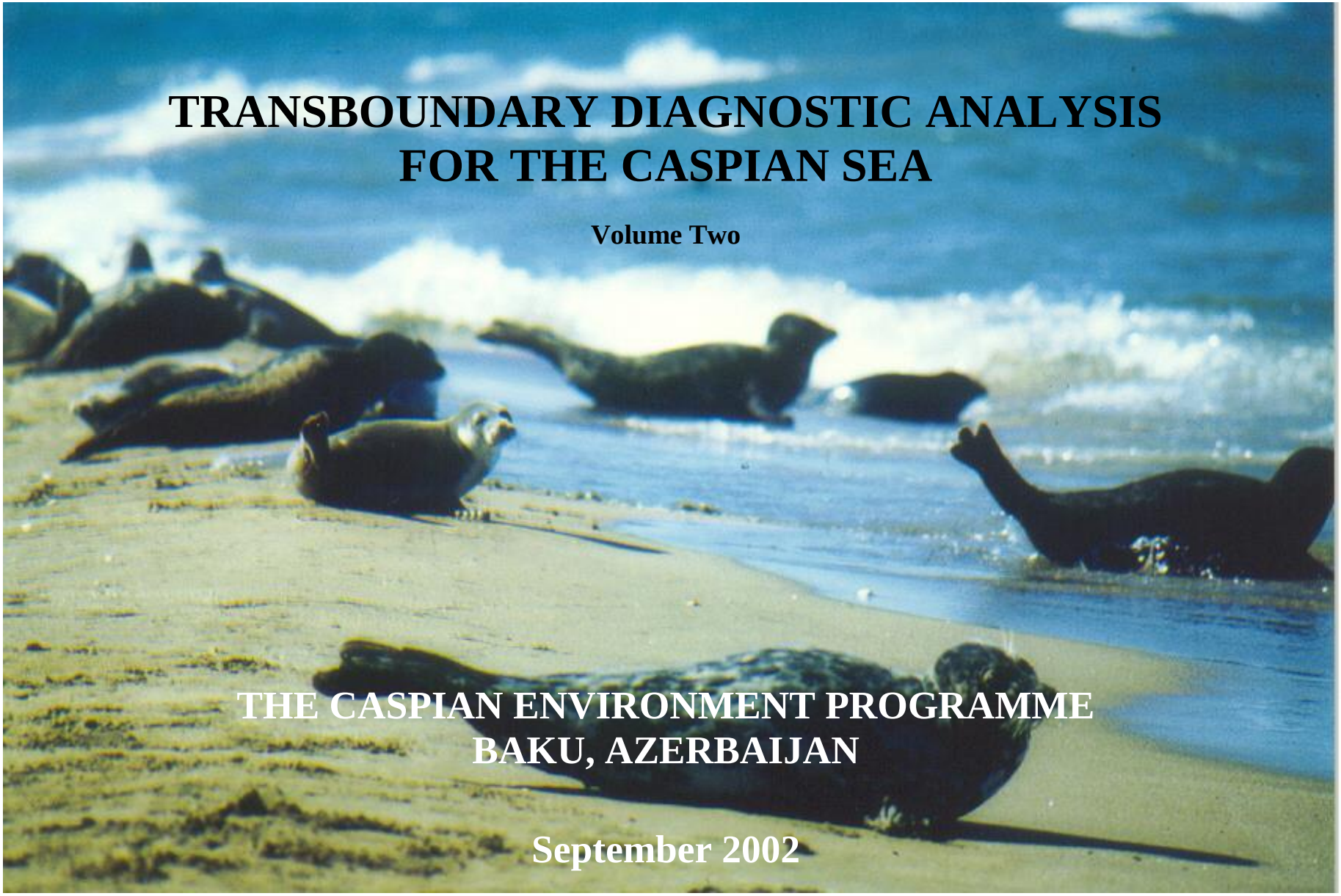

TRANSBOUNDARY DIAGNOSTIC ANALYSIS FOR THE CASPIAN SEA

Volume Two

THE CASPIAN ENVIRONMENT PROGRAMME
BAKU, AZERBAIJAN

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1.0 The Caspian Sea and its Social, Economic and Legal Settings

This section aims to provide background information on the Caspian Sea in order to support the recommendations in the National Caspian Action Plans (NCAPs) and the Strategic Action Programme (SAP). Thus, this TDA is not merely a State of the Environment report, but also a look into the future based on the current political situation, socio-economic conditions, and legal/regulatory framework.

1.1 Introduction

This Transboundary Diagnostic Analysis (TDA) is a scientific and technical assessment, through which the water-related environmental issues and problems of the Caspian Sea region have been identified and quantified, their causes analyzed and their impacts, both environmental and economic, assessed. The analysis involves an identification of causes and impacts at national, regional, and global levels and the socio-economic, legal, political and institutional context within which they occur. The identification of the root causes specifies sources, locations, and sectors.

This TDA provides the technical basis for development of the National Caspian Action Plans (NCAPs) and the Strategic Action Programme (SAP). In this TDA, the specific combination of activities contained in an NCAP or SAP is also determined by both national and regional policy considerations that may affect programme direction, sustainability, and cost effectiveness.

