

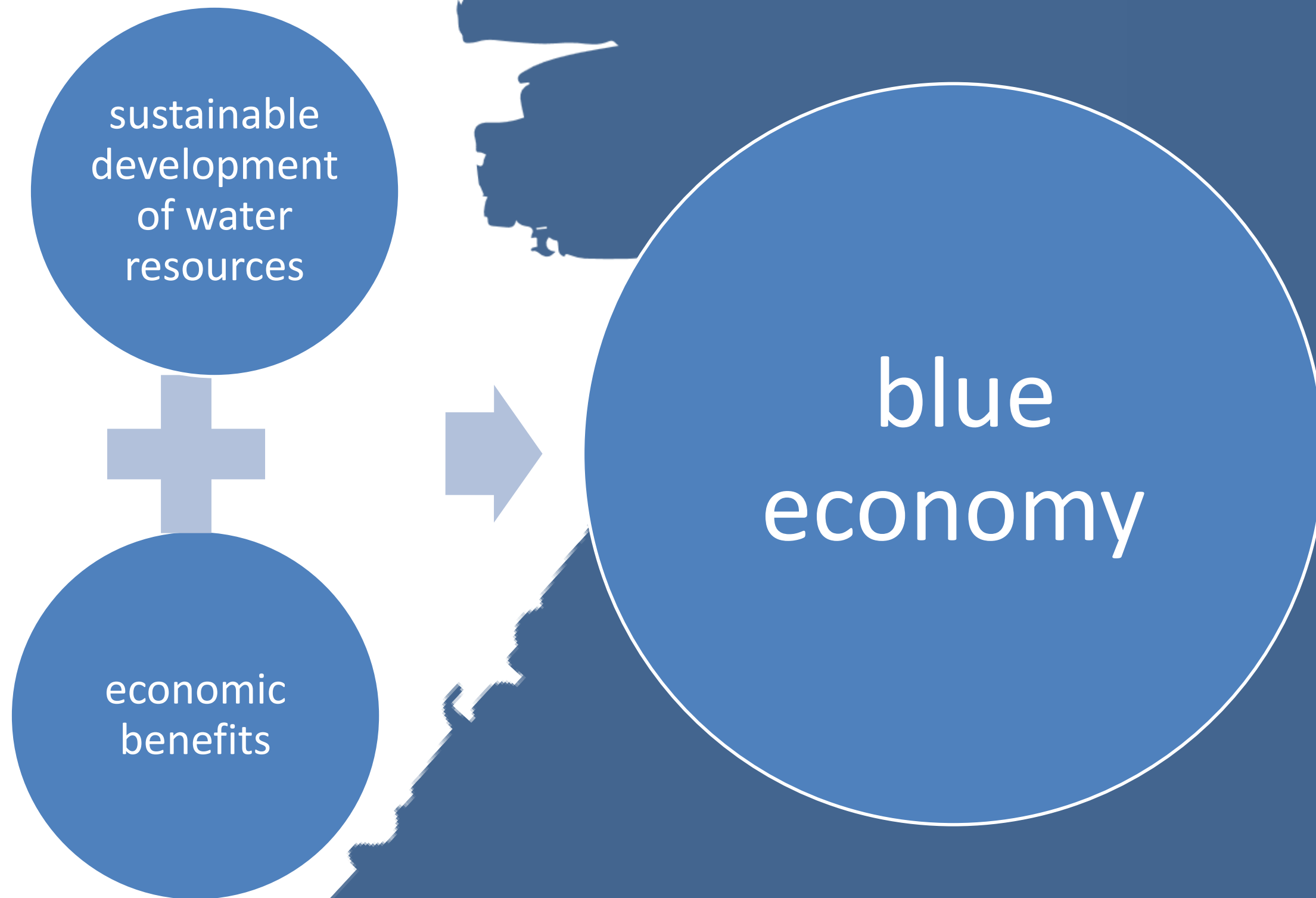
**Ministry of Education and Science of Ukraine  
Odessa National Maritime University**

# **The blue economy and sustainable development of coastal resort areas: potential and challenges**

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In the 21st century, the concept of the blue economy has become particularly important for countries with access to marine and estuarine resources. Ukraine, with its access to the Black Sea and numerous estuaries and lakes, considers the blue economy to be one of the strategic directions for the development of coastal areas.

