# Implementation in Sweden – progress and challenges

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# Water framework directive in Sweden

**National level**

- Ministry of the Environment
- SMHI
- Swedish Environmental Protection Agency, SEPA
- Swedish Agency for Marine and Water Management, SwAM
- Geological Survey (SGU )

**Regional level**

- River Basin District Authorities (5 )
- County Administrative Boards (21 )

**Local level**

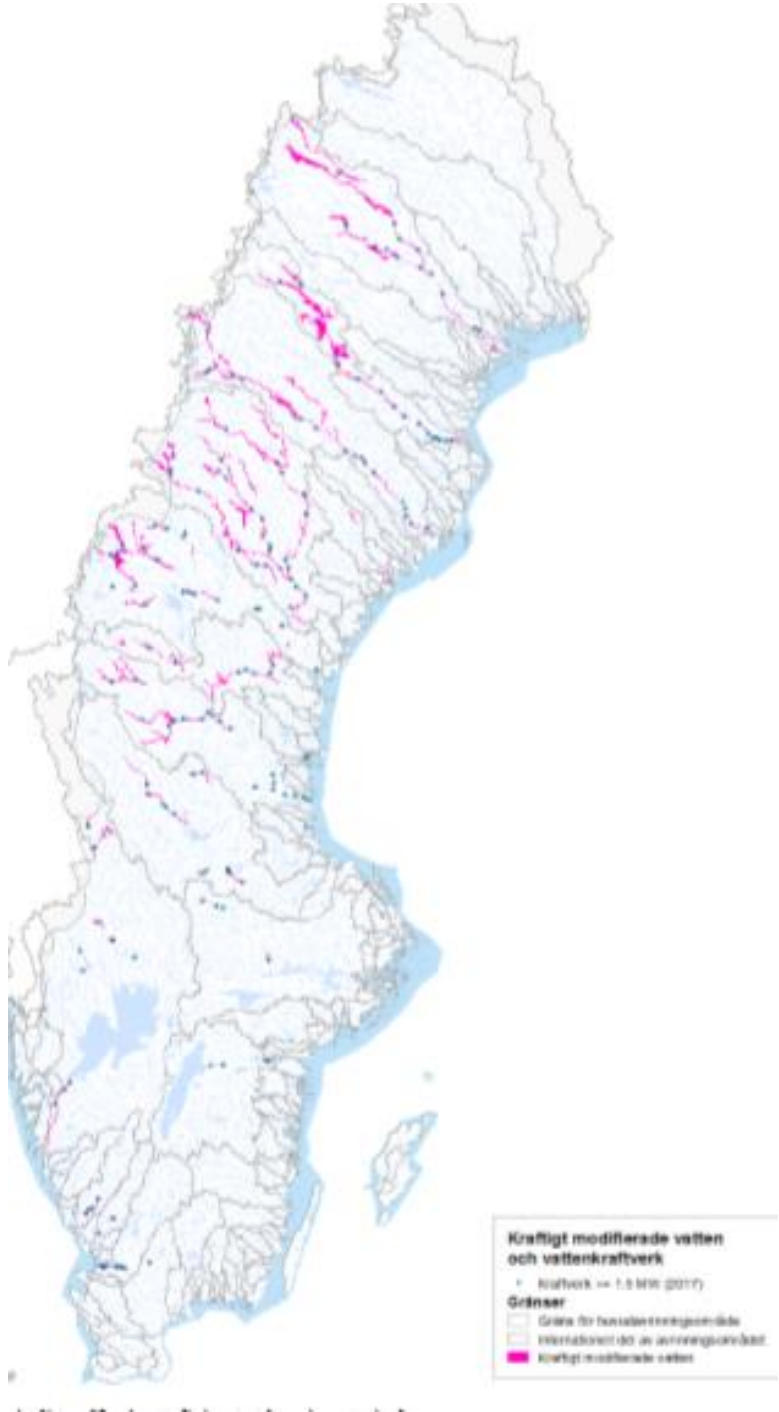
- Municipalities (290 st)
- Water Councils


Government Offices of Sweden

# Progress in Governance

Environmental adaptation of hydropower

Decision on objectives of HMWB (<5%)