The TDA is based on extensive previous work. First, the Ramsar Steering Committee approved a Framework TDA in May 1998. Next, in May 2000, the Tacis Project prepared a Preliminary Draft TDA, which focused primarily on the significant advances made under Tacis support to the CEP during the previous two years (Tacis Phase I). The TDA is also based on four regional TDA meetings held in Baku, Azerbaijan, to obtain regional input. Finally, the TDA is based on the many basis documents available from the CEP and other sources, gathered during the four years since the Programme's initiation. Much of the work developed in this section therefore is extracted or summarized from vast resource materials available to the CEP. The existing extent of data and depth of analysis far exceeds the capabilities of this short TDA and therefore it represents a succinct synthesis of this information.

The process of completing the TDA included five Regional TDA Meetings, held in July 2000, December 2000, July 2001, November 2001, and May 2002. At these meetings, attended by representatives of all Caspian littoral states and the international partners, the scope of the final TDA was agreed, the list of Major Perceived Problems and Issues updated, the Causal Chain Analysis completed, and the list of actions/ interventions was developed in concert with the development of five regional Environmental Quality Objectives. Following the December 2000 Regional TDA Meeting, each country held a national TDA Meeting to review progress on the TDA to date, to provide national recommendations for improving the TDA, and to provide general national input on the TDA process. The second draft TDA was reviewed at a week-long meeting in November 2001, where input from all experts was solicited. The draft TDA was then re-visited in May 2002 in a last TDA Regional Meeting. Thus, the TDA process has been inclusive both regionally and amongst the various international partners.

The TDA encountered many challenges as this regional process was carried out. The major international assistance to the CEP (the Tacis and the GEF projects) was not concurrent. Due to their different project cycles, the Tacis project began one year prior to the GEF project, leading to incomplete coordination between the projects. Tacis-assisted CRTCs, for instance, began work earlier than GEF-assisted CRTCs.

Tacis then undertook a second tranche of work, which was completed at the end of December 2001, whereas the GEF project continues through September 2002.

Another challenge was the absence of open data sharing. Whereas the basis documents for the international assistance anticipated open sharing of available data, in fact these data have not been made available to the CEP as a whole, and often not to a particular CRTC. Raw data may be sensitive for a variety of reasons, including its value as a real currency in emerging market economies, lack of clarity about ownership of the data, and political or cultural perspectives. Lack of effective intersectoral coordination on a national level also reduced the availability of data in some instances. The extent of this challenge significantly detracted from the work of the TDA. A major priority in the future should be to establish a data-sharing agreement that clearly lays out the regional availability of scientific data (both new and historical).

Another major challenge was the availability and quality of data available to formulate this TDA. This TDA attempts to determine whether or not Major Perceived Problems and Issues (MPPI) are supported by facts. There are common perceptions about environmental matters, which may be colored by varied private interests, media, hidden agendas, lack of knowledge, or ignorance. This TDA points out gaps in our knowledge, where assessments of an MPPI are not possible. The study makes judgments about the scientific utility of various types of data and information in order to reach its conclusions. Historical data may not have had adequate quality control, making them impossible to rely on for this study. Reported data may be averaged such that that they cannot be used scientifically. Documentation of older analytical methods may be missing, thereby reducing credibility of data.

An additional data issue in the Caspian region is that the break-up of the former Soviet Union left a 10-year gap in monitoring of many parameters of concern. Air and water quality were no longer measured routinely, as instrumentation, vessels, reagents, human resources, and infrastructure dispersed or deteriorated. Thus, much of the data are a decade old with sparse data since. Fortunately, the CEP and various international and multi-national concerns have stepped in and provided some data during the past five years, including a Caspian-wide fisheries cruise and a Caspian-wide sediment quality cruise (ASTP).

Geographic Scope

The geographic scope of the Caspian Sea TDA cannot be described simply. A common geographic scope for the Major Perceived Problems and Issues cannot be defind, even though the TDA guidance states that the entire water basin must be covered under the study. Within the Framework TDA approved at Ramsar in May 1998, it was agreed to take the boundaries as far out to sea as can be actively managed, and as far inland as the administrative boundaries of coastal provinces. Where these boundaries impinge too far inland, the TDA should concentrate on a corridor width of between 100 and 200 km. Major rivers will be addressed with their lower reaches as a priority and the remainder only as much as possible.

However, the geographic scope or scale for some MPPI may extend farther or may be less distant. For instance, coastal desertification and water level fluctuations may be caused by climatic events that are global in scale, and thus the appropriate geographic scale is the globe, while many processes specific to coastal desertification (poor land use planning, poor agricultural practices, etc.) may be limited to the coastal administrative units (oblasts, rayons, or provinces). Pollution also has a much broader scale than defined at Ramsar, since rivers may bring pollution from all portions of the drainage basin. For instance, the Volga River services much of interior Russia, and the drainage basin extends beyond Moscow. For the Kura River, which is strongly Transboundary, pollution may emanate from any of the countries through which it passes, including Turkey, Georgia, Armenia, Iran, and Azerbaijan. It simply is not practicable (schedule-wise and budget-wise), however, to include the entire drainage basin in all aspects of the TDA. Therefore, the TDA is limited to the proximate discharges of water and associated

pollutants, only in rivers' lower reaches and the littoral zone. This shortcoming is partly offset by considering river mouths as "point sources" of pollution to the Sea, where sufficient data on river pollution exists. However, the TDA has attempted to make up for these shortfalls by cooperating with ongoing programme focusing on the rivers. For instance, USAID and Tacis projects in the Kura River Basin and the Russian Federation Volga Revival project, focused on obtaining data and developing plans for improved governance of the river basin. Also, GEF has several ongoing studies of the Volga and Ural river deltas and their data were incorporated into the TDA as available.

