



MINISTERUL MEDIULUI
AL REPUBLICII MOLDOVA



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EU4Environment
Water and Data in Eastern Partner Countries

CONDITIONS AND OBSERVATIONS IN SPRING 2024 IN RELATION TO POTENTIAL ENVIRONMENTAL FLOW

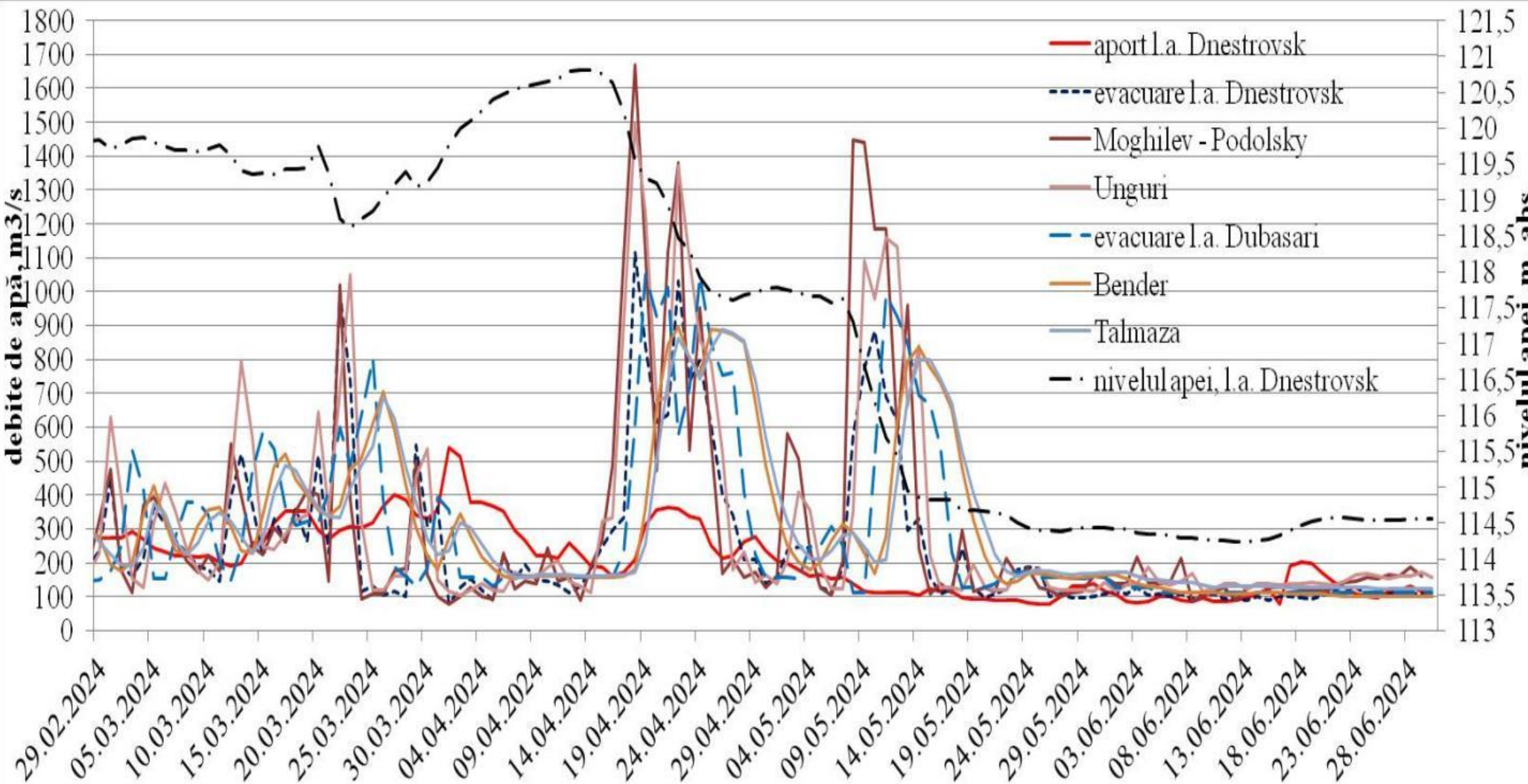