The blue economy combines economic growth with the protection of the aquatic environment—the sea, estuaries, rivers, and lakes. Its implementation is crucial for the sustainable development of regions where tourism, recreation, and natural resources form the basis of the local economy.



## Goal №6 — Clean Water and Sanitation

- Problems: - Discharge of untreated sewage into the sea - Overloaded sewage systems - Pollution of beaches
- Blue economy solutions: - Modern treatment facilities - Water quality control - Sanitation standards in tourism

## Goal №13 — Climate action

- Problems: - Drying up of estuaries - Coastal erosion - Threats to infrastructure
- Solutions through the blue economy: - Eco-infrastructure (solar collectors, composting toilets) - Zoning of coastal areas - Eco-tourism

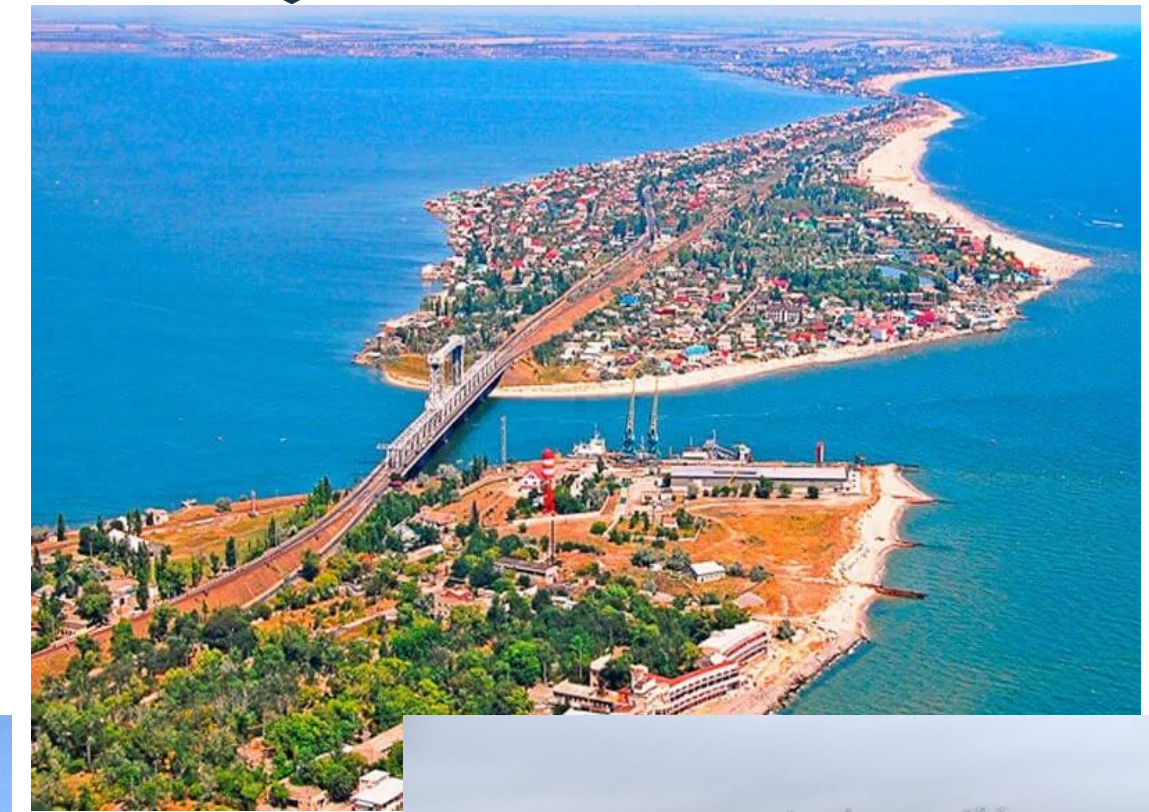
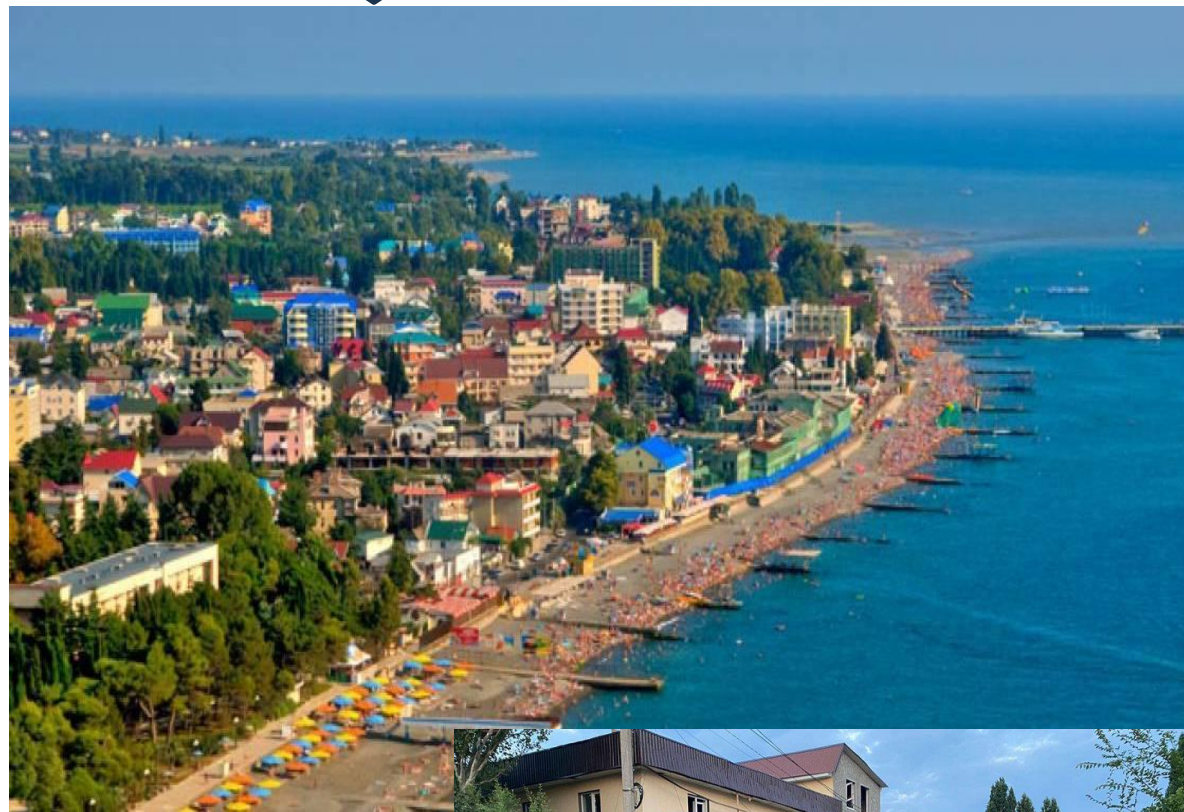
## Goal №14 — Protect marine ecosystems

- Problems: - Plastic and oil pollution - Destruction of coastal flora and fauna - Damage from ATVs and boats
- Solutions through the blue economy: - Marine reserves - Eco-labeling of beaches - Electric boats, transport control

Koblevo (Mykolaiv region) One of the most developed resorts on the Black Sea coast. Before the war, it welcomed 17-25 thousand vacationers every year. There were over 100 recreation centers, hotels, and restaurants operating here. Water resources — the sea coast and proximity to the Tiligul Estuary — provided opportunities for swimming, boating, and therapeutic procedures. Problems: pollution from sewage, coastal erosion, excessive pressure on the environment.