# Progress in Governance

Preparation of RBMPs was coordinated with Finland and Norway

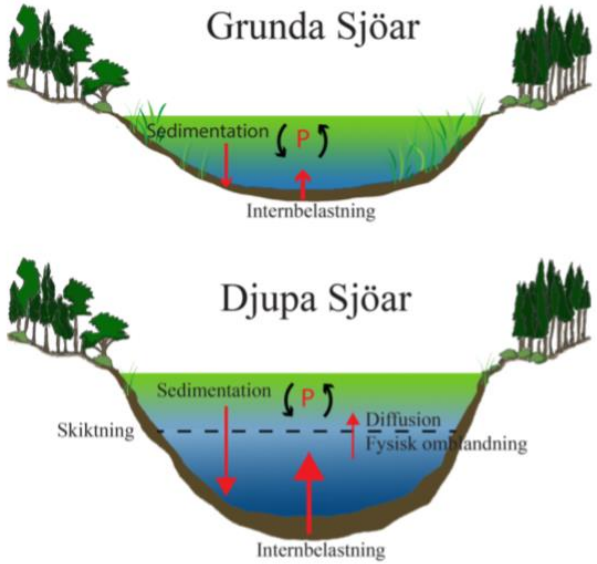
New regulation for adoption to climate change

Inquiry of environmental monitoring

# Progress related to measures

To mitigate eutrophication

- Increased financing of projects
- 20 catchment officers
- Internal loading of phosphorus




To mitigate pharmaceutical residues in wastewater

- Investment in development of advanced treatment

# Monitoring, assessments of surface waters

- Increase in the numbers of surveillance monitoring sites in coastal waters (+27 %), lakes (+19 %) and rivers (+26 %) since the first RBMPs
- Increase in financing of monitoring
- Improved methodology of assessment of pressure
- Improved link between the need for pressure reduction, status assessment and quantification of measures.

# Chemical groundwater monitoring

- Inventory of new monitoring stations in GWBs at risk
  - 250 monitored locations and 30 established new stations in the monitoring programme

- Screening of pharmaceuticals and hazardous substances in urban water supplies (*SGU-Rapport 2019:02*).
  - hazardous substances were found at low concentrations in many of the 77 wells (above limit of quantification in 400 out of 11000 analyses)

# Chemical groundwater monitoring

- Ongoing project on further screening of hazardous substances in GWBs at risk
- Theoretical monitoring programme recently published
- Grouping of groundwater bodies partly revised (ongoing)

# Quantitative groundwater monitoring

- Ongoing project to introduce new groundwater stations for increased measuring of groundwater levels (about 300 stations in 110 areas);

- Ongoing project on 3D characterisation and modelling of groundwater levels (local scale)

