



With a surface area of 420,000 km², the Black Sea is one of the world's largest inland marine environments. Its only connection to the rest of the world's oceans is through the narrow Turkish Straits (Bosporus) at Istanbul. In addition to Turkey, the Black Sea is bordered by Romania, Bulgaria, Ukraine, the Russian Federation and Georgia. Though 90% of its water volume is anoxic, the surface waters to a depth of 50 metres are fed by rivers that are naturally rich in nutrients, producing a low salinity environment that has been traditionally rich in fish and other species. The Black Sea is known, for example, for its anchovies, its three species of dolphin and its sturgeon. Coastal development, river diversion, over-exploitation of resources, introduction of alien species, pollution and other activities have, however, led to a marked degradation in the quality of the marine environment, especially due to a high level of eutrophication and loss of water visibility. Some of the most significant effects have been the change in species composition and the collapse of certain commercial fish stocks, especially since the late 1980s.

THE RISK OF OIL SPILLS

The Black Sea's environmental problems are only partly the result of oil pollution and the large majority of oil input is chronic (eg from rivers and municipal sources) rather than accidental (eg oil spills from ships). Three potential sources of oil spills are production activities, loading activities at terminals and shipping accidents involving tankers. Unlike the nearby Caspian Sea, the Black Sea is not a major production area for oil, though initial exploration has shown that reserves off the west coast of Georgia may be significant. For the present, however, the spill risk from production seems to be minimal. The Black Sea is, however, subject to a substantial and increasing transit trade in crude and refined products. Pipelines currently on-line from Russia, Georgia, Kazakhstan and Azerbaijan supply crude to terminals on the Russian, Ukrainian and Georgian Black Sea coasts.

Marine terminals include older facilities dating from the Soviet era as well as 'state-of-the-art' terminals recently built by international consortia. All terminals are subject to some risk, but the newer terminals are likely to be safer as they are being built and operated to high international standards. Older terminals, on the other hand, may lack reception facilities for slops, use older transfer systems, do not have the same first response (tier 1) capabilities and lack access and procedures for escalating to higher tier response. One example of an entirely new pipeline and terminal system is that operated by the Caspian Pipeline Consortium (CPC) from Kazakhstan to Novorossiysk in Russia. This state-of-the-art pipeline and terminal system was commissioned in November 2001 and is currently operating at 1 million tonnes per month, one fifth of its final expected capacity. The Black Sea terminal for the pipeline can currently load 100,000 tonnes of crude on to two ships simultaneously. It augments, rather than replaces, an older terminal in Novorossiysk area and will provide crude for as many as 600 Suezmax tankers per year, once full operational capacity has been achieved. As with most other Black Sea terminals, most of the exported crude can be expected to travel to destinations outside the Black Sea, though some may cross to Bulgaria, Romania and Ukraine. The total quantity of oil shipped from all terminals across the Black Sea in 2001 was in excess of 500 million barrels; in 2002 the total quantity neared 600 million barrels and by 2003 the flows have increased to annual levels greater than 700 million barrels. Further growth can be expected in the next few years as production in the former Soviet states increases and pipeline capacities improve. Should additional pipelines be constructed from the Caspian area, the resultant tanker traffic on the Black Sea could become considerable. And while it is true that shipping quality (eg safety standards, vessel age) play a key role in the risk of transport-related spills, increasing vessel traffic volumes are also important factors in the risk calculation.

Shipping-related risks are clearly a strong argument in support of long-distance pipelines routed directly to external seas, for example to Ceyhan on Turkey's Mediterranean coast. Such long-distance pipelines would make it possible to avoid lengthy barge-rail-truck-pipeline transfers as well as trans-Black Sea shipments. The fact that the Caspian's export capacity is being held back by poor transit routes makes it likely, however, that any new capacity would only augment, rather than replace, the older capacity. One example is the oil from the Tengiz and Tuapse fields (Kazakhstan) which is now moved by pipeline directly to the Black Sea coast at Novorossiysk (Russian Federation), rather than by a combination of Caspian barge, Azeri pipeline and Georgian railcars to Batumi (Georgia). Now that the Tengiz oil takes the new route, however, the freed capacity to the Black Sea port of Batumi is being used to carry other oil from the region. The main implication for oil spill risk is that as long as export amounts are increasing, new pipelines will add to the total tanker traffic, rather than lead to the immediate closure of older routes.

Given the current relatively low tanker traffic density, the few natural maritime hazards, and the straightforward sea and climatic conditions, it is not surprising that the Black Sea has proved a relatively safe area for shipping to date. While the historical occurrence of major tanker spills within the Black Sea itself has been low, there have been a number of major incidents in the narrow and congested Bosphorus waterway and its approaches. The most noteworthy of these were the INDEPENDENTA (1979), FAHIRE GUNERI (1984), JAMBUR (1990), NASSIA (1994), and VOLGONEFT-248 (1999). Vessel traffic in the 30km-long Bosphorus has grown to about 50,000 vessels per year with approximately 5,000 of these carrying oil or LNG. Safety improvements are expected once a radar and vessel control system is completed. Small and intermediate size spills resulting from operational incidents can and do occur, their frequency is a reflection of the quantities of oil handled at the individual locations.