Serhiivka (Odesa region) A well-known climatic and balneological resort near the Shabolatsky Estuary. Before the war, it welcomed thousands of vacationers, especially families with children. Its main attractions are the healing mud of the estuary and the warm sea. At the same time, pollution of the estuary due to an outdated sewage system and a lack of treatment facilities was a serious problem.

Karolino-Buhaz A popular destination among young people, located near Zatoka. It had a well-developed private tourist infrastructure, numerous guesthouses, and guest houses. During the summer season, it attracted thousands of tourists. Water resources include the sea and the Budatsky Estuary. Problems included unauthorized coastal development and a lack of effective water waste management.



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Rybakivka  
A resort village on the Black Sea coast in the Mykolaiv region, located between Koblevo and Ochakiv. Rybakivka is known as a family vacation spot with clean beaches, calm seas, and a mild microclimate. The village has a well-developed tourist infrastructure: recreation centers, boarding houses, guest houses, and campsites. Water resources include the sea, a salt lake, and proximity to the Berezan Estuary, which creates favorable conditions for recreation and health improvement. The main problems are the uncontrolled growth of tourist traffic during the peak season, a weak wastewater treatment system, and the potential threat of coastal pollution due to the lack of a centralized sewage system.



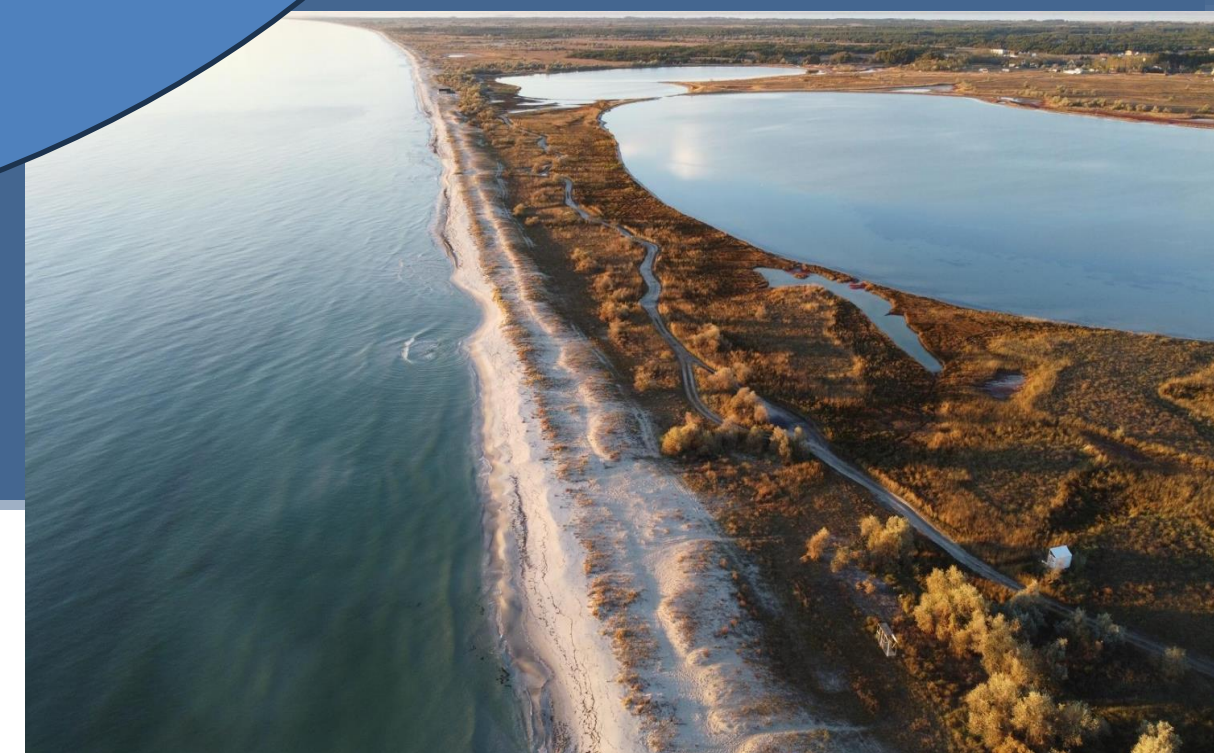
Kinburn Spi  
A unique natural complex, part of a biosphere reserve. Until 2022, it attracted tourists seeking wild beaches and tranquility. Its main resources are the clean sea, salt lakes, and therapeutic mud. The main challenges are accessibility, nature conservation, mining, and military actions, which have caused serious degradation of ecosystems.



