

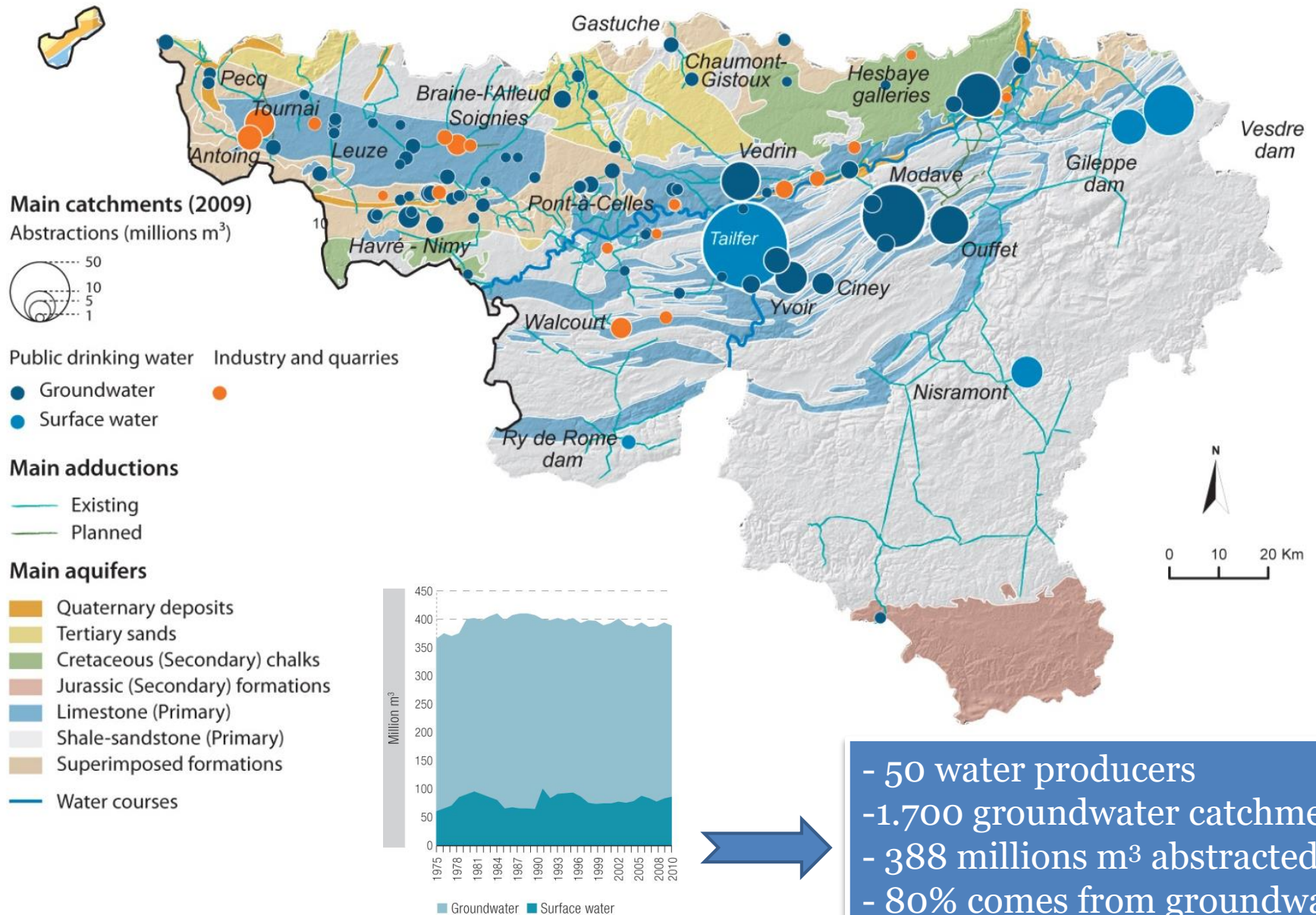
Drinking water contracts, a new approach in the wallon region of Belgium to preserve and protect the groundwater



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Public Water Management Company