Chişinău, 2024

Results of the Spring Observations on the Dniester River in 2024

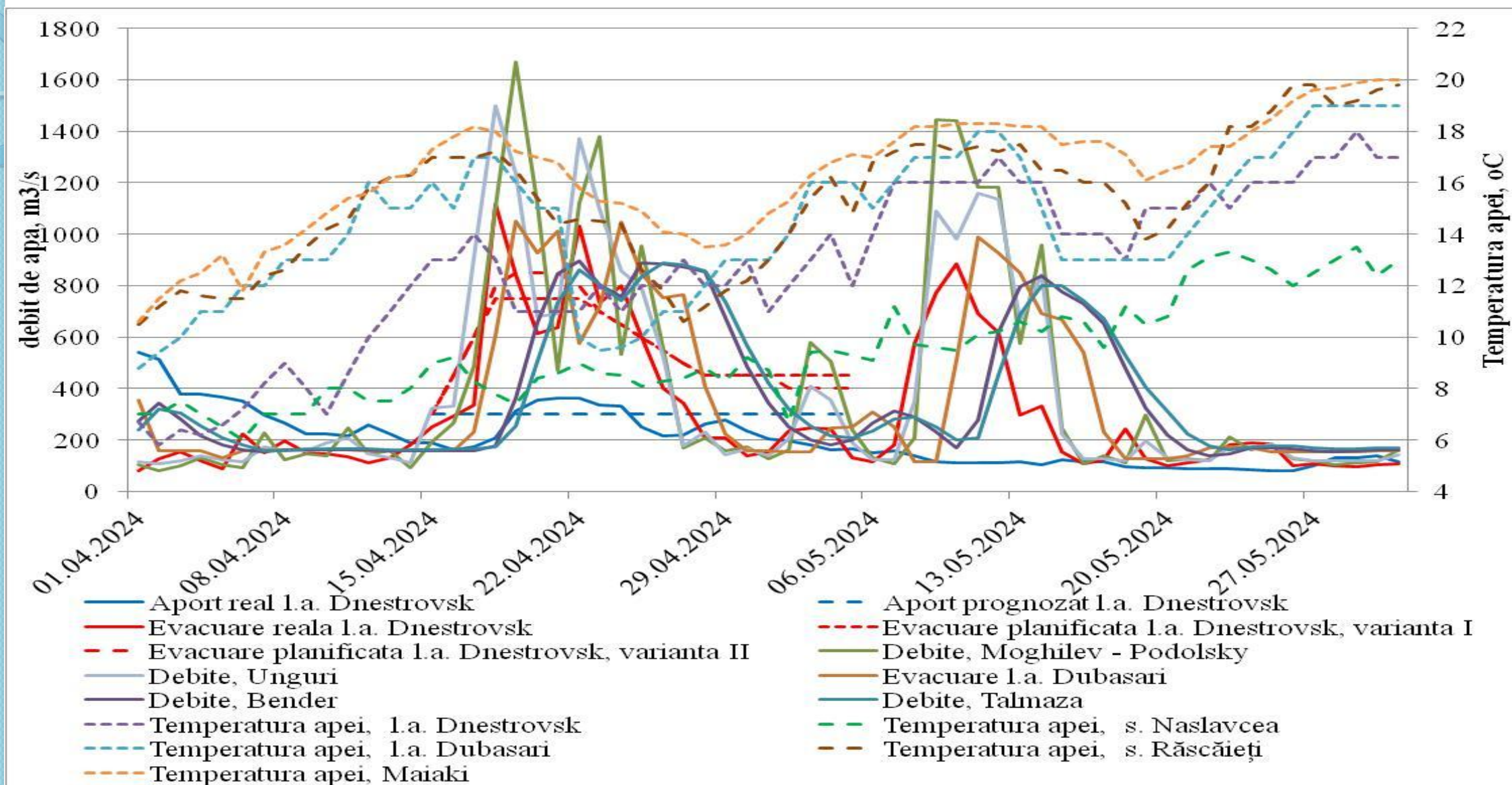
The sPRING Environmental Flow (SEF) 2024 was not organized due to hydropower priority of Ukraine dealt within the war and related energy deficiency.

