

Soilpolicy in The Netherlands

prevention, management and
remediation

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Contents of the presentation

- General introduction
- Soilpolicy in The Netherlands:
 - prevention
 - management
 - remediation
- Finance and organization
- Information and communication



Why a policy for soil and mondial?

- the functions of the soil
- filter for drinking water
- production of food
- biodiversity
- construction and building
- etc.



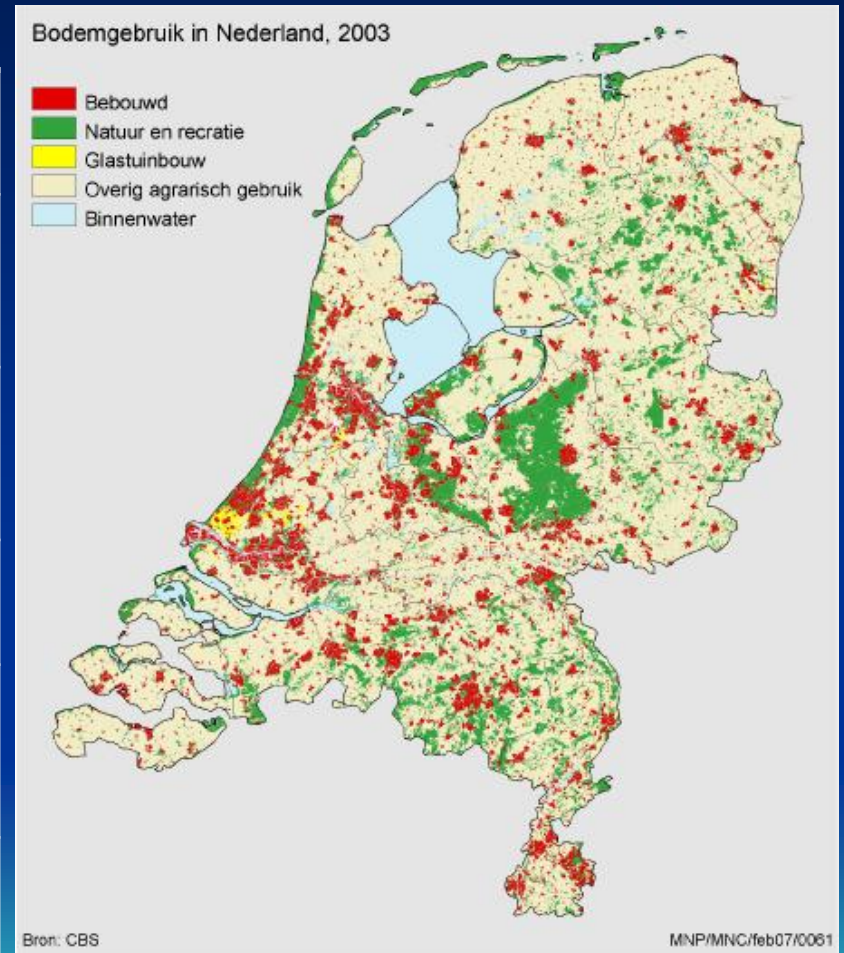
Why a policy in The Netherlands?

- 16 million people on 3,6 million ha
- intensive use of the land
- groundwater = drinking water
- 400.000 potential polluted sites
- also areas with diffuse pollution
- the economic value of clean land is high
- the groundwater is near to the toplayer of the soil



LAND USE IN THE NETHERLANDS

LAND USE	%
AGRICULTURE / NATURE	80
RESIDENTIAL / HABITATION	10
INDUSTRY	3
INFRASTRUCTURE / (RAIL)ROADS	2
RIVERS / LAKES	5



Soil policy in The Netherlands

Three way approach:

- prevention (after 1987)
- management (light polluted soils)
- remediation on a risk bases (before 1987)



Prevention

General rules based on the Soil protection Act:

Infiltration decree (1993)