Production of public drinking water in Wallonia

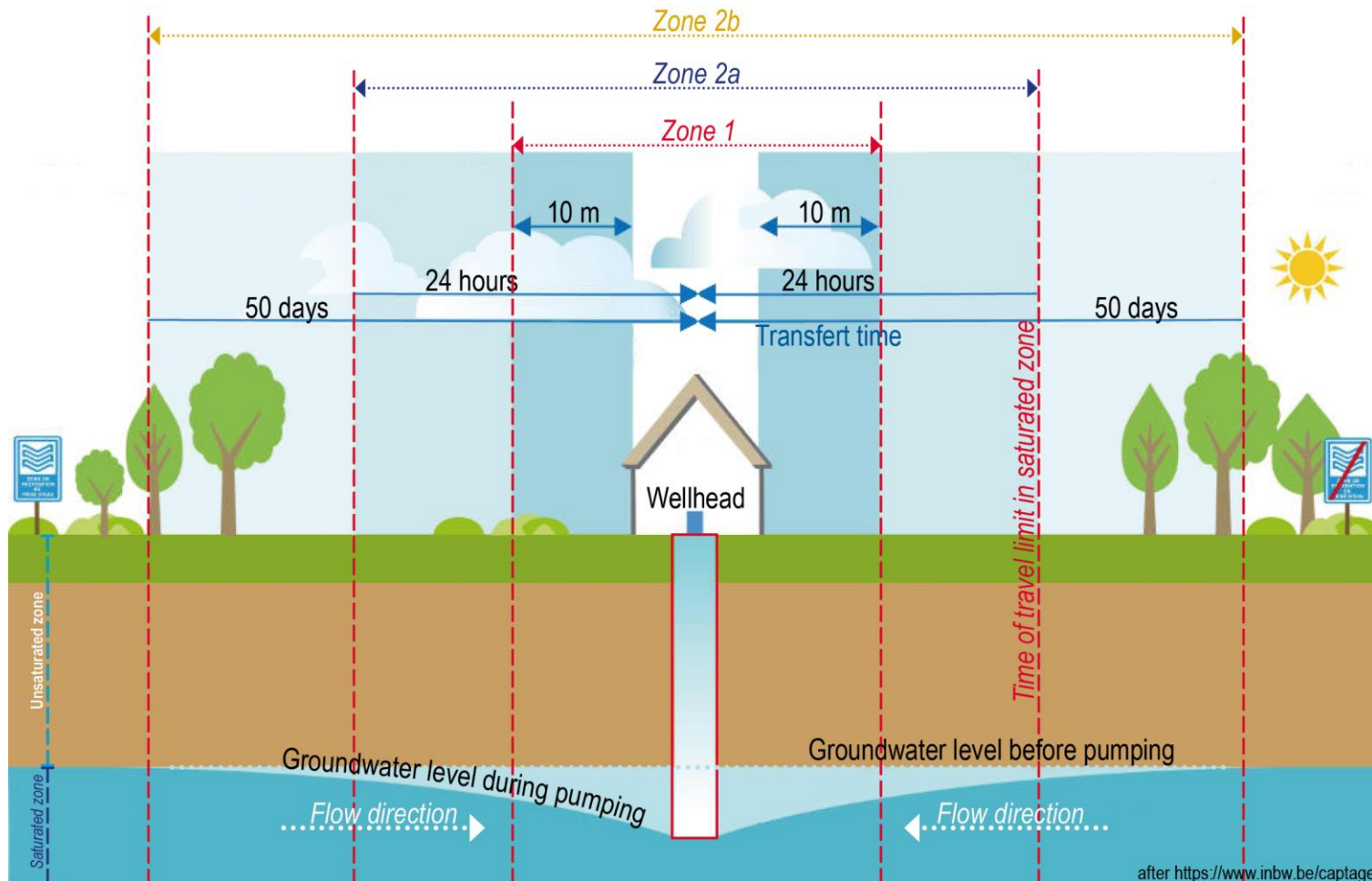


- 50 water producers
- 1.700 groundwater catchments
- 388 millions m³ abstracted
- 80% comes from groundwater

Protection of groundwater catchments

Prevention areas (= safeguard zones)