The exact geographic scopes/scales for specific MPPI are described in the relevant sections. In general, the geographic scope agreed at Ramsar is used where other guidance was not available.

1.2 Physical and Biogeochemical Characteristics of the Caspian Sea

This section provides a brief introduction to the environment of the Caspian Sea. The physical description of the sea provides a context within which to understand the major perceived problems and issues.

Physical Setting

General

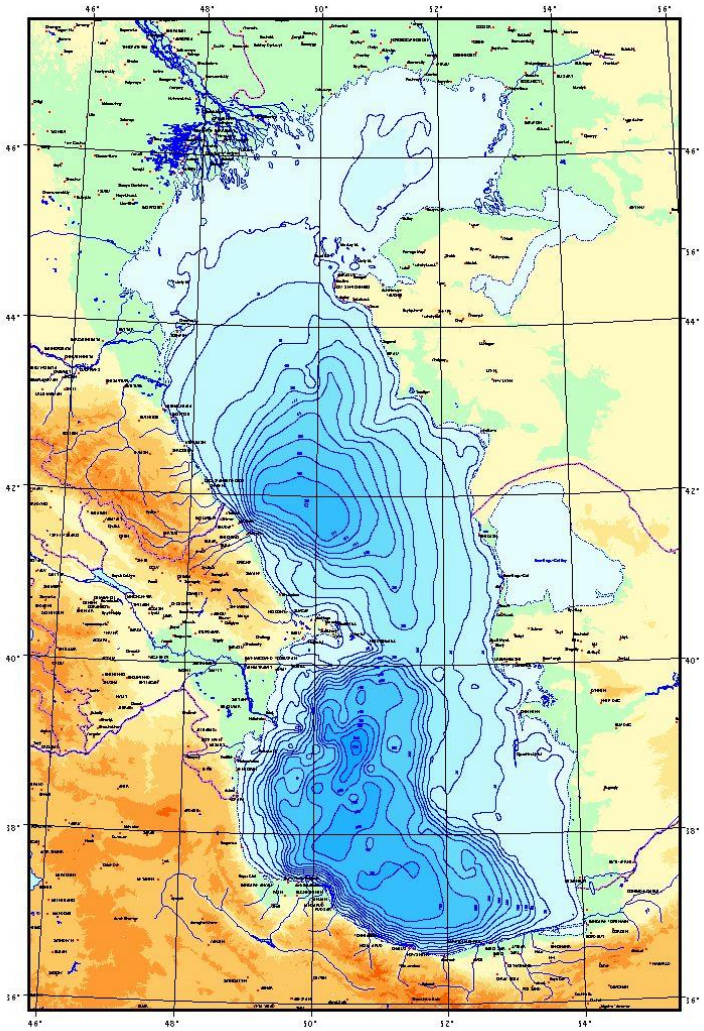
The Caspian Sea is the largest inland water body (with no connection to world oceans) in the world, occupying a deep depression on the boundary of Europe and Asia with a water level at present of approximately 27 m below the level of the world oceans (Figure 1.2-1). The Caspian contains more than 78,000 cubic kilometers of brackish water. Having been isolated from the world oceans at the end of the Pliocene epoch (1.8 million years ago), its ecosystem incorporates remnants of the fauna of the larger regional seas (mainly the Mediterranean and the Arctic biogeographic complexes).

A major difference between the Caspian and other large inland water bodies is its meridian orientation and great length (1,200 km), resulting in large differences in climate over the sea and especially over the catchment area; the northern shores are subject to extreme continental climate, while the southern and southwestern coast is in the sub-tropics.

Origin

The modern Caspian Sea originated as part of an ancient, brackish Pontic lake-sea 5-7 million years ago. In the Late Mesozoic and Early Paleocene, the ancient Tethys Sea occupied the area of the present Mediterranean and the Black, Caspian, and Aral seas. During Paleocene and Neocene times, the Black and Caspian seas were joined and separated several times. In the Early Pliocene, the Caspian Sea was separated for the first time from the Black Sea and accordingly, the primary marine fauna was partly eliminated and partly modified. During the Mid-Pliocene, the Caspian Sea was completely isolated from the Black Sea and since that time developments of the two basins, as well as their fauna, have proceeded independently. The typical brackish-water Caspian fauna formed at this time persisting to the present day (Kosarev and Yablonskaya 1994). Occasional connection with the Aral Sea contributed little to the biodiversity to the Caspian Sea.

Figure 1.2-1 The Caspian Sea



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