



Ministry of Environment  
and Food of Denmark  
Department

# Danish hydromorphological assessment methods

Nordic WFD Conference  
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# Agenda

1. National monitoring programme 'NOVANA'
2. Hydromorphological assessment methods
3. Process for updating programme of measures



# National monitoring programme

- **The Danish Environmental Protection Agency**
- **Provide data about pressures, ecological status/potential and trends for RBMPs**
- **Monitoring of sea and fjords, lakes, water courses and groundwater**
- **Methodology have been prepared in collaboration with research institutions**
- **250,000 surveys at 35,000 sites in the period 2017-2021**
- **Analysis in laboratory**
- **Quality control**
- **Data is available online**



# Hydromorphological assessments methods

## Danish Physical Index

### SQE for BQE

#### Three groups of parameters:

- Stretch-based parameters
- River parameters
- Substrate parameters
- Ochre

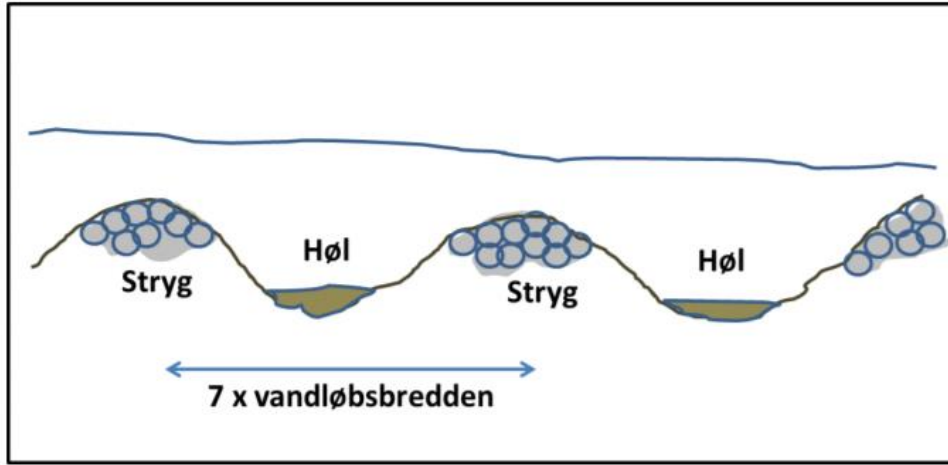
**Period: 1<sup>st</sup> of February to 30<sup>th</sup> of April**

