Beetles LIFE
Assessment of the impact on local socio-economy and on the ecosystem functions

Photo: Teemu Rintala

Project summary

Beetles LIFE is a diverse conservation project. It has helped eight endangered species of beetle and, above all, their living environment, where hundreds and thousands of other species live. In our project, we told the story of these heroic species, using art, education, the media and games.

Managing the habitats of the target species also helped hundreds of other species that inhabit the forests, and it safeguards biodiversity. Nearly half of the species we are interested in are insects. They are vitally important in the food chain and for the ecosystem.

The budget for the project was EUR 2.69 million, of which 60% (EUR 1.6 million) is funding from the EU's LIFE Programme.

The project covered the period 1.8.2018–31.7.2023.

Beetles LIFE

Target species of Beetles LIFE

Xyletinus tremulicola

Stephanopachys linearis

Phryganophilus ruficollis

Pytho Kolwensis

Boros schneideri

Powder-post beetle
Stephanopachys substriatus

Aradus angularis

Red flat bark beetle
Cucujus cinnaberinus

Restoration measures in Beetles LIFE

In Beetles LIFE project Metsähallitus Parks & Wildlife Finland has operated on 25 Natura 2000 areas throughout Finland. As part of the project, we have restored altogether 950 hectares of Natura 2000 areas.

We have

- Restored 295 ha of bog woodlands
- Promoted aspen on 168 ha
- Managed forests by controlled burning on 345 ha
- Increased the amount of deadwood on 143 ha

Beetles LIFE

Socioeconomic impacts in nature conservation projects

Identifying the socioeconomic impacts of conservation projects is essential for many reasons. Among other things, identifying and drawing attention to socio economic benefits may have a positive effect on stakeholder commitment and acceptability of conservation measures (Kajala 2012) as well as promote political commitment to conservation objectives. Knowledge of the social and economic impacts of nature projects may additionally increase understanding of nature's significance in society.

Identification of impacts promotes socially sustainable decisions It may also help anticipate potential conflicts associated with nature conservation measures, for example, and prevent clashes between different interests and actors. Knowledge of conservation projects' socioeconomic impacts also supports communication about the benefits of nature conservation targeted at different stakeholders.

P. Kolwensis
Photo: Teemu Rintala

Impact on local socio-economy 1/3

Local businesses benefit from the funds granted for national parks and hiking areas, as the funds return to society many-folded through local entrepreneurship and jobs. The private sector creates tourism business services around these areas.

The input-output ratio of the national parks is good: when Metsähallitus, Parks & Wildlife Finland invests one euro of tax payers' money in the hiking services of national parks, the local economy benefits over 10 euros, on average.

Beetles LIFE took also place in eight national parks. The areas are as important to beetles as they are for people. Annual visits to these national parks are approx. 1M. The visitation impacts are primarily recreation and health benefits.

Photo: Teemu Rintala

Impact on local socio-economy 2/3

The method for estimating the local economic impact of the nature protection areas was developed by MHPWF Finland and Finnish Forest Research Institute. The method is based on the MGM2 model that is used the USA.

The method utilizes information about visitor numbers, the amount of money that the visitors spend during their visit and the coefficients that describe how the money encircles in local economies.

The total income impact means the direct and indirect income to the nearby areas/year. MHPWF calculates every year the estimates of economic impacts for all National Parks and other nature protection areas that are important for nature tourism.

The following page compares the total income impact, number of visitors and total employment for eight project sites of 2018 and 2022.

Impact on local socio-economy 3/3

Area	Total income impact million € 2018	Total income impact million € 2022	Total employment (man-year) 2018	Total employment (man-year) 2022	Nr of visits 2018	Nr of visits 2022
Hiidenportti NP	1,0	1,1	11	10	19 300	11 300
Koli NP	20,2	24,3	203	187	190 900	251 400
Oulanka NP	18,8	25,3	188	196	199 500	176 400
Patvinsuo NP	0,3	0,7	3	6	15 800	16 900
Pyhä-Häkki NP	0,3	0,2	3	2	21 700	17 900
Salamajärvi NP	0,4	0,9	5	9	19 400	25 200
Seitseminen NP	0,3	1,2	3	10	42 500	43 500
Urho Kekkonen NP	37,2	44,7	373	344	340 500	405 400

Project indicators

Companies and service providers

The project relied on several enterprises and other external service providers. The outsourced services included restoration work as well as planning and follow up of measures.

