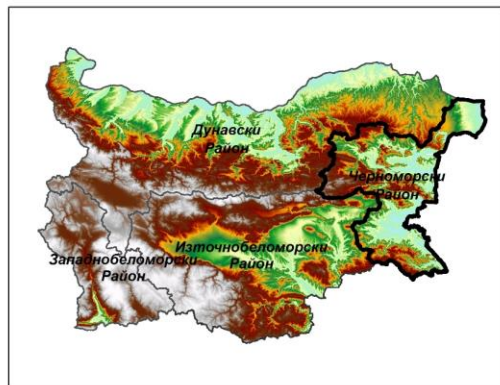
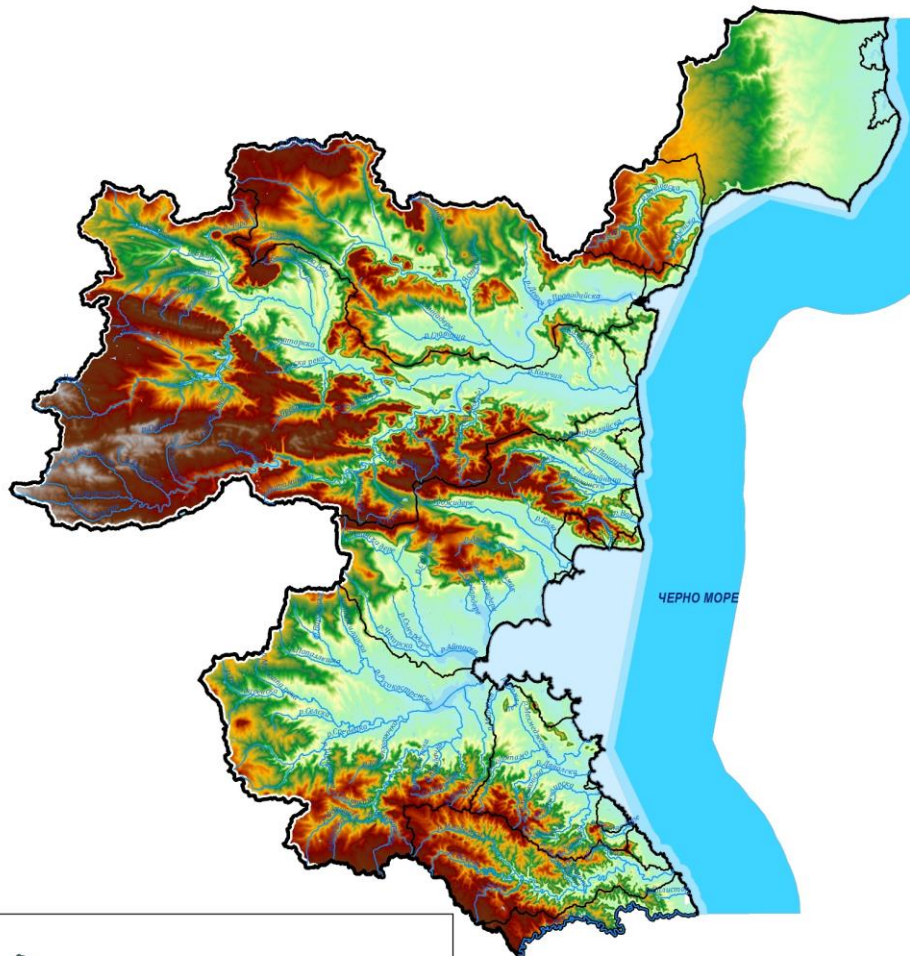


Integrating an ecosystem-based approach into maritime spatial planning

Ecosystem approach in light of the WFD - Bulgarian experience

Tanya Milkova, Fresh Thoughts Consulting
27 January 2021





Black Sea River Basin District

- **19 %** of the state territory
- **100%** of territorial sea
- **6 500 km²** aquatory from Black Sea
- **All 4 WFD SW categories** presented - river, lake, transitional waters, coastal waters
- **17 rivers** flowing directly to the coastal waters
- **7 rivers** flow through coastal lakes

