Surface water is one of the most significant sources of natural ecosystems existence, climate regulation, broadly used for economic activity, drinking water supply, recreation, irrigation, etc. Therefore, chemical composition and grade of water pollution are of great importance to evaluate the ecological state of water resources and their usage in different scopes. The chapter represents the complex study of water chemical composition and pollution of the Dniester River basin within the borders of the Republic of Moldova during 2015-2020. The following water bodies were selected for this purpose: Dniester River and its tributaries Răut and Ichel. Based on the traditional hydrochemical parameters, the grade of water pollution with biogenic substances and biodegradable and persistent organic matter was estimated. The tributaries contribution to the Dniester River's water chemical composition formation was analyzed.