The total value of the outsourced services was some EUR 692 000.

Impacts on the economy and employment

The project created employment both directly and indirectly. The value of paid work carried out by Metsähallitus and the partner organisations during the project amounted to EUR 1M.

Over five years, approx. 120 people carried out work relevant to the project in the project organizations.

Impact on the ecosystem functions 1/2

Forests cover nearly 75% of the Finland's surface and are home to much of the continent’s biodiversity. Forests provide a multitude of benefits in terms of climate regulation, human health, recreation, refuges, fresh water supply and many others moreover forests and biodiversity are strongly interlinked. On the one hand, biodiversity depends to a large extent on the integrity, health and vitality of forested areas. On the other hand, a decrease in forest biodiversity will lead to losses in forest productivity and sustainability.

All measurable indicators of C-actions are related to dead wood, which is the most important key resource in boreal natural forests. Dead wood maintains a significant part of the ecological communities and in Finland, species dependent on dead wood are estimated to be about 5,000 species.

Sustainable forest management is oriented to support the provision of forest goods and services, and to enhance biodiversity levels. Forest ecosystem functions support the provision of ecosystem services to humans. These constitute the direct and indirect contributions of forest ecosystems to human wellbeing. In this context, ecosystem functions are a subset of the interactions between the ecosystem structure and the processes that underpin the capacity of an ecosystem to provide goods and services.

Impact on the ecosystem functions 2/2

Action	Context to ecosystem function	Indicators
C1 Restoration of bog woodland	Hydrology of bog woodland and dead wood continuum	Suitable habitat increased by 295 ha
C2 Restoration burning	Natural disturbances, succession and dead wood continuum	Burned wood 180 m_3/ha, suitable habitat increased by 345 ha
C3 Production of dead wood	Natural disturbances, succession, dead wood continuum and carbon cycle	Dead wood produced 10 m_3/ha, suitable habitat created 143 ha
C4 promoting aspen	Succession and carbon cycle	Suitable habitat created 168 ha

Awareness raising in Beetles LIFE

Beetles LIFE raised awareness of the target species by collaborating with artists and scientists. This led to combining visual imagery, product design, functionality and science in our communications, to get the message across. We brought endangered wildlife closer to the public by planning and putting on exciting events for young people and families.