Black Sea River Basin District characteristics

► 9 river basins

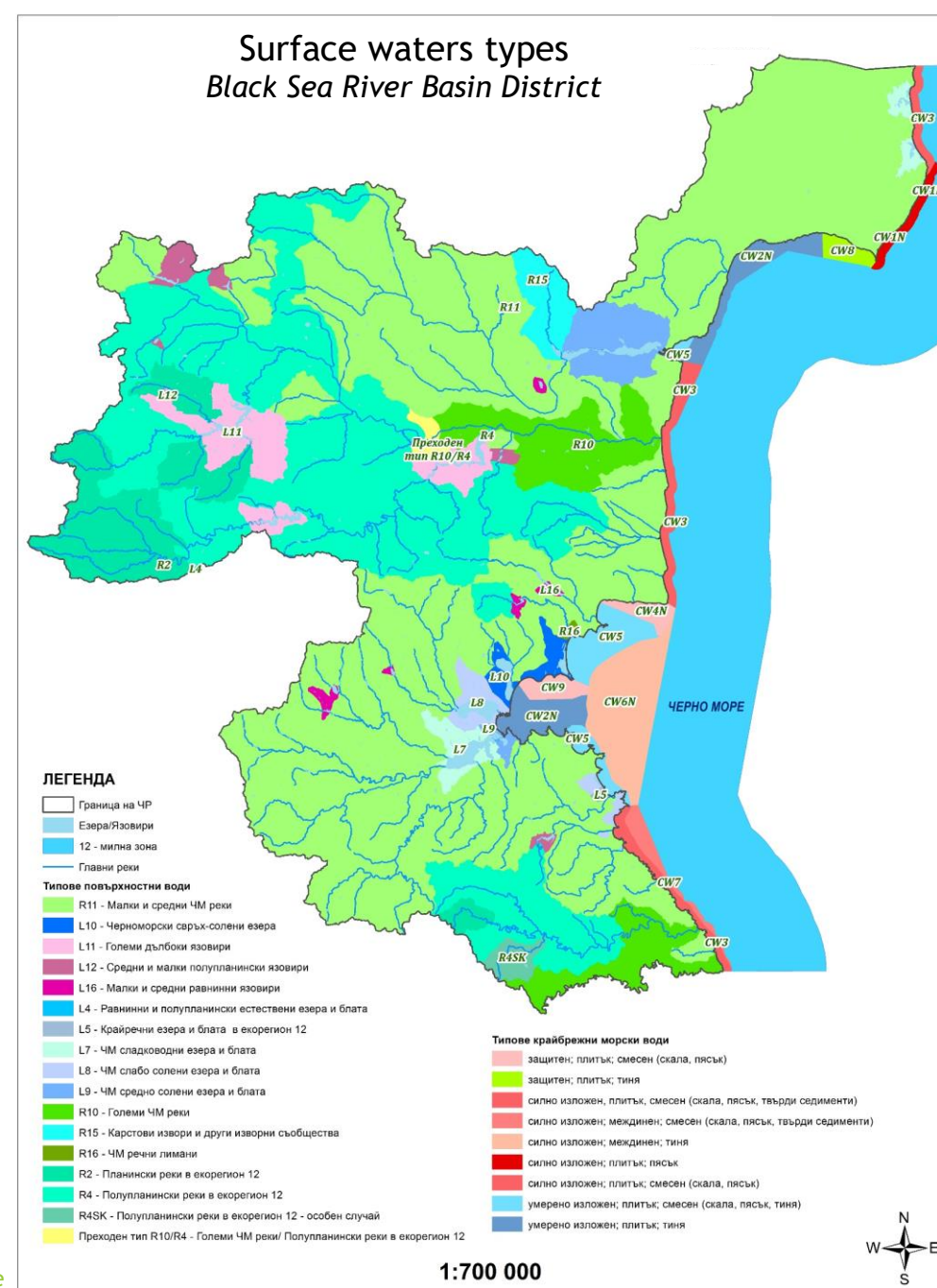
Category of SW	Number of types	Number of WB
River	5	143
Lake	5	17
Transitional waters	5	28
Coastal waters	9	17