Delineation of protection zones around intakes



+ optional ZIII = catchment area, if necessary

Contracts: Regulatory framework

PROTECTION PROGRAMM



WATER
PRODUCERS

Pay 0,0744 € by m³ withdrawn



Funds the studies for the safeguard
zones and the measures inside

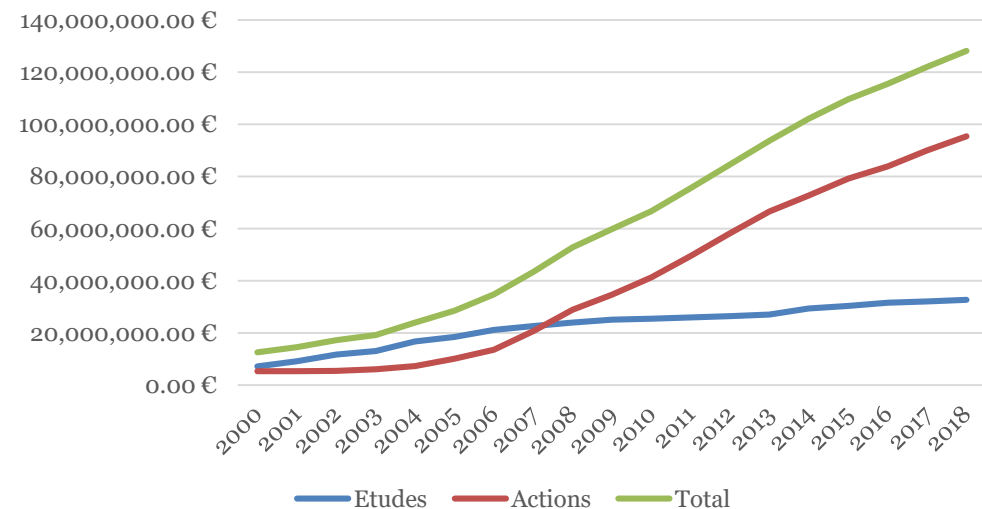


Protection measures against point source pollution

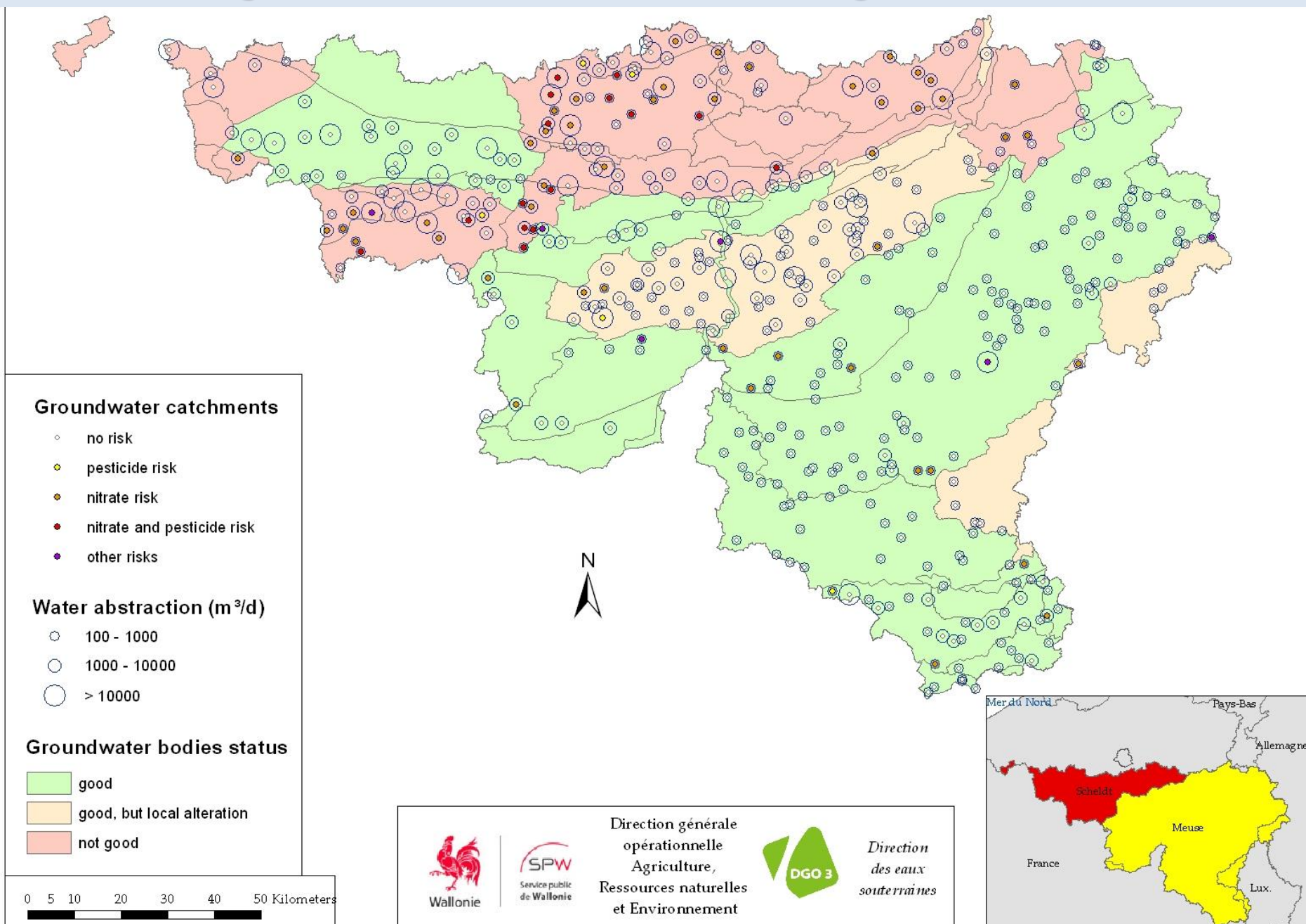
Actions in preventions areas



Spending



Status of groundwater bodies and status of groundwater catchments



Responses to diffuse pollution : Water code

The Water Law

Nitrate



PGDA action program

Pesticides



PWRP action program

Groundwater catchments legislation

- If the Minister finds $[\text{NO}_3] > 35 \text{ mg/l}$ or more than 20 mg/l with an upward trend, he shall take appropriate measures leading to changes in agricultural practices. These measures remain in force until the contents are brought back down below $20 \text{ mg NO}_3/\text{l}$ and maintained at this level for at least five years. He may in particular limit the spreading of manure, products allowed to be spread for agriculture and nitrogen fertilizers.
- If the Minister finds that the concentration of active substances of pesticides, as well as their relevant metabolites, increases and exceeds 30% of quality standards for groundwater, he may, after investigation control, take adequate incentives measures to modify agricultural practices, domestic and others .
If the Minister finds that the concentration exceeds 75% of the quality standards for groundwater, he takes , after investigation control, reinforced measures, up to the prohibition on applying the pesticides concerned.



Responses to diffuse pollution : Catchment contracts

Catchment contract

Why ?

- Appropriate response to diffuse pollution
- Response to the WFD objectives and Walloon legislation



What ?

Agreement defining the modalities of actions in physical and financial terms that are necessary to obtain a suitable response to meet the requirements of directives 2000/60/EC and 2006/118/EC.

How ?

