UN environment programme

Green recovery of the Black Sea

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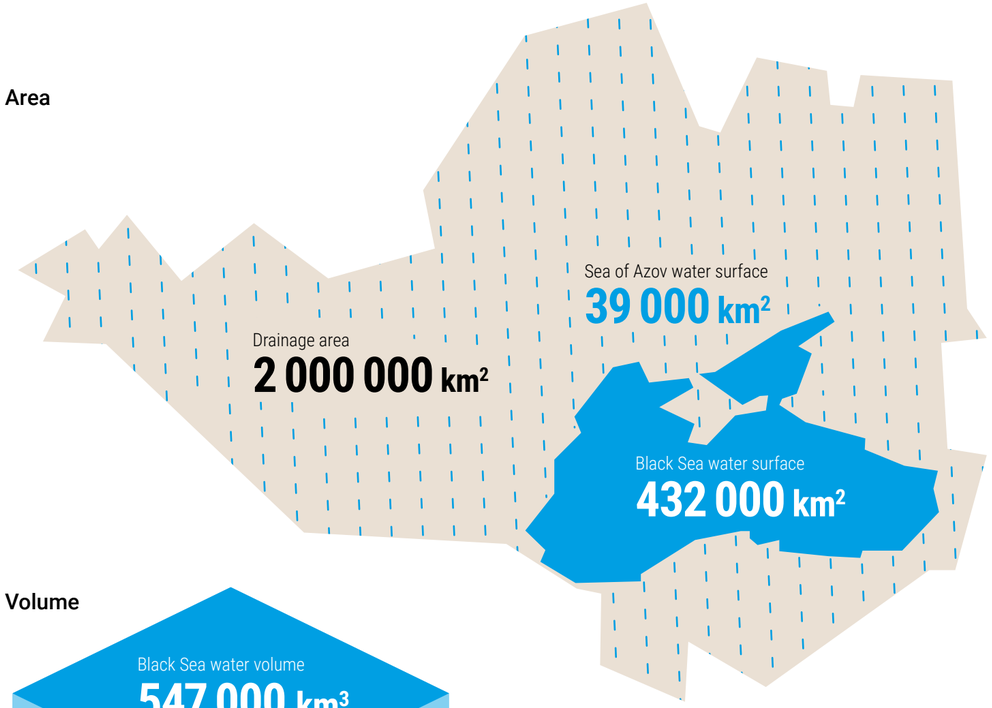
Black Sea environment before 2022

The Black Sea is a unique, semi-enclosed body of water connected via the Bosphorus Strait, the Sea of Marmara, and the Dardanelles to the Mediterranean Sea and on to the Atlantic Ocean. Connected to the Black Sea in the north through the narrow Kerch Strait is the shallow Sea of Azov.

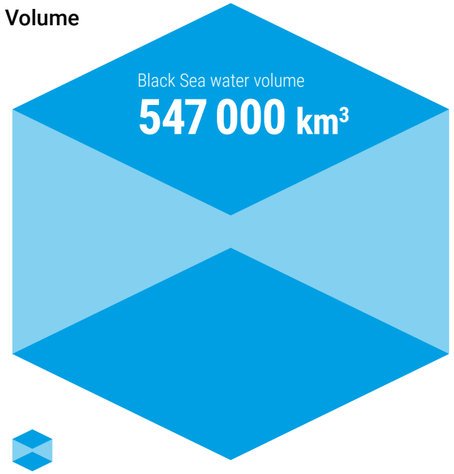
The Black Sea receives fresh water from multiple rivers, including the second, third and fourth longest rivers in Europe, resulting in its salinity being almost half that of ocean waters. The lower, oxygen-depleted layer of the sea is rich in hydrogen sulphide. Consequently, it is mostly the oxygen-rich upper layer of the Black Sea as well as the estuarine areas that are home to its biodiversity, including species found nowhere else in the world. At the same time, the relatively low overall salinity of the Black Sea does not support many of the species found in the marine environment.

The catchment area of the Black Sea is six times larger than the area of the sea itself, and includes the Danube basin, which covers a large part of Europe. For this reason, the Black Sea is very vulnerable to pressure from human activities on land, and its health depends on coastal states just as much as it does on other states of its basin, some located far away from the coast.

Area

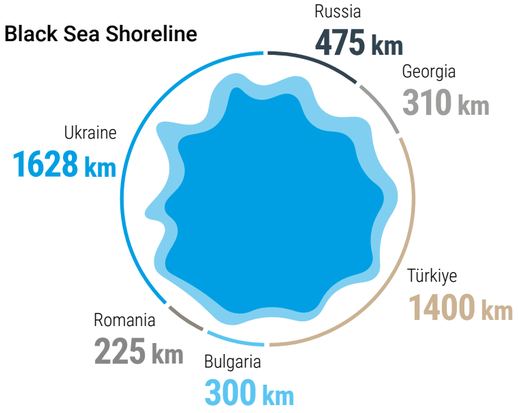


Volume



Annual river inflow
340 km³

Black Sea Shoreline



Data: www.blacksea-commission.org

Starting in the 1970s, the Black Sea ecosystems suffered from increasing pollution coming from the coast and carried by the flow of the Danube, Dnipro, Don and other rivers. Since the 1990s, however, thanks in great part to strengthened environmental policies particularly in the Danube basin, there have been signs of hope for the ecological revival of the sea, with recovering communities and biodiversity along the Black Sea shelf. This has included the reversal of **eutrophication**, and the consequent recovery of the unique field of red phyllophora algae in the north-western part of the sea, protected in Ukraine since 2008.

