

Effects of 5th Nitrate Action Programme on fertilisation and water quality in the Netherlands

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Introduction



Fertiliser policy



water quality



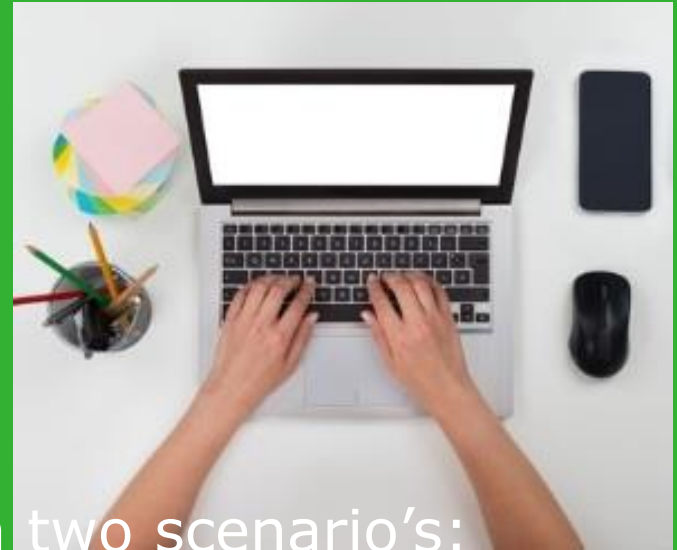
Every four years new AP
4th AP (2009-2013)
5th AP (2014-2017)

Objective and method

Assessment effects of 5th AP on water quality

Two calculation rounds:

1. Location specific soil load
2. Water quality



Effect based on difference between two scenario's:

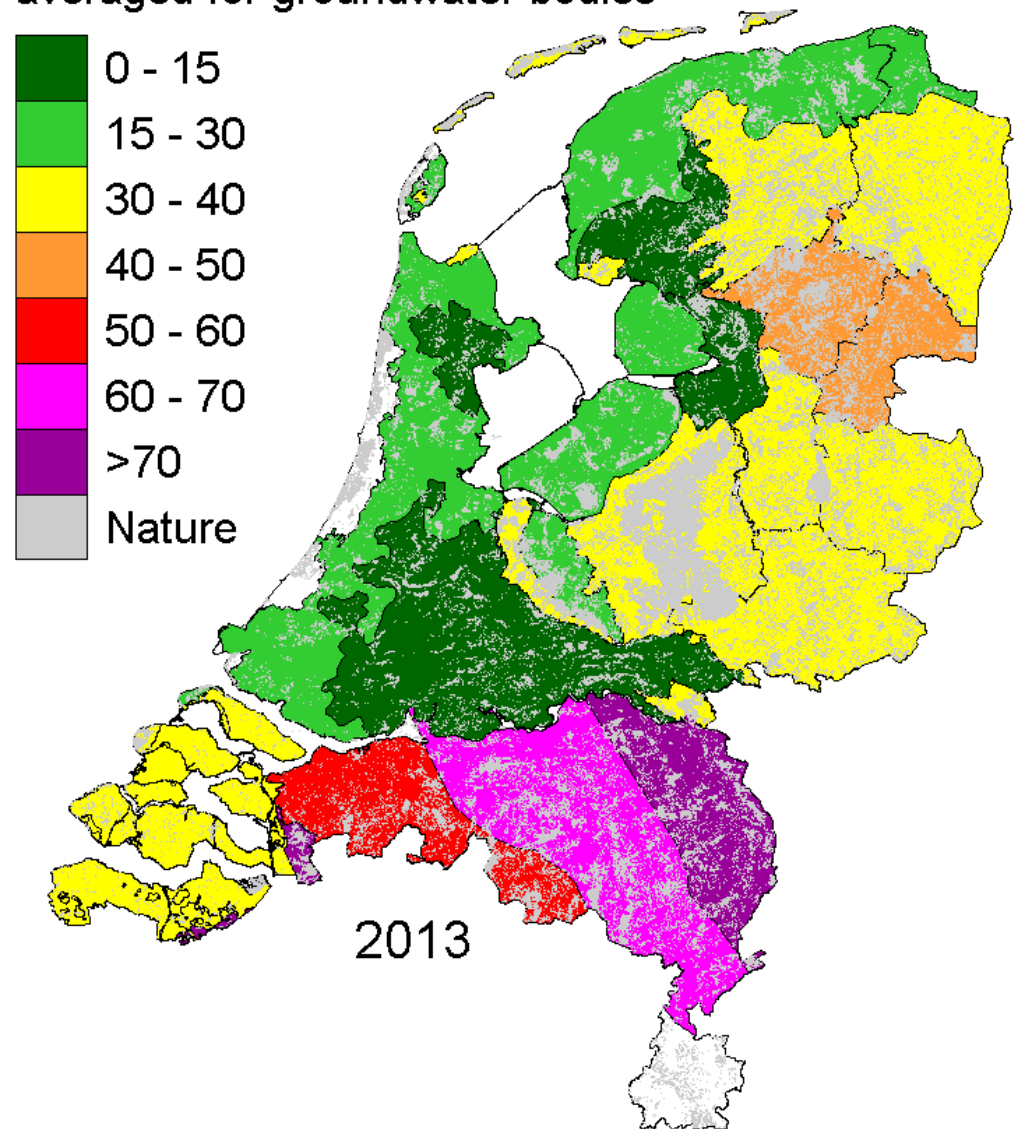
1. 4th AP (2009-2013)
2. 5th AP (2014-2017)

