Water condition in the Black Sea coastal area of Odessa region following the destruction of the Kahovskaya Hydroelectric Power Plant dam
According to preliminary assessments by scientists, the expected time for the water from the damaged reservoir to reach the Odessa region's Black Sea coast was around a week. However, in reality, the floating debris reached the Black Sea just three days after the incident.

It is essential to address the water quality and environmental implications resulting from the catastrophe. The accelerated flow of water and the early arrival of floating debris raise concerns about the potential pollution and adverse impacts on marine life and coastal ecosystems in the affected area.
Freshwater that reached the Odessa region contained not only floating debris such as boats, houses, objects, various fragments, trees, and both living and deceased animals but also exhibited significant desalination of the seawater and exceeded the permissible chemical levels according to the established Maximum Permissible Concentrations (MPCs). The highest levels of contamination and desalination were recorded on 9th June 2023, with the following parameters exceeding the MPCs:

Salinity (lower than MPC by 4.8 times)
Suspended solids (higher than MPC by 12.5 times)
Total iron (higher than MPC by 12.4 times)
Petroleum products (higher than MPC by 6.6 times)
Ammonium nitrogen (higher than MPC by 2.7 times)
At present, systematic monitoring studies are being conducted to stabilize the chemical state and quality of seawater in the Odessa Bay area. Water samples are collected, and their indicators and properties are measured by experts from the State Environmental Inspection of the South-Western District (Mykolaiv and Odessa regions) at three locations: Nova Dofinivka village, Langeron Beach in Odessa, and Beach 16-a in Veliky Fontan, Odessa.

According to the analysis results, all indicators are within the normal range, except for the content of insoluble solid particles (suspended matter) in Nova Dofinivka village (berth No. 243), which amounts to 6 mg/dm3 (with the norm being 2 mg/dm3).

Based on the measured sample data, it can be concluded that the desalination of seawater has ceased in the aforementioned locations, and salinity has reached the regulated seasonal level. No excesses were found in other indicators. Therefore, there is currently a trend towards the comprehensive improvement of the chemical state and properties of the seawater in the Odessa Bay area.
According to information from the Odessa Regional Center for Disease Control and Prevention, the epidemiological situation regarding infectious diseases in the Odessa region remains unstable. The incidence of acute intestinal infections remains seasonal. 52 samples of seawater have been collected for testing for cholera and cholera-like vibrios, as well as for microbiological and sanitary-chemical indicators, including the presence of petroleum products and surfactants (surface-active substances).

The results of the tests on seawater and estuarine water, collected from the last six monitoring points for cholera and cholera-like vibrios, revealed the following:

Vibrio parahaemolyticus was detected in the water reservoirs of the Odessa district (village Kryzhanivka). Cholera-like vibrios of the NAH 1 group (Heiberg) were identified in the water reservoirs of the Bilhorod-Dnistrovskyi district (Bilhorod-Dnistrovskyi city, estuary; Zatoka town).

Out of 95 samples collected from the weekly monitoring of 100 points for cholera and cholera-like vibrios, 17 positive results were obtained, showing the following observations:

Out of 22 samples of freshwater, 5 positive results were detected in the Bilhorod-Dnistrovskyi district (Bilhorod-Dnistrovskyi city, city beach and near the fortress, Serhiivka town, central waterfront); Rozdilnianskyi district (Kuchurhan water reservoir); and Izmail district (Kiliya city, KCSBSRZ elevator).

Out of 23 samples of seawater, 12 positive results were detected in various locations, including Odessa district (Odessa city, beaches 10th and 16th stations V. Fontan, Kovalyovsky Dacha beach, Langeron beach, Luzanivka beach; Chornomorsk city, city beach, the area near the central sewage pumping station; CRP, pier №4, and city beach, the area near the rescue station).

The situation is being closely monitored, and measures are being taken to inform the public promptly. Regular discussions are being held among the population on the prevention of cholera, acute intestinal infections, food poisoning, including botulism, cholera, leptospirosis, and other diseases.
The samples of marine and estuarine water collected on 17th and 19th July 2023 do not comply with hygiene standards (hygiene standard - 5000 per dm3):

On 17th July 2023, Odessa, Luzanivka Beach - coliform bacteria count 240,000 per dm3.
On 17th July 2023, Odessa, 16th Station V. Fontan Beach - coliform bacteria count 70,000 per dm3.
On 17th July 2023, Odessa, Kovalyovsky Dacha Beach - coliform bacteria count 24,000 per dm3.
On 19th July 2023, Bilhorod-Dnistrovskyi district (Bilhorod-Dnistrovskyi city, estuary; Zatoka town) - coliform bacteria count 21,000 per dm3.

In the samples of hydrobionts (shrimps) collected from the Izmail district reservoir (Vylkove city, Zhebriyanivska Bay), Vibrio alginolyticus has been detected. In the samples of hydrobionts (shrimps, mollusks, and fish) collected from the Odessa district reservoir (Chornomorsk city, yacht club), cholera-like vibrios were not detected.

The situation is under control, and immediate information will be provided in case of any changes. Regular discussions are conducted among the population on topics related to the prevention of cholera, acute intestinal infections, food poisoning, including botulism, cholera, leptospirosis, and others.
On July 18th, the Cabinet of Ministers of Ukraine, by Decree No. 730, approved the proposal of "Ukrhydroenergo" regarding the implementation of an experimental project for the construction of the Kahovska Hydropower Plant (HPP), reconstruction of the Kahovska Hydropower Station (GES) after its destruction, and ensuring the stable operation of the Dnipro Hydropower Station (GES) during the reconstruction period.

The experimental project includes the following activities during the first stage:

Designing temporary dams for the upper and lower chambers of the Kahovska Hydropower Plant.  
Construction of structures for the passage of construction and environmental flows at the Kahovska Hydropower Plant.  
Construction of supporting structures in the lower chamber of the Dnipro Hydropower Station.

During the second stage of the experimental project, which will commence after Ukraine regains control over the Kahovska GES, the following actions will be undertaken:

Inspection and dismantling of the destroyed structures and constructions at the Kahovska Hydropower Plant.  
Development of the project for the construction of the Kahovska Hydropower Plant.  
Construction of temporary dams for the upper and lower chambers of the Kahovska Hydropower Plant.  
The reconstruction of the Kahovska GES will contribute to restoring the country's energy potential and improving the overall ecological situation in the southern region of Ukraine.

The Ministry of Ecology has initiated the process of creating a Program of Measures to overcome the consequences of the dam breach at the Kahovska GES. On June 19th, 2023, the Department of Ecology and Natural Resources provided proposals for the aforementioned program.
Thank you for attention