

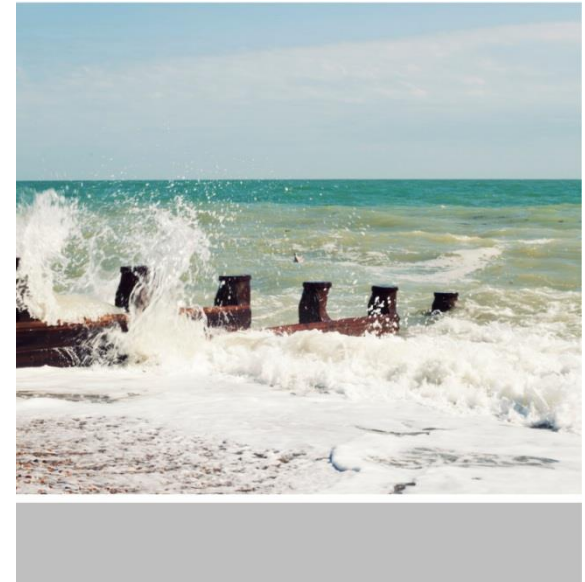
Monitoring and Status Assessments – experiences in Sweden

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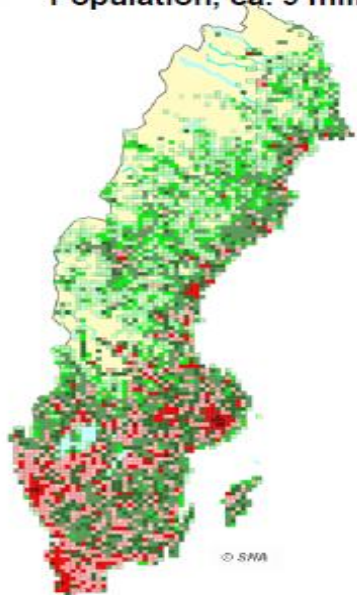
Swedish Agency
for Marine and
Water Management

SwAM - centre for Swedish water management

- Three of Sweden's sixteen environmental objectives Zero Eutrophication; Flourishing Lakes and Streams; and A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos.
- Water Framework Directive
- Marine Strategy Framework Directive
- Policies for fisheries (national and EU)
- The regional conventions OSPAR (Northeast Atlantic) and HELCOM (Baltic Sea)



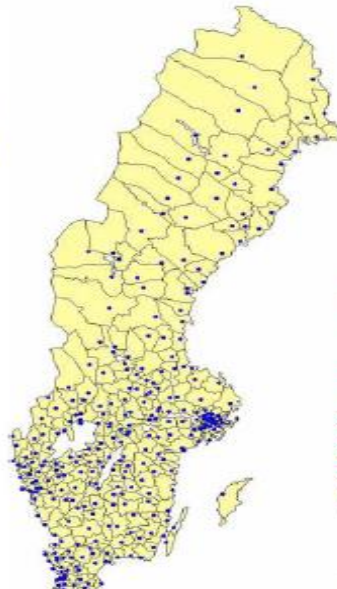
Population, ca. 9 mill.



Counties, 21



Municipalities, 290



Major river basins, 119



River basin districts, 5



Groundwater

"Everywhere"

Water bodies: **3025**



Status assessment WFD

Delineated water bodies

Rivers

> 500 000 km

Water bodies: **15 563**



Lakes

> 100 000 (> 0,01 km², 2,5 acres)

Water bodies: **7232** (> 0,5 km²)



Coastal waters

Water bodies: **622**



26 440

Status assessment WFD

26 440 WB:s in 119 main River Basins
in 5 water districts

Performed by
Regional county administrative boards (21)

Coordinated by water district authorities
RBMP:s EQS (and PoM) decided by regional water boards