**Survey of 100 m representative stretch  
(if width > 15 m the surveyed stretch is 200 m)**

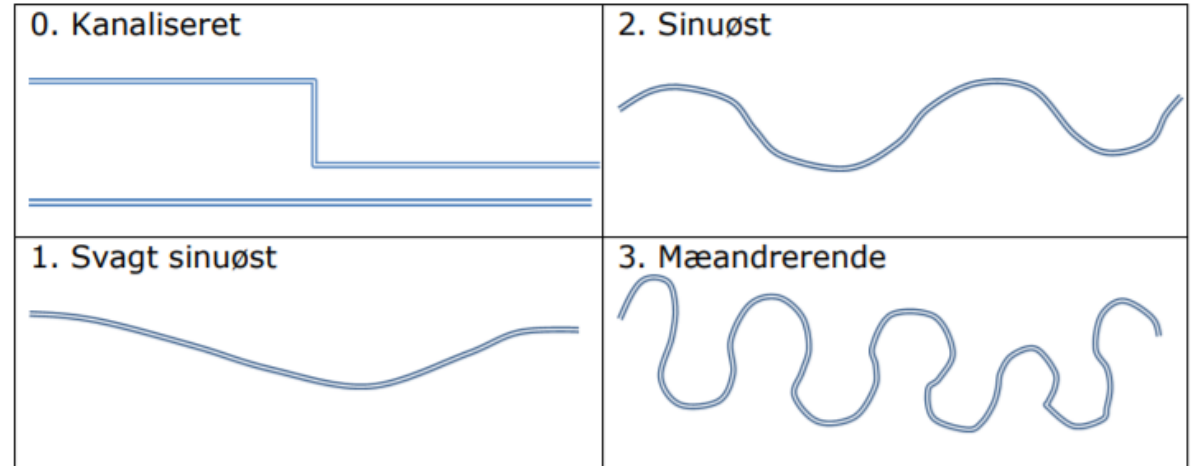




# Stretch-based parameters



Pool and riffles



Sinuosity

0 Kanaliseret	1-2 Seminaturligt
3 Naturligt	<i>Bemærk: Den semi-naturlige type findes i to undertyper (dyb og flad).</i>

Cross-section profile

Skala:

Indeks værdi	CV værdi	Beskrivelse
0	0-10 %	Ingen variation i bredden
1	11-25 %	Lille variation i bredden, fordi der kun er ringe variation i bredden mellem høllet og stryg
2	26-50 %	Først og fremmest forskel i bredden som følge af variation mellem høllet og stryg
3	> 50 %	Stor variation i bredden, både mellem høllet og stryg, men også mellem de enkelte høllet og de enkelte stryg

Width variation

# River parameters

- **Vegetation at the bank**
- **Velocity**
- **Roots**
- **Emerging vegetation**
- **Subaqueous vegetation**
- **Other physical variations**
- **Ochre load**





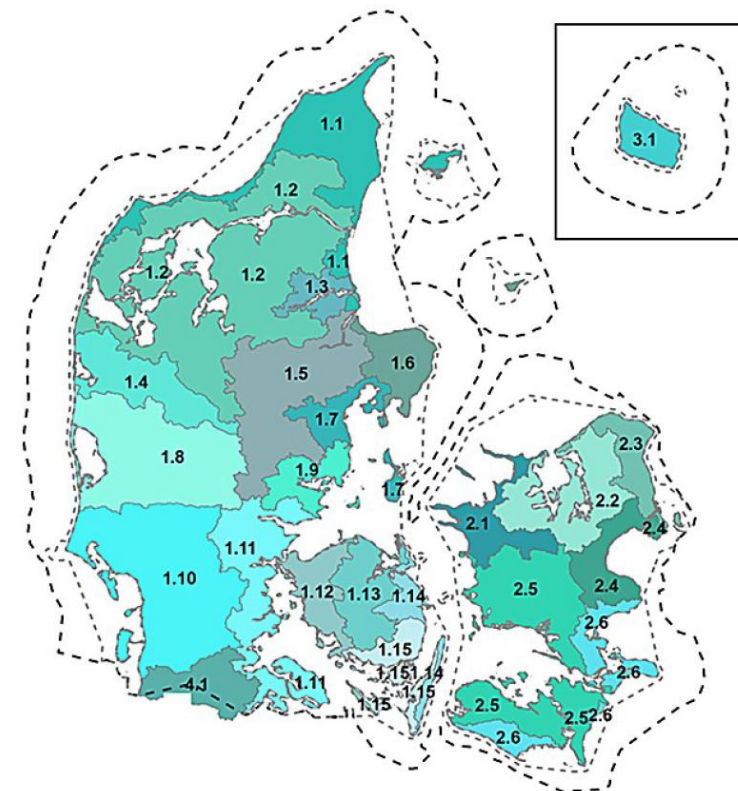
# Substrate parameters

- **Stone cover**
- **Gravel cover**
- **Sand cover**
- **Mud cover**
- **Depth variations**
- **Bank habitat for trout**
- **Secondary profile**



# Process for updating programme of mitigation measures

- Prior to the 2nd RBMPs 23 local water boards were established
- Local knowledge into programme of mitigation measures
- Local water boards with representatives from both sides
- Suggestions for watercourse mitigation measures from water boards and municipalities
- Improve physical conditions in water courses
- The main part of the programme of mitigation measures for water courses is based on this work
- Local water boards will again be established prior to the 3rd RBMPs





# Questions?