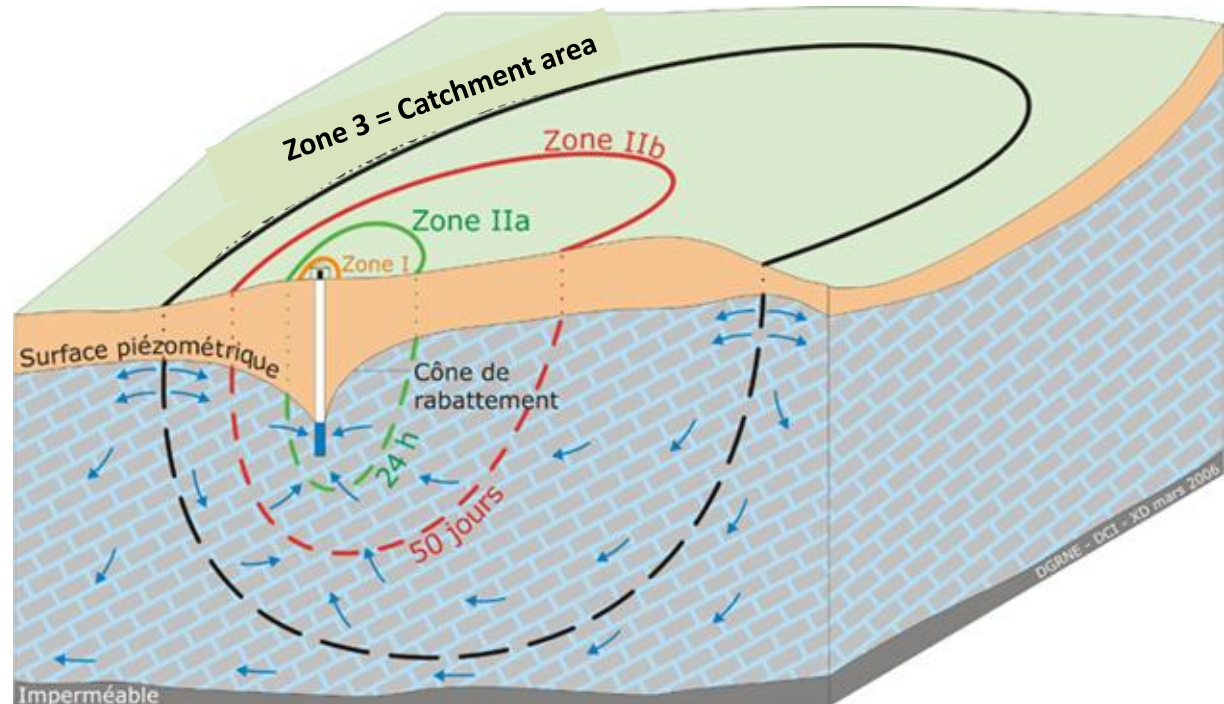
1. Diagnosis



2. Territory concerned

3. Actions program

4. Evaluation



Responses to diffuse pollution : Catchment contracts

NO₃ approach

Catchment area

Pressures
(domestic – agricultural – industrial activities)

