

THE TUNØ STUDY SITE

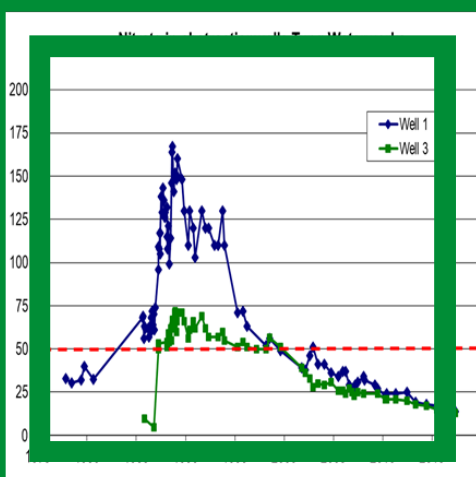


How Protection Zones and Land Management Restored Nitrate Contaminated Groundwater on the Island of Tunø, DK

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LESSONS LEARNED

- Groundwater restoration is time consuming
 - Only lasting measures are relevant
- Cooperation with local farmers is a prerequisite
- Monitoring is crucial for evaluation of measures
 - Expect changes in politics and ownership
- A credible forecast is vital for planning and acceptance



THE RISE AND FALL OF NITRATE IN THE WATERWORKS WELLS

Intensive horticulture from mid 1970-ies leached high nitrate concentrations, and action plans from 1988 with protections zones was an effective measure to improve water quality

MONITORING THE EFFECTIVENESS

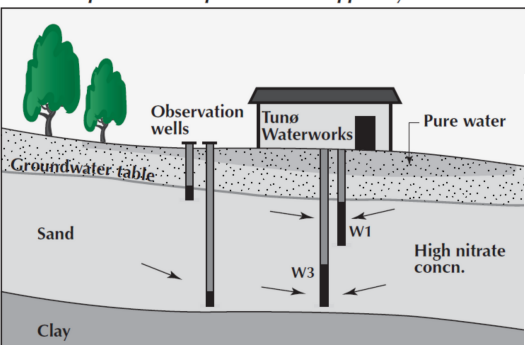
Monitoring of soil water and groundwater enabled adaptive measures. The initial 3 ha permanent grass zone was adjusted after few years to 12 ha



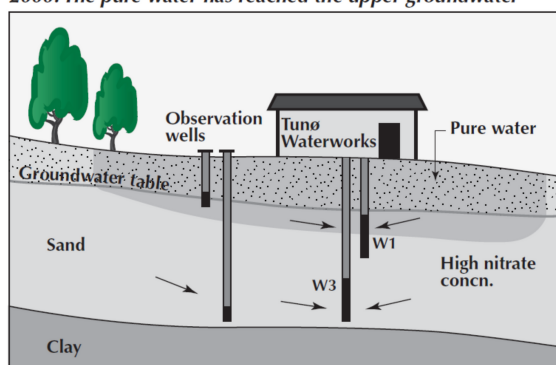
ROOM FOR FARMING

Good agricultural practice lowered nitrate leaching but not sufficiently. Exchange of fields between farmers secured room for high productive areas

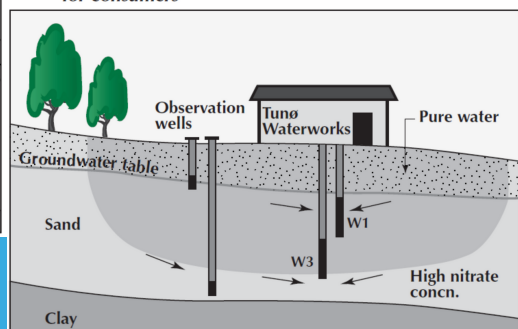
1990: The pure water is present in the upper layers of soil



2000: The pure water has reached the upper groundwater



2010: A permanent solution has been achieved – pure water for consumers



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