National authorities; guidelines and regulation

Swedish Agency
for Marine and
Water Management





ECOLOGICAL STATUS

HIGH

GOOD

MODERATE

POOR

BAD

Status assessment

Ecological status

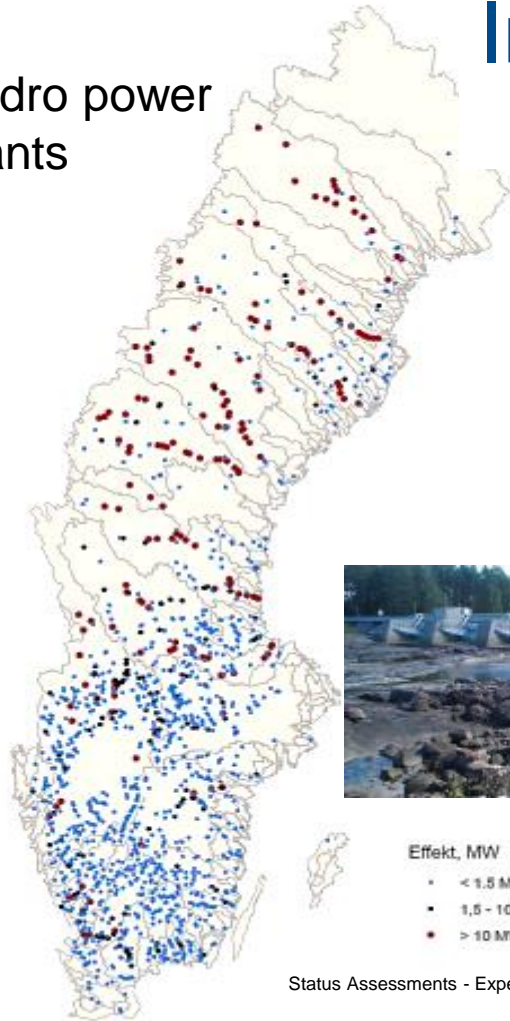


Impact assessment -



Impact assessment

Hydro power plants



Physical alteration

Assessed mainly on disrupted longitudinal continuity



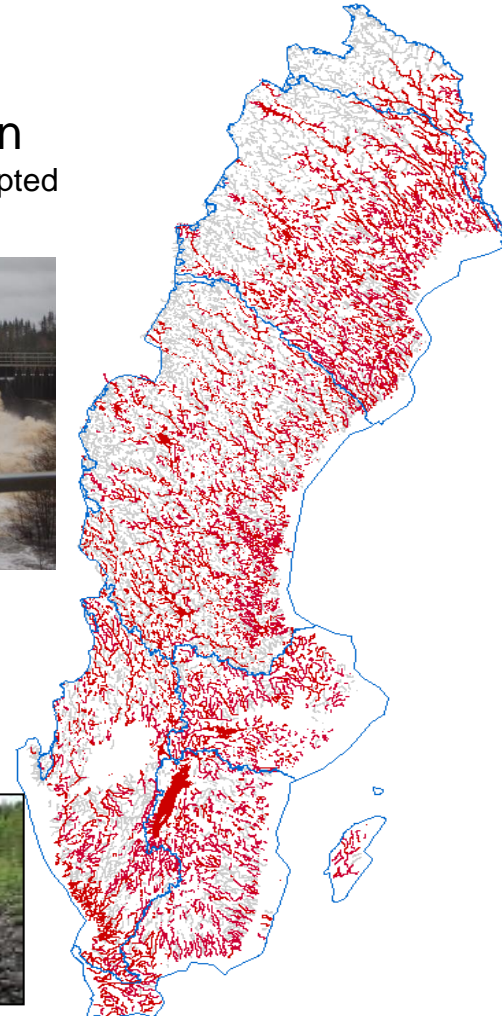
Effekt, MW

- < 1.5 MW
- 1.5 - 10 MW
- > 10 MW

Status Assessments - Experiences in Sweden



