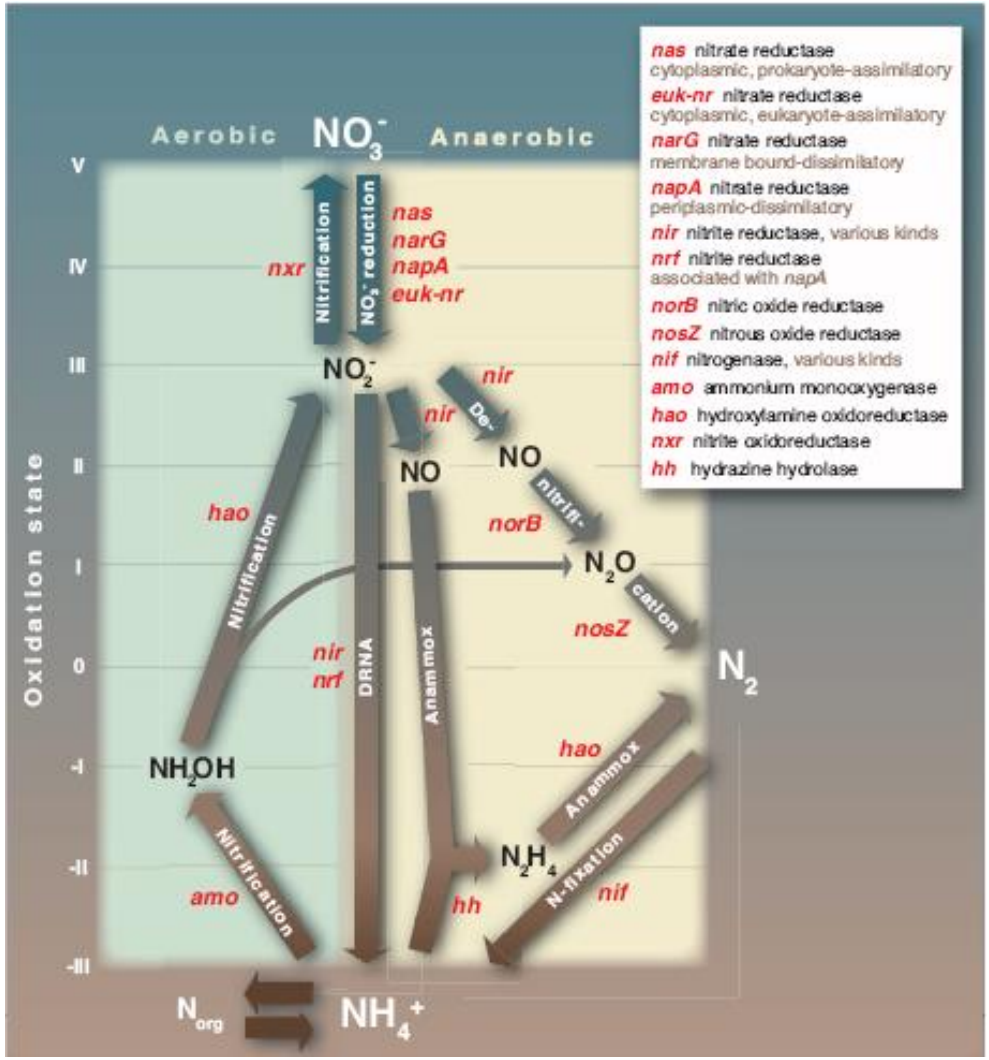
Source: www.e-education.psu.edu

Potential transfer of pollutants from the river to the aquifer

Here: focus on organic matter and nitrogen

P4- Spread of organic contamination from a river to an aquifer

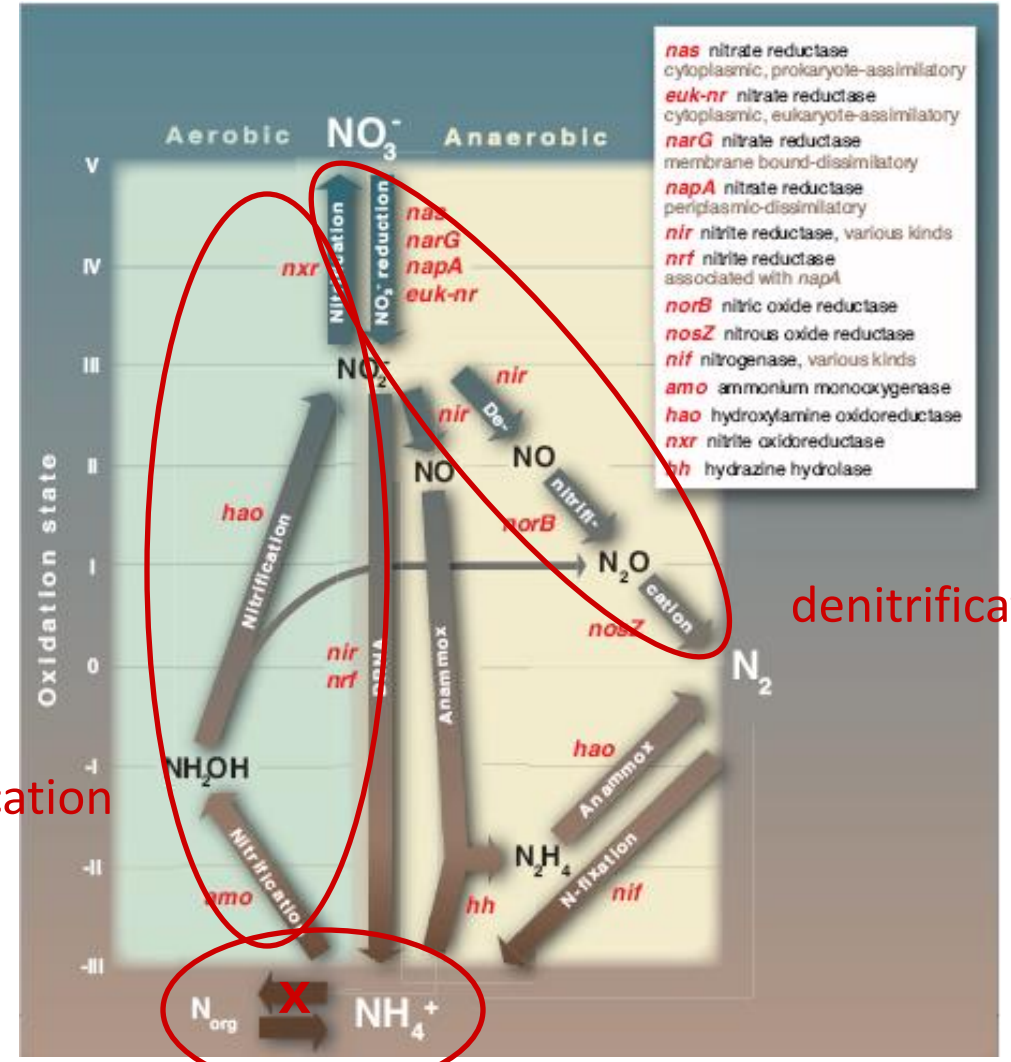
Nitrogen cycle



Source: Canfield et al. 2010, *Science 330*

