



More than 1,100 km long and ranging from approximately 200 to 400 km in width, the Caspian Sea covers an area of 386,000 km<sup>2</sup>, making it the world's largest isolated inland sea. It is linked to the Azov Sea through the lower Volga and Don rivers which are connected at Volgograd by the Volga-Don Canal. This Russian inland waterway of over 800 km can only be used by small river/sea vessels up to 5,000 GT (130m length, 3.4m draft). In winter (November to April) the northern part of the passage is closed. The Caspian is bordered by five countries, Iran and the four former Soviet states, Azerbaijan, Kazakhstan, the Russian Federation and Turkmenistan. Although negotiations are on-going, the five states have yet to agree on the legal status of the Sea and the rights to its resources.

With its low salinity (about 1/3 that of seawater) and its long isolation from the world seas, a unique, yet vulnerable marine ecology has developed in the Caspian. Important commercial fish species include sturgeon, herring, mullet, carp, bream, pike-perch, roach and salmon. The most valuable of these fisheries are the sturgeon from which 80% of the world's caviar was once produced. Unfortunately, lack of fisheries regulation since the fall of the Soviet regime has led to commercial over-exploitation and endangerment of the sturgeon, with annual catches falling from over 30,000 tons in the 1980s to less than 5,000 tons by the turn of the century. In terms of non-commercial species, the Caspian is inhabited by one of only two species of freshwater seals. The Caspian's extensive deltas, shallows and saline marshes are habitat for a great variety of birdlife, both year-round and migratory.

### THE RISK OF OIL SPILLS

Extensive post-Soviet oil and gas exploration has confirmed substantial hydrocarbon reserves in the Caspian Sea area, both undersea and in neighbouring terrestrial fields. Estimates vary, but it is generally held that the 'proven' reserves at least equal those of the North Sea (17 billion barrels) or the United States (22 billion barrels) and possible reserves might be as much as ten times more (or about one quarter the size of proven Middle Eastern reserves). Of importance is the fact that this oil is located far from current world markets and established transport routes.



# CASPIAN SEA

## REGIONAL PROFILES

*A Summary of the Risk of Oil Spills & State of Preparedness in UNEP Regional Seas Regions*

The risk of spills in the Caspian arises from a number of activities including offshore oil exploration and production, the transfer of produced oil to land terminals, the export shipment of oil by a variety of means and the movement of refined products to ports around the Caspian. Though offshore oil reserves in the Caspian are thought to be considerable, exploration and production have been relatively limited given the political uncertainties regarding the division of resources between the five Caspian states. When production does increase, the greatest areas of activity and risk can be expected in two main areas. The first is the belt of deep-water oil fields across the mid-section of the Sea, between Azerbaijan and Turkmenistan. The other area will be the shallow water Kashagan fields of the North Caspian off Kazakhstan, thought to be the world's largest oil discovery in the past 40 years. Much of the infrastructure that will be used to bring offshore Caspian oil ashore has yet to be put in place, but it is known that relatively large capacity undersea pipelines (eg 400,000 b/d) are being planned for the Azerbaijan fields. Proven reserves are very limited in Russia's Caspian, and non-existent in the case of Iran though extensive exploration is in progress or planned by both countries.

Export options that have been explored include transporting the oil by rail, ship, pipeline or a combination thereof. Those routes utilising the Caspian itself typically involve the same river/sea tankers and barges that frequent the Russian inland waterway network. Typically they bring crude oil to terminals such as Baku in Azerbaijan where it is piped across land to the more accessible waters (eg the Black Sea). Another option has been to use swap agreements whereby the oil is shipped across the Caspian for local refining and use (eg in Iran) in exchange for the export of an equivalent amount of oil (plus a fee) at an external sea port, such as in the Gulf. A favoured option has been to construct long-distance pipelines that directly link the Caspian oil sources to external transport routes. The most recent example is the Caspian Pipeline Consortium (CPC) pipeline which came on line in late 2001 with an initial capacity of 250,000 b/d. It now brings crude 1,580 km from the Tengiz oil field in Kazakhstan to a new Russian terminal outside Novorossiysk, where it is carried by Suezmax tankers in 100,000 tonne shipments across the Black Sea and out through the Bosphorus. While terrestrial pipelines such as the CPC pipeline reduce the risk of oil spills in the Caspian by carrying oil around the sea, other pipelines such as the upgraded Baku (Azerbaijan) to Supsa (Georgia) line or the planned Baku to Ceyhan (Turkey) line may lead to future increases in trans-Caspian oil shipment as pipeline companies try to utilise capacity that exceeds local oil production. The proposed Baku-Ceyhan line, for instance, is to have a 1 million b/d capacity. In such a case, oil could also be shipped by tanker from east-Caspian fields in Turkmenistan or north-Caspian fields in Kazakhstan. It is also possible that long-distance under-sea crude oil pipelines may one day be added to the many shorter pipelines already servicing offshore facilities, thus increasing the risk of oil release into the Caspian.