- The decision do not organize the Environmental Flow was taken jointly by both Parties at the session of the Inter-Departmental Commission 9 April, 2024.
- Due to that two Environmental Flow hydrograph versions, proposed by MD, were not taken into consideration.
- Three serious water flows were organized in Spring period - one in March, one in April, and one May.
- The temperature during these three months varied widely. Most potentially precious for spawning periods were April and May
- Serious drop of temperature took place on April 19 (-5 grades), so the most of spawned eggs died.
- Observations of the fish spawning have demonstrated that the next start spawning of the main phytophilous fishes was happen in the end of first decade of May (common carp, prussian carp, roach, bream, etc) and had the explosive character. It is cohered with last discharge, which was too short.

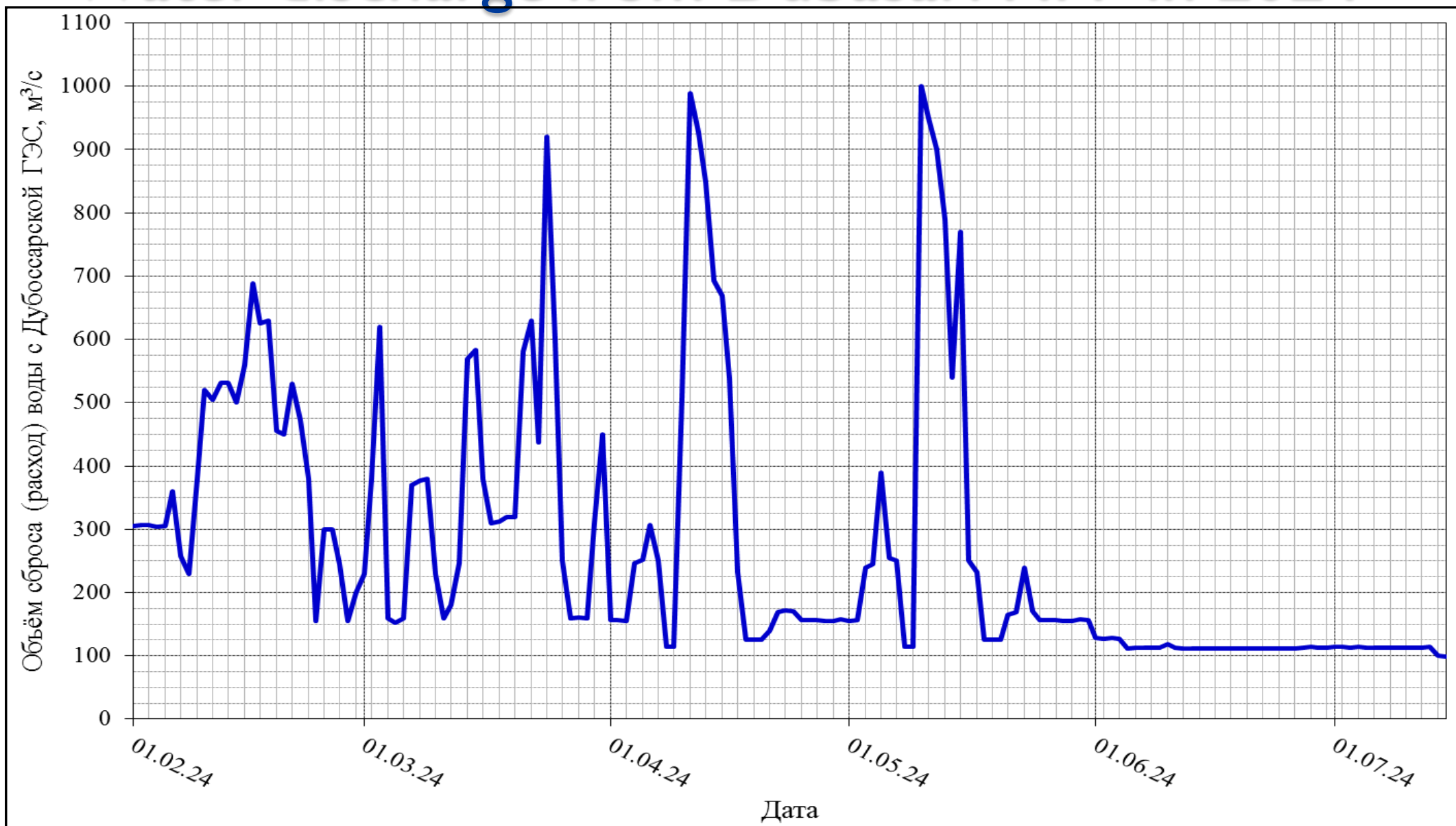
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Temperature and water release in 2024 © Ana Jeleapov in baza SHS