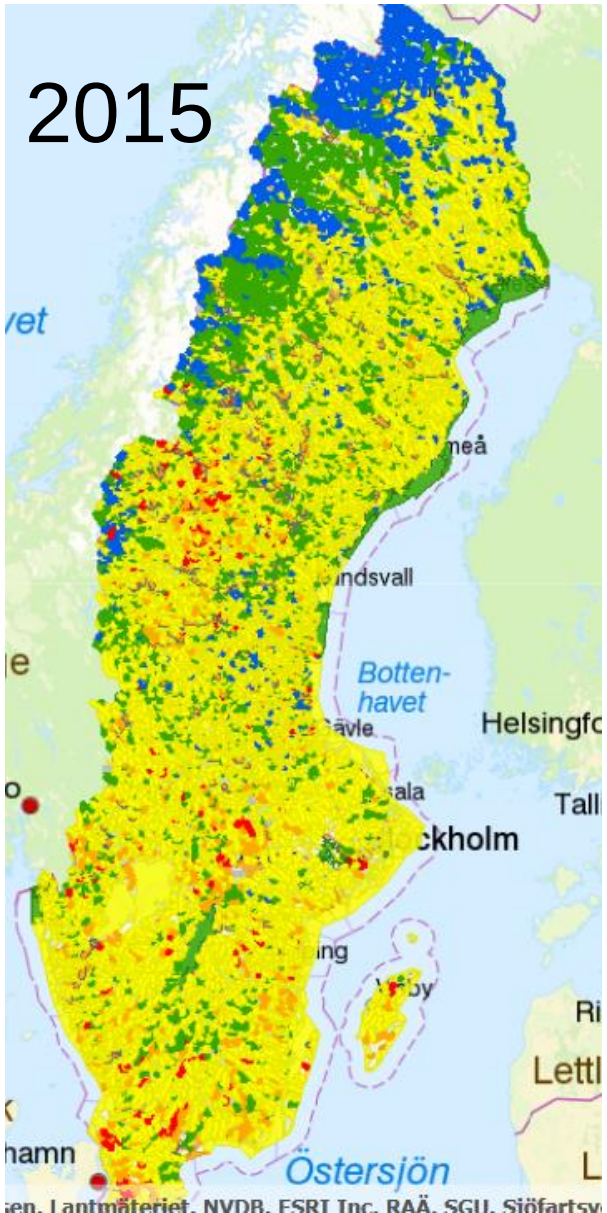
# Quantitative groundwater monitoring

- New grouping of groundwater bodies according to quantity established

- Extra funding (2018-2020) for groundwater mapping in areas with risk of water shortage;
  - locally important small GWBs,
  - aquifers underlying fine sediments,
  - coastal (bedrock) aquifers.

