

## COMET activities at the upper Silesian Coal Basin site 2

Research activities have focussed on:

- assessments of the contamination of terrestrial environment affected by discharge of mine water
- characterisation of the current state of Rontok Wielki contaminated due to discharge of radium rich water from coal mines considering:
  - comparison of  $^{226}\text{Ra}$  and  $^{210}\text{Pb}$  distribution in bottom sediments (1999-2016) – in 2016, where possible, the sediment samples were collected along the same grid as in 1999; a core sampler was used to assess the vertical distribution of radionuclides
  - assessing the  $K_d$  for  $^{226}\text{Ra}$
- calculating transfer factors for  $^{226}\text{Ra}$  and  $^{210}\text{Pb}$  for selected biota
- identification of the main processes determining radionuclide behaviour in a contaminated fresh water lake ecosystem with respect to a conceptual model for risk assessment



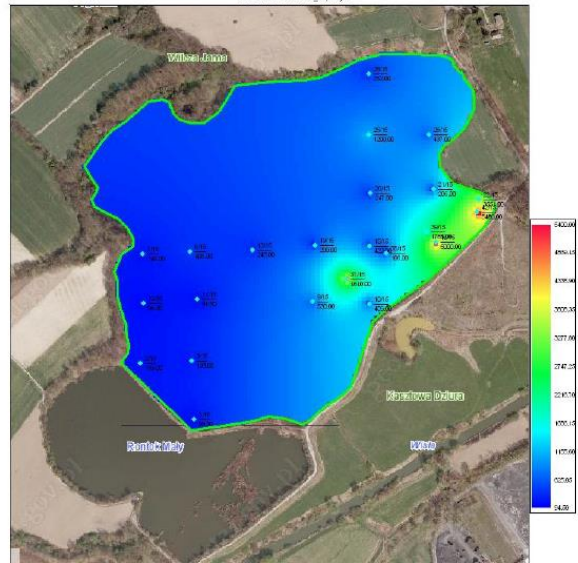
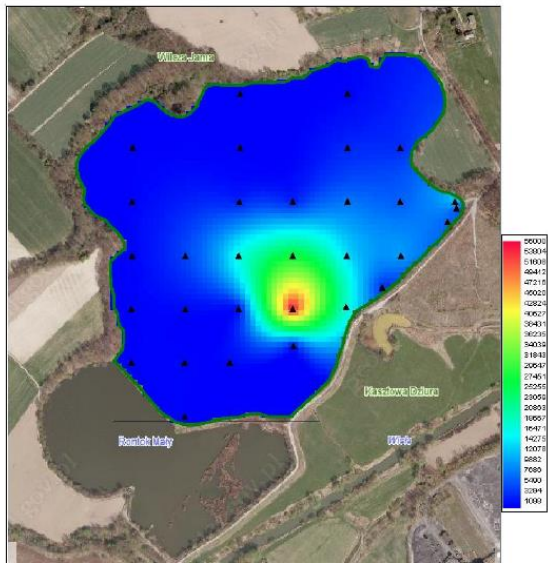
Sediment sampling