Water discharge from Dubasari HPP in 2024



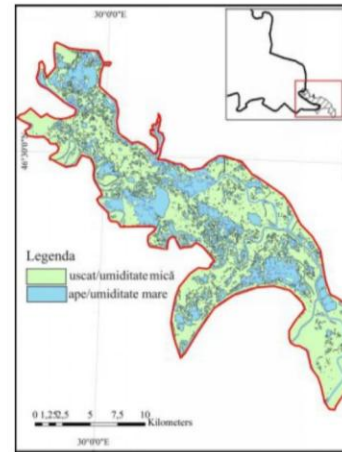
Observations of Spring releases on Dniester River in 2024

- In general, 2024 was good for the organization of the Environmental Flow because of two reasons - significant amount of water and relatively high temperatures.
- Due to energetic necessities, the environmental needs were fully ignored.
- **The flood in March 2024 - 13.03.24 - 31.03.24. Total volume - 0.7 km³**
- **The flood in April 2024 - 17.04.24 - 27.04.24. Total volume - 0.8 km³**
- **The flood in May 2024 - 07.05.24 - 15.05.24. Total volume - 0.5 km³**
- The second ten-day period of April was optimal in terms of temperatures for the start of ecological release, however, from the third ten-day period, a significant cooling occurred, which caused the death of the laid eggs. The next optimal situation occurred at the end of the first ten-day period of May. Then, the temperatures were favorable for the development of eggs, however, the river level quickly dropped due to the cessation of short-term release.
- Observations in the territory proved that the start of spawning by key phytophilous fish species for the Dniester (common carp, crucian carp, etc.) started in the end of first decade of May and had an explosive character. The negative effect of the water level drop has lowered the spawn efficiency, when part of eggs were dried and a part of fry remained in separated water bodies along the river.

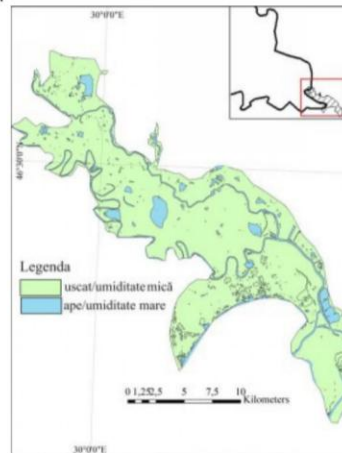
Suprafața inundabilă stabilită și debitul de apă Lower Dniester area - coverage with water

Data	Debit de apă, m ³ /s		Nivel real, cm			Suprafața inundabilă stabilită, km ²
	I.a. Dubăsari	Talmază	Talmază	Tudora	Mayaki	
27.02.2024	245	316	692	509	133	97,80
29.03.2024	130	380	731	523	133	78,66
30.03.2024	184	272	676	510	131	91,65
14.04.2024	157	162	598	473	114	28,00
30.04.2024	158	569	839	564	129	88,50
18.06.2024	112	112	565	465	111	29,00

- **Maximal water coverage of Dniester Delta was observed in February - 98 km² as well as in the end of March - 91.5 km².**
- **The necessary flow for that corresponds 500 m³/c and more**

