



Regionernes Videncenter  
for Miljø og Ressourcer

# Action programs for contaminated sites affecting surface water according to the WFD

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*Danish Regions*



## The history behind

- 2000 New Soil Pollution Act limits public action against soil pollution to protection of drinking water, homes and children's institutions
- 2000 New WFD requires action against soil pollution with possible risk for surface waters
- 2012 Agreement between Danish Regions and the Ministry of Environment
- 2014 Surface water adopted in the Soil Pollution Act
- 2014-18 Screening of contaminated 37.000 sites – resulting in 1234 sites with risk for surface water
- 2020 New agreement
- 2021-22 Field investigations at 400 sites
- 2023 Results and new negotiations

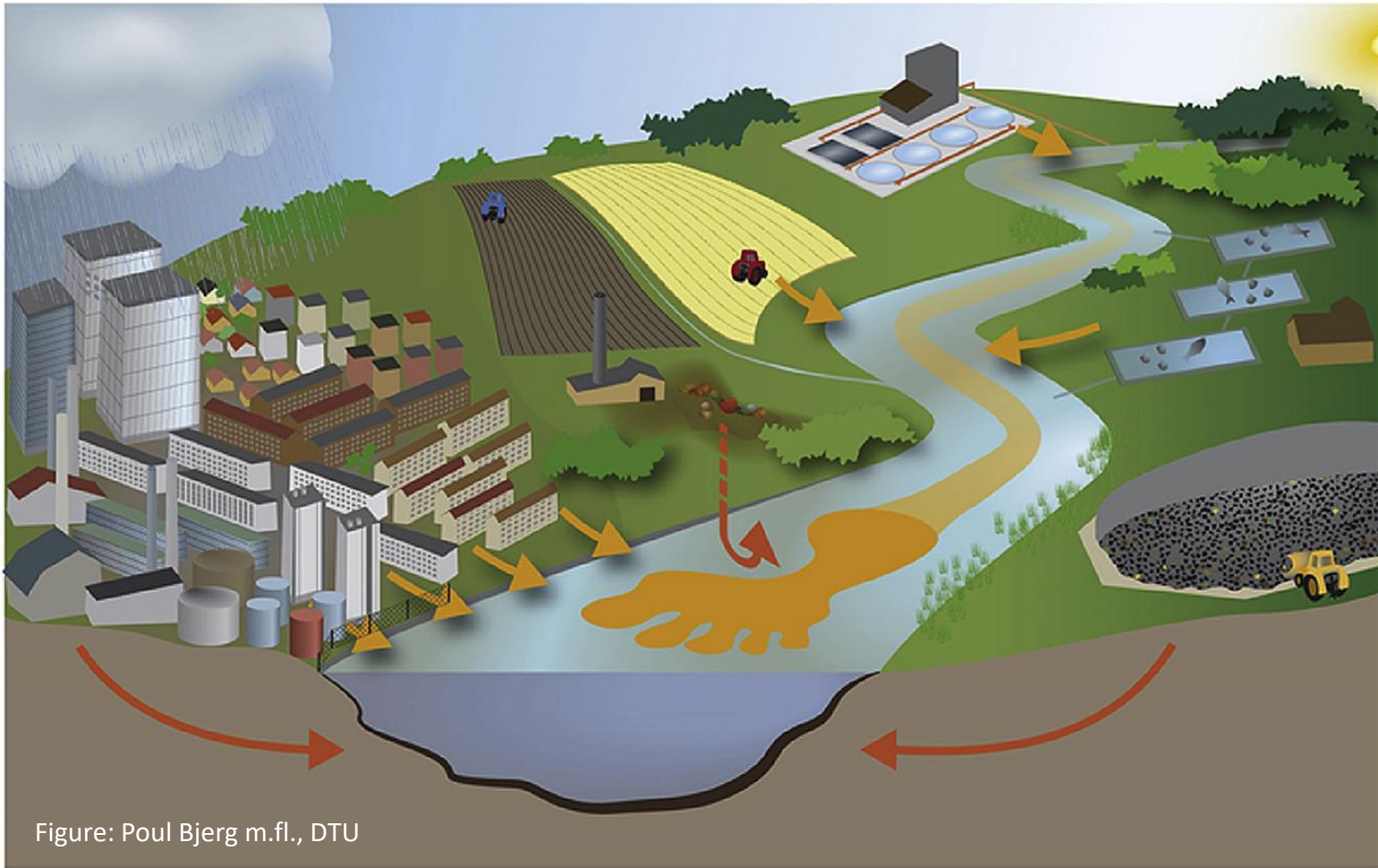
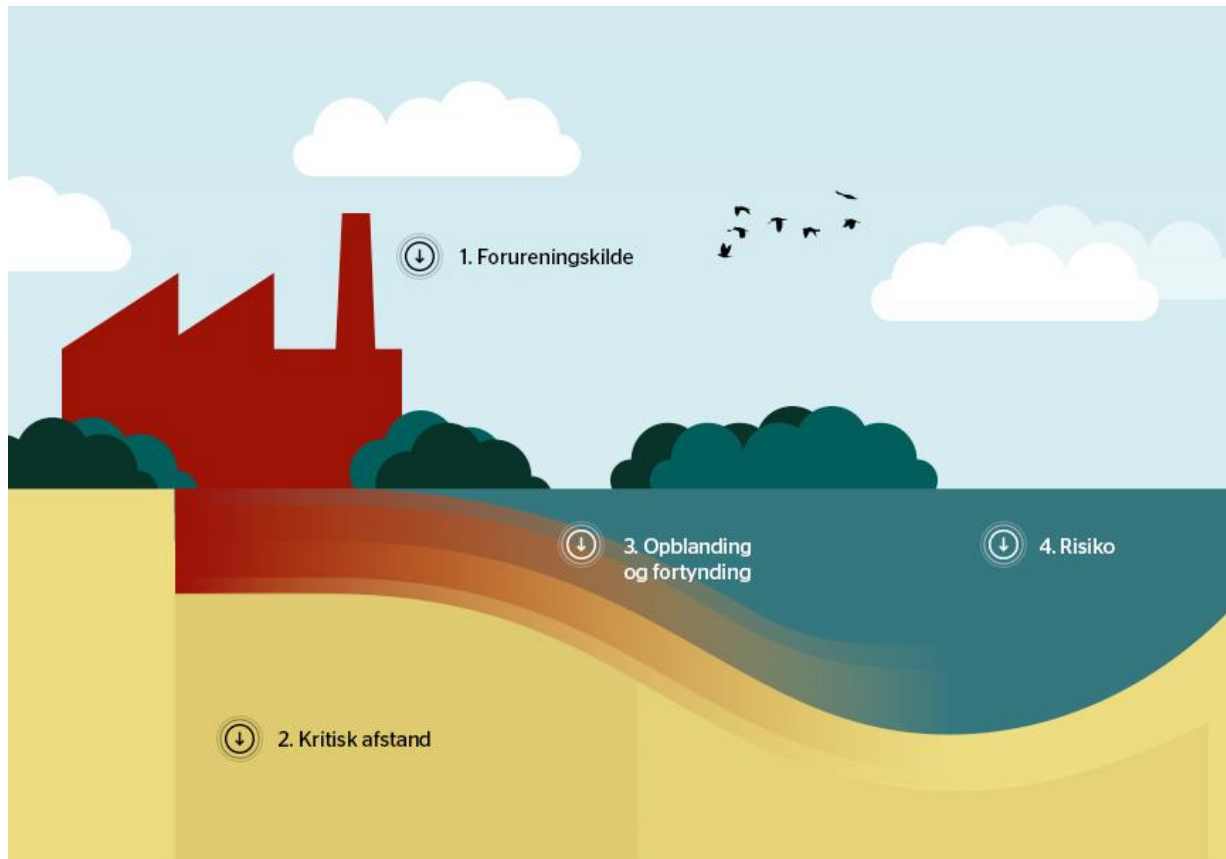


