

Water and marine environment management in Finland 芬兰水和海洋环境管理

Integrated approach for better marine environment in the Baltic sea

改善波罗的海海洋环境的综合方法

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中欧水资源交流平台（CEWP）高级别会议，中国北京：

From Source to Sea – Integrated Water and Marine Environment Management in the
Baltic Sea and Bohai Sea region

从源到海-波罗的海和渤海区域水和海洋环境综合管理

Legislation立法

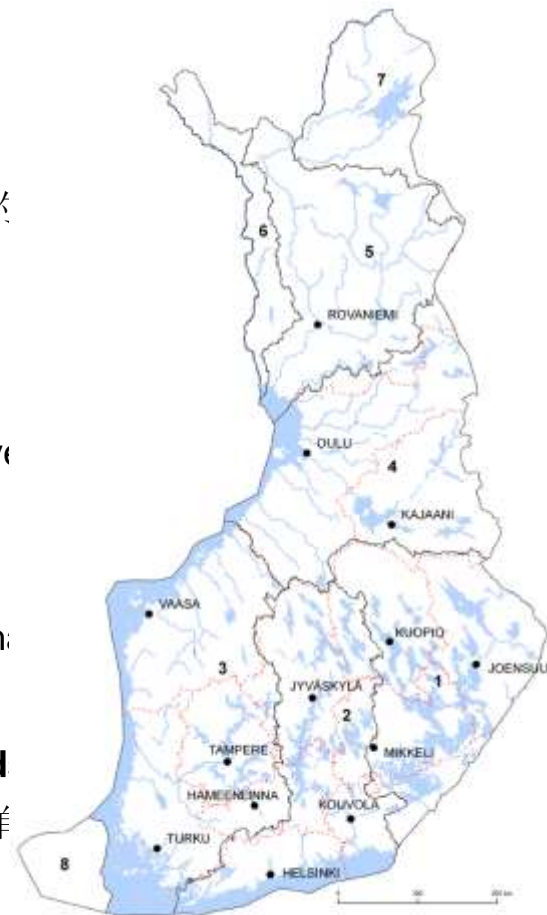
- The EU Water Framework Directive 《欧盟水框架指令》（WFD）
 - The aim of the river basin management plans is to achieve good status of the surface waters by 2027 at latest流域管理计划的目标是，最迟到2027年地表水达到良好状态
 - River basin management plans cover rivers, lakes, **coastal waters**, and groundwaters流域管理计划涵盖河流、湖泊、**沿海水域**和地下水
- The EU Marine Strategy Framework Directive 《欧盟海洋战略框架指令》（MSFD）
 - The aim of the Finnish marine strategy is to achieve a good status of the Baltic Sea by 2020. 芬兰海洋战略的目标是，到2020年波罗的海达到良好状态
 - The strategy covers Finland's **territorial waters** and the exclusive economic zone. 该战略涵盖芬兰的**领海**和专属经济区。

Overlapping重叠

Finland's eight river basin districts

芬兰的八大流域区 (RBD's)