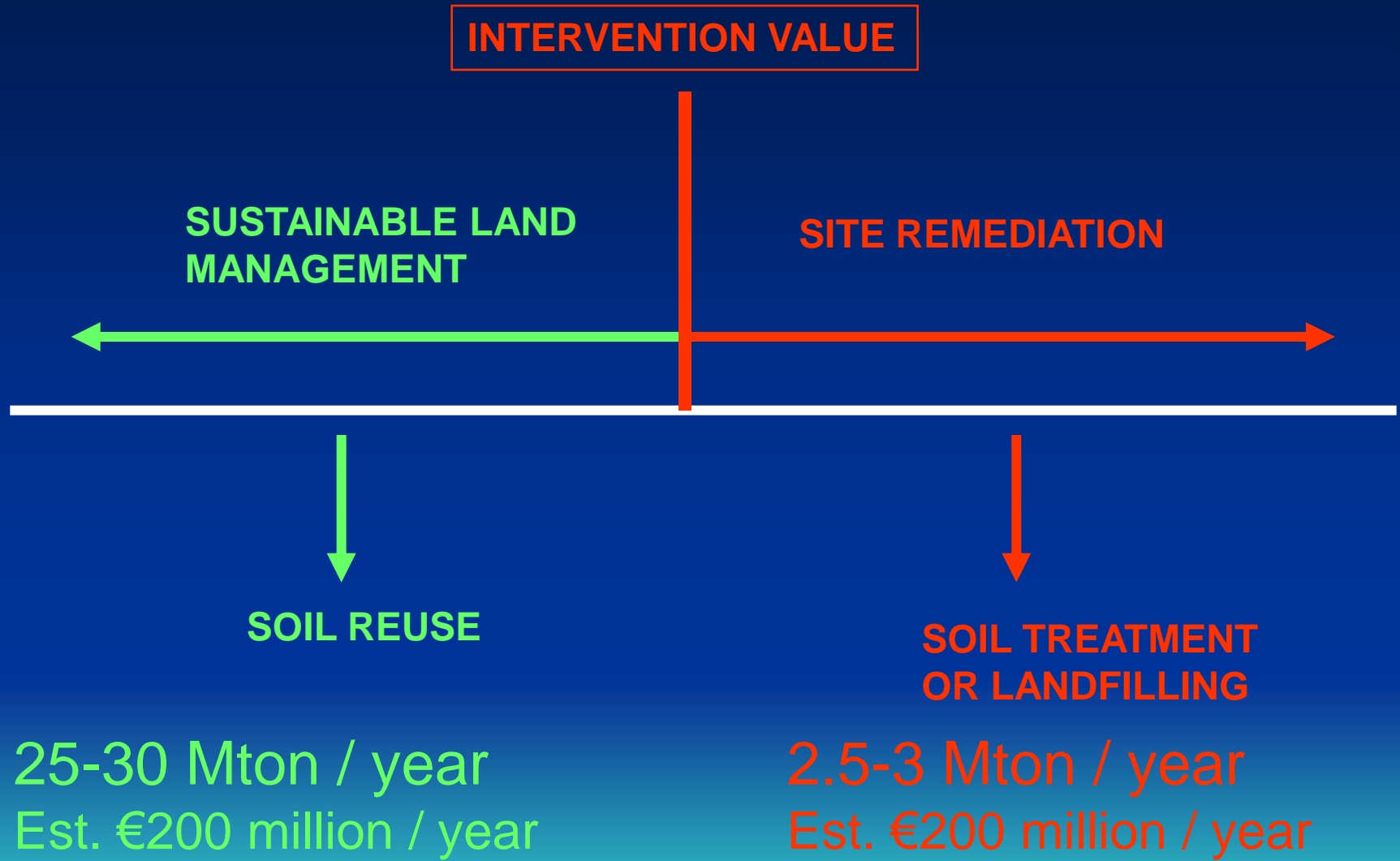
- Management of landfills decree (1993)
- Decree on discharge of waste water (1997)
- Decree on storage in underground oil tanks (1998)
- Decree on use of building materials (1999)