Most important extra measures 5th AP

Farms on sandy soils:

- Derogation 250 -> 230 kgN/ha (east and south)
- 20% reduction application standard green maize and arable crops (south)
- P₂O₅ 5 kg/ha reduction (all soils)

Nitrate in upper groundwater (mg L⁻¹)
averaged for groundwater bodies



Method



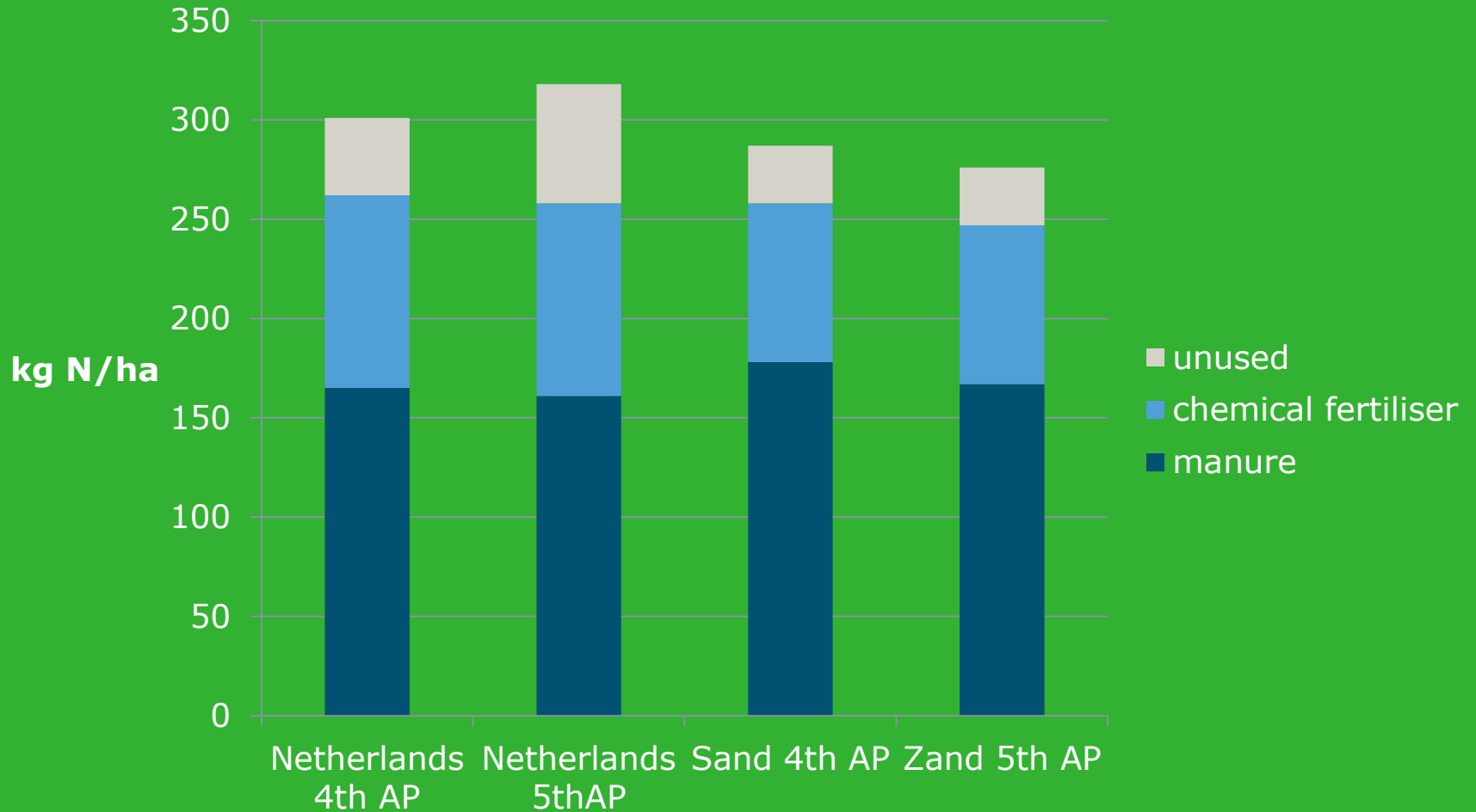
■ Soil load

- based on farm data (crop area and # animals) for 2013
- MAMBO calculated distribution of manure
- Chemical fertiliser from FADN 2012