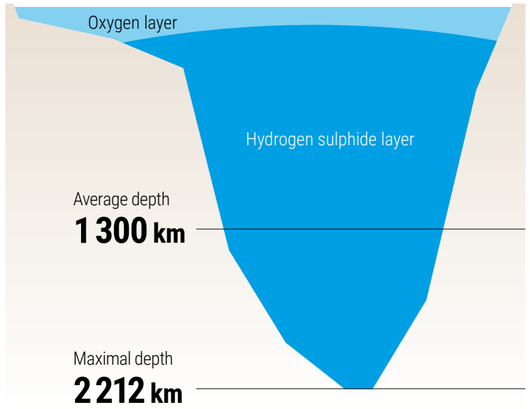
In addition to nutrients causing eutrophication, **toxic pollution** has been entering the Black Sea for decades due to both land-based activities and shipping. The EMBLAS project detected more than 120 toxic pollutants in water and in biological tissues. These pollutants included pesticides, fire retardants, and sunscreen components. In dead dolphins the concentrations of such chemicals as polybrominated ethers, chlorinated hydrocarbons (e.g. DDT), dioxins and mercury were particularly high.

Oil spills of various scales have been regular, the largest in the past 30 years being when a tanker and a cargo vessel collided in the Bosporus Strait in 1994, spilling 9,000 tonnes of oil and setting aflame 20,000 tonnes. And while most pre-war accidents along the coast of Bulgaria, Romania, Russia and Ukraine were small-scale oil spills or pollution, an oil spill in the Kerch Strait in 2007 released 1,000 tonnes of diesel fuel into the sea and polluted large stretches of the coast.

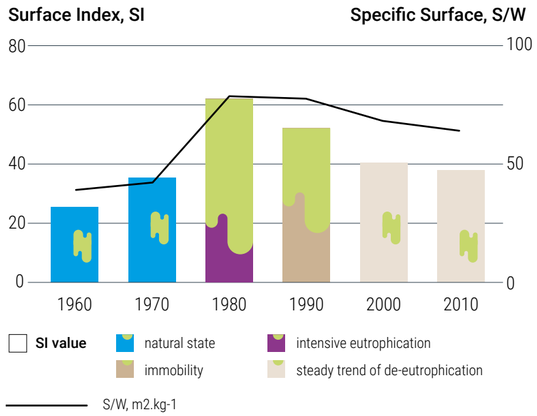
The density of **marine litter** in the Black Sea is twice as high as in the Mediterranean, and this figure was increasing. Particularly polluted are the Kerch Strait and the Sea of Azov. About 80-90 per cent of the litter is plastics, including micro-plastics.

In recent years, about 400,000 tonnes of live marine resources were harvested from the sea. Illegal fishing has been widespread in both the Black and the Azov Seas. Most of the **fish stocks** are overexploited, to the extent that some of them are close to depletion. Tuna and mackerel have disappeared, and sturgeon is considered an endangered species with a legally forbidden catch in all Black Sea countries. The Black Sea brill and spiny dogfish numbers are declining rapidly. Only sprat is considered sustainably exploited.

Depth



Eutrophication of the north-western Black Sea shelf



SI reflects the intensity of primary production in the marine coastal ecosystem;
S/W reflects the ecological activity of bottom vegetation.

Data: Alexandrov et al., 2017

Black Sea before 2022

Impacts on the marine and coastal environment

- Contaminated water inflow from major rivers
- Contaminated water inflow from industries and cities
- Contaminated water inflow from irrigation (uncertain)
- Hotspots of oil spill accidents with ships
- Concentration of marine litter
- Moderate coastal water quality 2009–2014 (EQR > 1.5) *
- Poor coastal water quality 2009–2014 (EQR = 1.0–1.5) *

Coastal facilities and infrastructure

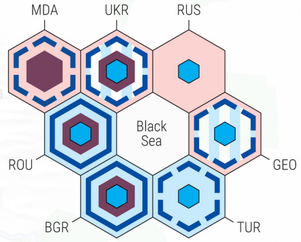
- Major ports
- Multiple facilities
- Naval bases
- Terminals
- Large military sites

* EQR = Ecological quality ratio

Fishery

Landings 2014, thousand tons

- Turkey 284.5
- Ukraine 39.6
- Russia 13.4
- Bulgaria 8.9
- Georgia 7.2
- Romania 1



Key alliances and agreements

- EU
- EU candidate countries
- NATO
- NATO aspirant countries
- CIS
- Former CIS members
- International Commission for the Protection of the Danube River
- Commission on the Protection of the Black Sea Against Pollution

Ecologically important areas

- Major
- Smaller
- Wetlands of international importance (Ramsar sites)

Important bird areas and migration

- Major
- Smaller
- Candidate

Background information

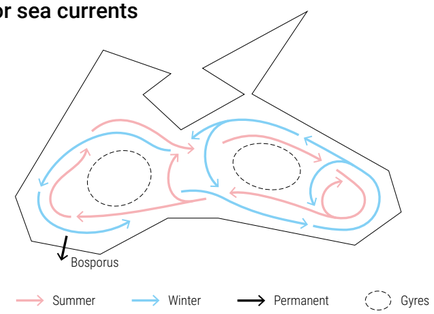
- State borders / exclusive economic zone (Black Sea)
- Gas pipelines crossing the Black Sea
- Sea depth in metres