# Challenges

# To follow up changes in status

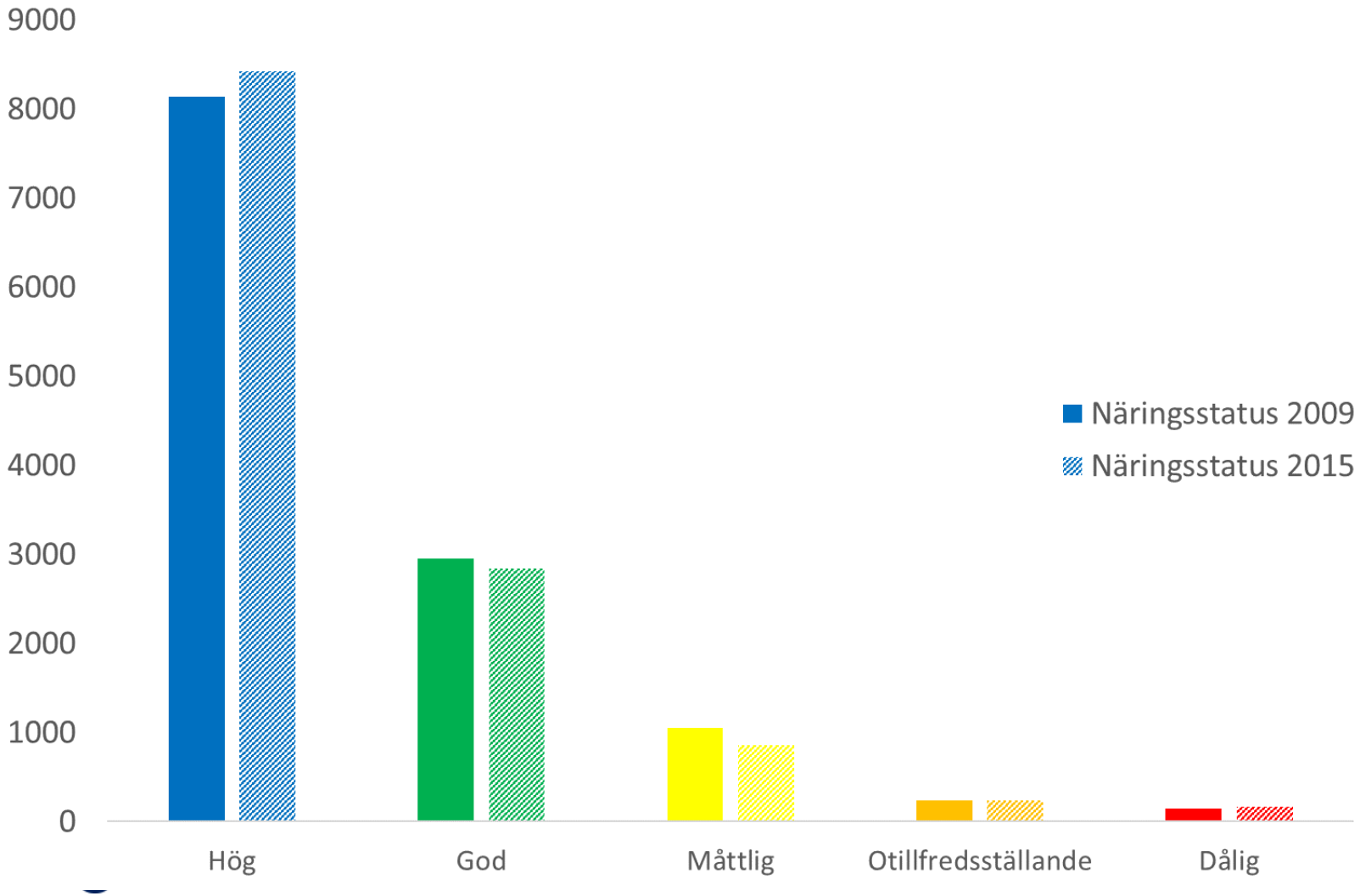




## Reasons:

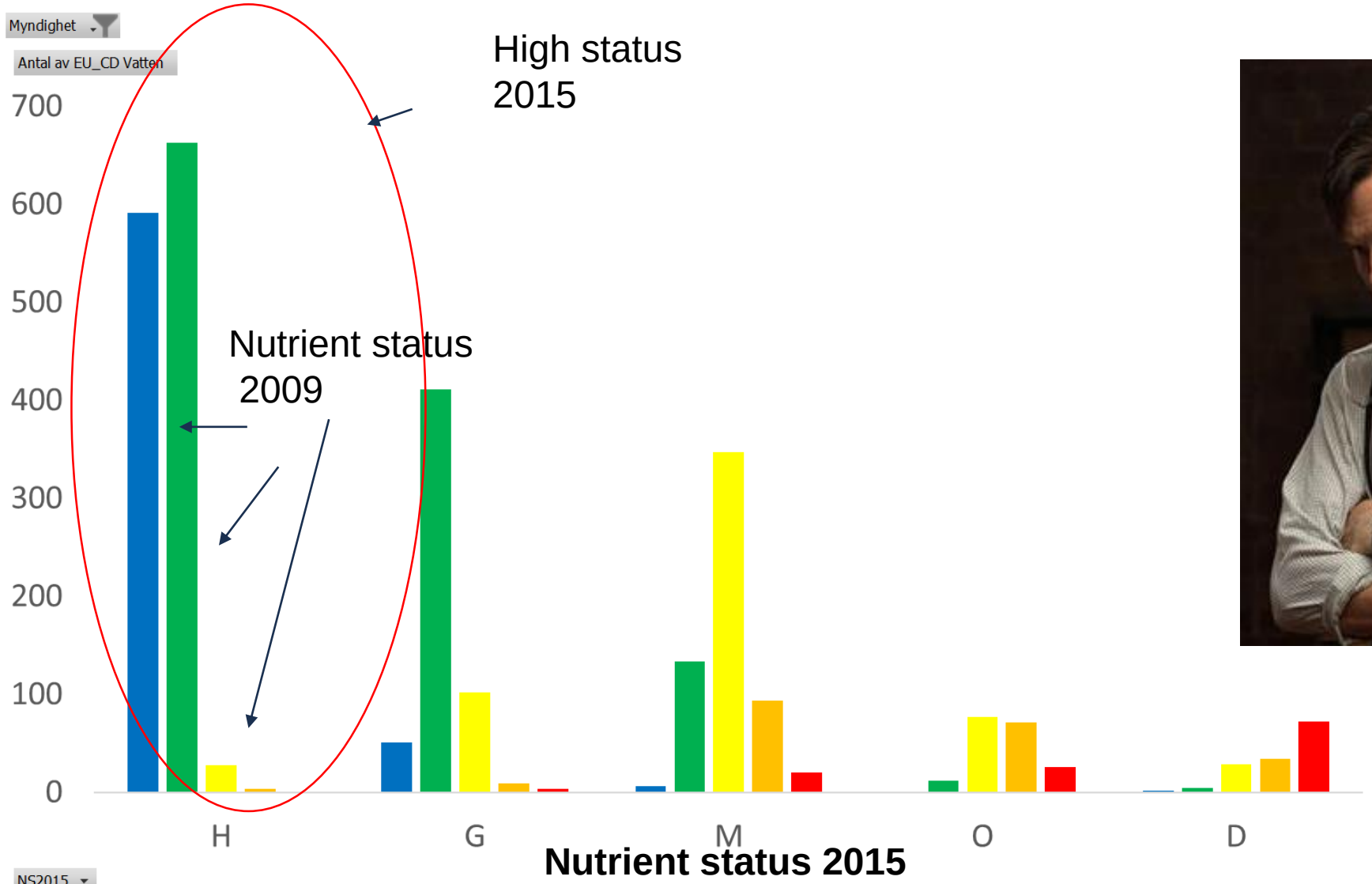
New environmental quality criteria for hydromorphology

More data (and models)