AS > 30%

YES

NLP >
40 kg N-NO₃/ha

YES

AGRICULTURAL
DIFFUSE
POLLUTION

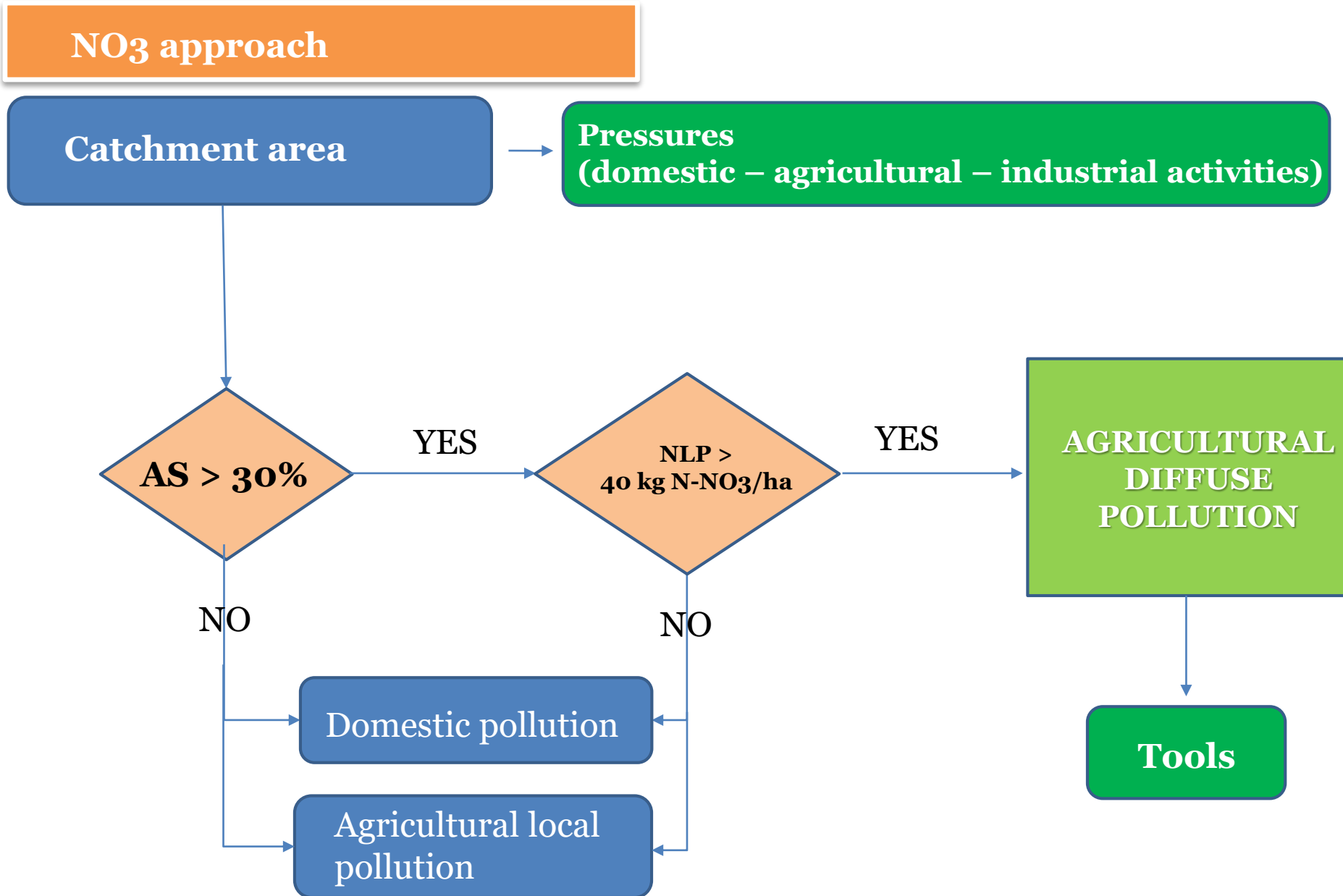
NO