Source: National Atlas of Ukraine; Commission on the Protection of the Black Sea Against Pollution; Flanders Marine Institute; Entsog; Mapstand; Protected Planet; RAMSAR; Secrets of the Black Sea, B. Aleksandrov; BirdLife International; European Marine Observation and Data Network (EMODnet); World Port Index, Maritime Safety Office; OpenStreetMap; Encyclopædia Britannica

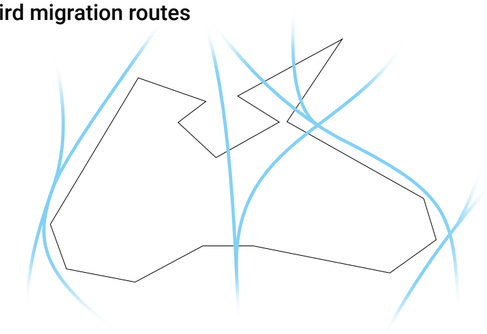
0 50 km

Map produced by Zoï Environment Network, May 2025

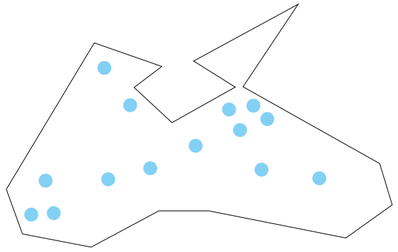
Major sea currents



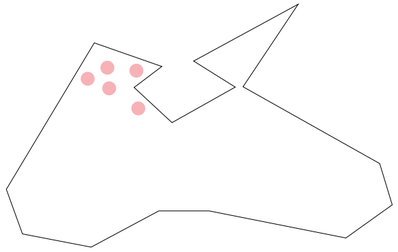
Bird migration routes



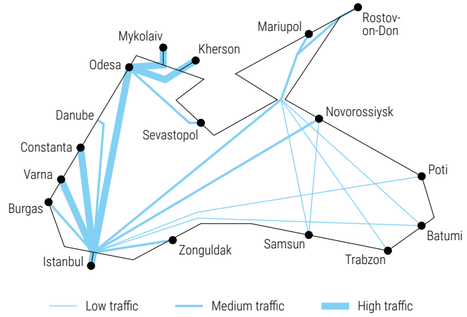
Invasive comb jellies



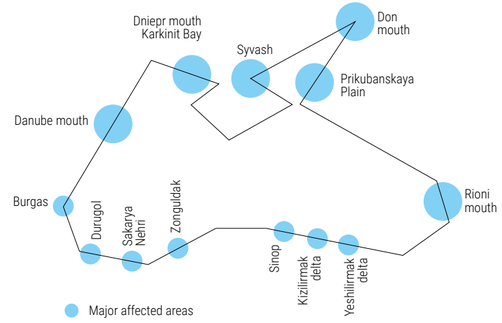
Red phyllophora algae (endangered)



Major navigation routes



Sea level rise concerns



Data: Avşar et al., 2015; EPC Consultanţă de mediu, 2024; Menna and Poulain, 2014; Державний комітет з природних ресурсів України, 2005; scottishwildlifetrust.org.uk; www.blacksea-commission.org; www.marinevesseltraffic.com

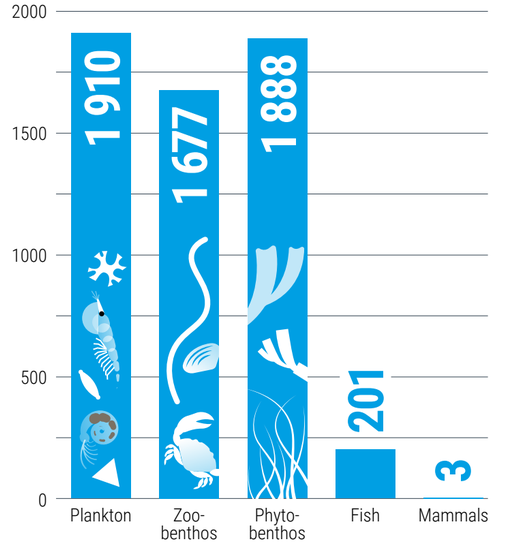
Globally, the rate of introduction of **alien species** into marine ecosystems was increasing during the 20th century, and then slightly decreased after the introduction of international approaches to ballast water management. The same trend has been true for the Black Sea, which due to active shipping has become home to an evolving community of alien species. The development of mariculture and the migration of species from the Mediterranean Sea due to climate change have become important new sources for the introduction of invasive species into the Black Sea. Today, the European anchovy – one of the smallest native fish in the Black Sea – as well as two invasive species introduced in the last century, the so-iuy mullet and the veined rapa whelk, a predatory mollusc, have become key species for Black Sea fisheries.

Economic activities in the coastal zone place considerable pressure on the **Black Sea coast**. Tourism has been an important source of pressure on the Black Sea environment through pollution, the impact on biodiversity, and as a driver of coastal development. The construction of port facilities, houses, and recreational and protective structures, as well as erosion all have greatly transformed the morphology of the coast.

In early 2022, Ukraine's coastal and marine **ecologically important areas** included 22 Ramsar Sites and numerous terrestrial and marine protected areas. Plans to expand such protection have been underway since 2016, but have been hampered by the annexation of Crimea and Ukraine's resulting loss of access to 11 protected areas within its coastal zone.

