SUMMARY

Alexandrowicz Z., Urban J. History and works of the Commission for the Conservation of Crystal Caves in the Wieliczka Salt Mine. Chrońmy Przyrodę Ojczystą **63** (4): 3–16, 2007.

The Salt Mine in Wieliczka near Cracow is situated at the Carpathian thrust front in the zone of the saliferous formation of the Middle Miocene. The mine has been continuously excavated since the half of 13th century. In 1978 it was introduced on the first list of the UNESCO World Cultural and Natural Heritage and since 1994 it has been protected also as the National Monument of History. The two unique, natural Crystal Caves are situated in the north-eastern part of the historical mine, outside of the tourist trail, 80–100 m under the ground surface. They were discovered in 1898–1899 and their first detailed description was made in 1928 (Kreutz 1928, Müller 1928). The Lower Crystal Cave is a natural dome-like cavity (706 m³) and its walls and the roof are almost completely covered by halite crystals reaching the size (edges) 10-36 cm. The Upper Crystal Cave situated several meters above is a chamber originated due to artificial combining of the several natural fissures partly filled with halite crystals. The crystals from the Crystal Caves are exhibited in many mineralogical collections of European museums as the model examples of halite crystallography and transparency.

Efforts to protect the Crystal Caves started at the moment of their discovery but were not effective enough for a long time. The high humidity of air in the caves has generated corrosion of the halite crystals, whereas insufficient guarding of the caves favored lawless collection of crystals. The first protective regulation was issued in 1928, the second – in 1949, but both were not implemented by legal acts of nature conservation (carried out in 1934 and 1949). In the period of 1992–1997 the Institute of Nature Conservation of Polish Academy of Sciences in Cracow performed the first complex studies of the Crystal Caves and their surroundings in order to elaborate effective methods of their preservation and monitoring. Legal establishment of the nature reserve "Crystal Caves" ("Groty Kryształowe") in 2000 and arrangement of permanent environmental monitoring of the air, crystals and rocks (humidity, morphology of crystals, temperature) are the main effects of this project (Alexandrowicz 2000).

Voluntary works of protection of the Crystal Caves have a long tradition. Owing to them the Crystal Caves have been preserved for

more than one hundred years (since their discovery). In 1928–1939 Supervisory Committee of the Crystal Caves was active in warding off damage of these objects. After the Second World War, in 1948 the Provisional Committee for Protection of the Crystal Caves was organized for preparation of nature reserve act. Soon after 1950 the competence of this Committee was adopted by the Commission of Inanimate Nature Protection of the State Council for Nature Conservation. The Commission brought about restricted access to the Crystal Caves and regular use of the humidity absorbent (CaCl₂).

In 2002 the Subcommission and, subsequently, Commission for the Conservation of the Crystal Caves was brought into being as the advisory body of the Council (earlier Commission) for the Nature Protection of the Małopolska Province. The members of the Commission have participated in the yearly monitoring visits in the nature reserve. The main results of the activity of this Commission are: statute of the Commission, rules of the Crystal Caves limited visiting and determination of the conditions of preparation of the conservation programme of the "Crystal Caves" nature reserve (for the next 20 years). This last problem was the main subject of meetings of the Commission in 2006. The programme has been prepared by the Foundation "Science and Mining Traditions" - association of people mainly connected with the Faculty of Mining and Geoengineering of the AGH University of Science and Technology in Cracow. The published monograph of the Crystal Caves (Alexandrowicz 2000) is the scientific basement of this programme. The environmental monitoring of the Crystal Caves projected in the programme assumes continuation of the works prescribed in this monograph with the use of modern equipment. New devices in this programme mainly concern geomechanic monitoring of the nature reserve and the trails (mine galleries) of its access, system of its lighting as well as automatization of the monitoring. The final version of the conservation programme will be consulted by the Authority of the Wieliczka Salt Mine, Nature Conservator of the Małopolska Province, Commission for the Conservation of Crystal Caves in the Wieliczka Salt Mine and then accepted by the Ministry of the Environment.