Figure: Poul Bjerg m.fl., DTU



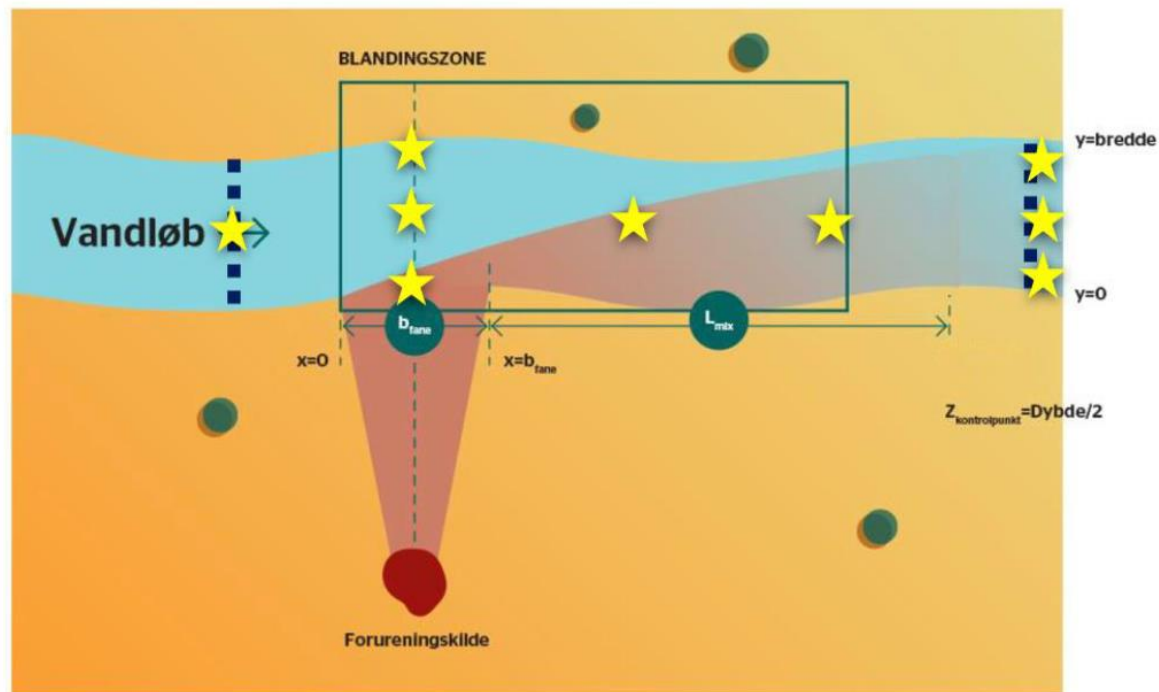
## Screening principle



1. Source of contamination
2. Critical distance
3. Mixing and dilution
4. Risk



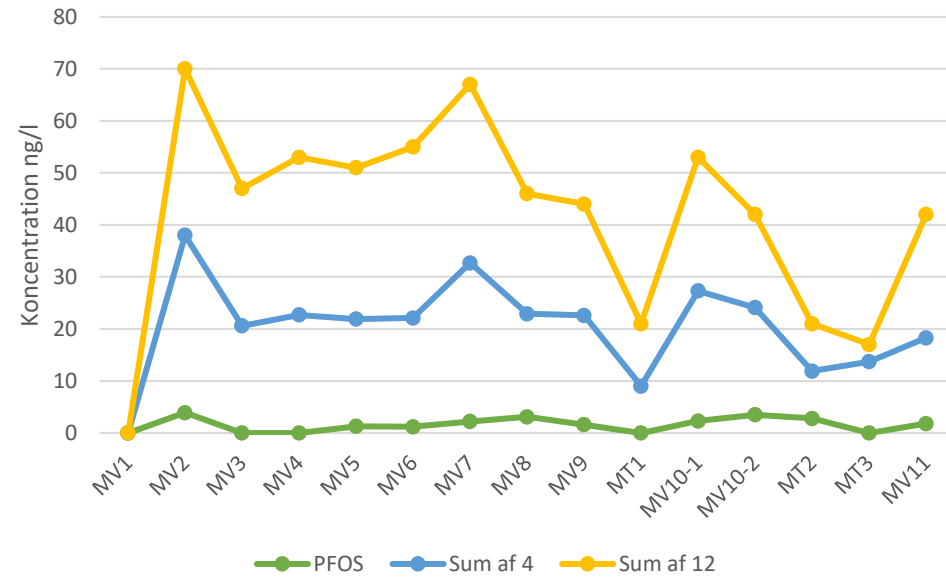
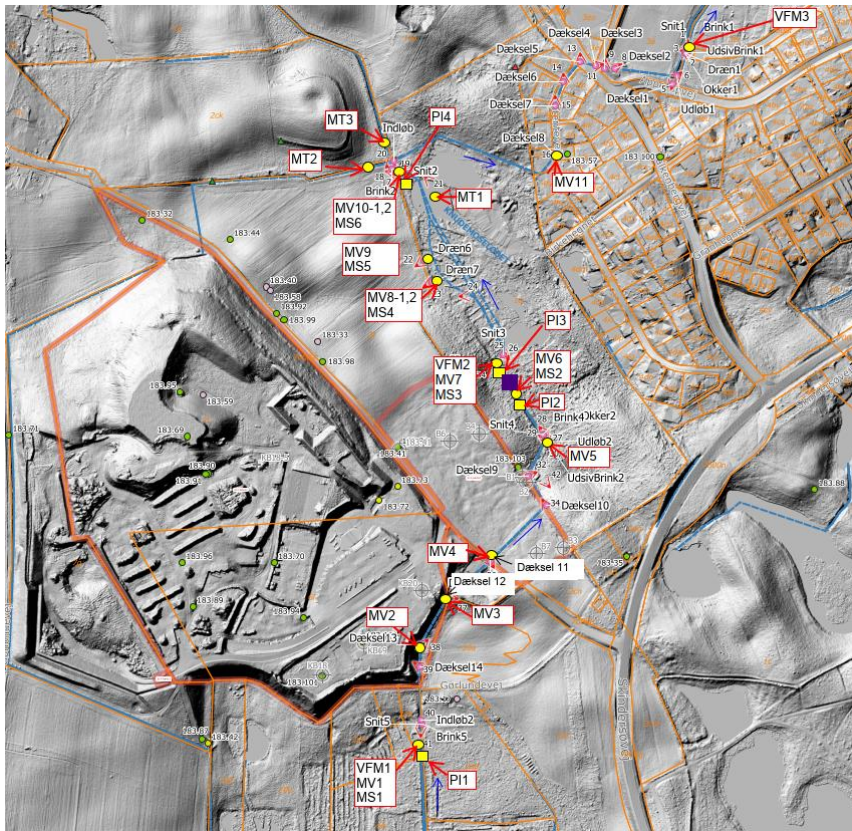
## River investigations – one round of water sampling



Figur 5.2: Eksempel på placering af prøvetagningspunkter (stjerner) i et type 1 vandløb, hvor lokaliteten er  $<20$  m væk (prøvetagningsscenarie 1). Stiplede, mørke linjer i vandløbet markerer placeringen af flowmålinger. Modifieret i forhold til /2/.