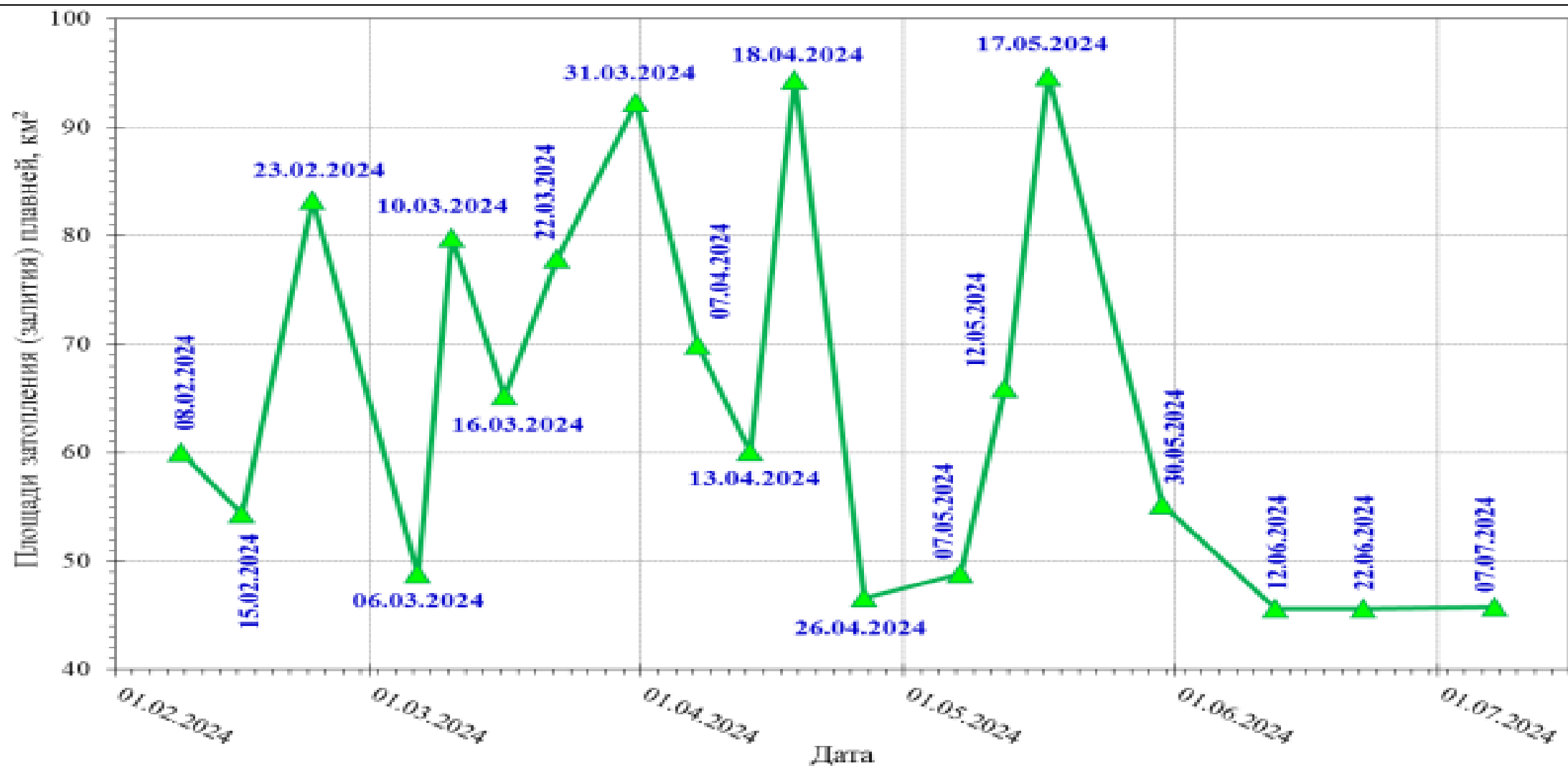


30.04.24



18.06.24

Surface of Lower Dniester, covered with water in 2024, km²



Conclusions (I):

- Water temperature is a main factor and determinant of the success of the reproduction process of basic fish resources and of the efficiency of biological components of the ecosystem.
- Changes are needed in the establishment of ecological flood data and hydrograph:
 - the meetings of the interdepartmental Commission must be organized depending on weather forecasts to plan the flow with the perspective of the peak water flow in the Lower Dniester region with water temperature 13-14 °C or even higher.
 - the single meeting of the Commission is not enough due to permanently changing hydrologic and temperature conditions in spring period. So it is a proposal to create a special inter-state WG which will manage the EF during whole period.

Conclusions (2)

- In the period from January to March, it is necessary to ensure the accumulation of water in the Dnistrovsk reservoir to reach the level 121m and maintain this level until the start of the spring EF.
- It is proposed that the Working Group for Planning and Management will continue to work on the methodology related to the organization of the SEFS and at the next meetings of the Commission to discuss the results of field research regarding the development of fish during the spring period, the existing limits of evacuation of water from the Dnistrovsk reservoir, as well as clear determining of the situation that represents a condition for avoiding the organization of the SEF in years with a water deficit, as well as of the years of the "traditional" approach to the SEFs.