Environmental Management Act:

- environment permits for businesses
- Dutch Guidelines on Soil Protection for industrial activities



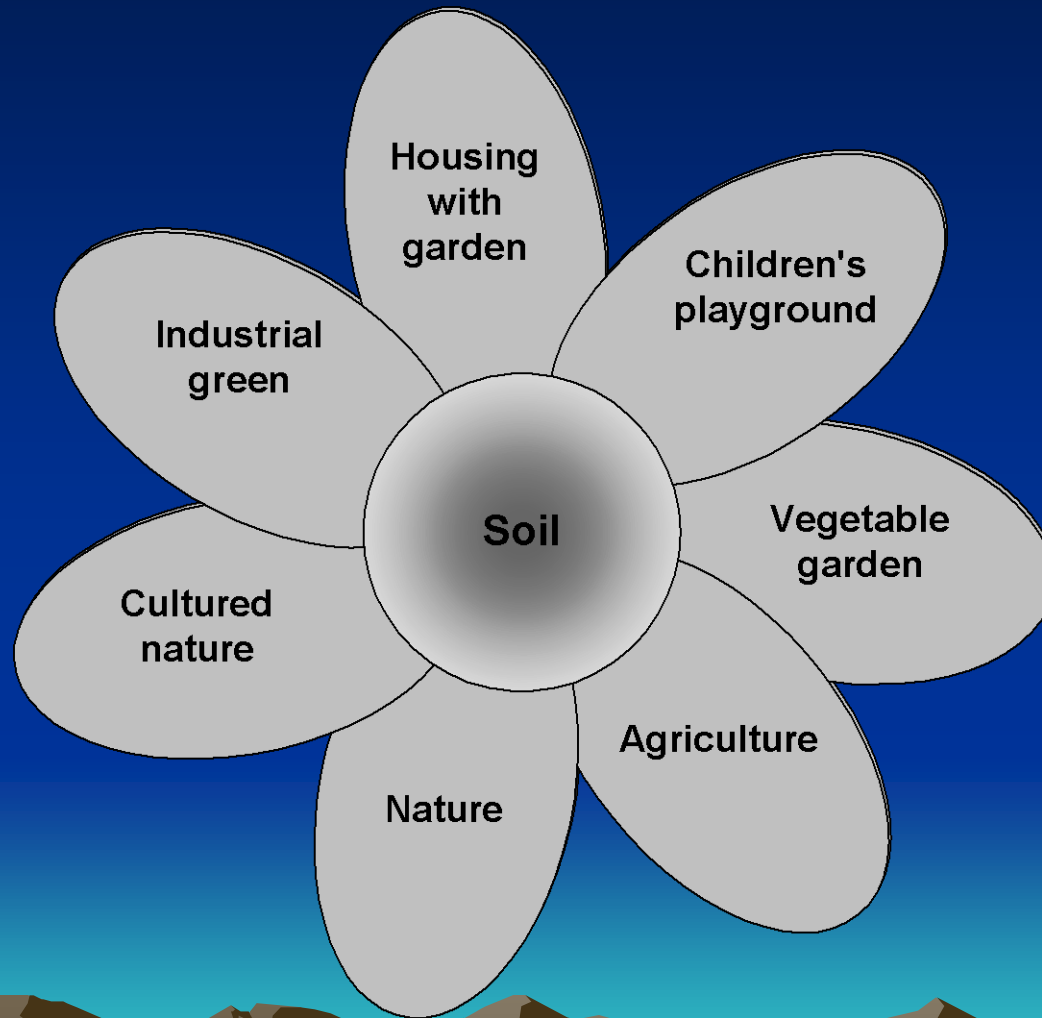
The Dutch system



Landmanagement, what are we talking about?