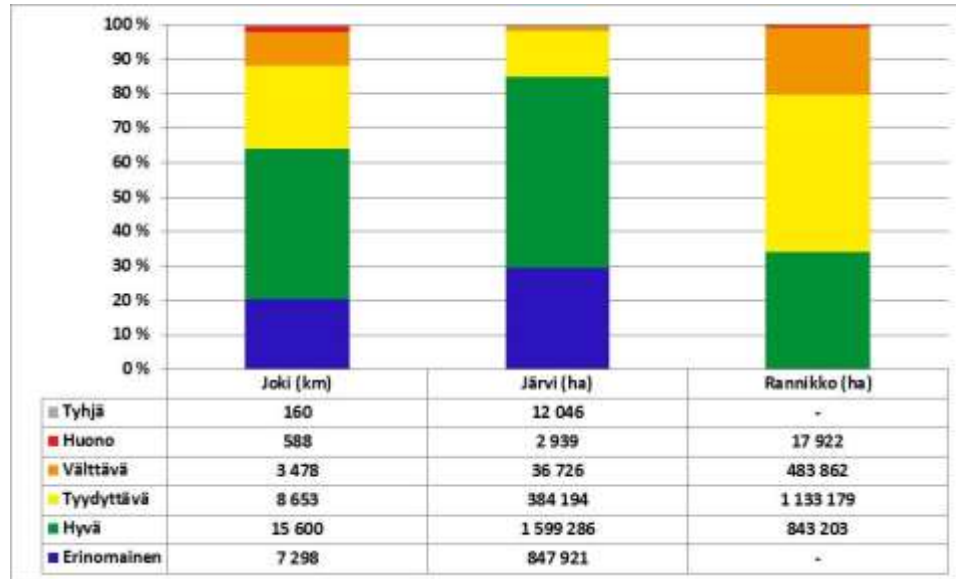
- 1. **Vuoksi**克希河RBD
- 2. **Kymijoki-Gulf of Finland** 米河-芬兰湾RBD
- 3. **Kokemäenjoki-Archipelago Sea- Bothnian Sea**科凯迈基河-群岛海-波的RBD
- 4. **Oulujoki-Iijoki**奥卢河-伊河RBD
- 5. **Kemijoki**凯米河RBD
- Two international river basin districts (*IRBD*) have also been designated covering parts of Finland:还指定了两个国际流域区 (IRBD)，覆盖芬兰的部分地区：
- 6. **Tornionjoki**托尔尼奥河IRBD (shared with Sweden与瑞典交界)
- 7. **Teno, Näätämöjoki and Paatsjoki**塔诺河- Näätämöjoki-帕茨河IRBD (shared with Norway与挪威交界)
- 8. A separate RBD has been defined to cover the autonomous **Åland Island** where the WFD is being implemented by the provincial government.还指定了一个单独覆盖自治的奥兰群岛，其中由省政府实施《欧盟水框架指令》。