P4- Spread of organic contamination from a river to an aquifer

Nitrogen cycle



denitrification

nitrification

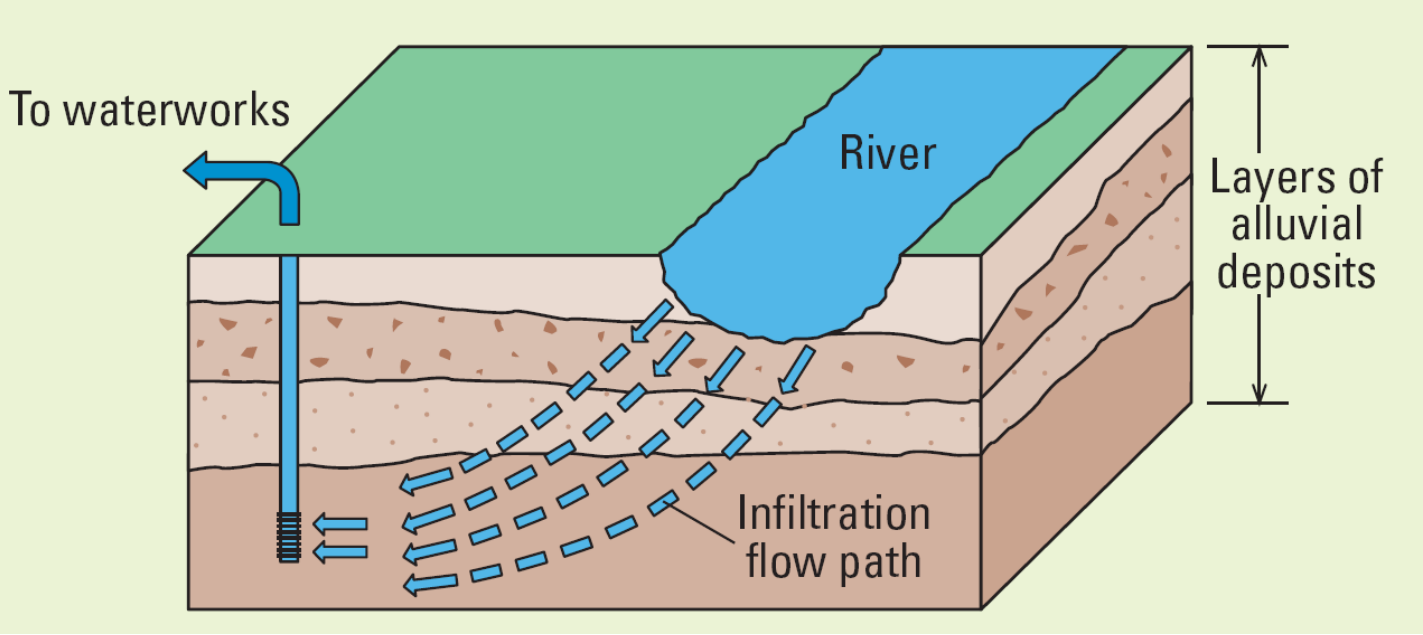
mineralization

Source: Canfield et al. 2010, *Science 330*

P4- Spread of organic contamination from a river to an aquifer

Bank filtration

→ Treatment/pre-treatment for drinking water production

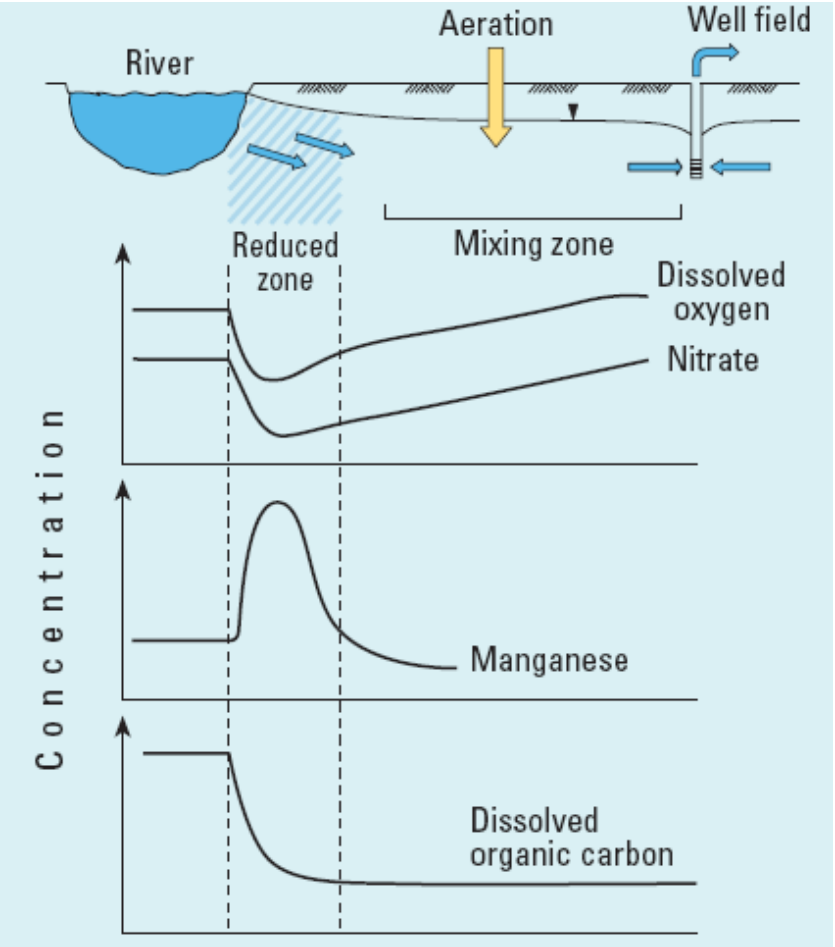


