



COUNCIL OF EUROPE
CONSEIL DE L'EUROPE
Committee of Ministers
Comité des Ministres

2022.

ANNUAL REPORT FOR SZÉNÁS HILLS PROTECTED AREA



EUROPEAN DIPLOMA HOLDING SITE

1995

CATEGORY A

2022.

Annual report for the year 2022

State: Hungary

Name of the area: **Szénás Hills Protected Area**

Year and number of years since the award or renewal of the European Diploma for Protected Areas:

2020-2030

Central authority concerned:

Name: Duna–Ipoly Nemzeti Park Igazgatóság (Danube–Ipoly National Park Directorate)

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Authority responsible for its management:

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Conditions: by 2022, replace the current five-year management plan (expired 2018) with a new and approved five-year plan

- *We have begun to update the nature conservation management plan. We don't see any unresolved difficulties. However the implementation of an EU project (LIFE) is in progress on the area, which affects the development of the management plan. For this reason, we are asking for a one-year extension of the deadline to implement this condition. We hope that we can replace the management plan next year, together with the new long-term management strategy.*

Recommendations:

1. develop a long-term twenty-five-year management strategy by 2023, including the following aspects:
 - a. objectives for the relative cover of grasslands and woodlands, their ecotones and connectivity between them, and the natural ecological processes and other management measures required to meet them; this should be based on sound evidence of the ecological value of these broad habitats and the ecological requirements of their characteristic species;
 - b. enhanced understanding of the ecological requirements for particularly rare and endangered species; with strategies for appropriate species recovery programmes where necessary;
 - c. an assessment of the potential impact of climate change on priority habitats, species and related ecological processes, together with an adaptation plan where necessary;
 - d. an assessment of future land-use pressures, especially from recreation, tourism and urban development, and potential strategies for mitigating the negative impacts of these;
 - e. the need to determine and implement the range of management options and nature-based solutions necessary to meet the long-term challenges of maintaining the ecological interest of the Szénás Hills Protected Area, especially with regard to long-term ecological trends, including climate change;
 - *In 2020, the new LIFE project "Conservation of endemic species and dry grassland habitats in the contact zone of Pannonian and Alpine bioregions" (LIFE endemic PANALP) have been started. The Szénás Hills EDPA is one of the project sites. The following activities of these LIFE project contribute to the achievement of the recommendation.*
 - *In 2021 we set up a Scientific Advisor Committee (SAC) for the conservation of *Linum dolomiticum*.
Members of the SAC and their professional fields:
Dr. Gábor Sramkó - Population genetics
András Kun - Coenology
Dr. Gábor Kovács M. - Micology
Dr. Konstantin Dobolyi Zoltán - Biomonitoring
Laura Jelinek- Representative of the Ministry of Agriculture
On the 16th of May 2022, members of the SAC visited the habitat of *Linum dolomiticum*. As a result, they gave recommendations in relation to the research of the flax. (see Annex 1).*
 - *Monitoring of the whole population and habitats of *Linum dolomiticum* was achieved also this year. The population of *Linum dolomiticum* has been decreasing from 2010, unfortunately (see Diagram 1). The decrease is presumably caused by microclimatic factors. In the open dolomite grassland spots, the substance decreases drastically, there's no regrowth, but in the closed dolomite grassland spots substance stagnates or seedlings can be found.*

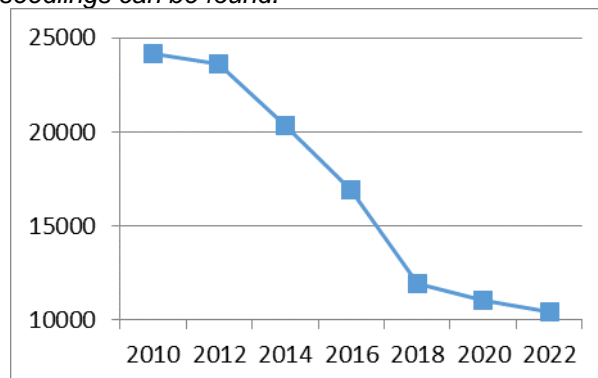


Diagram 1:
Population of *Linum dolomiticum* between 2010-2022

- *The researchers carried on the comprehensive in-situ conservation experiment of *Linum dolomiticum* (started in 2017). The seeding experiment proves, that open dolomite grassland spot's microclimate has unfavourable effects for *Linum dolomiticum*. The researchers try to revive old former habitat of the *Linum dolomiticum* (in situ conservation) with sowing and new sample squares were designated.*