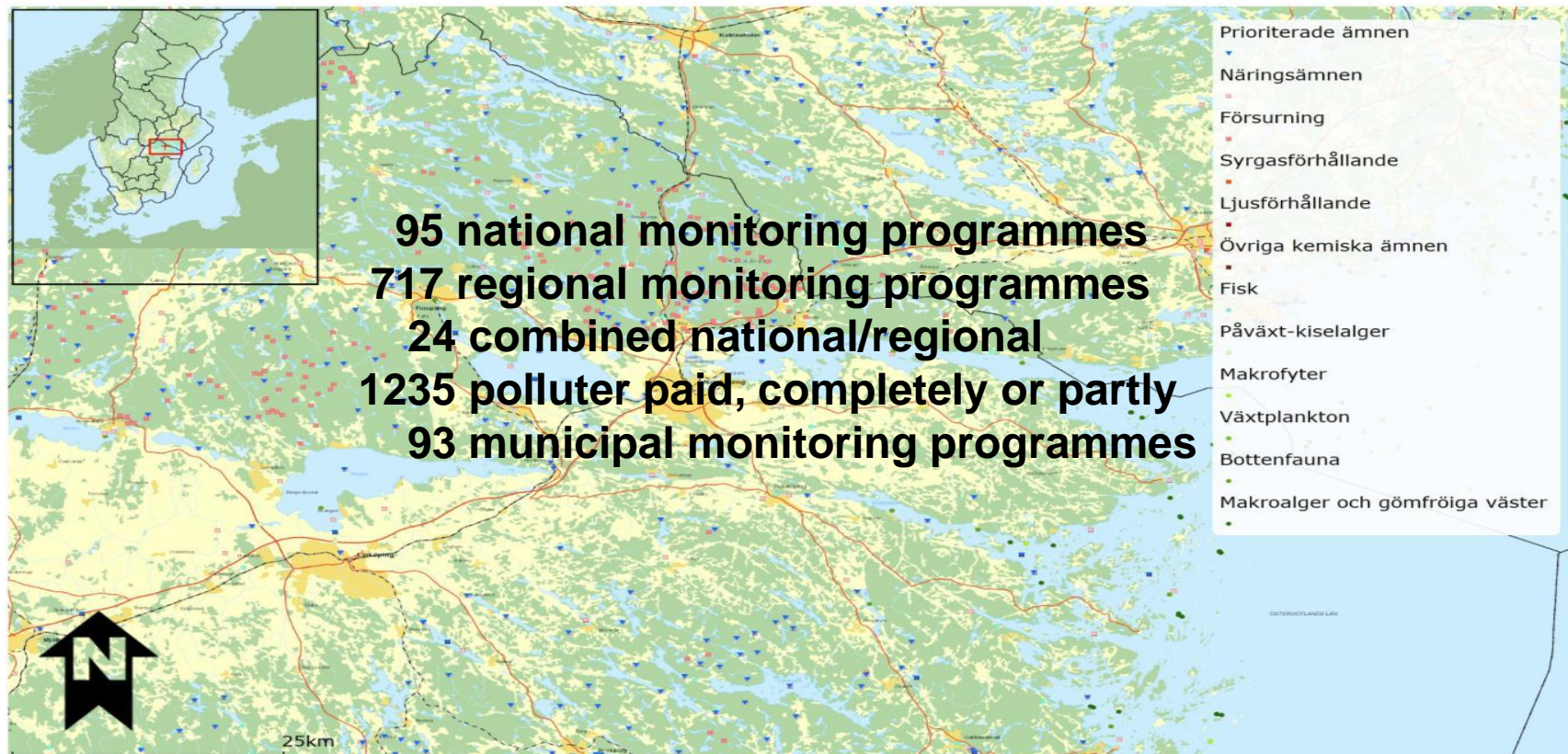
U. Stensdotter B.



Monitoring stations $\approx 15\ 000$

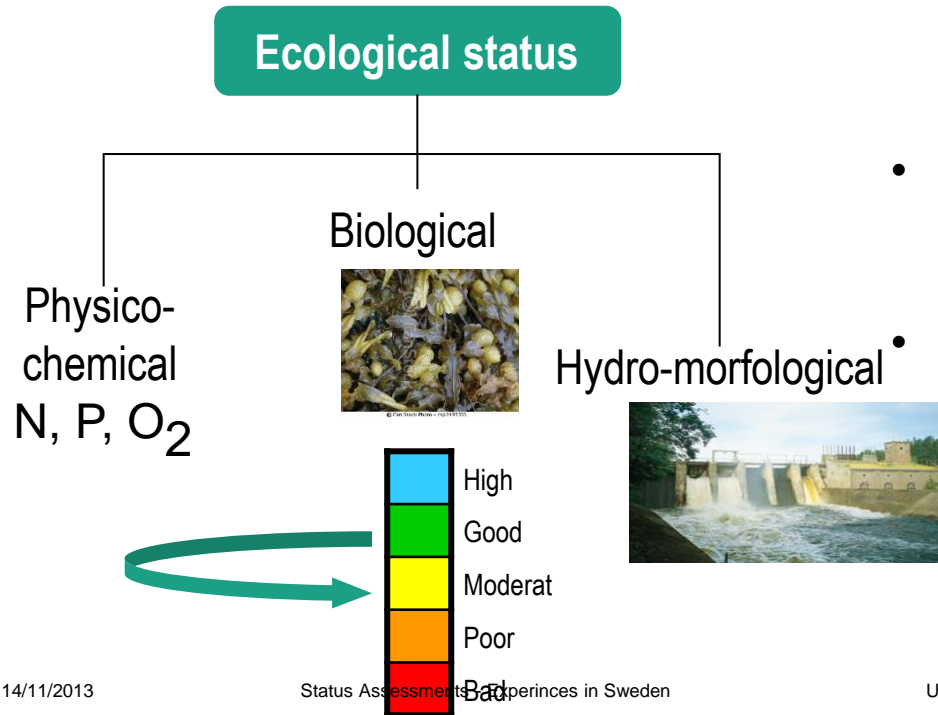
Swedish Agency
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Monitoring



Assessment methods - experiences

Environmental quality criteria



- Weak harmonisation between biological, physico-chemical and hydro-morphological quality elements
- Limited usage due to lack of relevant monitoring data
- Difficulties to estimate uncertainty in assessments

