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## Historical waterways of ancient Russia and their navigation signs

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The waterways and the portages connecting them played a huge role in the settlement and economic development of forest landscapes of the vast territory of the Center and the North of the Russian Plain. Since VIII - XI centuries, water transport and trade routes have been formed: "The Great Volga Route", "From the Varangians to the Greeks", Severodvinsk way and others. It was possible to move from one river basin to another in forest areas on the interfluves only by the shortest paths between the upper reaches of the rivers - the places of the transitions - portages, where boats, ships and cargoes were moved on dry land. The main signs of the direction to the portages on the forested difficult terrain were large boulders or their clusters, and with the adoption of Christianity, so-called "portage" crosses.

The landscape analysis of the location of the portage pathways in the northern part of the Russian plain showed that most of them were confined to the nodal sections of the network of troughs of the glacial water flow in the marginal regions of the Quaternary glaciation. Currently, these areas are also the main watersheds of almost all the river systems of the Russian Plain. The portages were laid along small troughs of the runoff of glacial waters ("through valleys" or "inter-basin overflows"), occupied by residual lakes or upland bogs. These hollows connected the larger troughs of the runoff, in which, in the late glacial period, the upper reaches of the rivers were actually laid

Stone crosses were set as landmarks on waterways on key portages. These original traffic signs were created from granite, sandstone, limestone and other local materials with an average height of 1 to 2 m. One of the most famous crosses of the chronicles: Ignach cross (set no later than in 1238), which was on the watershed section of the "Seregersk waterway" on the Novgorod land. In 2003, a memorial sign was erected on its place on the territory of the Valdai National Park. The Sterzhensk cross on the Tver land (dated 1133) was established as a pointer to the confluence of the river Volga into the lake Sterzh. Today, the Sterzhensk cross is located in the Tver regional natural history museum. The portage crosses of the IX – X centuries are in the expositions of local history museums in the town of Ostashkov (Tver region) and in the town of Polotsk (Belarus). A unique stone landmark cross is kept in the Church of Mary Magdalene in the village of Parichi of the Svetlogorsk district in the Gomel region (Belarus). There are crosses that were preserved in their historical places of origin: for example, the portage cross at the Malskoye lake, which is 4 km from the town of Izborsk (Pskov region, Russia). At present, these monuments are reliable witnesses to the development of ancient waterways and are valuable objects of the natural and cultural heritage.

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