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# Heritage

## Border Euphrates Project, Turkey

The Border Euphrates Project in Turkey involved one of the world's largest and most ambitious rescue operations for rare antiquities and artifacts, involving archaeologists and other experts from several countries.

### Overview

The Euphrates and the Tigris Rivers account for 23% of the annual surface water flow in Turkey and have been extensively developed for the purpose of hydropower production and water supply for potable, irrigation and industrial use. The Southeastern Anatolia Project was launched initially as an irrigation and infrastructure investment, but by 1989 had become an integrated multi-sector regional development project that was ultimately converted to a sustainable human development project in 1995.

The Southeastern Anatolia Project consists of 13 project packages, including seven developments in the Euphrates Basin, of which the Border Euphrates Project, consisting of Birecik Dam and the Karkamis Dam and their respective hydropower plants, is one.

Birecik Dam is a 63m high rock fill concrete gravity structure, supplying irrigation water to 92,700 hectares of agricultural land. The Birecik hydropower plant has a capacity of 672 MW. Karkamis Dam is a 22.5m earth fill concrete gravity dam. Water from Karkamis Dam is not used for irrigation purposes, but drives 6 turbines with a total capacity of 180W.

### Dam Name

#### Scheme operator

Birecik AS (Birecik Dam and HEPP)  
State Hydraulic Works (Karkamis Dam and HEPP)

#### Size of scheme (MW)

672MW (Birecik)  
180MW (Karkamis)

<b>Country</b> Turkey	<b>Catchment area</b>
<b>River</b> Euphrates	<b>Effective reservoir capacity</b> 9.40 x10 <sup>9</sup> m <sup>3</sup> (Birecik) 2.10 x 10 <sup>9</sup> m <sup>3</sup> (Karkamis)
<b>Construction years</b> 1996-2001 (Birecik) 1996-1999 (Karkamis)	<b>Reservoir size</b> 56.2 km <sup>2</sup> 28.4 km <sup>2</sup>

### External recognition

The rescue of valuable archaeological relics has received international acclaim, and was published in National Geographic, Turkey in 2004.

### Details

Turkey is relatively rich in archaeological artefacts of Hittite, Assyrian, Med, Persian, Roman, Arab and Turkish origin. The Border Euphrates Project site contained significant historical remains, hence preservation of cultural and historical heritage was a major challenge.

Zeugma is the collective name for two ancient cities, Seleuceia and Apamea , on either side of the Euphrates River. The cities were founded in 300 BC by one of Alexander's generals, and Zeugma was the one of the four big cities of the Kingdom of Kommagene, around 1st century BC. It was annexed by the Roman Empire in 64 BC. The King of the Sasanids, Shapur I conquered the city in 256 BC, and it remained under the rule of the Late Roman empire until 7th century when Moslem attacks took place.

About one third of known extent of Zeugma was inundated by the Birecik Dam. An international effort was undertaken in 1996 to document, save and exhibit the cultural heritage of Zeugma and was completed by October 2000. Several teams of archaeologists and other experts from Turkey, Britain, France and Italy participated in the rescue operation, under the umbrella of the Oxford Archaeological Unit and supported financially by The Packard Humanities Institute and several agencies of Turkish Government.

Items that were transferable were transported to the Gaziantep Museum. Others were preserved on site for future generations. The Conservation Program was developed by Centro di Conzervazione Archeologica (CCA). Frescoes and Mosaics found to be immovable were protected at their original site using lime paste to make them as water resistant as possible. 120 archaeologists and conservation specialists worked with 250 laborers 7 days a week to complete the operation. Excavation efforts unearthed buildings, temples, churches, water canals, objects made of stone, ceramic, glass, iron, bronze, 91 frescoes, 700 m2 mosaic and 100,000 bulla. The documentation of the finds consists of written records, drawings and digital/conventional photographs.

## Other aspects

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A participatory resettlement program was successfully implemented for 850 households containing about 6,500 displaced people. Compensation provided by the Turkish Government was sufficient for families to build new homes, whilst the Turkish Government constructed schools, a health clinic and shopping centre to facilitate the resettlement.

## Further information

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