# Water Testing MINT



## 1. Description of the sampling sites:

**- Biała River near Jurowiecka Gallery**

**- River Biała behind the sewage treatment plant**

**- River Supraśl behind the sewage treatment plant**

**- River Biebrza in the Biebrza National Park**

- River Supraśl near Studzianki

## 2. What will the results be used for?

**The results will allow us to compare the state of pollution of water bodies in Poland to those in Germany.**

## 3. Equipment and reagents:

**- qualitative blotting paper filters,**

**- funnels,**

**- syringe filters with a pore diameter of 0,45 µm,**

**- ion chromatograph,**

**- colorimetric test kit,**

**- conical flasks,**

**- pipettes,**

**- colorimetric tests.**

## 4. Procedure of the experiment:

**1) To determine the cation content, water samples were filtered through a syringe filter of 0.45 µm diameter. 5ml of thus filtered water was transferred to measuring vessels and analysed using an ion chromatograph.**

**a) Ion chromatograph operating parameters for determination of cations:**

**- Dionex IonPac CS16 Analytical, 5 × 250 mm**

**- Dionex IonPac CG16 Guard, 5 × 50 mm**

**Eluent: 38 mM MSA (methanesulfonic acid)**

**Flow rate: 1.0 mL/min**

**Temperature: 30 °C**

**Volume to be injected: 25 µL**

**Detection: suppressed conductivity, Thermo Scientific Dionex CDRS 600 Regenerating Suppressor (4 mm), 112 mA suppressor current, back pressure: 2600 psi**

**Analysis time: 21 min**

**2) Colorimetric determinations.**

**3) For determination of total and carbonate hardness:**

**Measure 50 cm3 each of the test water into three conical flasks. Then immediately titrate with 0.01 M disodium edetate solution until the color changes from violet to blue. The titration should not last longer than 5 minutes after the addition of the indicator. If after 2 to 3 minutes the color of the sample does not change, the titration is finished.**

**4) Iron was determined by colorimetric assays using a colorimetric reaction of iron ions with SCN-**