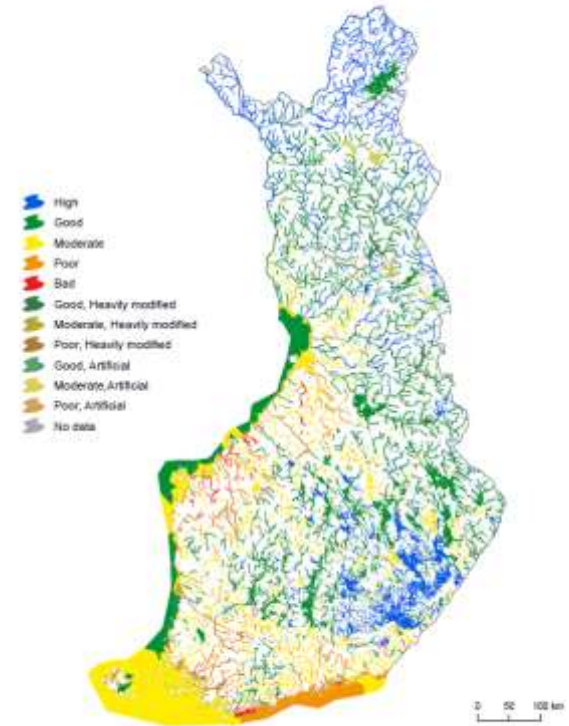
Ecological status of surface waters

地表水生态状况

- by proportion of total length (rivers) or surface area
(河流) 总长度占比或表面积



Ecological status of surface waters 2015

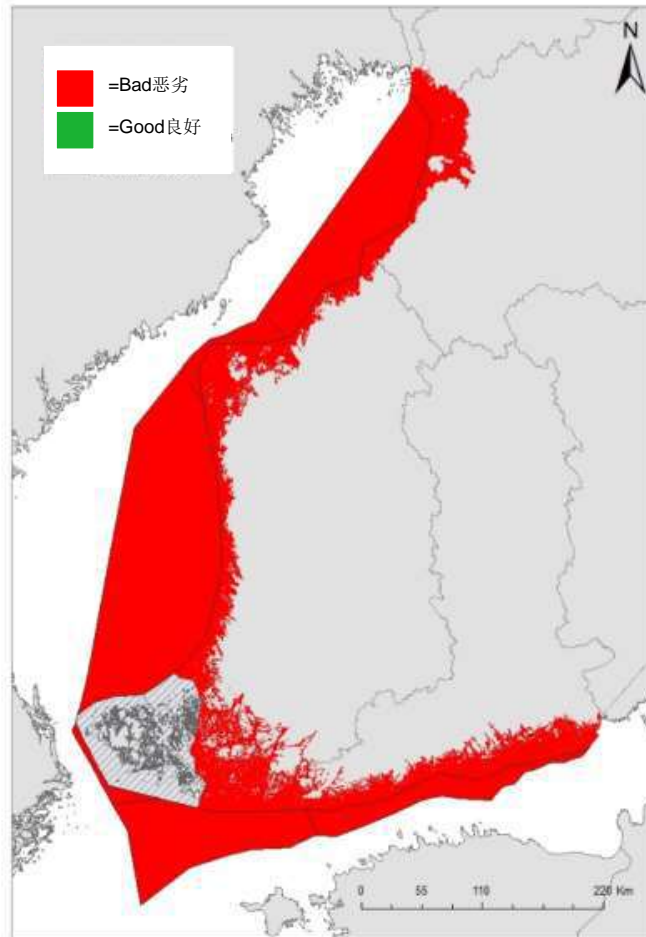


State of the Marine Environment

海洋环境状态

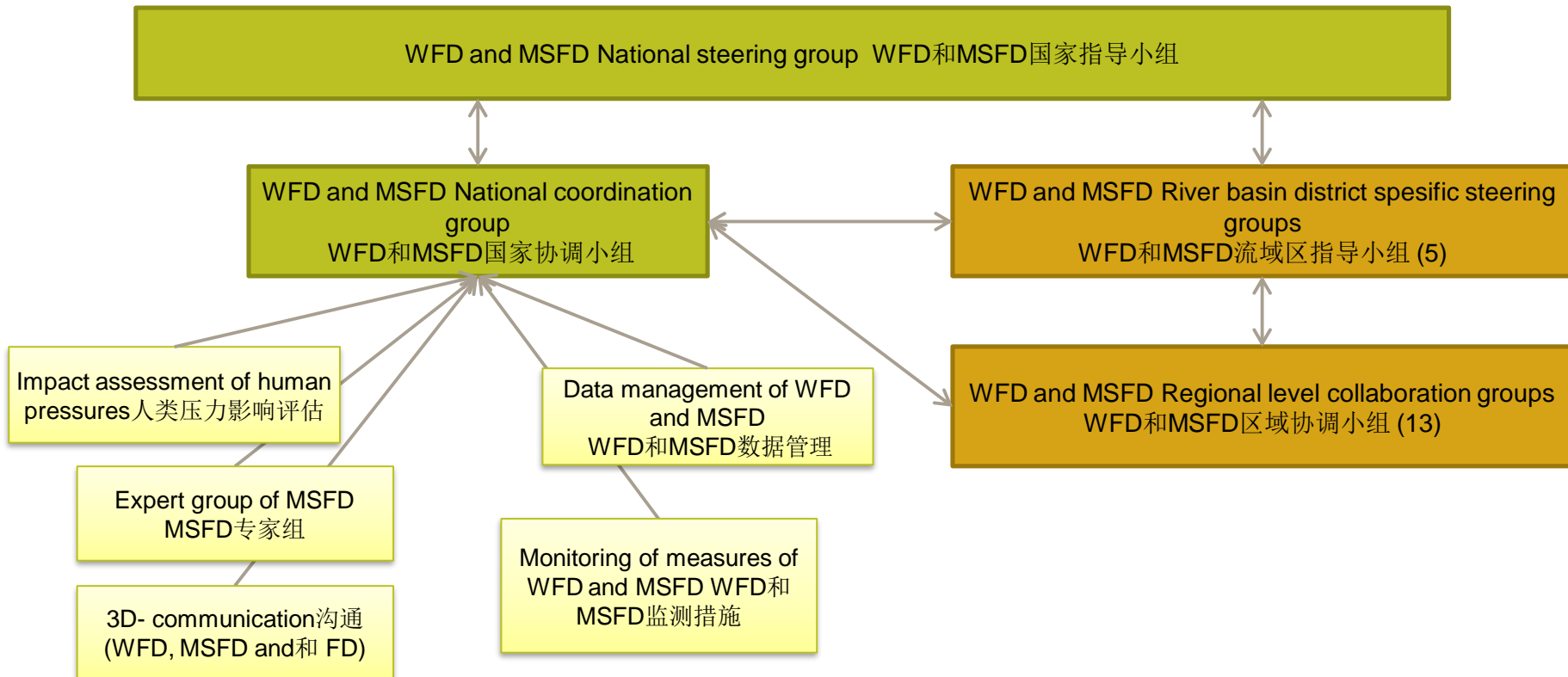
- Assessment done for 6 parts of the Finnish coast and territorial waters对芬兰海岸和领海的6个部分进行了评估
- Status assessment based on 11 descriptors of good environmental status基于11个良好环境状态指标进行状态评估
- Eutrophication, hazardous substances and biodiversity indicators below good status in all 6 parts这6个部分的富营养化、有害物质和生物多样性指标均未达到良好状态