Major tanker spills of over 5,000 tonnes in the Black Sea since 1974

Vessel Name	Quantity spilled		Country	Year	Cause
	(Tonnes)	(Type)			
INDEPENDENTA*	94,600	CRUDE	TURKEY	1979	COLLISION
NASSIA*	33,000	CRUDE	TURKEY	1994	COLLISION
TANKER URSS 1	22,000	CRUDE	RUSSIA	1977	FIRE/EXPLOSION

*occurred in Bosphorus

THE STATE OF PREPAREDNESS

All of the Black Sea states have passed the stage of writing draft national oil spill contingency plans (NCP). Bulgaria, the Russian Federation and Ukraine have approved NCPs in place, while Georgia, Romania and Turkey are expected to have their draft NCPs approved in the foreseeable future.

All six Black Sea states have ratified the 1992 Bucharest Convention on the Protection of the Black Sea against Pollution. In the present context the importance of the Convention (and its Emergency Protocol) is its stipulation that the Contracting Parties endeavour to maintain and promote either individually or through bilateral or multilateral co-operation, contingency plans for combating pollution of the sea by oil or other harmful substances. In line with the Convention, a Black Sea Commission was established with a Permanent Secretariat in Istanbul. Also known as the "Black Sea Commission" or "Istanbul Commission", this organisation includes among its tasks the co-ordination of intergovernmental meetings on environmental issues related to the safety of shipping. One of the most important of its recent accomplishments has been the production of a draft Black Sea Contingency Plan (BSCP) for oil spill response in accordance with the Emergency Protocol to the Bucharest Convention. This BSCP unites the NCPs of the six states, thus facilitating the co-operation and exchange necessary to respond to spills of regional significance. The production of the BSCP is also giving the Black Sea states an opportunity to adjust their own NCPs such that they are more compatible with each other.

A further product of the Bucharest Convention was the creation of thematic working centres for key regional environmental issues. The one for spill response, the regional Emergency Response Activity Centre (ERAC) was established in 1994 in Varna, Bulgaria, to assist with pollution preparedness and response.

In terms of training, the IMO has sponsored national and regional training courses at all levels in a number of the Black Sea countries. Spill response exercises in the Black Sea tend to be localised (Tier 1) rather than larger scale or even internationally-organised exercises.

As for the physical preparation for oil spills of all sizes in the Black Sea, much work remains. Terminals and oil companies have the best supplies of equipment, all of which is held ready for small, Tier 1 spills. For spills outside oil loading/discharge facilities there are some contractors in Turkey, Russia and Romania with oil spill response experience, though these mostly have non-specialised equipment (e.g. vessels, vacuum trucks). All Bulgarian spill equipment is stockpiled by a specialist spill contractor operating out of the main two ports, Varna and Bourgas. There are no privately-operated spill-response resources (equipment or personnel) in Georgia and Ukraine, though some ports and terminals in these two countries do maintain limited spill response equipment (e.g. booms, skimmers). The Supsa terminal is well-equipped whilst the terminals in Batumi and Poti are also well served. A new closed joint venture company, "Environment Protection Enterprise Ecoshef-Centre" operated by Ex-Ministry of Transport (MPCSA) officers is under development in Russia. Ecoshef has plans for the establishment of Tier 3 response capacity for the Black Sea and other Russian Regions (Baltic and Pacific) as well.

STATUS OF CONTINGENCY PLANS, TIERED RESOURCES AND CONVENTIONS

With the November 2003 ratification of CLC '92 by Bulgaria, all Black Sea states now have CLC protection. Three of the six countries have ratified the 1992 Fund Convention: Georgia, the Russian Federation, and Turkey.

	Competent National Authority	National Plan	Clean-up Resources		Subregional Agreement	MARPOL	OPRC '90	LLMC '76	CLC '69 CLC '92	FUND '92	Inter-vention '69/'73
			Tier 1	Tier 2							
Bulgaria	Yes	Yes	Yes	No	Yes	Yes	Yes		'92		'69
Georgia	Yes	Draft	Yes	No	Yes	Yes	Yes	Yes	'92	'92	'73
Romania	Yes	Draft	Yes	No	Yes	Yes	Yes		'92		
Russian Federation	Yes	Yes	Yes	Yes	Yes	Yes		Yes	'92	'92	'73
Turkey	No	Draft	Yes*	No	Yes	Yes		Yes	'92	'92	
Ukraine	Yes	Yes	Yes	No	Yes	Yes			'92		'69

*Some terminals and refineries (eg Izmit Bay) have mutual aid agreements in place for tier 2

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