Though there have been no major oil spills to date in the Caspian, it is widely felt that the Sea is under substantial pressure from exploratory drilling, offshore production, shipment of refined products and near-future increases in crude oil shipment. Other sources of pollution are considered to be significant as well, including agricultural run-off and the discharge of untreated sewage and industrial waste.

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## THE STATE OF PREPAREDNESS

Three of the Caspian states (Kazakhstan, the Russian Federation and Turkmenistan) have adopted national contingency plans (NCP). A fourth state, the Islamic Republic of Iran, is in the process of finalising its NCP, and the fifth, Azerbaijan, has yet to begin developing its own NCP. Work to develop contingency plans at all levels, including a Caspian-wide regional contingency plan is currently being led by the IMO and the Caspian Environment Program (CEP), in close co-operation with national authorities, IPIECA and other oil industry parties. The World Bank and the European Commission are also involved in a number of different environmental programmes which include emergency response aspects.

The Emergency Response Caspian Region Thematic Center (ERCRTC) established in Tehran under the CEP is responsible for the promotion of spill response issues in the region. One of the tasks which the ERCRTC is currently undertaking is to produce National Reports detailing both the status of Emergency Response arrangements as well as risks and sensitive resources in each of the five Caspian states. Other tasks include the promotion of regional co-operation in spill response, improved communications strategies, the collection of incident information for databases, and the organisation of spill-response-related training courses and workshops.

The most recent and important work in spill response preparedness is the further refinement of a draft regional plan known as the "Caspian Sea Plan concerning Regional Co-Operation in Combating Oil Pollution in Cases of Emergency". Regional Workshops have been held in Tehran, Iran (April 2002) and Baku, Azerbaijan, (November 2001 and November 2002). Given that the legal status of the Caspian itself remains in debate, however, it is unlikely that the final convention protocol and official regional plan will be implemented for spill response in the near future. For this reason, other interim solutions for formally promoting co-operation between Caspian states (eg a Memorandum of Understanding) are being investigated.

In terms of clean-up resources, none of the Caspian Sea countries currently possesses adequate supplies of specialised oil spill response equipment and materials. Azerbaijan has some State-owned capacity left over from the Soviet period and Russia is in the process of expanding its inventory of available response resources. With the exception of Iran, which does not currently have Caspian sources of oil production, all the Caspian states base their response strategies on the tiered system and thus expect oil companies and transporters to maintain and implement adequate response equipment and materials for small spills. Among the industry preparations already in place is a Tier 2-3 oil spill response base in Baku which provides emergency back-up to the Azerbaijan-Supsa pipeline on land and emergency response for offshore drilling and production activities off Azerbaijan. Kazakhstan is in the process of developing its state response capability including response vessels and trained personnel. Industry resources are also being updated in the area. The main offshore operator in Turkmenistan, together with outside oil companies operating in that country have also been in the process of updating their response capacity above and beyond that left over from Soviet times. Despite this progress it is clear that all countries would still require international assistance in the case of a large spill.

In terms of international conventions, only Iran has ratified OPRC (as at October 2003). Apart from the Russian Federation, which has ratified CLC and Fund 92, and Kazakhstan which has ratified CLC 69, no other countries in the region are party to the international system of liability and compensation.

### STATUS OF CONTINGENCY PLANS, TIERED RESOURCES AND CONVENTIONS

	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							
Azerbaijan	Yes	No	Yes	Yes	In draft						
Iran	Yes	In draft	Unknown	Unknown	In draft	Yes	Yes				'73
Kazakhstan	Yes	Yes	Unknown	Unknown	In draft	Yes			'69		
Russian Federation	Yes	Yes	Yes	Yes	In draft	Yes		Yes	'92	'92	'73
Turkmenistan	Yes	Yes	Unknown	Unknown	In draft						

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