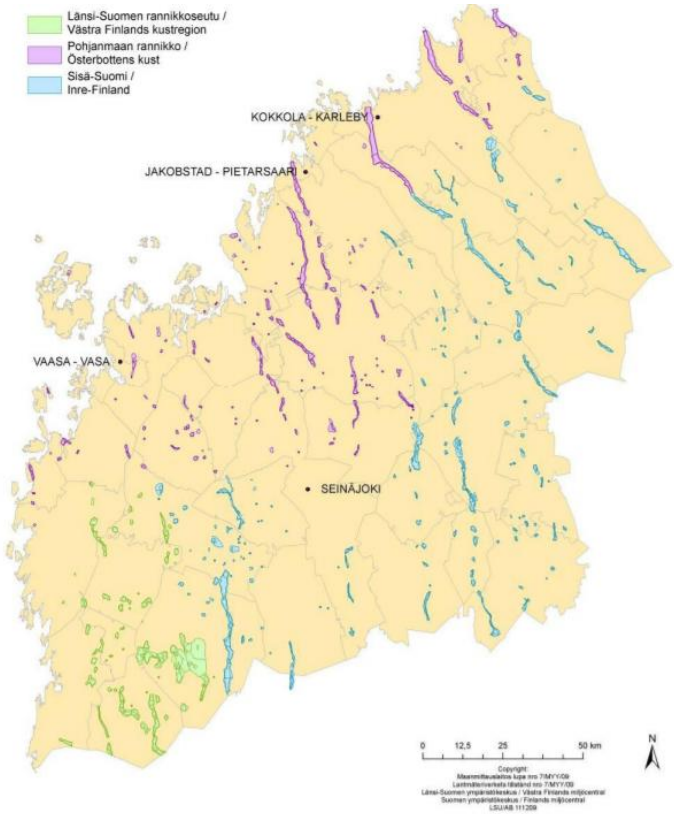
Groundwater workshop

Janne Juvonen
Finnish Environment Institute SYKE
Nordic WFD Conference, 23rd of May 2019

SYKE

Grouping in monitoring

- Finland has 17 groups for groundwater bodies
- The groups are based on a broad geological division, e.g. in the west coast:
  - Västra Finlands kustregion: till covered GWB's
  - Österbottens kust: fine grained material, flat GWB's
  - Inre-Finland: coarse grained eskers
- From each group a set of GWB's and monitoring sites are selected to represent the whole group
- Grouping is only used for the status assessment of GWB's that don't have significant pressures



Monitoring stations

- We have ~430 virtual monitoring stations
  - ~1800 monitoring sites are attached to the stations, but probably a much lesser amount is in active monitoring
- 160 monitoring stations for quantitative monitoring, 170 for chemical surveillance monitoring and 290 for chemical operational monitoring
  - We need more quantitative and operational monitoring stations (probably we have them, but they are not entered in the database
- The reporting unit is the station, which gives a wrong impression about the coverage of monitoring
- If the sites attached to the stations can't be reported through WISE, we might have to change all the monitoring sites into stations

Exemptions in Finnish GWB's

- We have used exemptions for 98 GWB's
- So far only Article4(4) - Technical feasibility and Article4(4) - Natural conditions have been used as exemptions
  - Reasons are variable, in some cases measures have been done with little affect, in some cases the responsibility of the measures is unclear or the method is missing, complex structure of the GWB
- Article4(4) - Disproportionate cost has not been used so far
  - Valuation studies to give the monetary benefits
- Remains to be seen if we need to use less stringent environmental objectives

Quantitative status assessment in Finland

- Quantitative risk vs poor quantitative status
  - No guidance on what is the level of risk and what is the level of poor status
  - If the water volume of the GWB would be known, setting limits to risk and poor status would be easier
- How to consider the groundwater body “as a whole” when classifying quantitative status
  - At the moment the only way is to have several abstraction wells and monitoring inside the GWB and to compare their data
  - Modeling would probably be a helpful tool
- By modelind it would also be possible to recognize anthropogenic downward trends from natural trends
- So far we don’t have models supporting the riski and status assessment

Trend assessment and threshold values

- Only national threshold values, natural backround levels can be set locally
- FI has not set a point of trend reversal, we consider any concentration above zero as a signal to start measures