

BLUEPRINT, Poland

It begins from Chapter 3, and moves on stepwise parallel to RBMP's table of content. It basically defines 'What' and 'Where'; implying that, where in the RBMP, what relevant important information can be added with respect to peatlands and their sustainable management, thereby acting as a blueprint for intricate integration of wetlands/peatlands into the RBMP.

3. GENERAL DESCRIPTION OF THE CHARACTERISTICS OF RIVER BASIN DISTRICT

3.1. SURFACE WATERS

3.1.3. Wetlands (Introduction of new subtopic under title 'Surface Waters')

- Introduction of new water body, 'Wetlands' (as per suggestion from the DESIRE meeting to have simple term instead of 'semi-aquatic water body'.)
- Description about wetlands, their characteristics, natural conditions and their ecological system.
- The critical position they hold in the functioning and management of the environment.
- The habitat and species they support, with other ecological services they provide, thereby reflecting by all the above information, their importance for serious consideration into the RBMP as a water body.

3.1.4. Designation of heavily modified and artificial water bodies

- Describing the degradation of peatlands by drainage.
- The hydrogeological changes, and successive degenerative stages, acting as indicators to justify and validate their designation as heavily modified wetland water body, also in view with the economic feasibility for bringing a change in their current status.

3.1.5. Determination of reference conditions for surface water body types

- A new topic under 3.1.5, as 'Wetlands', joining the existing other two topics, that are, 'running waters' and 'lakes'.
- Untouched peatlands could act as reference condition.
- Quality elements/indicators that could assess the status of wetlands; biological indicators (current vegetation, macroinvertebrates, bird species, etc.), physio-chemical indicators (nutrient content in soil, pH of soil, oxygen content in soil, etc.), morphological or say geological indicators (subsidence level, ground water table level, status of soil – its extent of degradation, etc.).

4. SUMMARY OF SIGNIFICANT IMPACTS AND IMPACTS OF HUMAN ACTIVITY ON THE STATUS OF SURFACE AND GROUND WATER

4.2. AREA POLLUTION WITH A SHORT LAND USE CHARACTERISTIC

4.2.1. Agricultural Activity

- A short paragraph speaks of surface water contamination through surface runoffs from agricultural areas, with few stats on mineral consumption. And no mention of such activities on the peatlands itself, thereby providing huge scope for additions.
- Impact of agriculture and drainage, on wetlands and their successive degradation; with impacts of such activities and agriculture not only on surface waters but also on the state of peatlands itself, and on the ecological services they provide as a whole.
- Effects from rewetting and Paludiculture.
- Impact (potential) of rewetted peatlands on reduction of diffuse loads from agricultural and silvicultural areas in the upper catchment.

5. CLIMATE CHANGE AND WATER MANAGEMENT IN THE FIRST PLANNING CYCLE

5.2. OBSERVED AND FORECASTED EFFECTS OF GLOBAL WARMING IN POLAND

- Integrating climate change research in peatland management

(Chapter summary: The chapter speaks of change in climate pattern over some specific years, accounting for some decades, and talks about hydro-climatological things in context with the change in precipitation, flood and drought events with an increase of 1deg temp. In the end, it just says that such events can have effect on water courses and reservoirs, therefore, climate change research should be integrated for protecting water quality deterioration from such events. It states that Poland's climate change will not be significant in relation to activities identified in Nemunas RBMP.)

6. IDENTIFICATION AND MAPPING OF PROTECTED AREAS

- It is well presumed that if some peatlands fall in the regions of protected areas, like Natura 2000, they too can be covered under protected regions. But protection of Wetlands as of their own existence have not been considered.
- Therefore, I propose to consider all the peatlands which have not been completely drained, and if some still exist in their pristine state, under protected areas, in view of:
 - Environmental Protection Law
 - Water Law
 - Nature Law

For the:

- Protection of natural & cultural heritage, landscape biodiversity and habitat
- Maintenance of ecological balance of the landscape
- Restoration of natural resources

7. WATER MONITORING AND STATUS ASSESSMENT

- Chapter speaks of diagnostic, operational and research monitoring in Surface waters and Groundwaters. Being a semi-aquatic ecosystem, Wetlands can be introduced for monitoring as a water body in both Surface and Ground waters in a similar way as already discussed in the chapter, covering the areas of physiochemical, biological, geomorphological, and quantitative monitoring under the 3 monitoring types discussed in the RBMP, depending on the criteria for each of them.
- For wetlands, possible reasonable number of monitoring sites, and their locations can be discussed.

- Biological indicators (current vegetation, macroinvertebrates, bird species, etc.), physio-chemical indicators (nutrient content in soil, pH of soil, oxygen content in soil, etc.), morphological or say geological indicators (subsidence level, ground water table level, status of soil – its extent of degradation, etc.), can reveal the status of Wetlands.
- Wetlands can be classified under five classes based on the results of quality elements: Very good, Good, Medium, Bad, and Very poor. Or Good and Not Good, if they are considered as heavily modified.

8. ENVIRONMENTAL GOALS AND DEVIATIONS FROM THE ACHIEVEMENT OF ENVIRONMENTAL GOALS

- The allowable limits or range of different quality elements across biological, physio-chemical and morphological elements, together with limits for the quantity status of groundwater for achieving good status of Wetlands.

9. SUMMARY OF ECONOMIC ANALYSIS OF WATER USE

9.4. REIMBURSEMENT OF COSTS OF WATER SERVICES IN AGRICULTURE AND FORESTRY

- Chapter speaks of different cost recovery from water usage across different sectors, polluter pays, and user pays. There is an exemption of fee for water use in agriculture. Surface water used for say irrigation in agriculture and forestry etc. is free, but cost is charged for affecting the condition of water, water abstraction, water drainage, etc., in general paludiculture can be discussed. Perhaps discuss about 0 cost from paludiculture, since it comes under agriculture it is exempted to pay for water use, and since it is sustainable and does not affect the condition of surface water or a water body, rather helps reducing the negative impact on environment, therefore no environment cost either.

10. SUMMARY OF ACTION PROGRAMS INCLUDED IN THE WATER AND ENVIRONMENTAL PROGRAM OF THE COUNTRY

- Under supplementary measures, ‘reconstruction of wetlands’ has been mentioned, this can be elaborated by discussing detailed measures involving rewetting and paludiculture for reduced nutrient runoff to water bodies, and being a sustainable solution for the management of peatlands.
- For the restoration measures discussed, cost per area can also be shared.

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About the project:

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