Domestic pollution

Agricultural local
pollution

NO

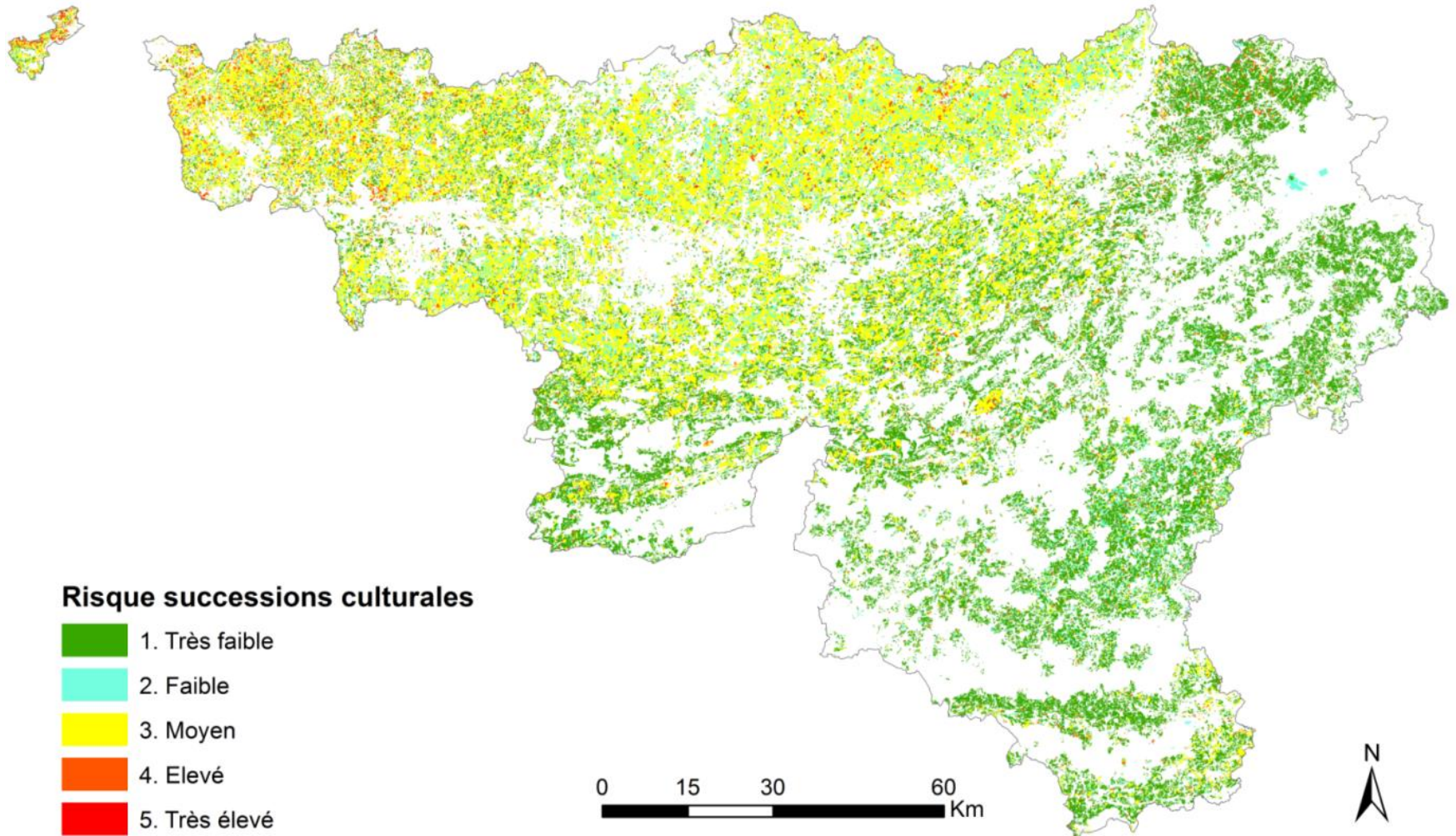
Tools



Responses to diffuse