Assessment methods - revision

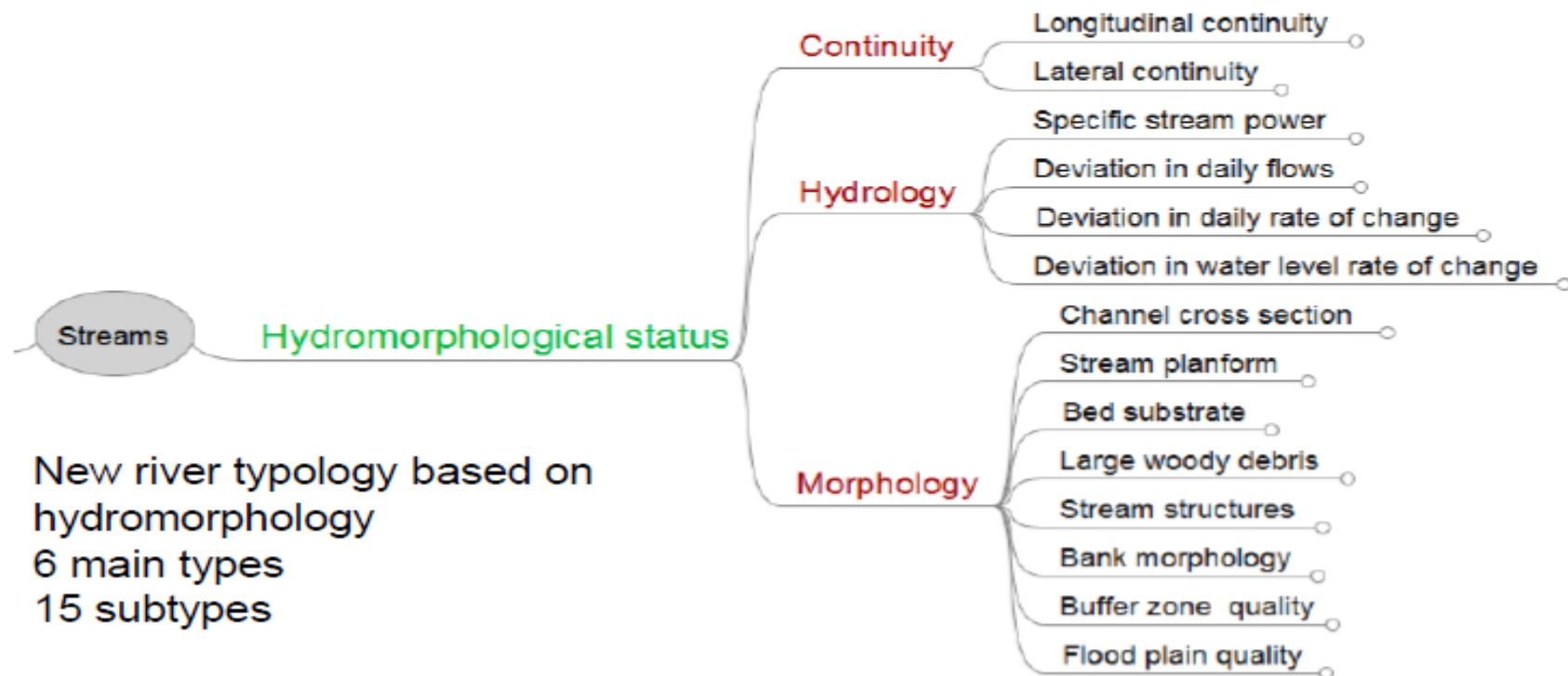
Environmental quality criteria

- Research project WATERS developing and harmonising methods for assessment, defining reference conditions and class boundaries (www.waters.gu.se/english)
- A better typology: revising methods of grouping water bodies for status assessment
- Legal review of ways of regulating operational monitoring, particularly methods and data availability
- Further intercalibration with neighbouring countries

Revision of monitoring programmes, step by step

- Increased representativity of water types
- More randomly distributed monitoring, better use of statistics and modelling
- More biological QE:s on present stations
- Monitoring of hymo QE:s
- More groundwater monitoring (quantity & quality)
- Better use of local monitoring data

New quality standard for hydromorphology in rivers, lakes and coastal waters



New river typology based on hydromorphology
6 main types
15 subtypes

A photograph of a small waterfall in a forest. The water is cascading over mossy rocks. The surrounding area is filled with green plants, grass, and trees. The text "High quality monitoring is essential to achieve good ecological status" is overlaid on the image in white.

High quality monitoring is essential to
achieve good ecological status

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