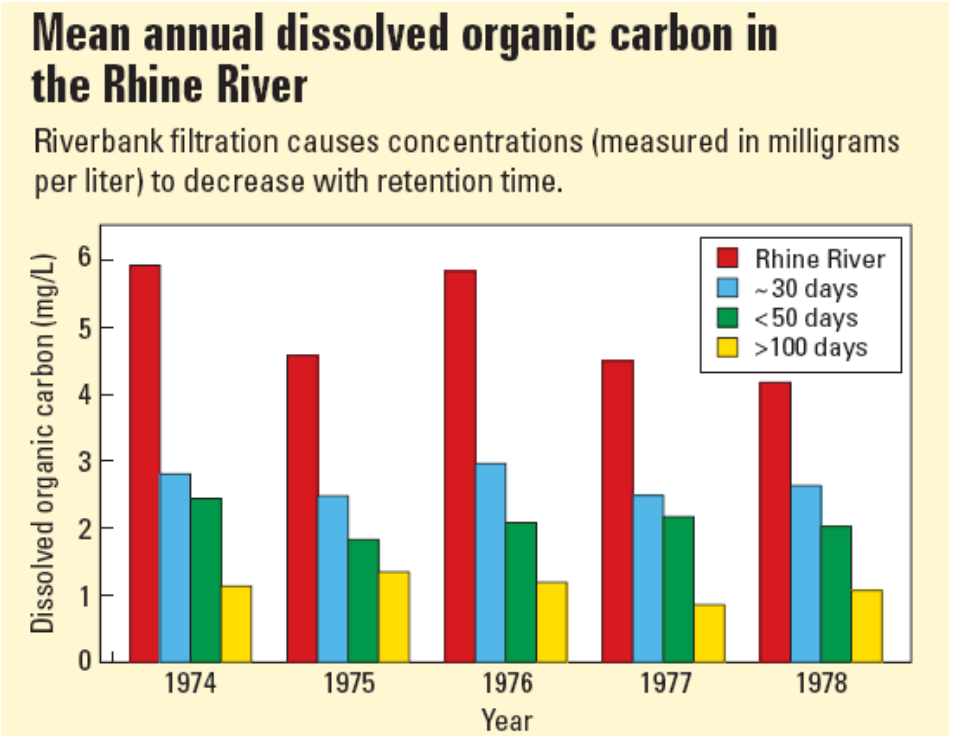
Source: Tufenkji et al. 2002, *Environmental Science & Technology 36*

P4- Spread of organic contamination from a river to an aquifer

Bank filtration

→ Treatment/pre-treatment for drinking water production





Source: Tufenkji et al. 2002, *Environmental Science & Technology 36*

P4- Spread of organic contamination from a river to an aquifer

Goals of the project

- Role of aerobic and anaerobic processes in the removal of DOM in groundwater
- Predict O_2, NO_3, NH_3 and N_2 concentrations along the flow path

→ **How does the quality of the water extracted at a well (for drinking water production purpose) depend on the concentrations in the river? How do the different processes affect this quality?**