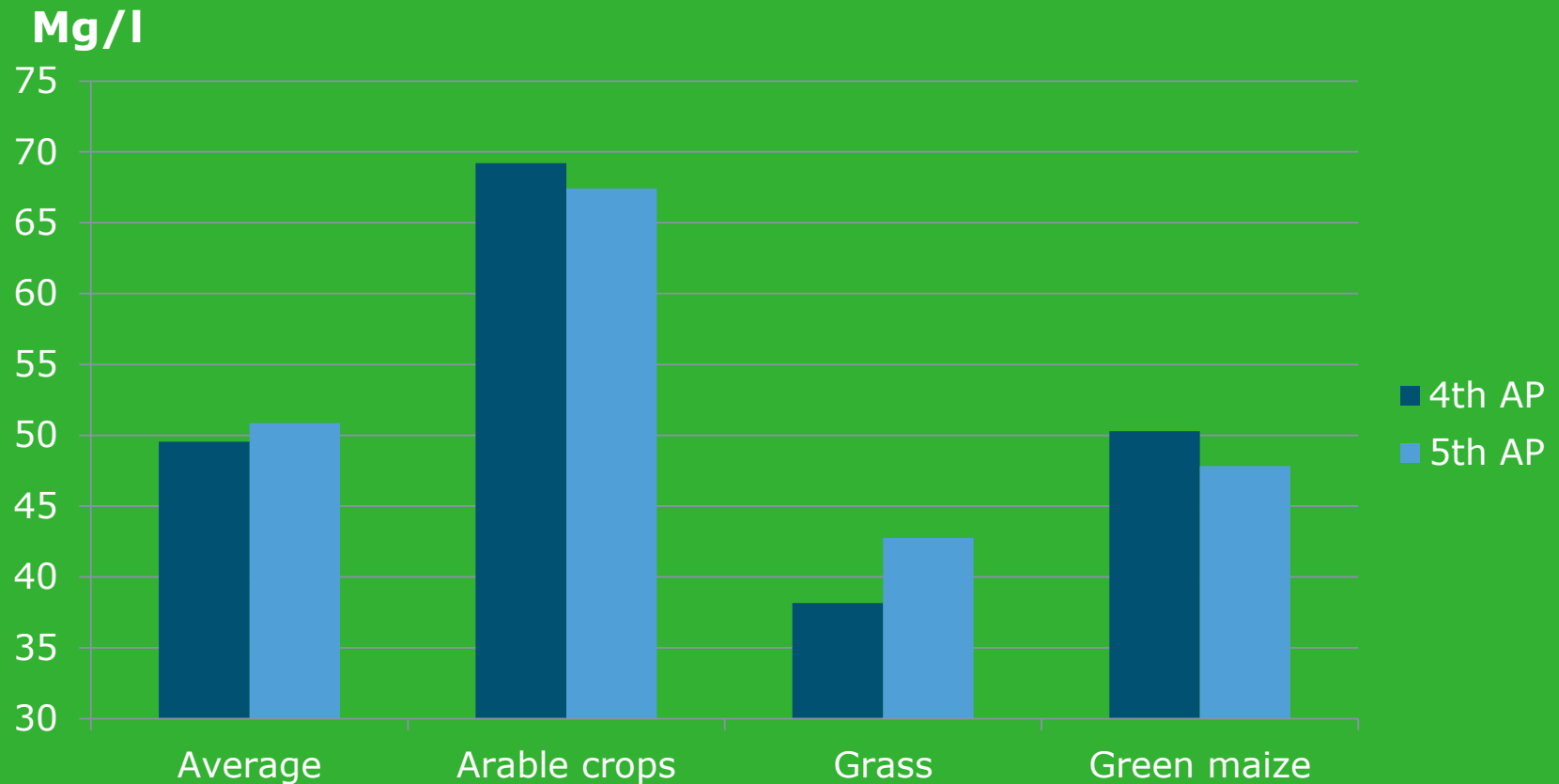
■ Water quality

- STONE calculated effect for 2027

Results: Soil load

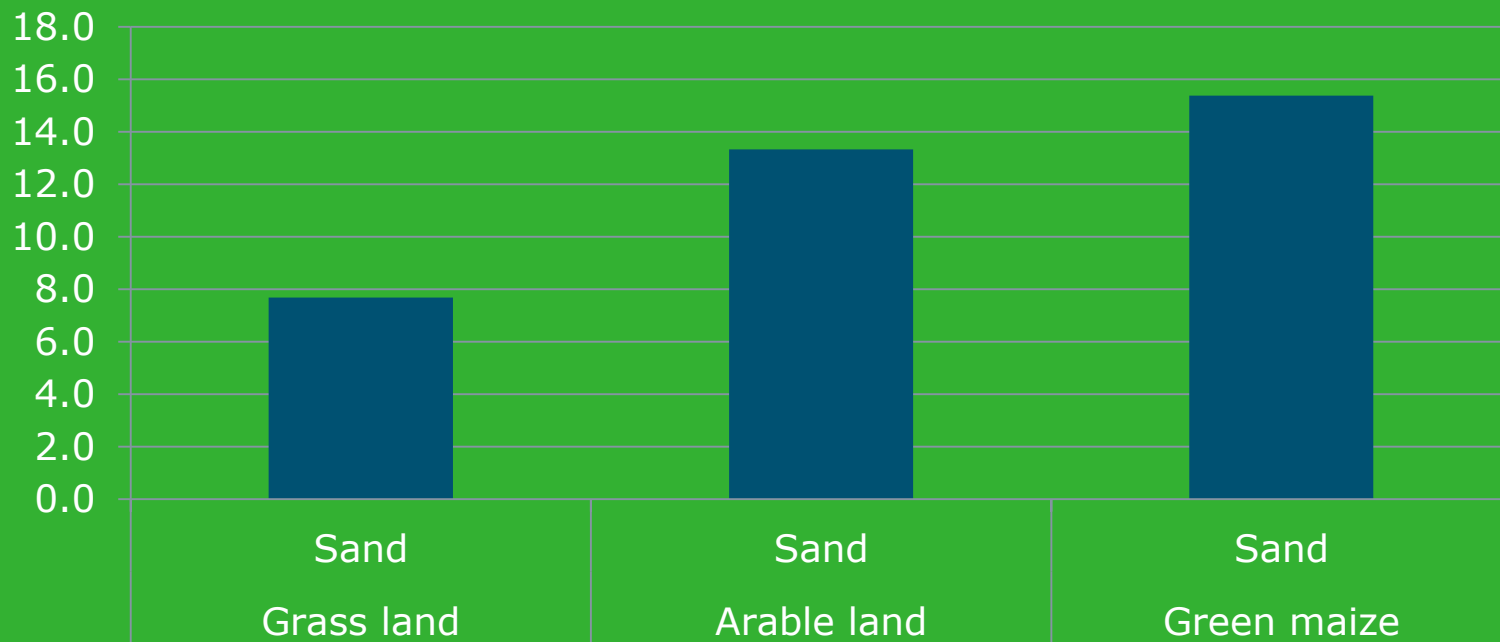


Results: ground water quality on sandy soils



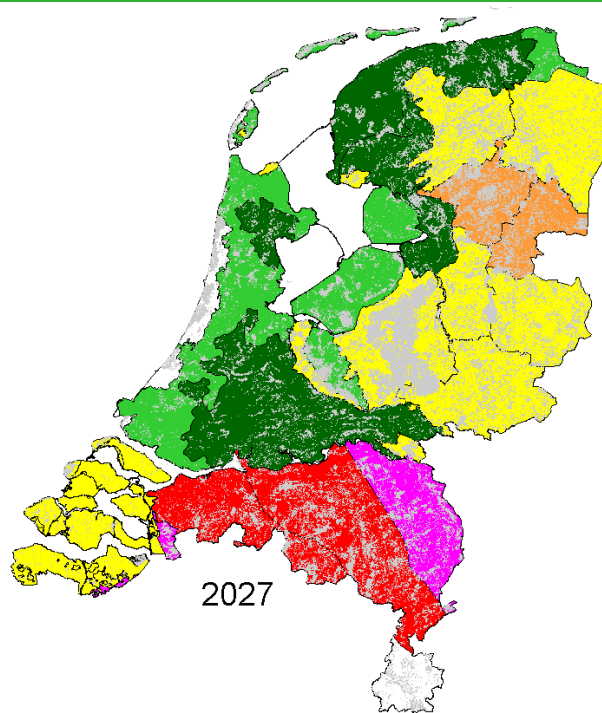
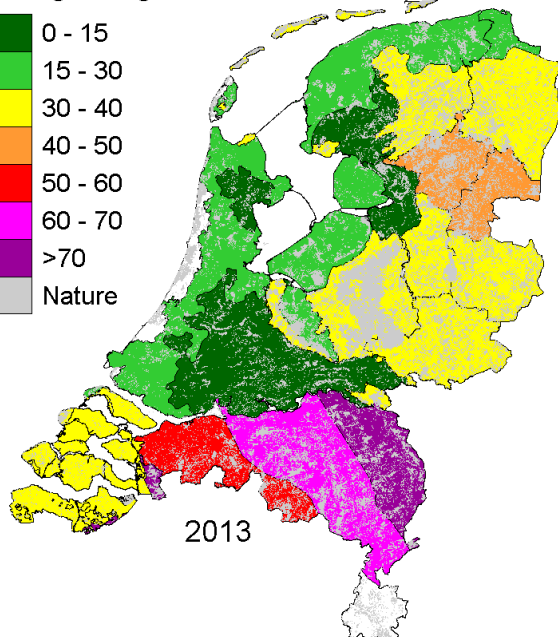
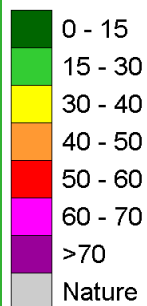