Soil use functions



Different soilquality standards

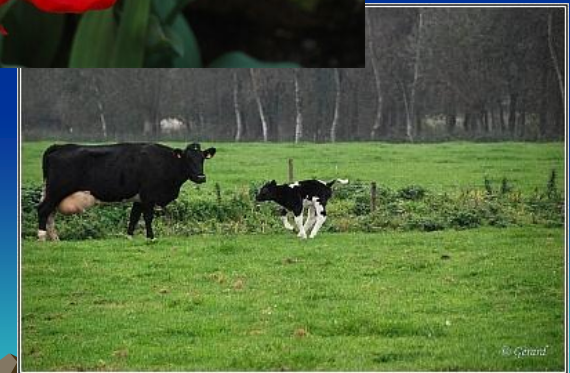
PROTECTION OF:

1. HUMAN HEALTH

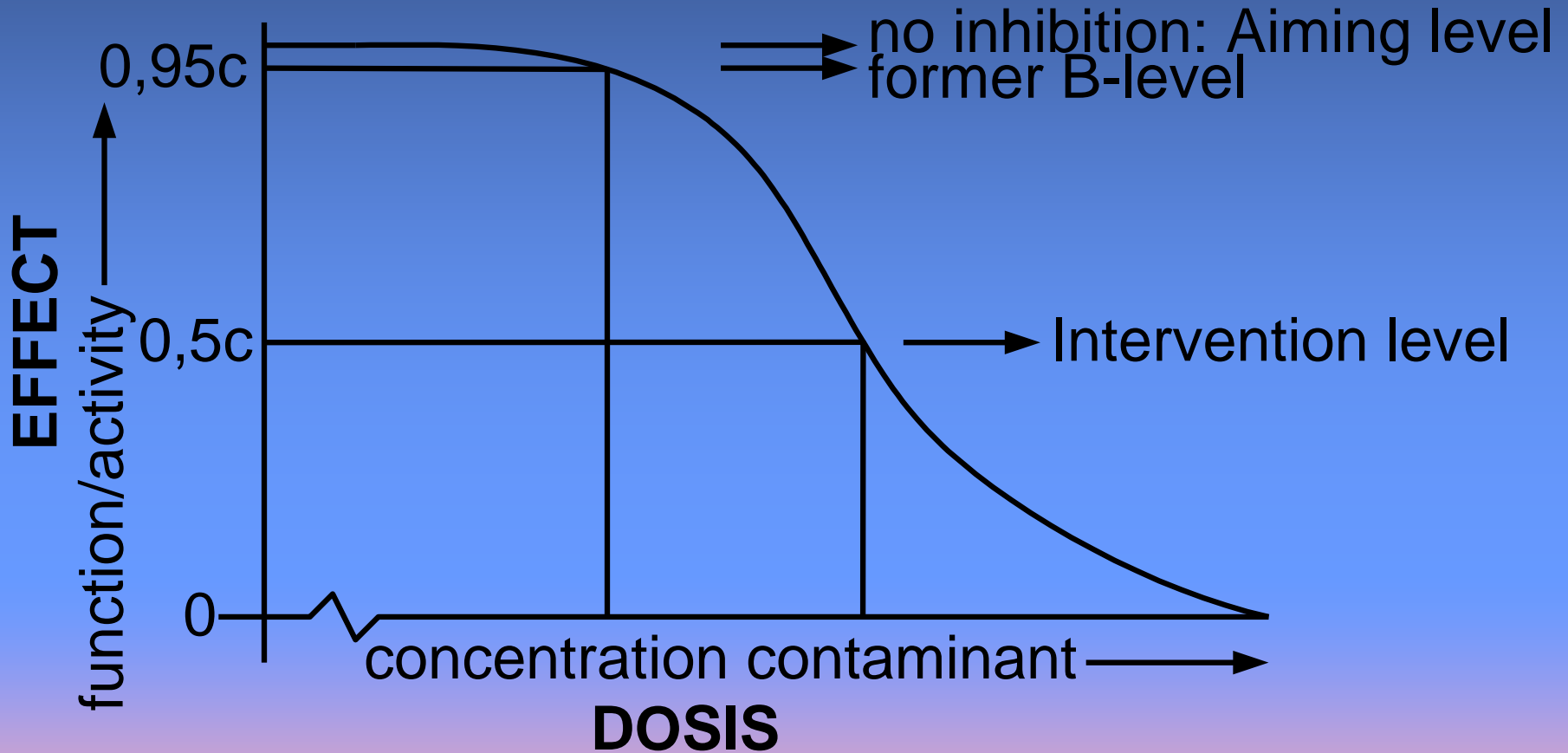
2. ECOSYSTEMS:

