

## Item 5.1 Annex B

### Freshwater – part C example

At the core of any water related State of Environment assessment is to quantify and identify the current state of, and impacts on, the water environment - how these are changing in time and whether the measures taken at different levels are effective.

Freshwater is one of the common issues selected for part C of the SOER2010. Environmental issues related to freshwater can be divided into the following groups including the main EU water policies (Directives/initiatives)

- **Water pollution**, water quality and emissions (Nitrates Directive, Urban Waste Water Treatment Directive, IPPC Directive/E-PRTR, Chemicals and priority substances)
- **Water scarcity and drought** (WS&D) (Green paper on WS&D)
- *River basin management*. good ecological status and good groundwater status (Water Framework Directive and Groundwater Directive)
- *Water and health* (Drinking Water Directive and Bathing Water Directive)
- *Flood risk management* (Floods Directive)
- Climate change impacts and adaptation
- Hydropower, (Energy policies with focus on more renewable sources)

Depending on the country some of the freshwater environmental issues are more important than others and countries should focus on the most important issues. For the first phase (until June 2009) we request countries to provide short descriptions/assessments of **water quality/water pollution** (related to the Nitrate Directive, Urban Waste Water Treatment Directive) and **water scarcity and drought**. If other freshwater issues are of national importance descriptions of these can also be included.

For freshwater (and air pollution) we have developed a generic guidance template to facilitate a comparable approach across the countries and themes. The template is designed in a way to also allow for easy transfer to a web publication environment and we are aiming at circa 500 words supported by links, graphics and multi-media.

For each freshwater issue the generic template has to be adapted to take up specific aspects such as the relevant EEA core set of indicators and relevant policies – a first example of a filled template on freshwater issues is included. Further examples will be developed and distributed/presented at the Eionet NFP meeting.

## Generic (freshwater) template

<b>Freshwater issue</b> (e.g. water quality)		Country
<b>Key messages:</b> <ul style="list-style-type: none"> <li>• 2-3 bullet points with key messages</li> <li>• 2-3 bullet points with key messages</li> <li>• 2-3 bullet points with key messages</li> </ul>		
<b>Indicator on <u>status</u></b> (state of the environment)  National indicator that is comparable to indicators from EEA's core set of indicators is preferred	<b>Indicator on <u>trend</u></b> - Getting better or worse?  National indicator that is comparable to indicators from EEA's core set of indicators is preferred	
<b>Evaluation of the <u>status</u> (state of the environment) and description of the <u>trends</u></b> <i>Up to 15 lines text</i> ...		
<b>Indicator on <u>pressure</u></b>  National indicator that is comparable to indicators from EEA's core set of indicators is preferred	<b>Indicator on <u>solution and actions</u></b>  National indicator that is comparable to indicators from EEA's core set of indicators is preferred	
<b>Evaluation of pressures</b> <i>Up to 15 lines text</i> ...		
<b>Policy context and solution and actions taken by the country</b> <i>Up to 15 lines text</i> ...		
<b>Further national information</b> <ul style="list-style-type: none"> <li>• Link to national homepages</li> <li>• Link to national reports</li> <li>• Etc.</li> </ul>		

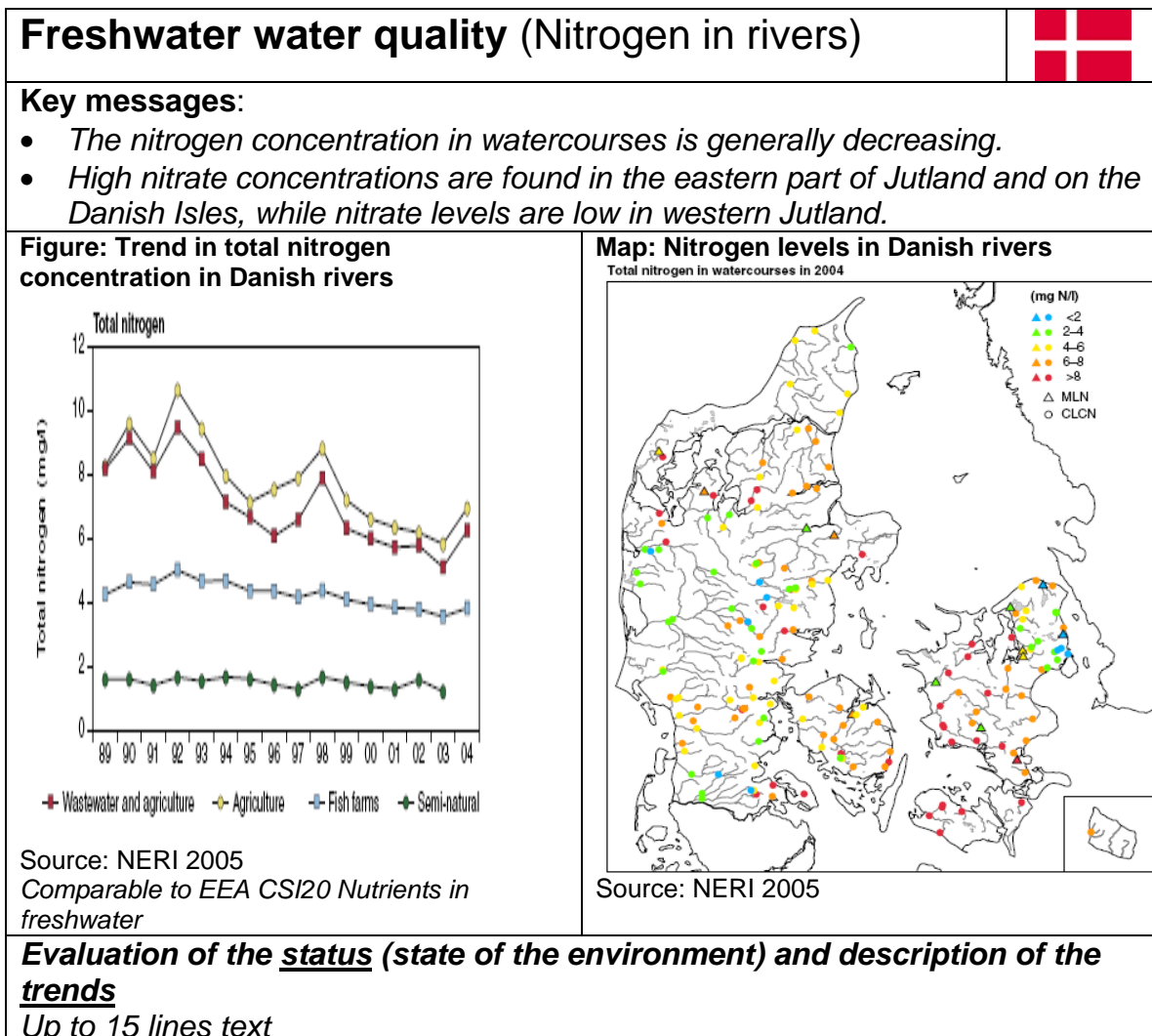
The structure of the template may not fit to all freshwater issues and may have to be adapted to the national situation.