## Results – an example for PFAS





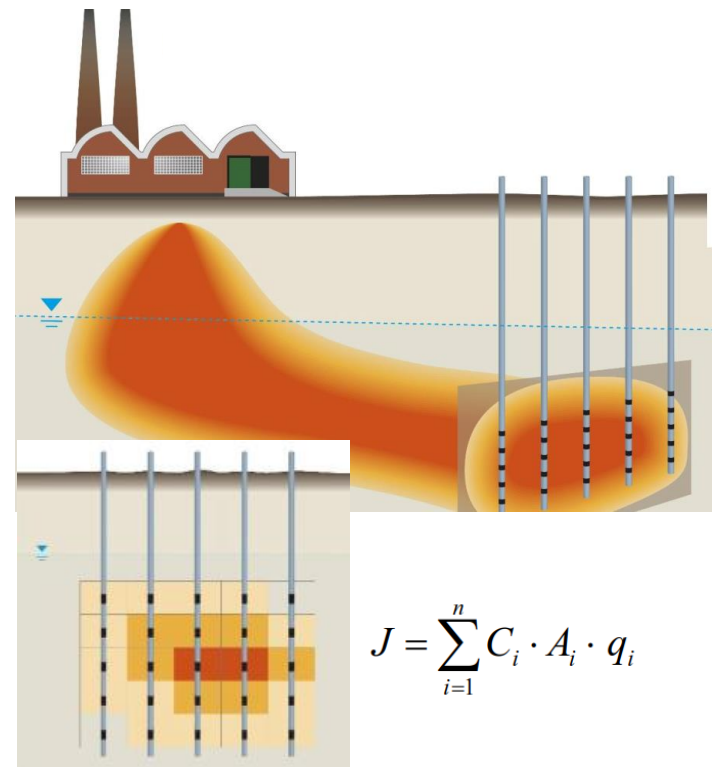
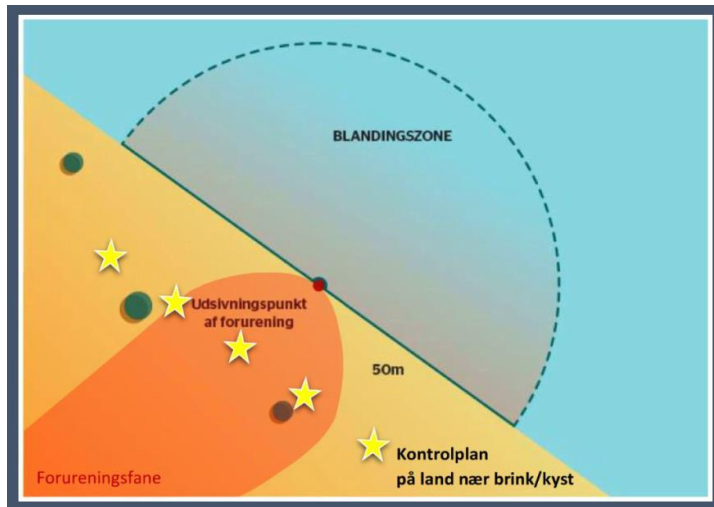
## Lake and coast investigations

Boreholes with groundwater sampling

Boreholes along a transect

Assessment of pollution flux

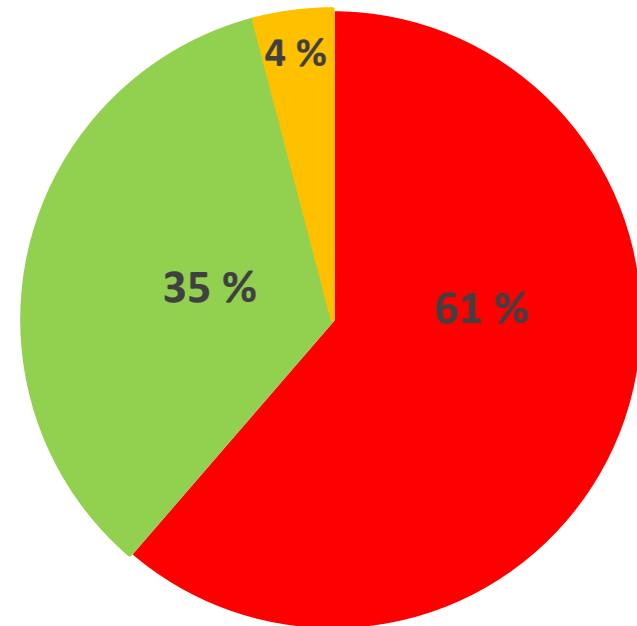
Flux mixed with the surface water





## Overview of results – rivers 2021-2022

Results	Number of river stretches
Above criteria (water and sediment)	165
Below criteria (water and sediment)	93
Unclear	11
Total	269