- SOIL
FUNCTIONAL
PROPERTIES
- ANIMALS
- PLANTS

3. QUALITY OF
AGRICULTURAL
PRODUCTS



Base of risk assessment



Basic principles for sustainable landmanagement

1. => **SUSTAINABILITY (FIT FOR USE)**

SOIL (RE)USED CORRESPONDS TO FUNCTION
(e.g. KINDERGARTEN)

2. => **STANDSTILL**

SOIL (RE)USED SHOULD BE OF EQUAL OR BETTER
QUALITY THAN ACTUAL SOIL QUALITY



SUSTAINABLE LANDMANAGEMENT (1)

SOIL SOURCE
HIGHLY CONTAMINATED

APPLICATION

YES



REMEDIATION

TREATMENT

LANDFILL

NO



REMEDIATION

RESIDENCE

NATURE

SUSTAINABLE LANDMANAGEMENT (2)

SOIL SOURCE
INDUSTRY



YES



APPLICATION



INDUSTRY

INDUSTRY



NO



INDUSTRY

RESIDENCE

NATURE

SUSTAINABLE LANDMANAGEMENT (3)

SOIL SOURCE
RESIDENCE



YES



APPLICATION



RESIDENCE

RESIDENCE

INDUSTRY



NO



RESIDENCE

NATURE

SUSTAINABLE LANDMANAGEMENT (4)

SOIL SOURCE
CLEAN

APPLICATION



YES (NOT PREFERRED)



YES



YES (PREFERRED)



NATURE

History of soilremediation in NL

In 25 years a marked shift took place as a result of changing policy and legislation

- New targets
 - **from** removal of all pollution **to suitable for use**
- New executors
 - **from** authorities, polluters **to stakeholders**
- New approach
 - **from** case by case **to sustainable use and development of the area**
- New technology
 - **from** dig and dump, pump and treat **to “plug and play”**
- Changing legislation from soil clean to soil protection



Liability: legal instruments

- Order for investigation or remediation to the polluter, owner or long leaseholder; owners can prove that they are innocent
- Since 2006 industrial areas:
 - duty for remediation for owners;
 - subsidies for owners who are not liable
- Cost recovery
- Duty to inform the competent authority before starting groundworks etc.