## Example of template on freshwater issues

Most countries and EEA present information on water quality in freshwater in their water assessments. Generally the following aspects are covered by indicator assessments:

- Maps/graphs illustrating the concentration level in different water types (rivers, lakes, groundwater) and regions/river basin district
- Trend graphs illustrating the development in water quality.
- Diagrams illustrating trend in pressures and information on what is causing the problems.
- Indicators to illustrate measures such as development in waste water treatment.

Below find an example on a filled water quality template. **Please note that the template was filled in by EEA staff and that Danish experts might have selected different indicators and text.**

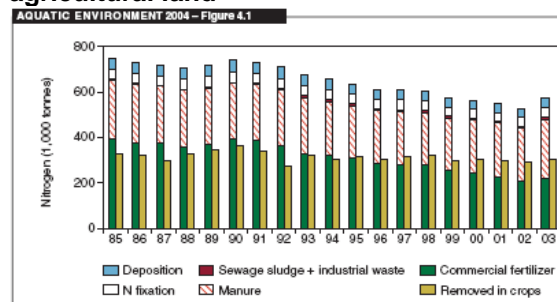


Taking all watercourses together, the mean flow-weighted nitrogen concentration has decreased by 29% since 1989, while nitrogen transport has decreased by 34%. The nitrogen concentration depends on land use in the watercourse catchment. The concentration levels are 4–5-fold lower in watercourses draining semi-natural catchments than in those draining the cultivated catchments, and wastewater discharges do not significantly affect the nitrogen level.

The nitrogen concentration is generally lower in the watercourses of western Jutland due to sandy soil and high denitrification rates in groundwater compared to the watercourses of eastern Denmark where a large proportion of the precipitation and the nitrate it contains flows through the upper aquifers or drains without passing through anoxic zones into water courses. Thus less nitrate will be removed from the water before it reaches the watercourses.

### Indicator on pressure

Indicator: Input and output of nitrogen on agricultural land

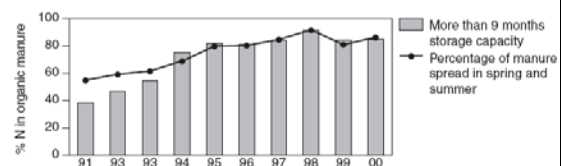


Source: NERI 2005

Comparable to EEA CSI26 Nitrogen balance

### Indicator on solution and actions

Indicator: Percentage of the manure that could be stored more than 9 months (bars) and proportion of manure spread during spring and summer (line – low leaching to uptake by crops)



**Figure 3** Development in storage capacity and spreading time for animal manure in Denmark during the agricultural catchment monitoring programme 1991–2000 (Grant et al., 2001)

Source: Grant et al. 2004

Now EEA indicator

### Evaluation of pressures

Up to 15 lines text

Leaching of nutrients from cultivated land is determined by agricultural practices, the amount of fertilizer applied and the nature of the land. The amount of nitrogen applied in the form of commercial fertilizer has decreased from 395,000 tonnes in 1985 to 196,000 tonnes in 2003, while the amount of nitrogen applied in the form of manure and sewage sludge has remained largely unchanged. This has led to a reduction in nitrogen leaching from cultivated land over the period 1989–2003.

### Policy context and solution and actions taken by the country

Up to 15 lines text

Since 1985, seven national Action Plans have been implemented in Denmark to reduce nitrogen discharges from point sources and nitrogen losses from agriculture. The instruments applied include regulations on point source discharges from waste water treatment plants, area-related measures, e.g. re-establishment of wetlands and afforestation, and nutrient related measures, e.g. mandatory fertilizer plans and improved utilization of nitrogen in manure.

Examples of measures included the establishment of slurry tanks with 9 month storage capacity, spreading of manure during spring and summer, and obligations to grow winter crops on 65% of the area.

### Further national information

- MoE [Water](#) or [Water](#)
- NERI: [Water](#)
- [NERI 2005: Aquatic and Terrestrial Environment 2004. State and trends](#)
- Etc.