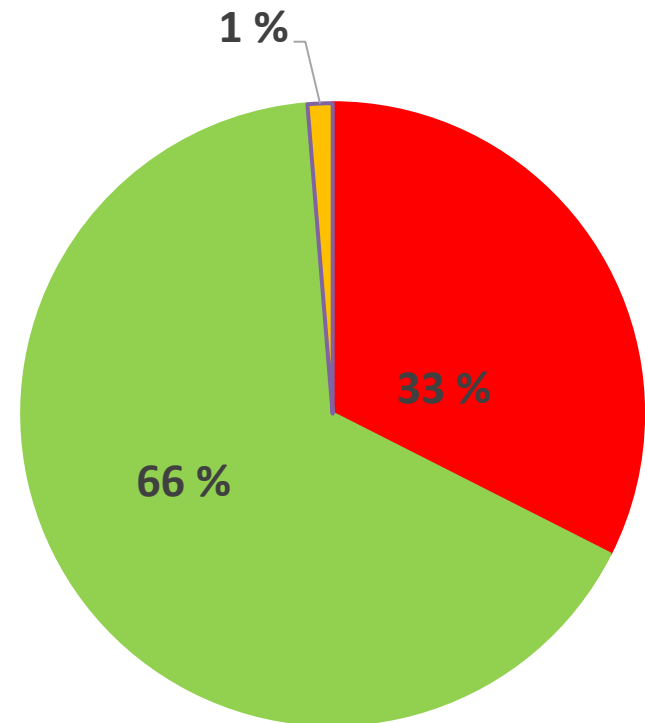






## Overview of results – coastal waters 2021-2022

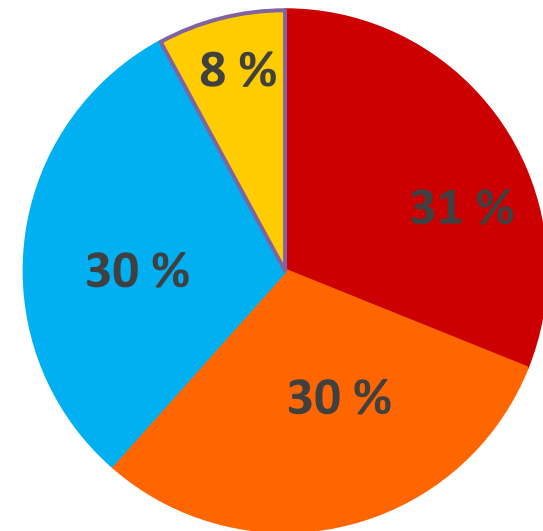
Results	Number of investigations at the coast
Above criteria	25
Below criteria	51
Unclear	1
Total	77





## River results: Caused by contaminated site?

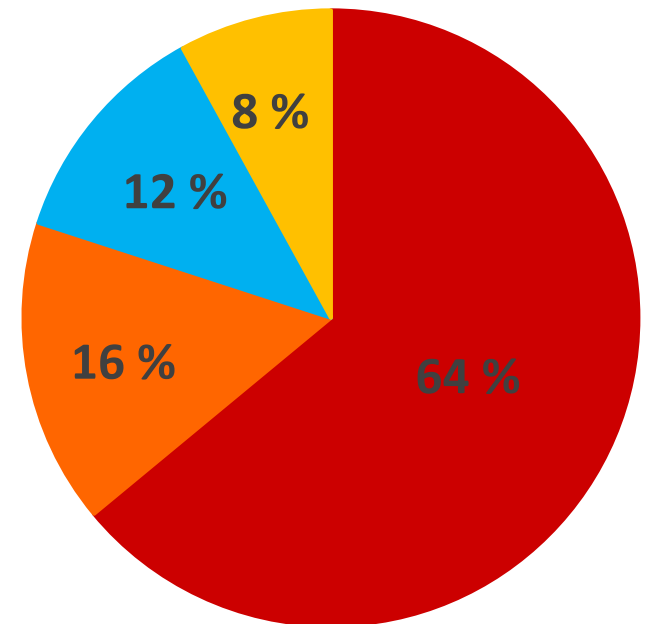
Result	Number of river stretches
Contamination from contaminated site	51
Contamination from contaminated site and other sources	50
Contamination from other sources	50
Source unclear	13
Total	164