Identification of contamination

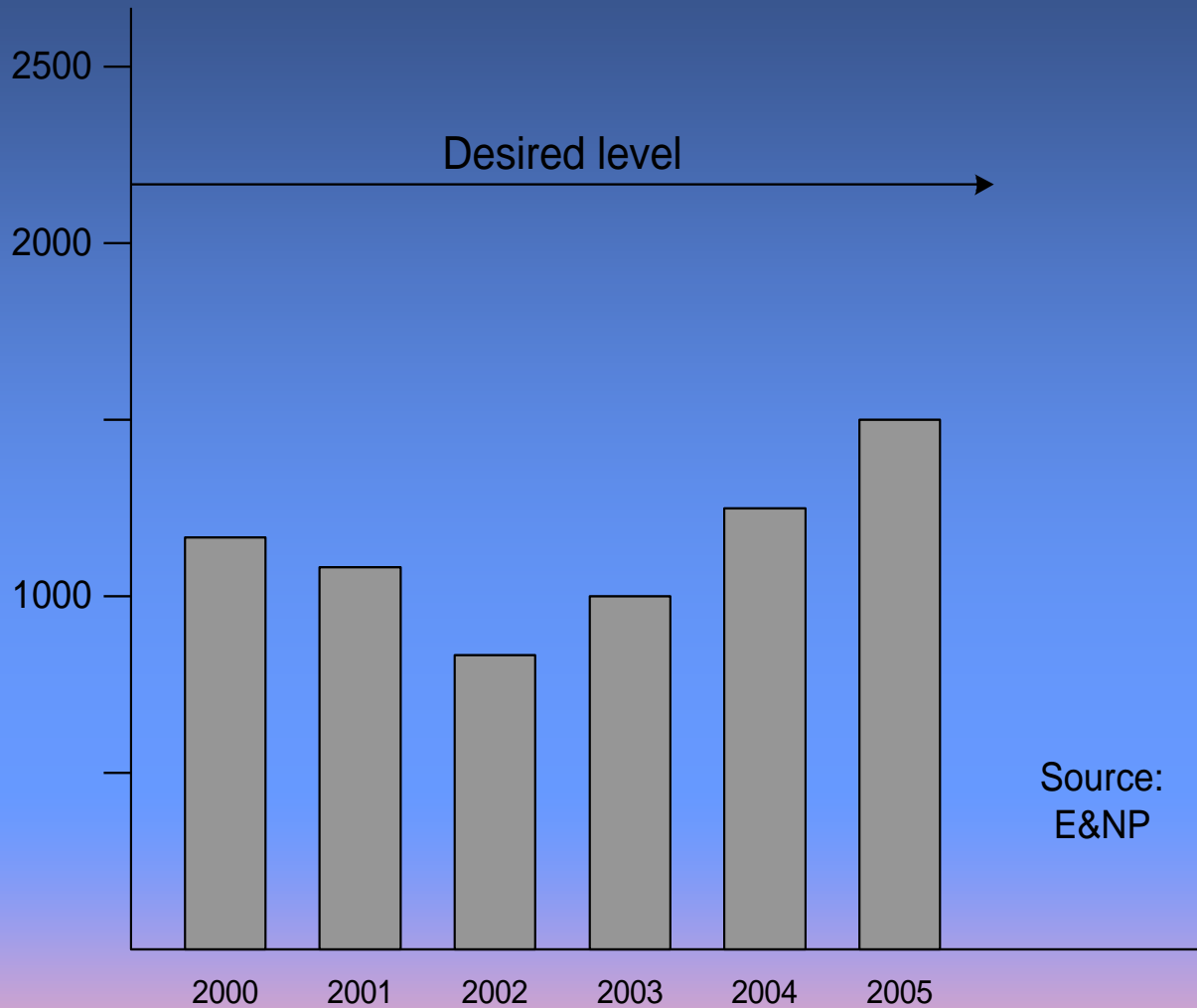
Investigation steps:

- Historical survey
- Exploratory investigation: serious indication of the presence of contamination
- Further investigation confirms severe contamination
- Risk assessment

