



Danube Facts and Figures

Republic of Moldova

(March 2007)

General Overview

Over 12,500km² of the Danube River Basin lies in Moldova, including 8,300km² of the Prut River Sub-Basin, 3300km² of the Yalpugh River Sub-Basin and 900km² of the Cahul River Sub-Basin.

Topography

The Danube River Basin in Moldova is hilly with an average elevation of 200 metres – the highest point is 429 metres and the lowest 70 metres. There are 20 tributaries of the Prut River and the average river density in the northern part of the Danube River is 0.84km/km², and 0.20km/km² in the south.

Precipitation, climate and water flow

The Danube River Basin in Moldova receives 500mm of precipitation per year in the northern and central parts, and 370mm per year in the south. Of this, 70% occurs during the spring and summer and 30% in the winter. Moldova's climate is temperate and continental with an average temperature of -3.5 degrees in January and 21.3 degrees in July. The average water flow is 2.4km³ per year.

Land use and settlements

Approximately one million people live in the Danube River Basin within Moldova, and settlements occupy around 8% of the territory. Some 70% of the population live in rural areas and 30% in urban areas. Approximately 30% of the population are connected to drinking water and sewage systems, however in rural areas only 10% are connected to drinking water supplies and 2-3% to sewage systems. The average income is €60 per month; however the high level of labour migration makes it difficult to estimate real income.

Agriculture dominates in Moldova's part of the Danube River Basin, with 80% of the total area used for agriculture. The average application of mineral fertilisers is 10kg/ha for nitrogen and less than 1kg/ha of phosphorus. Nearly 65% of all agricultural areas consist of arable land. Forests cover around 9% of the territory, mainly in the central part of the basin where the percentage of forest coverage is up to 30%.

There are two protected areas in the Prut Basin – Prutul de Jos, 1,670ha in the lower part of the basin; and Padurea Domneasea, 6,500ha in the northern part of the basin.

Selected national highlights

Lakes Manta and Beleu are two of the largest natural lakes in Moldova. Lake Manta has an area of 1,100ha, and Lake Beleu is slightly smaller at 1,000ha. The upper part of this lake is used for oil extraction – nearly 30,000 tonnes of oil are extracted each year. All lakes are located in the lower Prut Basin at a distance of 20-40km from the confluence with the Danube River.

The Human use of waters

Low water consumption is a result of the low connection of the local population to drinking water and sewage networks. During the Soviet era, irrigation was the main water use. Currently, however, only 5,000ha are irrigated with an average of 10 million m³.

Moldova's part of the Danube River Basin includes 25 reservoirs with a capacity of over 1 million m³. The main reservoir, Costesti-Stinca, was constructed on the Prut River with a volume of around 1km³ or 40% of river flow. Reservoirs are used mainly for flood control, fish breeding and recreation.

- **Flood and torrent Control**

Around 90% of the river banks are dammed – at an average height of two metres. The dams are normally sufficient, and since the construction of the Costesti-Stinca reservoir no significant floods have been recorded in the region.

- **Use of Hydroelectric power**

Energy production in the region is very low, with only one hydropower station in this part of the Danube River Basin. The Costesti-Stinca hydroelectric plant provides around 20,000 megawatts per year.

- **Navigation**

The Prut River has practically never been used for navigation. However some 530km of the river stretch from the confluence with the Danube to Costesti-Stinca could be used for navigation by small vessels. Current estimates show that vessels with a capacity of 300 to 350 tonnes could reach Cahul and those of 200 to 300 tonnes could reach Ungheni.

Currently, gravel and sand excavation in the middle and lower Prut costs on average one euro cent for one tonne per kilometre.

- **Rivers as receiving waters**

The average volume of discharged waters is 9,220 million m³ per year. Pollution types associated with these discharges are nutrients and biochemical oxygen demand (BOD). The estimated average BOD load for the entire basin is 100,000 tonnes per year.

- Drinking water

More than 95% of all drinking water for rural and urban settlements comes from groundwater sources. The average water consumption is 50 litres per person per day. The total water consumption for rural areas is 50,000 m³ per day.

Pressures and impacts on surface and groundwater bodies

- Organic pollution

The level of BOD is approximately 100,000 tonnes per year.

- Nutrient discharge

1. Point source discharges (N, P)

According to estimates, point sources make up between 8-10% of all nutrient loads – 1,600 tonnes of nitrogen and 100 of phosphorus.

2. Diffuse discharges (N, P)

Estimates show approximately 17,500 tonnes of nitrogen and 1,600 tonnes of phosphorus.

- Priority substances

The main substances, according to national statistics, are N, P and BOD. A deposit of nearly 5,000 tonnes of pesticides is located in the lower Prut Basin. Approximately 70% of banned pesticides are DDT and HCH.

Impacts on surface and groundwater bodies

Impacts from organic pollution, nutrients and hazardous substances (based on the Year 2004 National Analysis for implementation of the EU Water Framework Directive).

Approximately 30% of water bodies are at risk due to pollution from nutrients and BOD.

Impacts from hydro-morphological alterations (based on the Year 2004 National Analysis for implementation of the EU Water Framework Directive, including the initial classification of heavily modified water bodies).

Around 40% of water bodies in Moldova are estimated to be heavily modified or at risk.