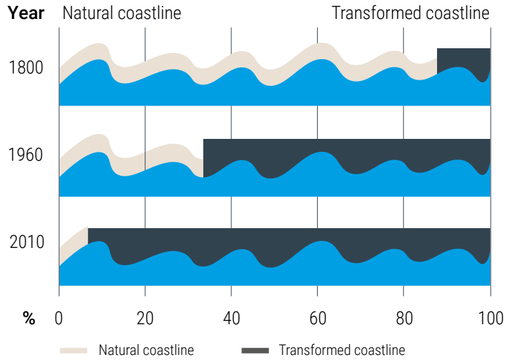
The Black Sea coast has been increasingly affected by fluctuations in sea level at least partially caused by **climate change**. The climate-related rise of the sea level is projected throughout this century, and will strongly affect the shallow north-western part of the Black Sea. Ecological consequences of the increasing temperatures and changing precipitation patterns are also the strongest there due to climate impacts on the flow of major rivers and to water-use patterns in their basins.

Biological species



Data: www.cousteau.org

Coast transformation (Odesa Bay)



Data: Minicheva et al., 2013

2

War impacts on the Black Sea

Russia's full-scale invasion of Ukraine in February 2022 put many of Ukraine's coastal and marine ecosystems at risk. Threats have included chemical and acoustic pollution, physical damage to sensitive habitats and the loss of management and monitoring systems, with likely transboundary consequences and impacts on Black Sea littoral countries.

Attacks on naval facilities and vessels, civilian shipping and coastal settlements and port facilities have caused numerous **pollution incidents**. Large-scale disruption of sewerage, irrigation, wastewater treatment and shore protection systems in coastal regions has led to a dramatic increase in pollution. Heavy metals and other persistent components of munitions accumulate in the marine ecosystem, spread with currents across the Black Sea and along the coastline, and migrate through food webs. The ecological effects will be lasting.

There has been a significant breakdown of the established management system of **ballast water**. Naval ships and the rapidly expanded fleet of Russia's oil tankers have introduced uncontrolled ballast water to "grey" shipment areas, creating new sources of alien species. After Russia's withdrawal from the Black Sea Grain Initiative in 2023, the safe routes for cargo vessels heading to and from Ukraine have partially moved closer to the coast, where the threat from ballast water is particularly strong.

Sunken warships also caused several **oil spills** extending tens of thousands of square kilometres, including into protected waters. A major spill from Russian oil tankers in the Kerch Strait in December 2024, reminiscent of a similar incident in 2007, has already polluted the coastline from Novorossiysk to Odesa.

Timeline of key war events around the Black Sea

Military · Economic · Environmental events

2022

- Start of the full-scale invasion
- Russian troops capture Zmiyinyi (Snake) Island
- Russian troops occupy Melitopol, Berdiansk, Kherson and part of Kherson oblast
- Russian troops reopen the head of the Crimean canal
- Russia declares a prohibition on navigation in the north-western Black Sea
- Russian navy bombards Ukrainian coastline off Odesa
- Naval mines laid off along the northern Black Sea coast
- Russian flagship cruiser *Moskva* is sunk
- Russian troops occupy Mariupol
- Ukraine attacks Russian-controlled gas rigs (Boyko Towers)
- Liberation of Zmiinyi Island
- Russian ships largely withdraw from the western side of northern Black Sea
- Black Sea Grain Initiative is agreed to, effectively breaking the blockage of Odesa
- First explosions in Crimea
- Ukraine drones attack Sevastopol, strike Black Sea Fleet headquarters
- Kerch bridge is hit by an explosion
- Liberation of Kherson, the right bank of the Dnipro and most of Mykolaiv oblast
- Romanian forces neutralize several floating mines broken free further north
- Russian fleet largely moves from Sevastopol to Novorossiysk
- Ukrainian drones attack Novorossiysk
- Bombardment of Odesa and other Ukrainian port

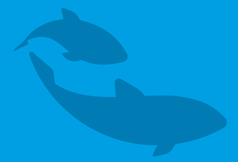
2023

- Kerch bridge is seriously damaged again
- Continued Ukrainian drone strikes on Sevastopol and Russian ships
- Kakhovka dam collapse causes significant environmental damage
- Russia withdraws from the Black Sea Grain Initiative
- Ukraine sets up a humanitarian corridor for commercial traffic
- Floating sea mines wash up on the Romanian coast
- Floating mines hit several merchant ships near the Danube delta
- Raids by Ukraine on Cape Tarkhankut (western Crimea) and Boyko Towers
- Russia targets Ukrainian ports and naval bases, attacks Zmiinyi Island
- Merchant ships are hit in Odesa port and near Zmiinyi Island in Romanian waters

2024

- Continued Ukrainian attacks on Russian ships, Crimea and Novorossiysk
- Ukraine strikes at Yanushiv Island, Kaspiysk naval base and the Kerch bridge
- Rail ferries carrying fuel and ammunition are damaged in Kerch and Port Kavkaz
- Russia lays off mines at Novorossiysk and reroutes some cargo via the Baltic Sea
- Continued Ukrainian strikes at Russian ships and coastal targets
- A severe gale results in a major oil spill from Russian tankers in the Kerch Strait
- Repeated Russian strikes at the city and port of Odesa
- Oil spilled in the Kerch Strait continues to spread and resurface along the coast
- Negotiating agreements to ensure safe navigation, eliminate the use of violence, and prevent the use of commercial vessels for military purposes in the Black Sea