Eutrophication status 富营养化状态



Cooperation in river basin management and marine strategy 2016-2021

流域管理合作及2016-2021年海洋战略



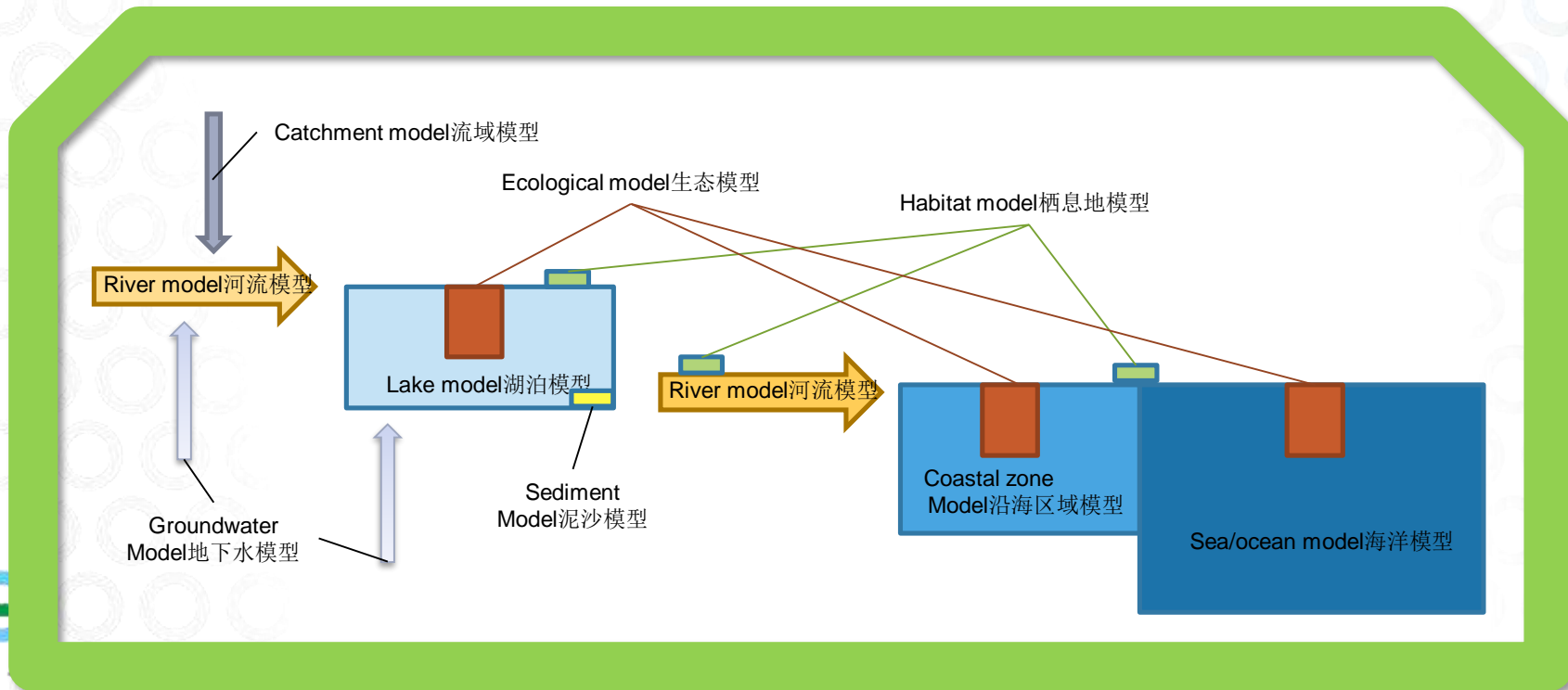
DPSIR approach built in both of the EU legislations

欧盟立法中的DPSIR方法



Harmonising pressures analysis 协调压力分析

- Many of the pressures in marine environment originate in the human actions within the catchment area 海洋环境面临的许多压力源于流域内的人类活动
 - E.g. loading of nutrients and other pollutants 如， 营养素负荷和其他污染物