1. continue the close co-operation by the Danube-Ipoly National Park Directorate, the Pilis Forest Company and the municipality of Pilisszentiván in the management of the protected area; ensure that nature conservation is the primary consideration in decisions affecting the protected area; and enhance co-operation between the managing authorities and the local municipalities by:

a. establishing equivalent trilateral agreements of co-operation with Nagykovácsi and Piliscsaba;

b. establishing more regular local forum meetings of officers and also the public;

- *Results of the annual agreement of cooperation between the Danube-Ipoly National Park Directorate, the Pilis Forest Company and the Local Government of Pilisszentiván:*
 - *Conservation of habitats: we have continued the habitat reconstruction works (black pine cut) on 0.2 ha;*
 - *Monitoring the succession of the habitats: we have continued the monitoring of habitats where we removed Black pine stands.*
 - *Monitoring of fenced sample areas: we have continued the monitoring of the effect of large game species, comparing the vegetation of 6 fenced and 6 control quadrats;*
 - *Environmental education is supported by the Local Government of Pilisszentiván, too;*
 - *We are very proud of our colleague, Réka Karlné Menráth. She won a local award in Pilisszentiván for her work in protecting nature values and especially in environmental education (see Photos).*
- *We are planning to expand the cooperation with the other two settlements.*
 - *We had negotiations with the lord mayors of the two other municipalities Nagykovácsi and Piliscsaba. Both of them agreed to establish equivalent trilateral agreements of co-operation with the Pilis Forest Company and the Duna-Ipoly National Park Directorate.*

2. continue to pursue European Union funding to meet management objectives; ensure the effectiveness and efficiency of project delivery by including the employment costs of the appropriate project staff in the project bids and subsequent budgets;

- *The LIFE project will supplement our (Danube-Ipoly National Park Directorate) resources for a few years as long as it lasts (until 28/02/2027).*
- *The tender will cover several habitat reconstruction interventions, restorations and research.*
- *At 2022 we started the renovation of the Nagy-Szénás educational trail in Nagykovácsi and wrote a new educational trail booklet (not printed yet), too.*
- *We are employing 3 more colleagues on part time job in the new visitor centre, because the operation of the new building has generated many new tasks. In our view, seeing the extra tasks will require further expansion over time.*

3. where short-term European Union funding is supporting longer-term needs, secure an appropriate, predictable and sustainable budget to ensure stability of funding;

- *As mentioned, a European Union funding (LIFE) is providing resources for managing the area until 2027. The continuation of this is ensured by agreements with the Pilis Forest Company and the local municipalities.*

4. continue effective game management in line with previous commitments, to reduce populations of non-native mouflon and fallow deer to zero; establish a time line, funding and appropriate methods to achieve this eradication within ten years; and continue to manage native large mammal populations, based on effective monitoring by the Pilis Forest Company. Game management can be effective only with the continuous maintenance of the fence around the area and with a combination of control methods (for example, big game drives, shooting, trapping);

- *The game population management is part of the agreement of cooperation between the Danube-Ipoly National Park Directorate and the Pilis Forest Company (Agreement).*

- *The ASF (African Swine Fever) causing serious problems in the area due this disease all the driven hunt was cancelled again in the hunter season 2021-2022, unfortunately. It would be important to keep these in order to manage the area.*
- *Monitoring of changes in number of large game population, resulted by the operation of game traps, is also part both of the Agreement and the new Life project.*
- *The fence enclosing the protected area must be maintained in good condition to prevent technical sport activities from encroaching upon it and also to raise the effectiveness of game population regulation. Maintaining of the fence is also part of the Agreement.*
- *We are going to establish a time line to eradicate the non-native game species, in the frame of the long-term management strategy next year.*

6. continue the eradication of non-native tree species, especially the black pine and black locust; especially for the black pine, establish a time line to complete the clearance programme, with funding and appropriate methods to achieve the objective within ten years; and investigate with forest authorities where and how, in appropriate locations, black pine stands as well as other woodland areas might be restored to open grassland, considering appropriate techniques, costs and opportunities, and addressing the regulations which govern such open habitat restoration;

- *The LIFE project (above-mentioned) includes also the removal of non-native species, partly with contractors and partly with the involvement of volunteers (see Photos).*
- *We are going to establish a time line to complete the clearance programme, in the frame of the long-term management strategy next year.*

7. enhance the effectiveness of the buffer areas by the inclusion of appropriate regulations in land-use plans to limit inappropriate development; and investigate the practicality of regulating other activities (for example, fly tipping or the introduction of non-native species) in these areas;