2025



Data: www.hisutton.com, mass and social media

Black Sea after 2022

Most hit industry and infrastructure facilities

- Bridges
- Chemical industries
- Hydropower complex
- Machinery industries
- Metal industries
- Military airports
- Mines
- Nuclear power plants
- Ports
- Refineries
- Thermal power plants

Number of incidents of damage or disruption to industry and infrastructure per area

- More than 10
- 5–10
- Less than 5

Territorial risk of damage or disruption

- High
- Moderate
- Low

- Risk in coastal areas

Background information

- Line of contact per 30 April 2025
- Farthest Russian advances
- Russian fortifications
- Grain export corridor (Black Sea Grain Initiative Shipping Route)
- Actual grain export route
- State borders / exclusive economic zone (Black Sea)
- Sea depth in metres

Impacts on the marine and coastal environment

- Cetacean (dolphins, porpoises) sightings, dead or injured, on the coast between February and July 2022 *
- Impact on the marine biota due to military activities (e.g. sonar) in the Black Sea, approximate deliniation *
- Potential oil spills between March and September 2022
- Potential oil spills between in December 2024

Vessel density between mean 2019–2021 and 2022–2024

- More
- Less
- More in rivers
- Less in rivers

Intensity change of fishery between mean 2019–2021 and 2022–2024

- More
- Less

* *Military activities in marine and coastal areas may affect the marine biota in the region, including cetaceans. According to ACCOBAMS, more than 600 deaths of cetaceans (mostly common dolphins and harbor porpoises) have been observed throughout 2022 on the coasts of Bulgarie, Romania, Turkiye and Ukraine. The map shows only selected cetacean strandings and bycatches in Ukraine in the first half of 2022.*

UKRAINE
REP. OF MOLDOVA
ROMANIA
BULGARIA
RUSSIAN FEDERATION
GEORGIA
Black Sea
Sea of Azov
Crimea
Crimean Mountains
Arabat Spit
Karkinit Bay
North Crimean Canal
Greater Caucasus
Abkhazia

Chisinau
Tiraspol
Tighina
Comrat
Balti
Odesa
Kherson
Mykolaiv
Pivdennoukrainsk
South Ukraine NPP
Zaporizhia NPP
Kakhovka Reservoir (dam destroyed)
Kakhovka HPP and bridge
Nikopol
Zaporizhia
Kryvyi Rih
Oleksandrya
Kropyvnytskyi
Kamianske
Dnipro
Kremenchuk
Kremenchuk Res.
Cherkasy
Vinnytsia
Khmelnytskyi
Mohyliv Podilskyy
Chernivtsi
Ivano-Frankivsk
Izium
Severodonetsk
Sloviansk
Kramatorsk
Luhansk
Donetsk
Shakhty
Novocherkassk
Rostov-on-Don
Taganrog
Azovstal
Mariupol
Berdiansk
Melitopol
Yeysk
Yeya
Don
Donets
Severskyi Donets
Kalmius
Dniester
Prut
Siret
Danube
Southern Buh
Dniprovska Bay
Syvash
Kuban
Kerch Strait
Kerch
Yevpatoriya
Simferopol
Sudak
Sevastopol
Yalta
Novorossiysk
Krasnodar
Tuapse
Sochi
Maykop
Armavir
Stavropol
Cherkessk
Pyatigorsk
Kutaisi
Sukhumi
Poti
Suceava
Botosani
Iasi
Piatra Neamt
Bacau
Focsani
Buzau
Ploiesti
Pitesti
Ramnicu Valcea
Targu Mures
Brasov
Bucharest
Galati
Braila
Constanta
Ruse
Dobrich
Shumen
Varna
Veliko Tarnovo
Sliven
Burgas
Pleven
Actual route
July 2022–July 2023
2212