- Decision by competent authority: duty for remediation



Dutch progress in Remediation

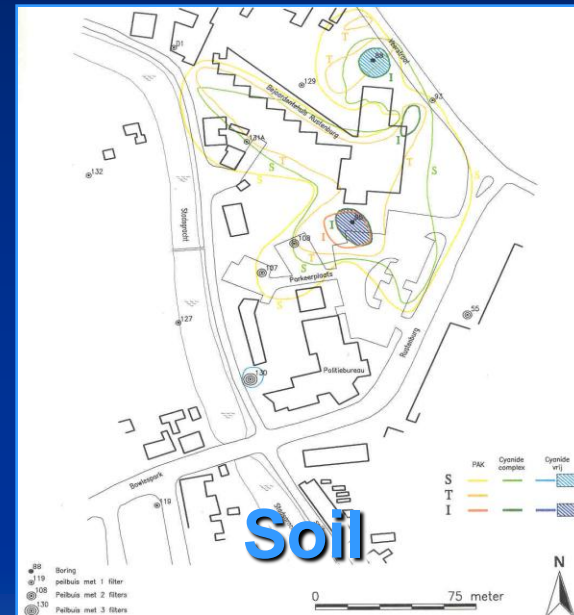


Soilremediation targets

- In 2015 no more unacceptable (human, ecological and dispersion) risks for current use
- In 2030 everywhere the soil should be fit for use



Example Wageningen



Finance remediation

- Annual budget of € 185 million
- Fund urban development
- Fund rural development
- Fund for industrial sites in use



Organization remediation

- Gouvernement (and Soil+)
- 12 provinces
- 425 local authorities, 30 executed
- private market



Gentlemen agreements

- with organizations of drycleaners, railway, filling stations and industrial polluted areas
- New executing organisation Soilcentre (=Bodemcentrum)

