

Final report

Rufford Small Grants for Nature Conservation

Conserving the flora and fauna of Balea Lake region – Transylvania-Romania

Adalbert Balog

Janos Balint
Botond Papay
Lajos Daniel
Istvan Orban

The presence of the quaternary glaciers in the Carpathian Mountains determined the formation of the glacial cirques and valleys, many of them sheltering afterwards lakes. They are to be found at altitudes over 1900-2000 m.

In Fagaras Mountains there are 30 glacial lakes, among them being **Balea Lake**, Capra Lake, Avrig Lake, Caltun Lake, Urlea Lake, Podragu Lake, Podragel Lake, Doamnei Lake.

The Natural Reservation Balea

Balea Lake, a glacial lake situated in The Fagarasi Mountains, at an altitude of 2,034 m, declared monument of nature, is one of the biggest and most beautiful glacial lakes of Romania (360 m long and 11 m deep). It has an area of 0,46 square kilometers and it has a maximum depth of 11 meters, area: 180 ha. Localization: Fagaras Mountains, the glacial hollow Balea, between the peaks Vanatoarea lui Buteanu (Buteanu's Hunting) (2508 m), Capra (2439 m), Paltinu Mare (2398), Muchea lui Buteanu (Buteanu's Edge) (2506 m) and Piscul Balii (Balea's Peak), in the area of the village Cartisoara. Around the lake 100 ha have been declared scientific preserve with numerous plants (edelweiss, yellow poppy) and animals (chamois, lynx, mountain eagle) protected by law. Access - From D.N. 1(E 68) starts Transfagarasan, through the village Cartisoara and Balea Valley; CFR Railway station - Carta; crest mountain route, with descent on Balea Lake.

Activities in 2006

The species assessment was started with identifying the threatened species in Balea Lake region

Samples were collected in 2006:

1. 25 - 30th of March
2. 20 – 24th of April
3. 20 - 23th of May
4. 20 - 25th of June
5. 19 – 25th of July

Monitoring - to protect the endangered species we need to know the factors that disturb them habitats. Also is very important to have information about the level of population changes that can be measured by monitoring. During the project the staff and the new volunteers checked the whole region for discovering other threatened habitats and species.

The most threatened plant species list identified is:

Achillea schurii, *Aconitum hosteanum*, *Alopecurus laguriformis*, *Aquilegia transsilvanica*, *Artemisia petrosa*, *Bruckenthalia spiculifolia*, *Campanula alpina*, *Campanula kladniana*, *Cerastium lichenfeldianum*, *Cardaminopsis halleri*, *Carex fuliginosa*, *Doronicum carpaticum*, *Dianthus glacialis*, *Festuca bucegiensis*, *Geum reptans*, *Helictotrichon decorum*, *Leontodon transsilvanicus*, *Leontopodium alpinum*, *Myosotis alpestris*, *Pinguicula vulgaris*, *Plantago gentianoides*, *Potentilla ternate*, *Primula minima*, *Ranunculus crenatus*, *Saxifraga moschata*, *Saxifraga rotundifolia*, *Saxifraga stellaris*, *Saxifraga demmisa*, *Saxifraga opositifolia*, *Silene acaulis*, *Silene dinarica*, *Trollius europaeus*, *Viola* sp.



Fig. 1. *Campanula alpina*



Fig. 2. *Cardaminopsis, halleri*



Fig. 3. *Dianthus, glacialis*



Fig. 4. *Doronicum carpaticum*

The major problems in the reservation area are the illegal tourism and the commercial activities have the highly negative effects on flora and fauna.

- Throughout the whole project period our team has collected written reports and other pieces of information about the previous assessment in the reservation, publications and protection plans.

- GPS measurements were made and the habitat maps of the threatened plant species were created. We also created map database; including topographical and agro-forester action maps.

- We developed the human resource element for monitoring the mountain and subalpine regions in Fagaras Mountains, by building a network of NGOs and Universities that will deal with nature conservation. We have strong collaboration with Sapientia University-Faculty of Natural Science-Cluj-Napoca-Romania, Babes-Bolyai University-Faculty of Biology-Geology, Milvus Group Romania, Romanian Ornithological Society, Romanian

Lepidopterological Society, Hungarian Entomological Society and with The Hungarian Natural History Museum Budapest.



Fig. 5. Advertisement panel

- During the whole period we were seeking for new collaboration on experts and funding level to take part in recovery projects on Balea Lace Region.

- We are intending to apply for the II. Ruford Small Grant for Nature Conservation for continuing our assessment to expand the reservation in such areas where the human impacts are less.

. Our final aims are to involve one unified protected area, and to introduce the whole region in NATURA 2000 Biodiversity Conservation Program, supported by UE.

Adalbert Balog

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