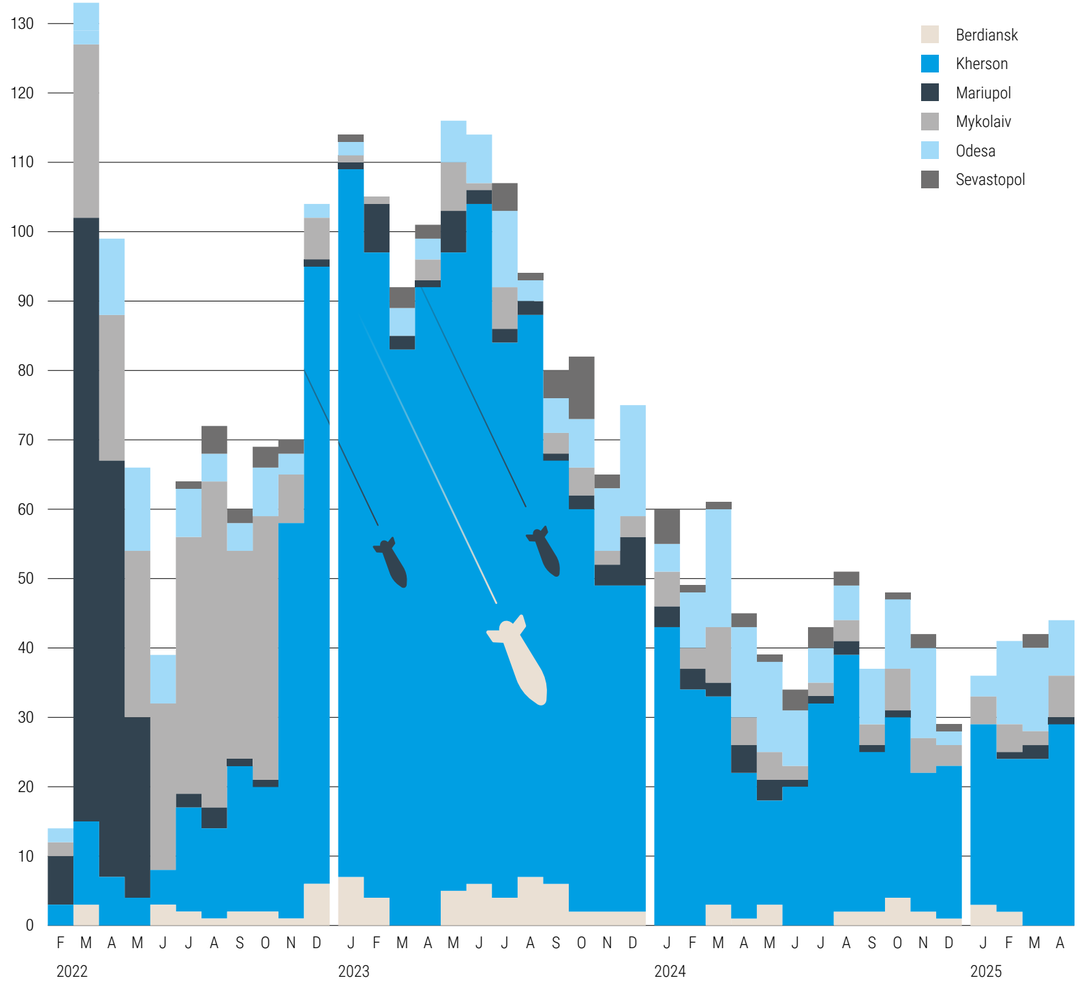
Incident records are per 30 April 2025

Source: European Marine Observation and Data Network (EMODnet); Flanders Marine Institute; Global Maritime Traffic; Ukraine War Environmental Consequences Working Group; Institute of Marine Biology of the National Academy of Science of Ukraine; the Ukrainian Scientific Center of Ecology of the Sea; The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS); ecopolitic.com.ua; Brady Africk; Ecodozor; ACLED; CEOBS; OpenStreetMap; Encyclopædia Britannicaa

0 50 km

Map produced by Zoi Environment Network, May 2025

Reported incidents of destruction in coastal cities, aggregated per month



Data: www.ecodozor.org

The intense use of active naval sonar systems, known to harm marine life, may be associated with the **deaths of dolphins** and porpoises in the Black Sea recorded since the beginning of the war.

Sensitive **coastal habitats** suffered cratering and fires from explosive weapons, and have been damaged by military fortifications. Hundreds of fires on the protected Kinburn Peninsula destroyed nesting places of about 100 bird species. The dense mining of the coast and the sea routes has caused numerous incidents and will continue to affect navigation, the coast and marine mammals for years to come.

The destruction of the **Kakhovka Dam** released untold amounts of industrial chemicals and bottom sediments polluted over decades. Nutrients were also released, and immediately gave rise to algae blooms that extended beyond Ukraine's maritime borders. The landmines and sea mines displaced by the accident posed an immediate threat to navigation and life in the sea and on its coast, while persistent toxic chemicals will now remain in the Black Sea ecosystem for a long time.

As the result of the war, numerous **protected areas** established in and around the Black Sea were occupied, including the Chornomorsky Biosphere Reserve and the National Natural Park Biloberezhia Sviatoslava, leaving Ukraine with access to only three marine protected areas: the Zernov's Phyllophora Field, the Danube Biosphere Reserve, and Zmiyiny (Snake) Island. All these areas have suffered significant damage from the war, including shelling, fires, and oil pollution. Several protected areas were flooded following the destruction of the Kakhovka Dam. As a result, the Emerald Network established in Ukraine under the Bern Convention can likely no longer adequately cover the species and habitats initially targeted by the network.

Institutional impacts have also included the greatly reduced access to monitoring locations in the Black Sea and along the coast, as well as the loss of management and research infrastructure in the occupied and war-affected territories. Many research and management staff have been lost in the occupation, at the frontline, or due to internal displacement or emigration. The implementation of many global or regional multilateral agreements have also been jeopardized, while practically all Ukraine-Russia bilateral cooperation over the environment or natural resources has stalled.

At the same time, the **reduced economic activities** such as industrial production, shipping, fishing, recreation, construction and hydro-engineering, have temporarily relieved the environmental pressure on the Black Sea. As navigation and fisheries have partly moved to new areas, their impact has lessened on the previously heavily affected parts of the northern Black Sea .

The destruction of the Kakhovka Dam

On 6 June 2024, the destruction of the dam of the Kakhovka Reservoir caused extensive downstream flooding.

The sudden release of freshwater and pollutants destroyed many living organisms and habitats along the Dnipro River. Dozens of relict estuarine species, endemic to the Black Sea and extremely vulnerable to water quality changes, were put at increased risk of extinction. A mass die-off of filter-feeding molluscs was observed in the surrounding coastal areas. Most of the environmental impacts lasted for about three months, after which indicators generally returned to normal.