► 41 HMWB

► 4 AWB

No transitional waters identified in the Black Sea

Source: RBMP 2016-2021
https://www.bsbd.org/bg/index_bg_5493788.html



Factors for determining the types of category "coastal waters" in Bulgaria

according to the system B of the WFD (Annex II)

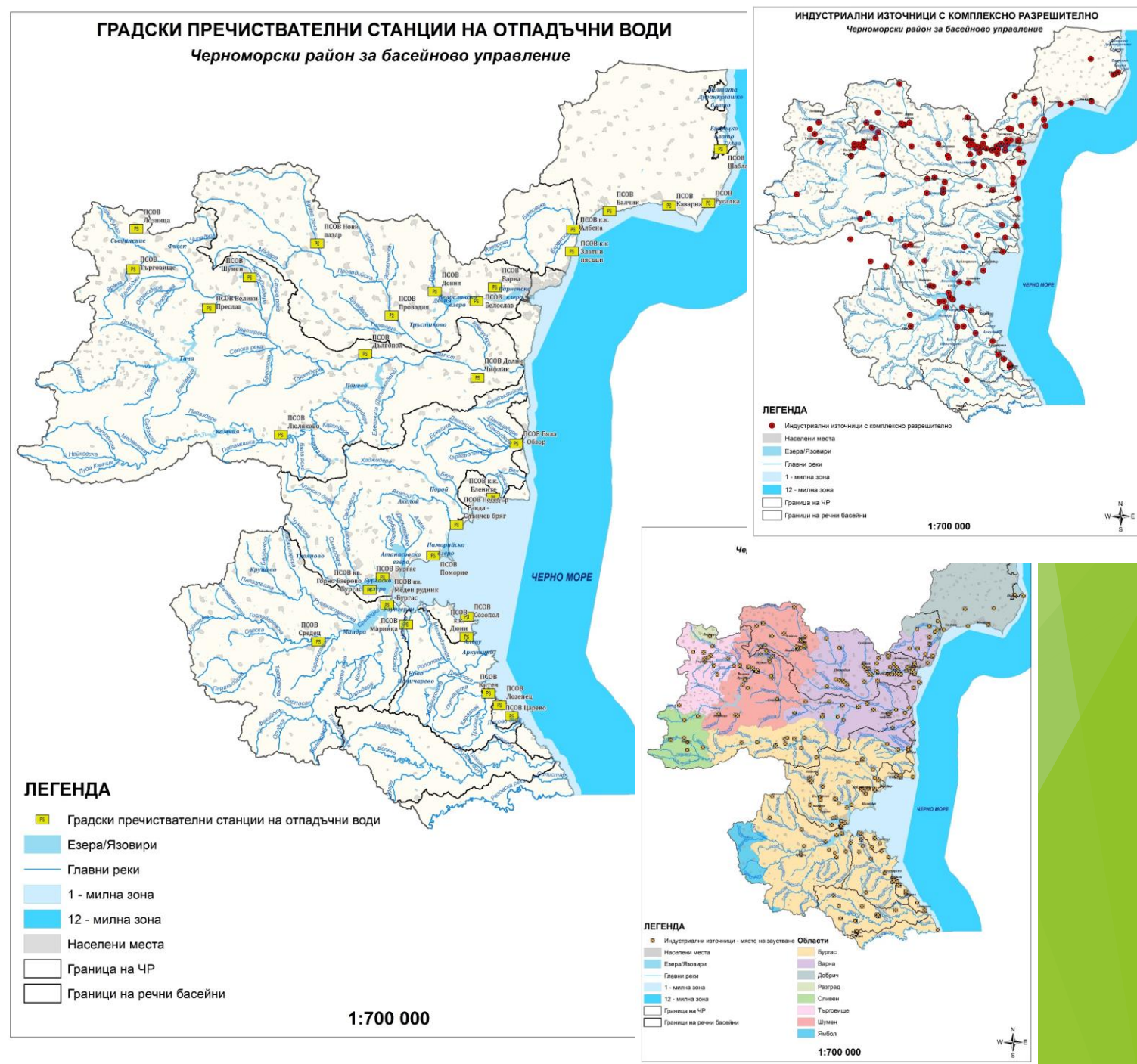
CW type code	Sub-type code	Mean substratum composition	Wave exposure	Depth, m	Salinity, ‰	Ecoregion
CW3	CW3.1	Mixed (rock, sand)	Highly exposed	< 30	Mesohaline	Black Sea
CW3	CW3.2	Смесен (rock, sand, mud)	Highly exposed	< 30	Mesohaline	Black Sea
CW3	CW3.3	Смесен (rock, sand, coarse sediment)	Highly exposed	< 30	Mesohaline	Black Sea
CW1N	-	Sand	Highly exposed	< 30	Mesohaline	Black Sea
CW2N	-	Mud	Moderately exposed	< 30	Mesohaline	Black Sea
CW4N	-	Sand	Sheltered	< 30	Mesohaline	Black Sea
CW5	CW5.1	Смесен (rock, sand, mud)	Moderately exposed	< 30	Mesohaline	Black Sea
CW5	CW5.2	Смесен (rock, sand, coarse sediment)	Moderately exposed	< 30	Mesohaline	Black Sea
CW7	-	Смесен (rock, sand, coarse sediment)	Moderately exposed	< 30	Mesohaline	Black Sea
CW8	-	Mud	Sheltered	< 30	Mesohaline	Black Sea
CW9	-	Mixed (rock, sand)	Sheltered	< 30	Mesohaline	Black Sea
CW6N	-	Mud	Moderately exposed	< 30	Mesohaline	Black Sea