Kuyalnik (near Odessa)  
One of the oldest balneological resorts in Ukraine. The healing mud of the Kuyalnik Estuary has been used since the 19th century. Before the war, the sanatorium served thousands of patients annually. However, the estuary is gradually shrinking, becoming polluted, and does not have a constant water exchange with the sea, and the resort infrastructure needed to be modernized before 2022.



In the coastal regions of Ukraine, particularly in resort areas such as Koblevo, Serhiivka, Karolino-Buhaz, Rybakivka, Kinburn Spit, Kuyalnik, and others, various forms of tourism were actively developing before the war. Each of these types had both economic significance and risks for the aquatic environment.





**Mass beach tourism.** The most common form of recreation. Large flows of people created pressure on beaches, sewage infrastructure, and drinking water supplies.

● **Negative impact:**

- Overloading of treatment facilities or their absence → discharge of untreated wastewater into the sea/estuaries;
- Formation of waste that ends up in the water (plastic, organic matter);
- Erosion of the coastline due to uncontrolled tourist traffic.



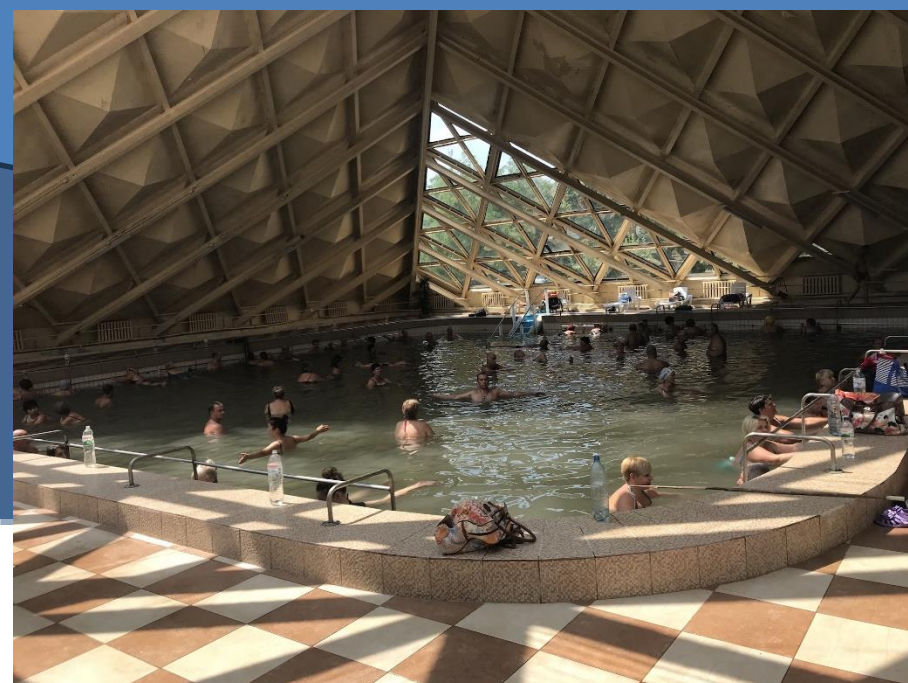
**Private/cottage tourism.** Common in Karolino-Buhaz and Koblevo — numerous cottages, guest houses, and mini-hotels.

- **Negative impact:**- use of cesspools without proper sealing → filtration of sewage into soil and water;
- development of the coastal zone, which reduces water exchange and disrupts natural drainage.