- *Regulations must be worked out for horse riding paths in the area; also a mountain bike trail should be designated so as to avoid the fenced and strictly protected area;*
 - *There is a new initiative called Pilis Bike trail network which is a good opportunity to divert bike traffic from the most sensitive area. Consultations with the project decision-makers are ongoing.*
- *The protected landscape status of the two areas adjoining the special protection area, which were also the subject of the diploma application, should be maintained to keep them functioning properly as buffer zones; construction in these areas should not be allowed;*
 - *Where there is a buffer zone, no building permit can be issued in zone C. (Neither above the ground nor below)*
- *Urbanisation pressure must be handled properly; any new development plans of Nagykovácsi, Pilisszentiván and Piliscsaba should be examined carefully;*
 - *Consultations with the settlements on the development plans are ongoing.*
 - *Negotiations are ahead.*
 - *These areas can only serve recreational purposes.*

8. continue the effective management of visitor access for a range of user groups, including enhancing provision away from sensitive areas, such as horse-riding trails and mountain bike routes, where this can relieve pressure on the protected area.

- *We had an extremely busy year. This year we had more visitors than in previous years (see Diagram 2). We held many new programmes: family events, summer camp for children, nature birthday party, etc. We were very popular with school groups, too. We organized outdoor programmes and series of lectures for the local children (primary school, nursery school (see Photos)).*
- *Our rangers and the environmental educator regularly guides groups in the field to interpret the natural assets. We joined the International Arbor and Bird Day (07/05/2022) and the International Bird Watching Day (02/10/2022).*
- *Large-scale events were held in 2022. We organized:*
 - *Linum dolomiticum hikes in May,*
 - *Firebug's' night tours in June,*
 - *Night Forest event in June*
 - *Linum flax summer camp (2 events) in August,*
 - *'Bug tours' in September (based on the biggest insect in Europe the bush-cricket (Saga pedo)).*
 - *bird banding programmes regularly*
 - *and the Treasures of the autumn forest' (14/10/2022) event.*

- *Stricter ranger action during the *Linum dolomiticum* bloom to protect the habitat. The action was successful.
(The rangers locked the crossing gates on the fence, only the guided tour members were allowed to enter during the weekends.)*
- *A new Hungarian forest school rating system has been introduced in the national parks, in which the visitor center participates as a training place. This is a whole new opportunity for us.*
- *Field exercises were held for university students (several weeks).*
- *We held combined programmes with the 2 local exhibitions in Pilisszentiván (archeology, mining).*
- *In September a field exercise was held for university students.*

Number of visitors in 2022 (from 01/01/2022 to 30/11/2022): adult 725, children 5613, all 6338

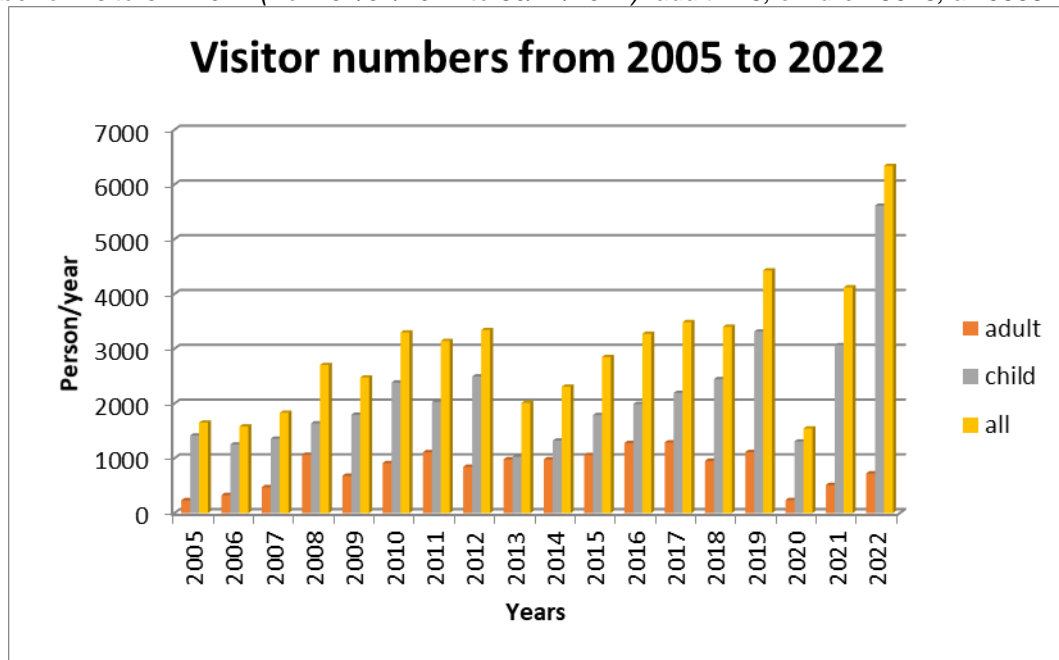


Diagram 2: Visitor numbers from 2005 to 2022

e. **Site Management:** List here any changes to the European Diploma holding site management, in relation to both terrestrial and aquatic environments (as appropriate), and in relation to staff and finances, since the last annual report was submitted to the Council of Europe. Please also indicate any unresolved difficulties that you have encountered.