In the northern Black Sea, the majority of native species have evolved in conditions favouring their tolerance of broad ranges of salinity, temperature, and oxygen. These species, therefore better adapted to the unstable environment, have shown high resistance to the impact of the accident.

Among the long-term consequences of the Kakhovka Dam disaster has been the entry into the marine environment of a large number of various pollutants, especially those associated with industrial legacy, agricultural chemicals, destroyed wastewater collectors, and industrial and port infrastructure. Washed-off landmines and chemicals associated with explosives have also entered the Black Sea. More persistent compounds may stay in the relatively closed sea ecosystem for a considerable time.

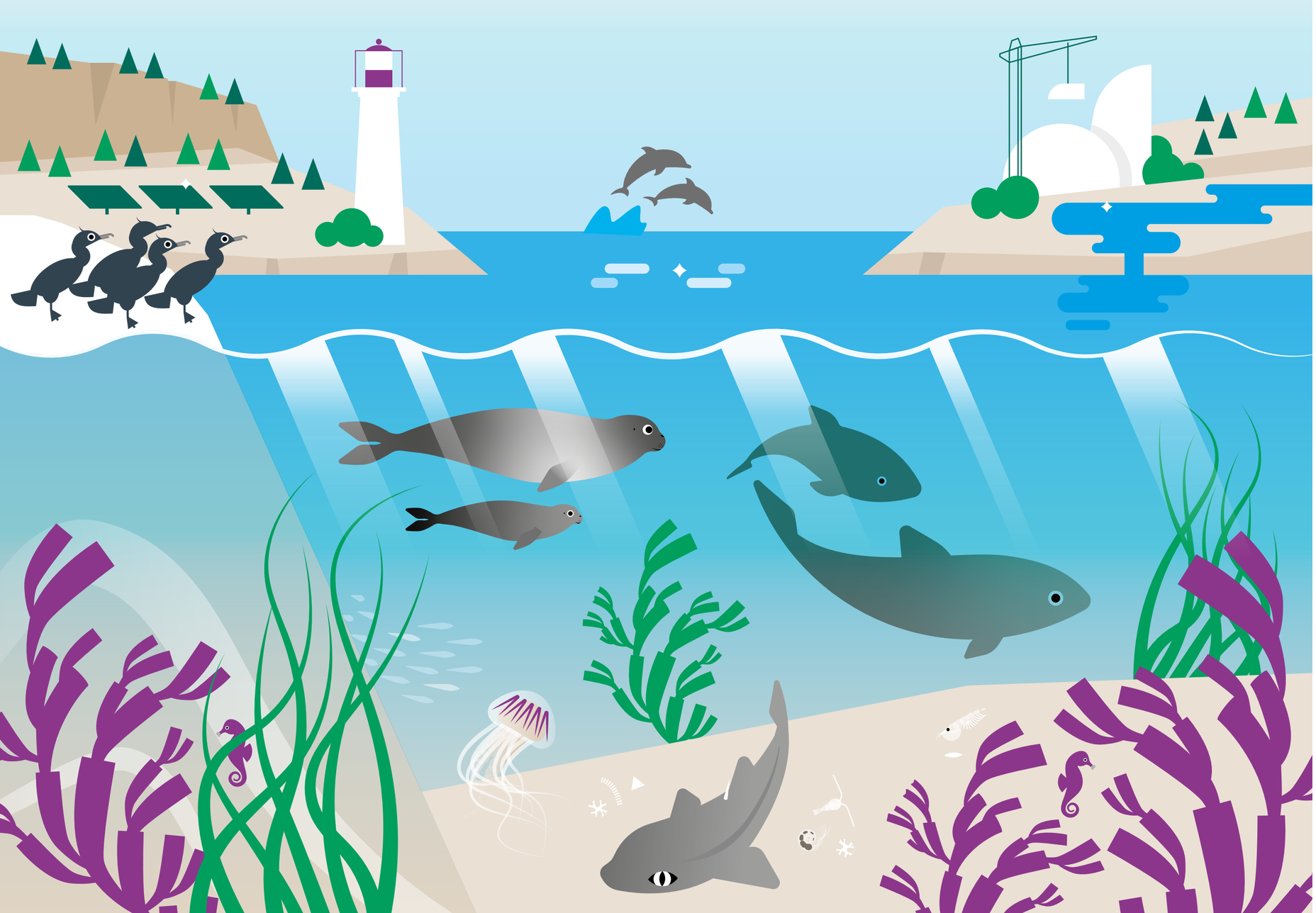
Oil spill accident 2024

On 15 December 2024, two Russian tankers were caught in a severe storm south of the Kerch Strait. Both vessels were built in the 1960s-1970s period for riverine traffic, and later refitted to river and coastal use. Together they carried about 9,000 tonnes of heavy fuel oil (also known as mazut) for reloading at Port Kavkaz, likely intended for export in circumvention of sanctions imposed on Russia's oil trade in 2022. Hit by the storm, *Volgoneft-212* broke in two and sank, releasing a large part of its cargo to the sea. *Volgoneft-239* ran aground and started leaking until the oil was eventually pumped out.

