

Competence Center for Climate Change Digital Twin for Earth Forecasts and Societal Redressement: DTECLIMATE"

SP2: ACT4D-EUTROPHICATION  
MONITORING OF LAKE SIUTGHIOL - MARCH 24, 2026



#### SEWAGE DISCHARGE AT PALAZU MARE

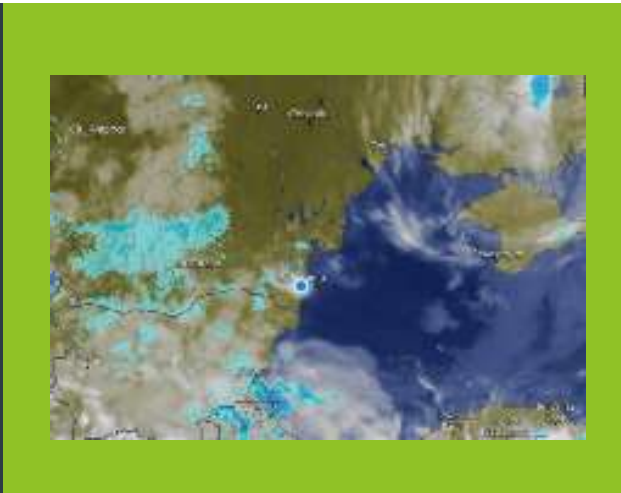
A significant issue was recorded at Palazu Mare, where **untreated household wastewater** was flowing directly into the lake. The manhole cover had been lifted – likely intentionally – allowing polluted water and debris to drain freely into the lake through channels that appeared to have been used repeatedly for this purpose. Local residents expressed concern.

#### ADDITIONAL DISCHARGE NEAR THE NORTH DAM

It was reported the presence of another **wastewater pipe** discharging into the lake near the sampling point at the North Dam, originating from a nearby residential area. These discharges explain why **phosphorus levels at Ovidiu were more than double** those of other stations. Residential developments along the lake shore appear to discharge wastewater directly into the lake rather than into the municipal system, contributing significantly to **eutrophication**. The soil conditions reflected pollution: earthworms had disappeared from the saturated shoreline, and the presence of *Conium maculatum* (hemlock) indicated high nitrate loading.

#### SEWAGE DISCHARGE AT PALAZU MARE





**Palazu Mare**

**Conditions:** Wind-driven waves (~10 cm), foam accumulation at the shore, rising lake level after recent rains. **Incident:** Direct sewage discharge at the sampling point.

**Physico-chemical data:**

- Water temp: 12.0°C
- Air temp: 12.23°C
- O<sub>2</sub>: 10.3 mg/l
- Conductivity: 2159 µS/cm
- pH: 9.04
- Turbidity: 30.9 NTU
- Total P: 0.34 mg/l

**Avifauna:**

- *Larus cachinnans* - 50
- *Anas platyrhynchos* - 6
- *Podiceps nigricollis* - 5



**Ovidiu**

**Conditions:** Turbid water, foam in reed areas, transparency 25-30 cm, wind decreasing.

**Physico-chemical data:**

- Water temp: 12.3 °C
- Air temp: 12.47 °C
- O<sub>2</sub>: 11.77 mg/l
- Conductivity: 2070 μS/cm
- pH: 9.00
- Turbidity: 22.4 NTU
- Total P: 0.13 mg/l

**Avifauna:**

- *Anas platyrhynchos* - 2
- *Larus cachinnans* - 84
- *Phalacrocorax pygmaeus* - 1
- *Podiceps cristatus* - 1



IMG\_1926



IMG\_1927



IMG\_1928



IMG\_1929



**North Dam**

**Conditions:** Calm water, good transparency, no foam.

**Physico-chemical data:**

- Water temp: 12.3 °C
- Air temp: 12.59 °C
- O<sub>2</sub>: 11.72 mg/l
- Conductivity: 2072 μS/cm
- pH: 9.01
- Turbidity: 26.7 NTU
- Total P: 0.15 mg/l

**Avifauna:**

- *Phalacrocorax carbo* - 6
- *Fulica atra* - 4
- *Podiceps nigricollis* - 2
- *Larus cachinnans* - 9
- *Nycticorax nycticorax* - 1



IMG\_1936



IMG\_1937



IMG\_1938



IMG\_1939



**Scoica Land Pier**

Conditions: Calm but turbid water; cyanobacteria colonies disturbed by morning wind; slightly elevated lake level.

Physico-chemical data:

- Water temp: 12.3 °C
- Air temp: 12.59 °C
- O<sub>2</sub>: 11.26 mg/l
- Conductivity: 2167 µS/cm
- pH: 9.04
- Turbidity: 26.6 NTU
- Total P: 0.11 mg/l

Avifauna:

- *Cygnus olor* - 1
- *Phalacrocorax carbo* - 1
- *Phalacrocorax pygmaeus* - 8
- *Anas platyrhynchos* - 8
- *Larus cachinnans* - 6
- *Podiceps cristatus* - 3
- *Podiceps nigricollis* - 7
- *Cairina moschata* - 1



**Rex Pier**

Conditions: Calm, turbid water; shoreline waterline advanced toward vegetation.

Physico-chemical data:

- Water temp: 11.04 °C
- Air temp: 10 °C
- O<sub>2</sub>: 11.45 mg/l
- Conductivity: 2099 µS/cm
- pH: 9.00
- Turbidity: 23.9 NTU
- Total P: 0.11 mg/l

Avifauna:

- *Larus cachinnans* - 34
- *Anas platyrhynchos* - 5
- *Podiceps cristatus* - 4
- *Phalacrocorax carbo* - 1
- *Podiceps nigricollis* - 3



DSC\_1415



IMG\_1956



IMG\_1957



IMG\_1958



**Faculty of Pharmacy Pier**

Conditions: Slightly agitated water; sampling conducted from the newly installed DTE CLIMATE platform.

**Physico-chemical data:**

- Water temp: 12.2 °C
- Air temp: 12.64 °C
- O<sub>2</sub>: 11.86 mg/l
- Conductivity: 2169 µS/cm
- pH: 9.08
- Turbidity: 28.4 NTU
- Total P: 0.08 mg/l

**Avifauna:**

- *Cygnus olor* - 1
- *Phalacrocorax carbo* - 7
- *Phalacrocorax pygmaeus* - 1
- *Larus cachinnans* - 54
- *Anas platyrhynchos* - 2



IMG\_1963



IMG\_1964



IMG\_1965



IMG\_1966



**UMC Pier**

Conditions: Calm but turbid water, with cyanobacteria colonies present.

- Physico-chemical data:
- Water temp: 12.0 °C
- Air temp: 12.54 °C
- O<sub>2</sub>: 11.18 mg/l
- Conductivity: 2085 µS/cm
- pH: 9.08
- Turbidity: 29.8 NTU
- Total P: 0.11 mg/l

**Avifauna:**

- *Fulica atra* - 4
- *Gallinula chloropus* - 3
- *Anas platyrhynchos* - 19
- *Podiceps nigricollis* - 1
- *Larus cachinnans* - 4



IMG\_1980



IMG\_1981



IMG\_1982



IMG\_1983