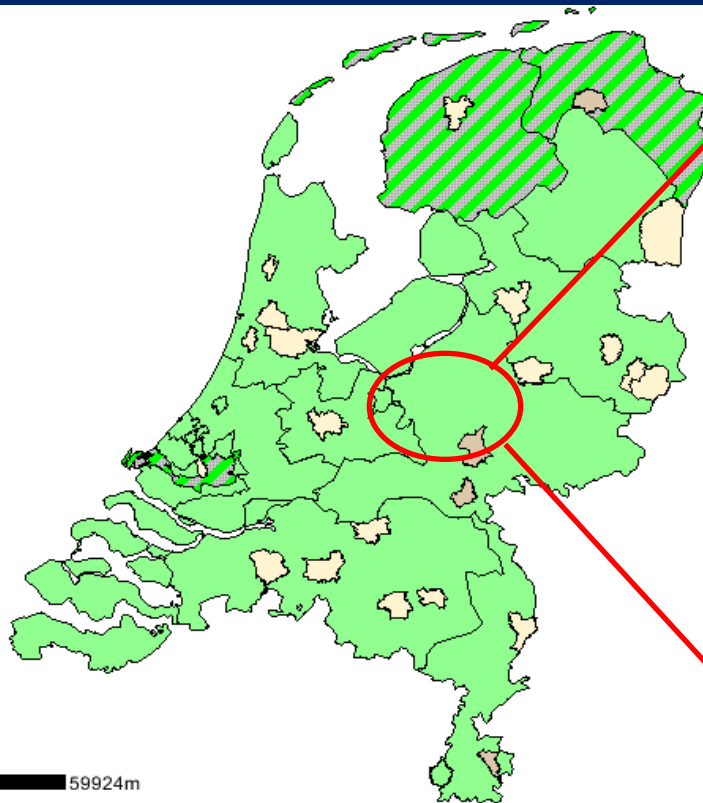


Information and communication

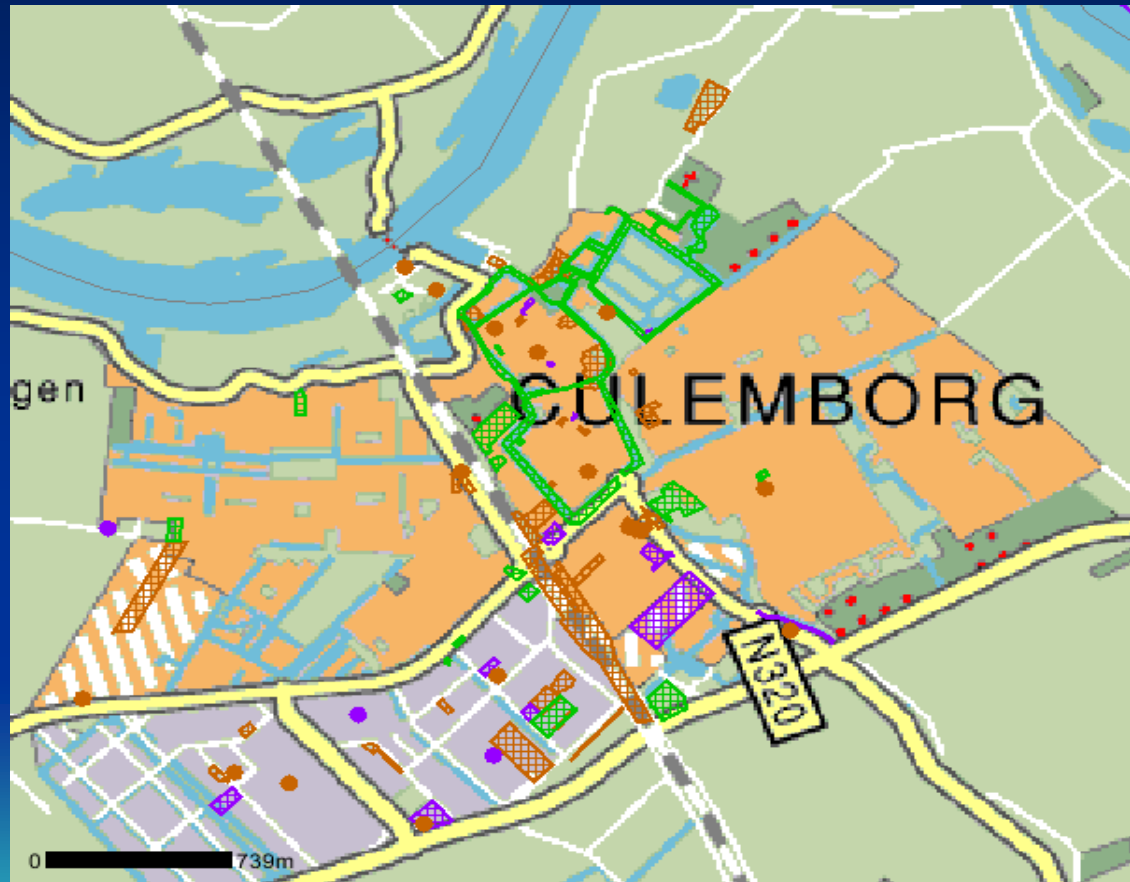
- www.bodemloket.nl (free)
- Cadastre www.kadaster.nl (not free of charge)
 - Soil+
- by 12 provinces and 30 local authorities



National soil remediation register



National soil remediation register





Rapport Bodemloket

Druk dit rapport af

Algemene informatie

Locatie ID	GE021600070
Locatiennaam	Stadsgrachten Culemborg (wabo)
Adres	, Culemborg
Gemeente	Culemborg
Bevoegd gezag	Gelderland
Gegevensbeheerder	Provincie Gelderland

Onderstaande locaties zijn gevonden:
GE021600070

De begrippen die in dit rapport voorkomen zullen op korte termijn verduidelijkt worden. Tot die tijd verwijzen wij door naar de [begrippenlijst](#) op deze website.

Statusinformatie

Beschikking ernst en risicobepaling	urgent san binnen 4 jaar
Vervolg	voldoende gesaneerd

Saneringsinformatie

Type sanering	Volledig (hele geval)
Datum start sanering	2003-11-17
Datum sanering afgerond	2005-12-21

Bronnen



Use of information

Local:

- Change of land ownership
- Overview on site remediation
- Spatial planning

National:

- Evaluation of site remediation policy
- Account for budget spend to parliament



Epilogue: critical successfactors

- Clear policy objectives
- Adequate legislation
(treatment / landfilling / reuse)
- Practical instruments
- Competing market
- Sufficient budget
- Work together, you can not do it by your own!!