Human Pressure and Impact Analyses

Main Pressures Sources on coastal waters:

Urban WWTP and sewer systems
Urban runoff
Industrial sources of pollution
Agricultural activities

Source: RBMP 2016-2021
https://www.bsbd.org/bg/index_bg_5493788.html



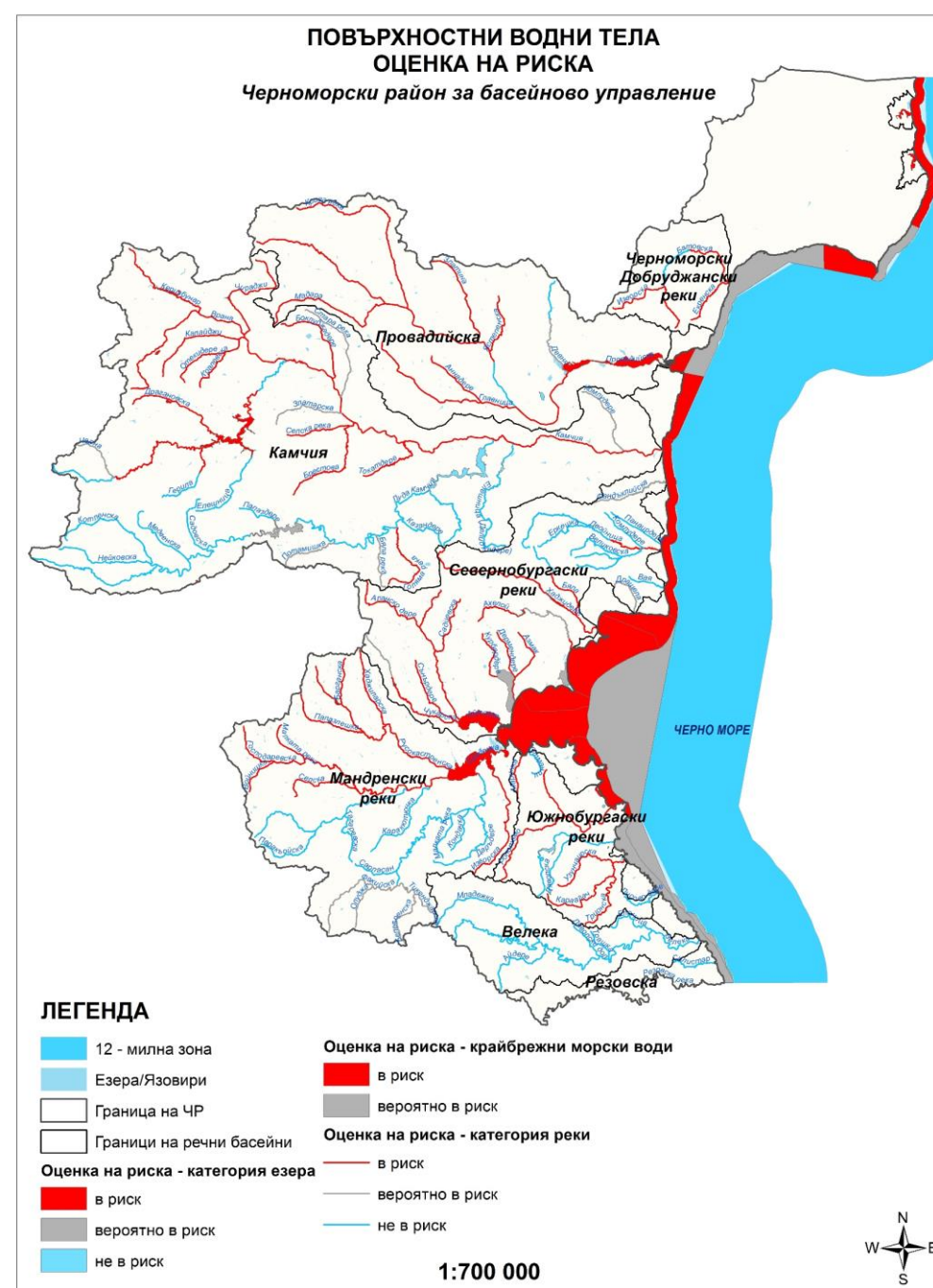
Surface Water Body Risk Assessment

Black Sea River Basin District

Coastal Water Bodies:

- **11 WB – at risk**
- 6 WB – possibly a risk

Source: RBMP 2016-2021
https://www.bsbd.org/bg/index_bg_5493788.html

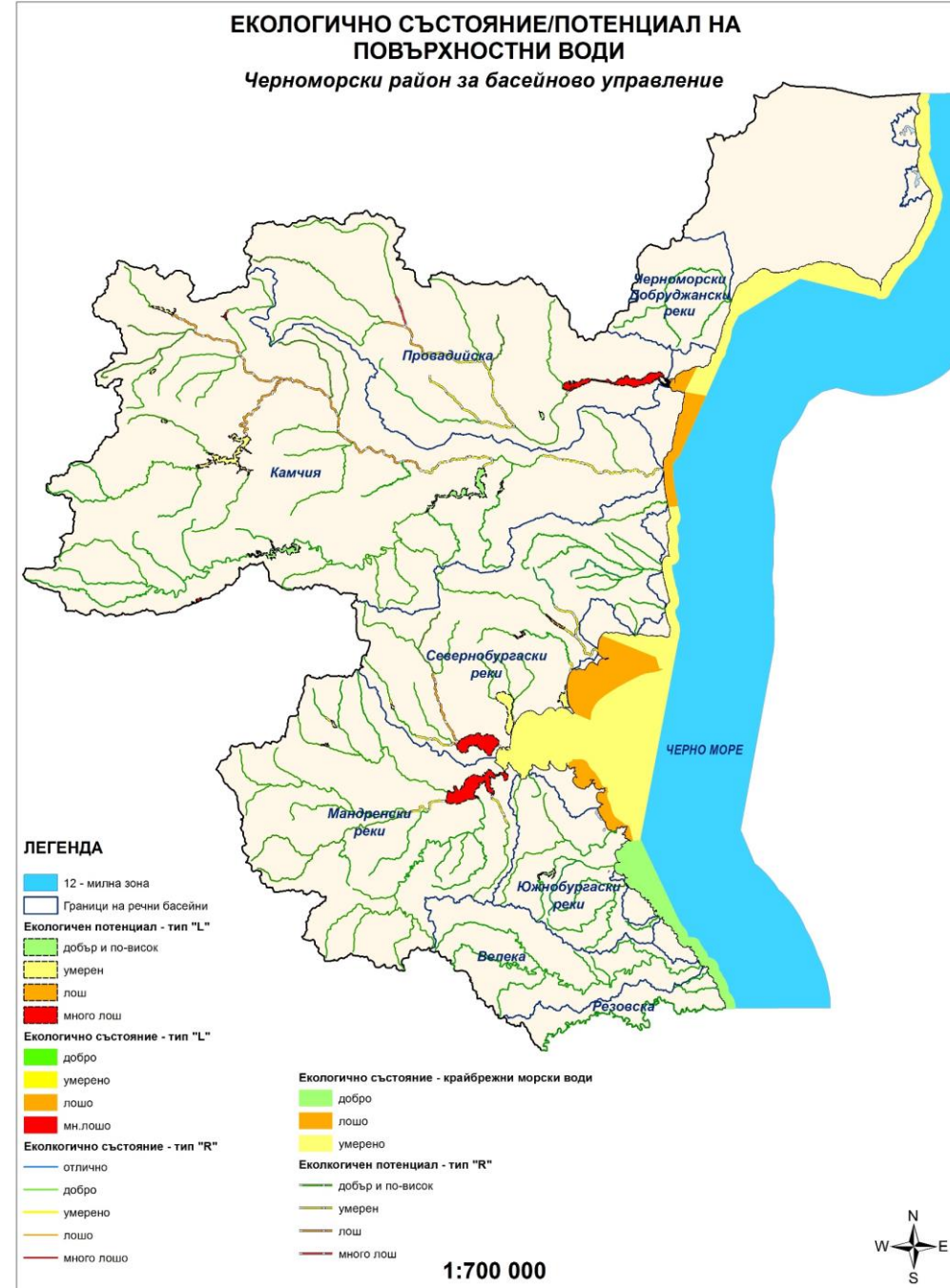


Surface Water Body Ecological Status Black Sea River Basin District

Coastal WB Status:

