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Poland**

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Drawa National Park (DNP) is one of the newest and biggest national parks in Poland. It was set up in 1990 (as 16th from 23th national parks) on 114,41 km² (8th in the big-wise). Border area of DNP amounts 409 km². It is only one national park in Poland which belongs to the three voivodeship (Zachodniopomorskie, Lubuskie, Wielkopolskie). The landscape of the area was shaped during the last stage of the Vistulian glaciation. About 80% area are forests and 8% are surface waters. The Park boasts of 25 lakes, very diversified as regards the ecological character. The main rivers are Drawa (with average flow 15 m³/s and its left-bank tributary Płociczna (3 m³/s). The Park owes them distinguishing shape like "V" letter. The Drawa has a character of the mountain river due to rapidity of its current.

Some of the unique elements of the Drawa National Park water system are outflows of underground water: springs, leakages, and exudations, as well as the well-head peatbogs formed by those outflows. The sandy plain Równina Drawska, where the Park is located, is amiable to the infiltration of rain water into the ground. Provided with the right geological make-up of the land, these waters then flow out from the beneath where the land tends to be lower, especially by the edges of river valleys. Hydrogeological conditions of Drawa National Park and border area are relatively poorly recognized. Especially it concerns chemistry of groundwaters. The best way to recognize it is carrying researches of springs (there are not many wells in this area). The second aim of investigation is making photographic documentation, list and map of all springs and its precisely describing. Thanks results of researches will be possibility identifying of chemical background of this area in a wide range of elements. It will give rise to better protection of groundwaters in Drawa National Park and other compounds of nature.

During investigations in the DNP (since 2007) over 50 springs were found, 119 groundwater samples were taken and 170 field measurements were taken. Field investigation consists of measurements: temperature, pH, conductivity and redox potential of groundwater. After that chemical composition in laboratory was examined using volumetric methods and ICP spectrometer. It were measured as follows: main ions Cl⁻, HCO₃⁻, SO₄²⁻, NO₃⁻, Na⁺, K⁺, Ca²⁺, Mg²⁺ and F⁻, PO₄³⁻, SiO₂ and cations Fe, Mn, Al, Sr, Ba, Ti, V, Cr, Co, Ni, Cu, Zn, As.

The current results of investigations shows that springs of Drawa National Park are very diversified in many respects. For example outflow efficiency changes in a wide range from 0.1 l/s to a few liters per second. Some springs are very close to each other and makes so-called well-heads. The most abundant well-heads are located in the lower part of Rynna Miradzka. Some of the springs have hydrological windows, through which water flows out and gathers into streams that together form a brook. Its efficiency reaches (in some periods in the year) about 120 litres per second. Sometimes springs situated very close each other differs in hydrogeochemical conditions and chemical composition. Temperature of groundwater changes from 3,7 to 19,3°C (mean is 9,0°C), pH changes from 6,00 to 8,28 (mean is 7,34), conductivity changes from 135 to 786 µS/cm (mean is 426 µS/cm). The most usual springs hydrogeochemical type is HCO₃-Ca (about 60% of samples) and HCO₃-SO₄-Ca (about 30 of samples).

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