pollution : Catchment contracts

TOOLS

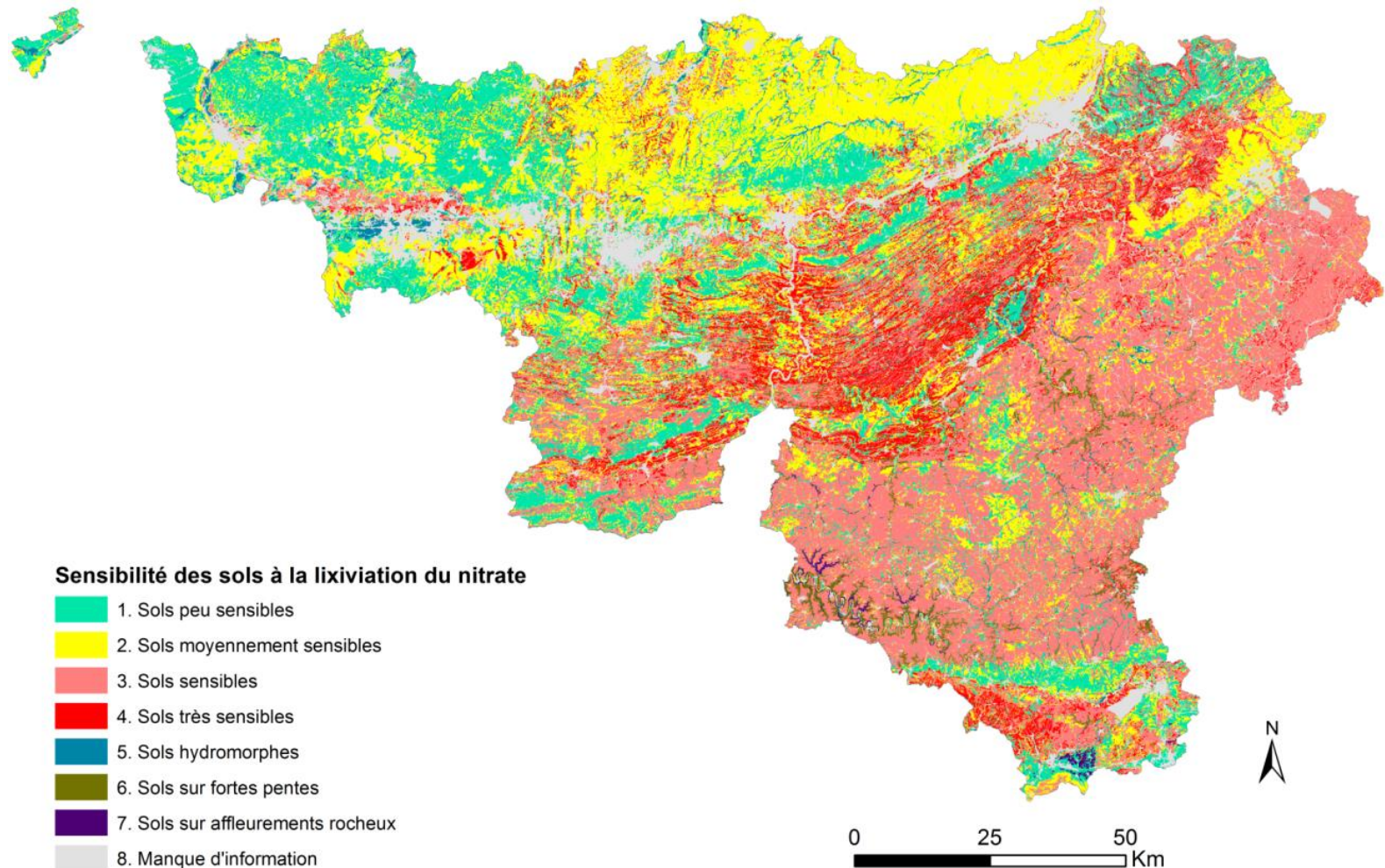
Leaching risk linked to crops succession