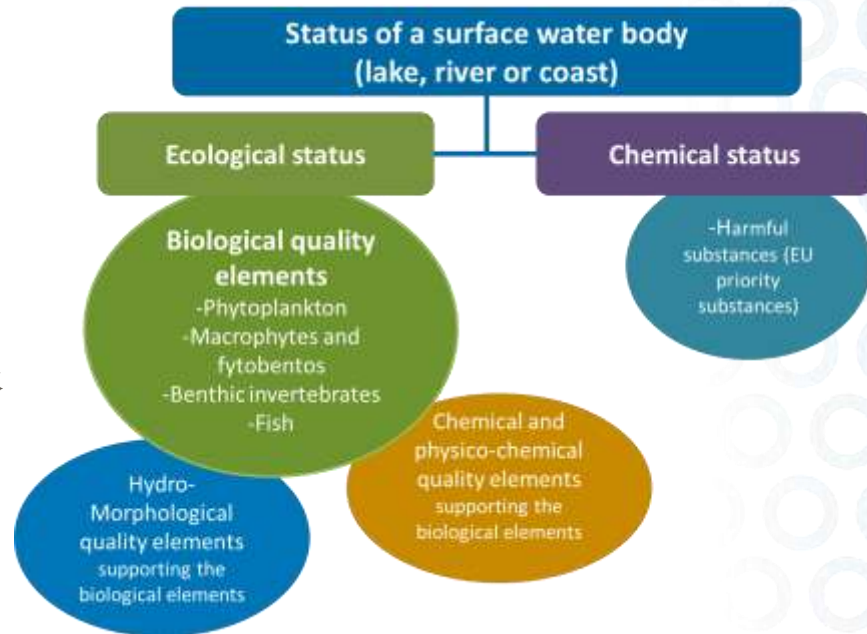
Harmonising pressures analysis 协调压力分析

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- Monitoring and modelling approaches are being used to assess the loading of rivers to the Baltic sea 使用监测和建模方法来评估从河流流入波罗的海的负荷
 - Frequent monitoring of the outlets of biggest rivers 频繁监测最大河流的入海口
 - Calibration of operational national level nutrient loading model VEMALA 校准可操作的国家营养素负荷模型 VEMALA
- Same loading figures are being used in RBMP and MS 相同的负荷数值用于 RBMP 和 MS
- Nutrient reduction targets for Baltic Sea sub-basins defined by HELCOM HELCOM 界定的波罗的海子流域营养素减排目标
 - WFD targets for coastal waters may differ from the HELCOM values WFD 的沿海水域目标可能与 HELCOM 的目标值有所差异
- **The most stringent targets rule 最严格的目标规则**

Harmonising status assessment 协调状态评估

- Links to State of the Marine Environment descriptors 与海洋环境状态指标联系起来
- Eutrophication 富营养化
 - Overall ecological status + chemical and physico-chemical quality elements in coastal waters 沿海水域的总体生态状况+ 化学和物理-化学质量要素
- Seafloor integrity 海底完整性
 - Hydro-morphological quality elements in coastal waters 沿海水域的水文质量要素
- Harmful and hazardous substances 有害物质
 - Chemical status in coastal waters 沿海水域的化学状态
- Biodiversity 生物多样性
 - Many of the BQEs under WFD 许多BQEs 低于WFD指标

EU WFD 《欧盟水框架指令》



Harmonising mitigation measures 协调减缓措施

- Programmes of Measures (PoMs) under the RBMPs define a set of measures RBMPs下的措施计划（PoMs）提出了一系列措施
 - Basic measures based on national or EU legislation 基于国家或欧盟立法的基本措施
 - Supplementary measures are more or less based on voluntary actions 补充措施或多或少地基于自愿行动
 - Most of the measure types are very concrete measures 大多数措施为具体措施
 - In addition policy measures (legal, economic, administrative) 也包含政策措施（法律、经济和行政管理措施）
- For marine strategy the measures under RBMPs are taken as the baseline 对于海洋战略，以RBMPs下的措施作为基准
 - Additional measures have been assigned 制定了其他措施
 - Mostly policy measures 大多为政策措施

Conclusions 结语

- The EU legislation sets the frames for river basin management and Marine Strategy 欧盟立法为流域管理和海洋战略制定了框架
- This forms a basis for integrated assessment 这构成了综合评估的基础
 - E.g. the same 6 year cycle and parallel public hearings 如，相同的6年规划周期及举行公众听证会
- But lot of coordination between the two planning processes is needed 但两个规划过程需要更多的协调
 - Especially on pressures analysis, status assessment and planning of mitigation measures 尤其是在压力分析、状态评估和减缓措施规划方面

Thank you!
谢谢!

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