Results: replacement pig manure by cattle manure

Procenten

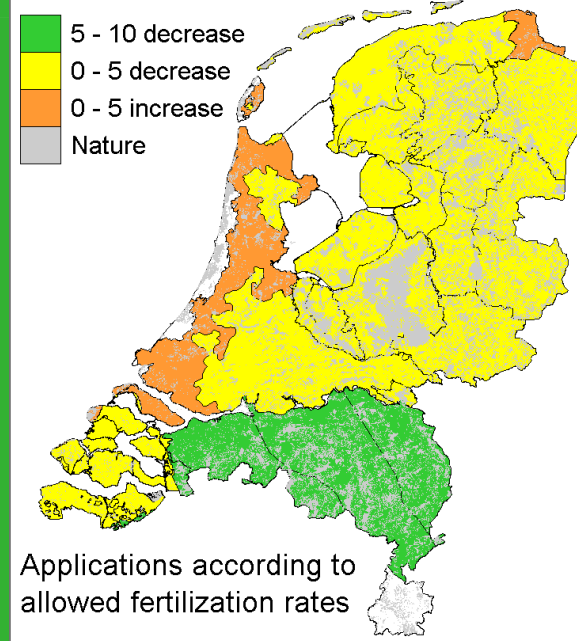


Results Ground water quality: 5^e NAP 2013-2027

Nitrate in upper groundwater (mg L^{-1})
averaged for groundwater bodies



Development of nitrate (mg L^{-1})
difference between 2027 and 2013



Conclusions

The effects of the 5th AP are:

- Reduction of soil load of 11 kg N/ha on sandy soils
- Replacement of pig by cattle manure of 6% on grass land to 15% on green maize
- Slight decrease of the quality of ground water on sandy soils

Between 2013-2027 the 5th AP provides a positive effect on the quality of ground water

Thank you for
your attention



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