Responses to diffuse pollution : Catchment contracts

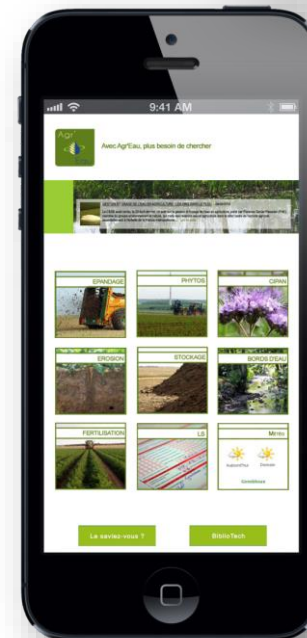
TOOLS

Map of Soil Sensitivity to Nitrate Leaching



Responses to N and Pest. pollution

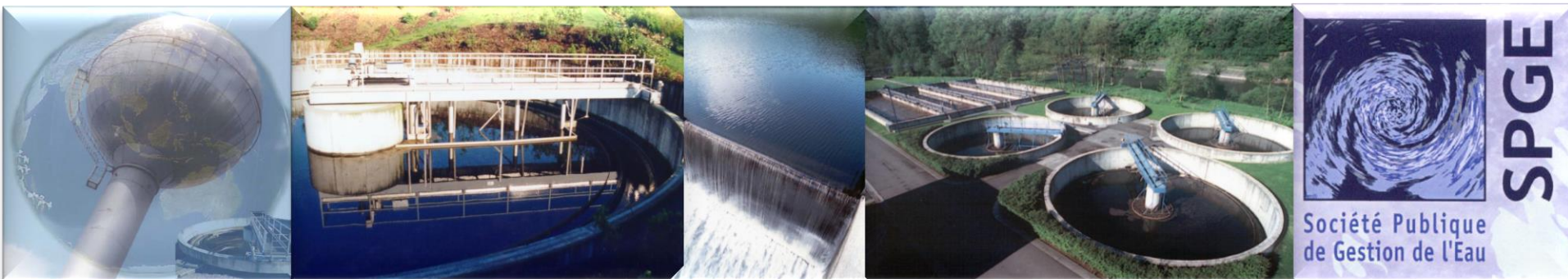
Actions program



Conclusions

- **Catchment prevention areas are required since 1995 in Wallonia against ponctual or casual pollutions.**
- **Diffuse NO₃ and Pest. are the most frequent pollution in groundwater catchments.**
- **The safeguard zones => ok to prevent accidental or local pollutions**
- **Catchment area = actions territory => necessary to fight diffuse pollution**
- **Catchment contracts**
 - Common goals between water producers and farmers : Improving the quality of water catchment
 - To have a integrate approach between hydrogeologists and agronomists to fight diffuse pollution like nitrate and pesticides
 - To go further than the law
 - To implement appropriate measures
 - Management by PROTECT'eau

Thank you for your attention



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