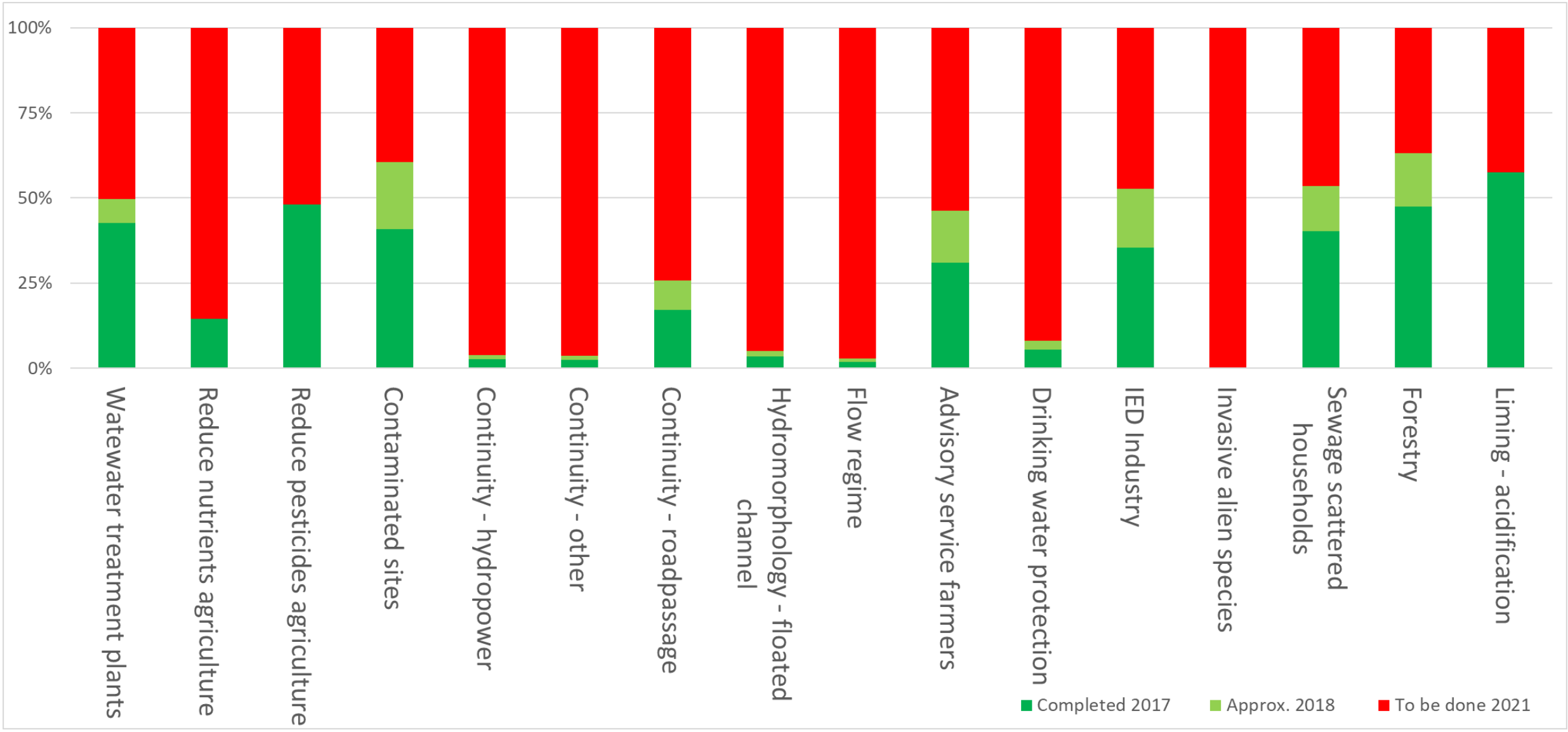
# Nutrient status 2009 vs. 2015



# Nutrient status 2009 vs. 2015




# Challenge of implementation of measures



# Recommendation by the commission

Improve the justification of exemptions by further substantiating the related assessments with additional information and by reducing the remaining uncertainties.

Take all necessary steps to reduce the number of exemptions as much as possible for the next round, so that the water directive's objectives are achieved in time.

# How to address the gap in achievements of environmental objectives in the revision of RBMP?

- Guidelines on setting less stringent objectives (SwAM)
- Regulation to clarify dessignation of HMWB and less stringent objectives
- Detailed descriptions of the methods for setting less stringent objectives (RBDA)

# Conclusions

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The monitoring has improved considerably

New legislation for adaption of hydro power

Renewed focus on mitigation of eutrophication

Challenge – implementation of measures

Challenge – exemptions