Details of the ongoing LIFE project see above.

f. **Boundaries:** Give details of any changes to the boundaries of the European Diploma holding site since the last annual report was submitted to the Council of Europe. If there are any changes, please attach an appropriate map to this report. Please also indicate any unresolved difficulties that you have encountered.

No changes

g. **Other information:** List here any other information about the European Diploma holding site which you consider should be provided to the Council of Europe.

- *Managing some team building days of different groups (mainly company groups) in the zone C. In these occasions cutting of Black pine, planting of deciduous tree plants or maintenance of wooden equipment of the nature trails was accomplished.*
- *The local NGO-s help our works (regular patrolling, habitat reconstruction works). The New Acropolis Association (NAA) and the Forest Guards Foundation (FGF) were the most active partners.*
 - *The NNA members help in the habitat reconstruction work, regularly.*
 - *The FGF placed nest-boxes and bird feeders into the forest (next to our nature trail).*
- *We have some volunteers helping us regularly in the environmental education works.*
- *Every year, we have "trainees" from universities and high schools. It's a good opportunity for them to learn, but at the same time, they help our work, too.*
- *We have promoted the area several times in Hungarian public media and other local media.*

ANNEX 1.

LIFE endemic PANALP, Action A1
Recommendations of the Scientific Advisor Committee
for researching and preserving *Linum dolomiticum*

LIDAR map

One of the most significant positive abiotic factor for *Linum* is the availability of water. A LIDAR map of the *Linum* habitat would help us identify the most suitable patches in this aspect within the whole area, because it enables us to localize the movement of water (both under and above the surface) and assess a wide range of ecological needs. Estimated costs: 1 250,- EUR.

Examination of soil microbiota and mycorrhiza connections

An essential condition for the *Linum* seedlings' survival is the presence of soil microbiota and the existing mycorrhiza connection. Before the in situ propagation for new patches, the following examinations are strongly advised:

Examinations	Estimated costs (EUR)
General examination of soil microbiota, comparison of habitat patches	1 200
'Cross planting' experiment	100
Seed bank, estimations of seeds, soil seed bank, percentage of blooming and germination	50
Soil	50

Flowering biology

Currently, we have no information on whether the *Linum* is a self-pollinating, optional self-pollinating or cross-pollinating plant. If it is an optional self-pollinator, is cross-pollination a reproductive biological advantage? In the latter case, the introduction of domestic bees can improve seed yield, which was previously confirmed by studies for an orchid species in Hungary. The reproductive strategies of *Linum* are also little known. With the above background information, the predictability of seed seeding interventions can be significantly improved.

Examinations	Estimated costs (EUR)
'Cross planting' experiment	100
Seed bank, estimations of seeds, soil seed bank, percentage of blooming and germination	50

Coenology

The probability of the occurrence of *Linum* varies in the different types of associations in the area, as well as in the proximity of each species. In addition to abiotic factors, the choice of suitable associations for *Linum* is crucial for in situ propagation and for the possible habitat restoration works (e.g. elimination of Black pine, seeding of native tree and shrub species in open dolomite cliffs, etc.). To this end, it is necessary to examine the habitat preferences of *Linum* and its relationships with other species (e.g. *Juniperus communis*).

Examinations	Estimated costs (EUR)
Habitat preferences of <i>Linum</i>	800
Micro cenology monitoring (4 years)	3 000
<i>Juniperus</i> connection	50

Genetics

One of the key elements of conservation is the conservation genetic study of *Linum*, because knowing this information, targeted conservation measures can be effectively planned.

Examinations	Estimated costs (EUR)
Defining of four DNS-regions sequences (nrITS, plastisz ndhF gén, matK gén, trnL-F intergénikus spacer)	130
<i>Linum dolomiticum</i> whole genom (short-read + long-read)	2 600
Population genetic structure (RADseq method)	3 500

Total estimated costs: 12 880,- EUR.

All the above mentioned examinations could be carried out during the project period (typically in 1-2 years), therefore the added value to the objectives of this project can be ensured.