Medical and health tourism Sanatoriums and mud therapy developed in Kuyalnik and Serhiivka

- Negative impact:- depletion of natural resources (mud, mineral water) without proper control;- discharge of wastewater from treatment rooms and laundries into estuaries.



**Ecotourism and wilderness tourism.** Characteristic of the Kinburn Spit and Matisovo — camping, outdoor recreation.

● **Negative impact:**

- lack of waste collection systems → litter and fecal contamination;
- - damage to coastal ecosystems by vehicles (jeeps, ATVs);
- - trampling of wetlands.



**Water tourism (boats, jet skis, SUP)** Common in Koblevo, Karolino-Buhaz, Serhiivka.

● Negative impact:

- fuel spills into the water;
- - noise pollution that harms wildlife;
- - destruction of coastal flora by waves.



**Event tourism** (festivals, concerts, public events) It is especially active in Koblevo (local festivals, nightlife), Karolino-Bugaz (parties, open-air events).

● Negative impact:

- temporary overload of infrastructure: sewerage, water supply, energy; garbage after events — bottles, disposable tablecloths, cigarette butts — are often washed away into the sea;
- noise pollution affects aquatic life



**Religious and pilgrimage tourism.** In Serhiivka and Kuyalnik, near historic temples and springs. Sometimes accompanied by swimming in open water bodies.

● Negative impact:

- unauthorized use of natural springs;
- dehydration and change in the chemical composition of mineral water due to excessive consumption



**Fishing tourism.** Popular along estuaries and bays, particularly in Matisovo, Kinburn Spit, and partly in Koblevo.

● **Negative impact:**

- disruption of the fish balance in water bodies;
- water pollution with bait, feed, and fishing gear debris;
- soil pollution with gasoline from motorboats.



**Sports tourism** (kitesurfing, windsurfing, diving, beach tournaments) Encounters in Serhiivka, Koblevo, Karolino-Buhaz.

● **Negative impact:**

- local destruction of bottom fauna (diving, securing structures);
- potential danger to marine animals (ropes, cables, engines);
- trampling of coastal vegetation



**Gastronomic tourism.** Popular in resort areas with developed cuisine, markets, and food festivals (Koblevo, Odessa, and partly Karolino-Buhaz).

● **Negative impact:**

- increase in organic waste and fats in the sewage system, which, with imperfect treatment, end up in the water;
- placement of temporary food facilities without proper sanitary control.



**1. Development of regional blue economy strategies.** Clear plans need to be developed for each coastal community, taking into account the specific characteristics of the aquatic environment. Such strategies should include ecosystem conservation, infrastructure modernization, and sustainable tourism development.

**2. Introduction of modern treatment facilities.** The primary task is to build and reconstruct sewage systems in resort towns. This will reduce pollution entering the sea, estuaries, and lakes.

**3. Establishment of water monitoring systems.** Deployment of permanent environmental water quality monitoring systems in bathing areas, reservoirs, and river mouths, including measurements of salinity, bacterial contamination, and toxic substance levels.

**4. Regulation of coastal zone development.** Introduction of a moratorium on uncontrolled urbanization, protection of coastlines, compliance with coastal protection zones, revision of existing permits.

**5. Rehabilitation and demilitarization of combat zones.** De-mining of the coastline (in particular, Kinburn Spit, Koblevo, Serhiivka), environmental assessment of damaged areas, and gradual restoration of the natural environment

**6. Educational and informational campaigns.** Raising environmental awareness among the population and tourists, promoting responsible water use practices, explaining the impact of war on the environment.

**7. Development of public-private partnerships.** Local authorities should attract investors to infrastructure projects and support community and business initiatives that contribute to the preservation of the aquatic environment.

A successful return to the development of the blue economy requires: a thorough audit of the ecological state of water bodies; investment in water treatment facilities; a ban on uncontrolled development; the creation of mechanisms for interregional and intersectoral coordination. Only through the combination of government policy, science, business, and community can **economic growth be achieved without harming the environment.**

Blue economy +  
tourism = the key  
to coastal recovery

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Thank you for your  
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