



*Association for the Protection of
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Newsletter no.1

General aspects regarding the specificity, the current ecological status and the challenges

The specificity of the entire Black Sea Basin

Project title: "Leave your Environmentalist Spirit Online for the Black Sea Basin" - Spirit BSB online

The project consortium consists of 4 partners:

LP Coordinator - *Association for the Protection of Human Being and Environment for a Sustainable Development in the World-ECOM, Romania*

P1- *Sinop University, Sinop, Turkey*

P2- *Chamber of Agriculture of Trabzon, Turkey*

P3- *International Center for Social Research and Policy Analysis in Tbilisi, Georgia.*

According to the Project Implementation Plan, within the activity **T2.1 Development of "Pollution and solutions in BSB - Manual for everyone"** we made a manual. This manual contains several topics. Through these newsletters we present these topics. Today we choose to present you:

The specificity of the entire Black Sea Basin.

The **Black Sea** is the most isolated sea in the **World** and has original properties of its own. It is connected to the World Oceans via the Mediterranean Sea through the Bosphorus, Dardanelle and Gibraltar straits and with the Sea of Azov in the northeast through the Kerch Strait.

The Black Sea basin's oceanography is strongly influenced by fresh water inputs from rivers, atmospheric forcing, thermohaline factors, strait flows and topography. The catchment area of the Black Sea is over 2 million km², entirely or partially covering 23 countries, those from 17 states in the catchment area impacts were mainly studied through their effects on the discharge from the major rivers: Albania, Austria, Belarus, Bosnia and Herzegovina, Croatia, the Czech Republic, Germany, Hungary, Italy, Macedonia, Moldova, Montenegro, Poland, Slovakia, Serbia, Slovenia and Switzerland. (Figure 2).

Common borders. Common solutions.



Figure 2. The Black Sea and surrounding countries (Bat et al., 2009).

Despite its relatively large surface area and water volume (537,000 km³), only a thin surface layer of the Black Sea supports eukaryotic life. The water mass below 150 to 200 m is devoid of dissolved oxygen, making the Black Sea the largest anoxic body of water in the world. Such anoxic conditions, exacerbated by limited water exchange with the Mediterranean, render the Black Sea extremely vulnerable to anthropogenic effects. Along the Black Sea, the heavily salty bottom layer which originates in inflowing the Mediterranean waters, has very slow motion and contains hydrogen sulphide; it has no eukaryotic marine life. (Figure 3). About 87 % of the Black Sea is entirely anoxic and contains high amounts of hydrogen sulphide (Zaitsev and Mamaev, 1997), a solvable toxic gas mostly associated with the smell of rotten eggs (Mee, 2005).



Figure 3. Map of the Black Sea region (taken from Borysova et al., 2005)

Common borders. Common solutions.

Europe's second, third and fourth rivers (the Danube, Dnieper and Don) all flow to the Black Sea.

The Bosphorus has two-layer flow, carrying about 300 km³ of seawater to the Black Sea from the Mediterranean along the bottom layer and returning a mixture of seawater and freshwater with twice this volume in the upper layer (Mee, 2005). The increasing human population in coastal areas of the Black Sea continue to increase pressure on the region. Eutrophication or over fertilization is the most visible danger facing the Black Sea and also has the greatest impact.

The structure of the Black Sea ecosystem differs from its neighbouring the Mediterranean Sea by a lower species variety (ratio of the Mediterranean to the Black Sea for species richness is three) and the dominant groups are different. But the total biomass and productivity of the Black Sea is pretty higher. The Black Sea is one of the most important European seas; it contributes significantly to the regional economy as a source of fisheries, tourism business, oil production and transport.

For more informations please visit our website <https://www.spiritbsb.online/>.

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