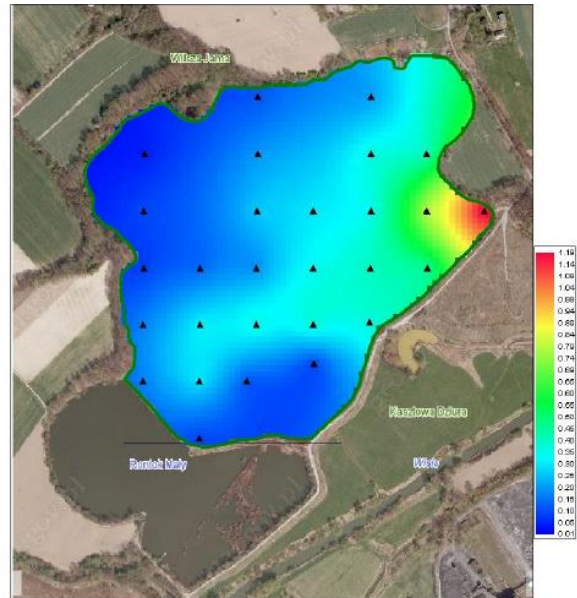
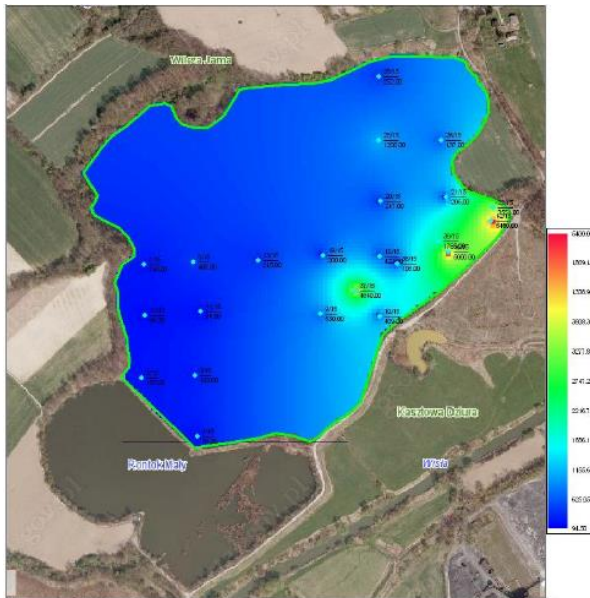
Sediment core (1)



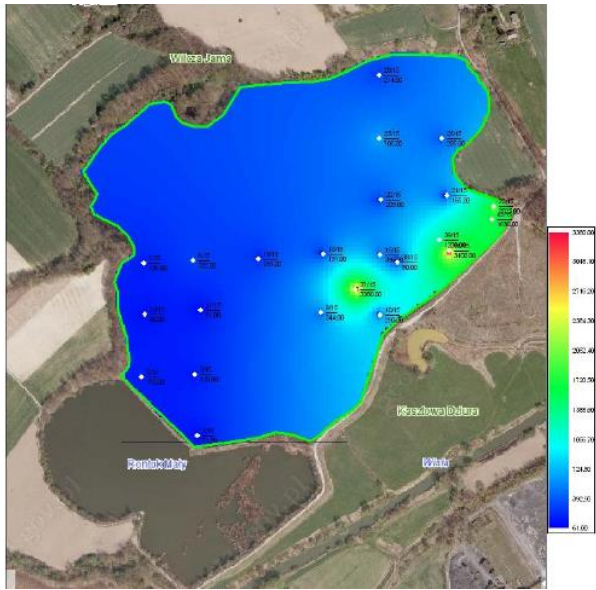
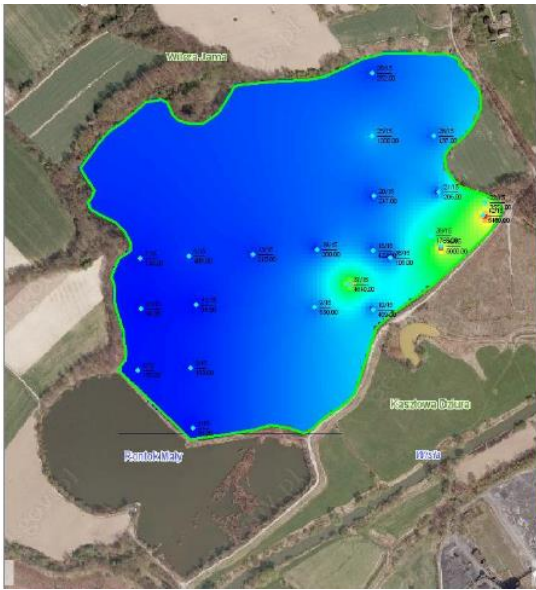
Sediment core (2)



Comparison of radium spatial distribution in bottom sediments, left -1999, right 2015/16



Radium spatial distribution in bottom sediments, 2015/16 (left), thickness of sediments layer in 1999, (right)



*Radium (left) and  $^{210}\text{Pb}$  (right) distribution in bottom sediments, 2015/16.*