## Coast results: Caused by contaminated site?

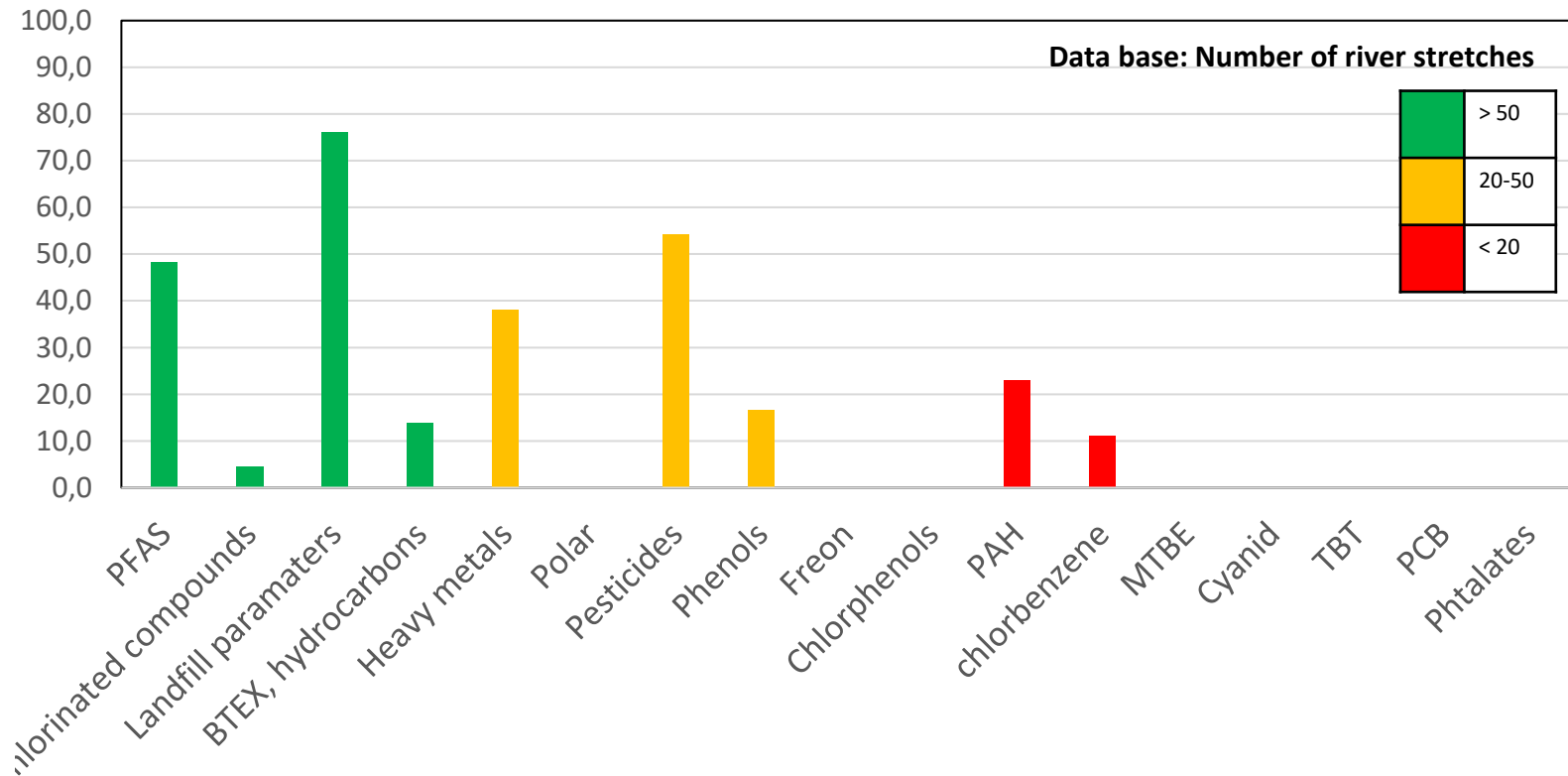
Result	Number of coast stretches
Contamination from contaminated site	16
Contamination from contaminated site and other sources	4
Contamination from other sources	3
Source unclear	2
<b>Total</b>	<b>25</b>



Unpublished data, May 2023



## Hit rates for groups of pollutants – water in rivers



% of river stretches with concentration above criteria for groups of pollutants

Unpublished data, May 2023





## We still have many questions

- Field investigations carried out at 400 contaminated sites. We need to find a way forward for
  - app. 400 potentially polluted sites
  - app. 400 sites at harbours
- How do we handle sites where other sources contribute to the contamination?
- PFAS was not incorporated in the screening tool, but it is obviously a problem
- Where and when is it feasible to clean up?