The total release to the environment is estimated at 2,400-5,000 tonnes of mazut, which has largely stayed below the surface or sunk to the bottom due to the low water temperature in winter. Yet, following the accident, mazut has repeatedly appeared on the Black Sea coast, from Russia's Krasnodar region to Crimea, as well as within the Sea of Azov. Pollution was also found as far as the Odesa region next to the Danube delta. There have been thousands of reports of oil-soaked birds, as well as discoveries of dead dolphins and harbour porpoises. As sea water warms up towards summer, more mazut from shallow areas is expected to reach the surface and the coast, further affecting wildlife, fisheries, and once-popular tourist destinations.

The 2024 spill is reminiscent of previous accidents like when *Volgoneft-248* sank in 1999 during a storm near Istanbul spilling between 1,500 and 3,000 tonnes of mazut into the Sea of Marmara; and in November 2007 when *Volgoneft-139* sank in a storm in the Kerch Strait, leaking about 1,600 tonnes of mazut and contaminating 600 km^2 of sea surface and 180 km of coastline. The economic damage to Ukraine from the 2007 accident was assessed between USD 30 million and USD 1.1 billion.

The comprehensive assessment of the damage from the 2024 accident is aggravated by the ongoing war. Provisional estimates vary from USD 60 million to USD 14 billion. The Ukrainian Scientific Centre of Ecology of the Sea is developing a comprehensive model to understand and better predict the mid- and long-term environmental consequences of the disaster. Some experts believe that oil from the spill is also likely to eventually appear on the shores of other Black Sea countries.



3

Post-war environmental reconstruction and management priorities

The multitude of war impacts is a serious challenge to the post-war recovery and subsequent management of the marine and coastal environment of the Black Sea. Aligning marine, coastal and river basin development and planning with the post-war realities will require stepped-up and long-term monitoring of the impacts on the environment and climate, and innovative solutions for addressing them and mitigating their effects.

At the same time, the post-war reconstruction may require rethinking the common development paradigms to look at the situation as an opportunity for the restoration of ecosystems in their natural state ("war-wilding"). This concerns the future of the Kakhovka Reservoir in particular.

Many post-war reconstruction and management issues will require collective international efforts, and therefore strengthened multilateral and bilateral collaboration among the littoral states, the countries of the entire Black Sea basin, and the support of the larger international community.

Among the post-war reconstruction and management priorities should be the following.

1. Assessing war damage to the Black Sea environment for evidence-based recovery efforts

- Impacts on marine and coastal life, biodiversity and geomorphology
- Environmental management and monitoring, including in protected areas
- Destroyed critical infrastructure and facilities, sunken ships, mine risks and unexploded ordnance
- War-related sources of environmental pollution and polluted areas

2. Introducing safeguards for environment- and climate-conscious post-war reconstruction and development of the Black Sea, its coast and basin

- Coordinate post-war recovery efforts with the strengthened integrated coastal and marine zone management
- Establish institutional, legal and financial frameworks to ensure that Ukraine's recovery does not generate uncontrolled pressures on the marine environment

3. Recovering and improving capacities to address the pre-war and emerging threats (from wastewater and marine litter to industrial emergencies and climate change), developing marine and coastal spatial planning, and reorganising the network of protected areas

- Make sure that Ukraine's institutional framework for marine protection (including the full implementation of Ukraine's Marine Environmental Strategy) remains strong and is improved in line with the best European and global practices
- Reduce land-based pollution
- Address industrial emergencies, marine litter, overfishing and climate change
- Ensure a sustainable and environmentally-balanced use of the high renewable energy potential of the Black Sea and its coast
- Reorganise the networks of Emerald and Natura 2000 protected sites and marine protected areas in light of the war impacts on species, habitats, and ecosystems

4. Engaging communities and people in the recovery and management of the Black Sea

- Bring in and cooperate with the coastal cities and regions, academia, social and mass media, civil society organisations, and activists
- Help create green jobs for the benefits of the blue economy and the environmental recovery of the Black Sea

Global and regional agreements and policy instruments relevant for the environmental recovery and protection of the Black Sea

The International Convention for the Prevention of Pollution from Ships (MARPOL, IMO 1973) and its Protocols

Convention on the Protection of the Black Sea Against Pollution (Bucharest 1992) and its Protocols on the:

- Protection against pollution from land-based sources
- Protection against pollution by dumping
- Cooperation in combating Pollution by oil and other harmful substances in emergency situations
- Biodiversity and landscape Conservation

Convention on Cooperation for the Protection and Sustainable Use of the River Danube (Danube River Protection Convention – DRPC, Sofia 1994)

Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS, Monaco 1996) under CMS Convention (see below)

International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management – BWM Convention, London 2004)

Other regional and global conventions – Law of the sea (UNCLOS), Climate change (UNFCCC) and the Paris Agreement, Biological diversity (CBD), Combatting desertification (UNCCD), Conservation of migratory species (CMS), Protection of wetlands of international importance (Ramsar Convention), Conservation of European wildlife and natural habitats (Bern Convention), global agreements concerning hazardous substances in general (Basel, Stockholm, Rotterdam Conventions), mercury (Minamata Convention) and plastic pollution (under negotiation), Transboundary waters (Helsinki Convention), Industrial accidents (TEIA Convention), Environmental Impact Assessment (Espoo Convention), Access to information, public participation and justice in environmental matters (Aarhus Convention)

EU environmental and regional policy instruments – Water Framework Directive (EU WFD), Marine Strategy Framework Directive (EU MSFD), and other relevant directives; Black Sea Synergy (BSS); Strategy for the Danube Region (EUSDR)

Multilateral coordination of integrated coastal zone management, river basin management, territorial development planning, etc.

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