- 2 – Good status
- 10 – Moderate status
- 5 – poor status

Source: RBMP 2016-2021
https://www.bsbd.org/bg/index_bg_5493788.html

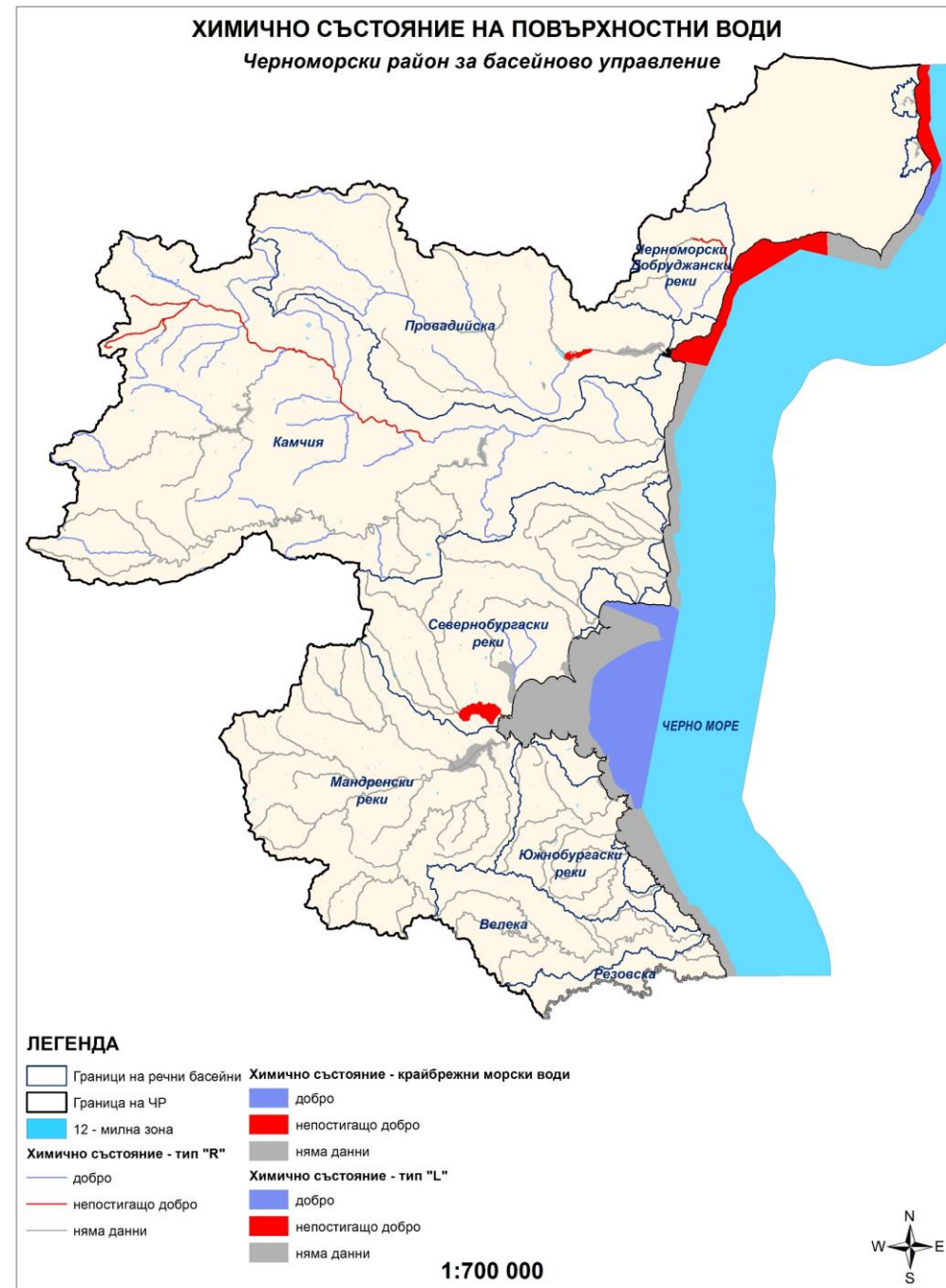


Surface Water Body Chemical Status *Black Sea River Basin District*

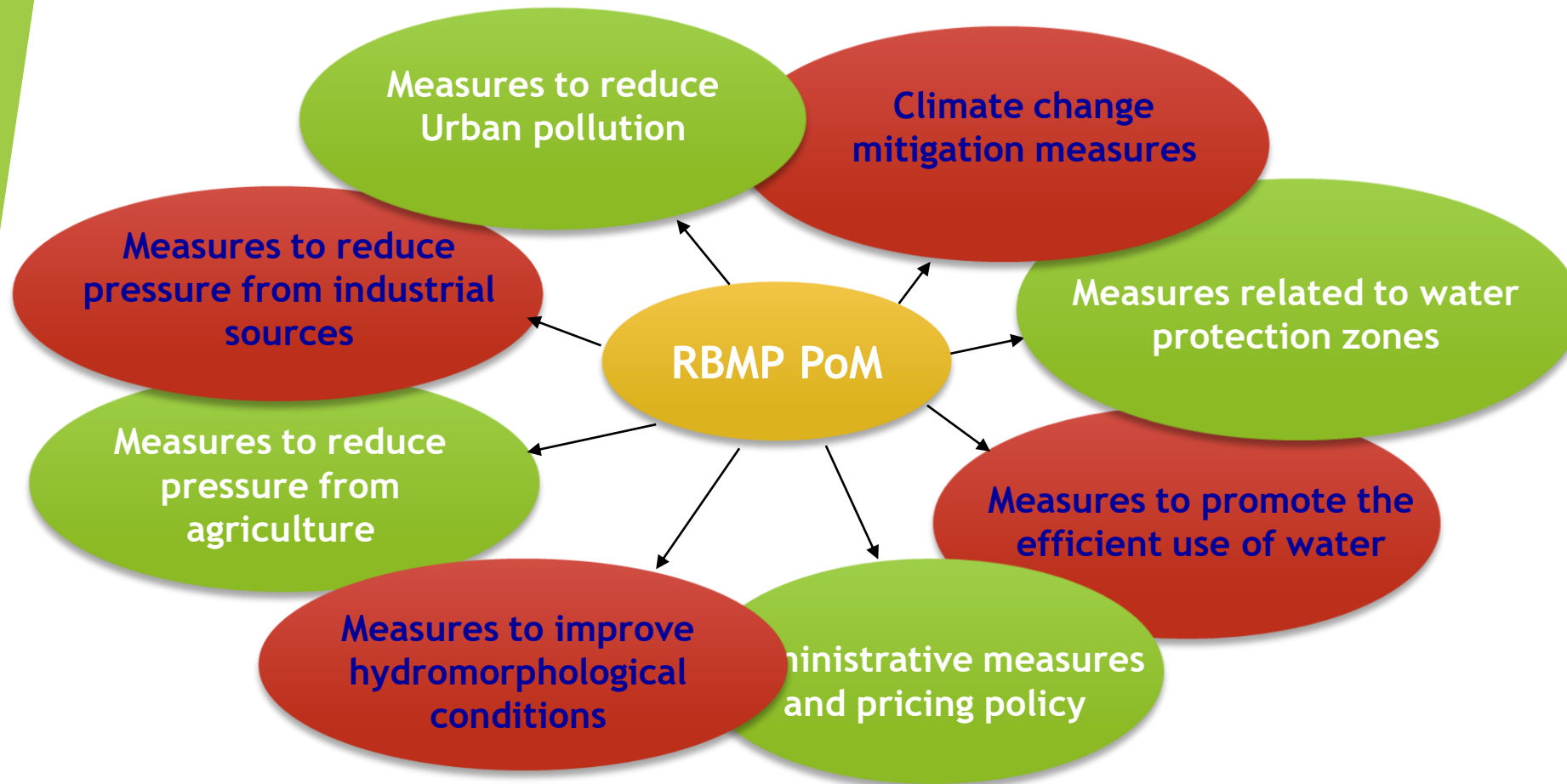
Coastal WB Status:

- 3 – Good status
- 3 – Bad
- 11 – Unknown

Source: RBMP 2016-2021
https://www.bsbd.org/bg/index_bg_5493788.html



Main Measures, RBMP 2016- 2021



WFD - MSFD integration

RBMP measures, related to: reducing waste pollution from the land
reducing pollution from shipping activities

Ongoing Challenges

- ▶ Further development of the classification systems for the assessment of the coastal waters ecological status, according to the revised coastal water typology
- ▶ Development of methods for the analysis of 6 priority substances that should be monitored to assess the chemical status
- ▶ Observance of the minimum frequency for conducting the monitoring of the coastal waters in order to ensure sufficient temporal resolution and necessary confidence of the status assessment - both ecological and chemical.

Thank you for your attention!



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