

Retour d'expériences

Country

United Kingdom 

Title of the operation (name of your water protection operation for water catchment area (s))

Till Fell Sandstone Groundwater Body

A short summary of the operation of drinking water catchment protection (fight against diffuse pollution)

The Environment Agency and Northumbrian Water are working in partnership to identify the sources of nitrate contamination to the Till Fell Sandstone groundwater body, located in northern Northumberland, England. Currently nitrate concentrations in the recharge area of the aquifer exceed the drinking water supply. This puts public water supply abstractions at risk - concentrations of nitrate at the public water supply boreholes are currently below the drinking water standard. We are working together to reduce the infiltration of N from agricultural practices on this highly vulnerable aquifer.

Key words

Nitrate, groundwater

Name of the catchment area(s) and its localisation (city, geographical situation...)

Till Fell Sandstone, west of Berwick-upon-Tweed

Description of the area where the operation takes place and feature of their territory (forest, urban area, main crops...)

The area comprises rolling hills and mostly arable land use (cereals).

Number of farmers present in the water catchment area

Approx 25



Problems encountered (main water pollutants and original aims)	Nitrate - excess N identified in groundwater monitoring. trying to prevent this from reaching the public water supplies; also trying to reduce/minimise further N leaching from arable fields and other farming practices.
Water quality monitoring	Environment Agency boreholes within the catchment show N concentrations at or above the drinking water standard. Concentration at the public water supplies are still below the drinking water standard.
Population served by this catchment for drinking water	Approx 25,000
Operation: is it voluntary/compulsory (related to regulation)	Voluntary partnership working
Background/ history of the operation	Northumbrian Water have been abstracting water for public supply in this area since the 1940s. Currently levels of monitoring only began in the 1990's, but the issue of high nitrates in the recharge area was only identified when the Environment Agency produced WFD investigation reports for this groundwater body.

STAKEHOLDERS INVOLVED (Organisations' name and department)

Technical partners	Environment Agency, Northumbrian Water, Newcastle University
Financial partners	Environment Agency, Northumbrian Water, National Environmental Research Council (NERC)
Project leader	Melissa Swartz, Environment Agency; Jeremy Dearlove, Northumbrian Water
Other stakeholders	Newcastle University, local farmers, agronomists, wider EA staff, Tweed River Trust
Description of concrete actions (with the dates of the accomplishment)	Designated a safeguard zone (june 2017) engagement with local farming community - started 2013 and is ongoing MSc student project looking at soil variability and N leaching - 2016/2017 septic tank



maintenance awareness campaign - 2013/2014 soil sampling = biannually since 2013 upcoming phd project to quantify N leaching and identify and trial practical mitigation measures

Funding

Mains results (outcomes): Examples: number of farmers engaged, enhancement of water quality...

Environment Agency, Northumbrian Water and NERC

Have engaged with 15 farmers - pilot area of study is 4 farms. Have engaged with wider farming community and agronomists to establish relationships.

Obstacles and difficulties

Greatest difficulty was proving to farmers and agronomists that the excess N is due to current / recent ag practices, and not historic plowing of grasslands. Once we realised this was a sticking point, we needed to do our homework on unsaturated and sat zone travel times. Taking a catchment-based approach take a LOT of time to get stakeholders engaged, bring partners in and get them up to speed, and identify and secure funding.

Lessons and perspectives

Get the message right! For our farmers, making it clear that they could be losing money because we're finding excess N in the groundwater, suggesting their crops aren't actually using what they're putting on.... this has been an effective message.