Photo: Teemu Korhonen

Photo: Saara-Maija Nevalainen-Kiiskilä

Picture: Noora Launonen

Picture: Minja Revonkorpi

Photo: Metsähallitus

Photo: Rapid Action Group

Photo: Rapid Action Group

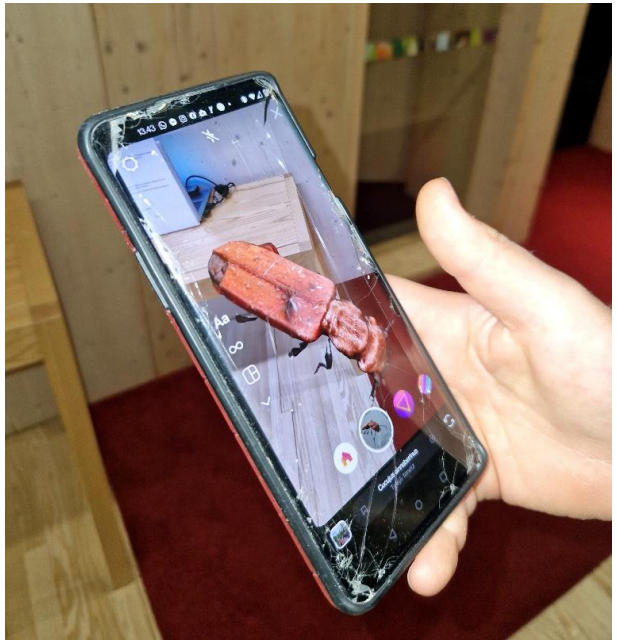
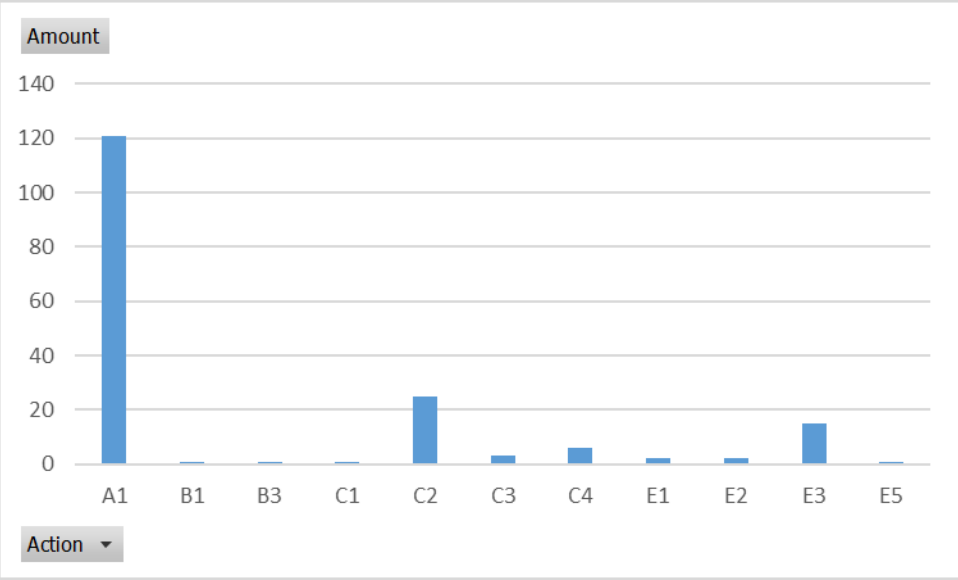


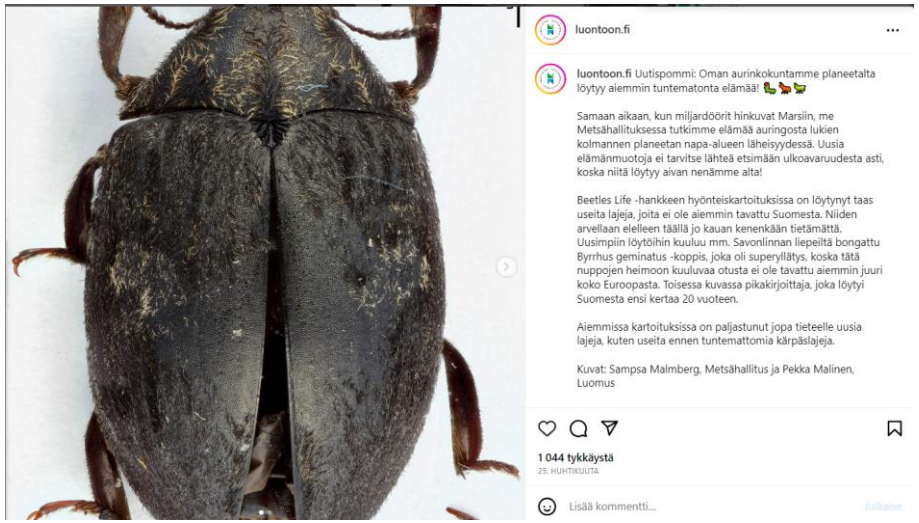
Photo: Rapid Action Group

Environmental education, awareness and communication

There were approx. 180 press or online articles published about Beetles LIFE project actions between 2018-2023. Clearly, the most popular topic was the new insect species discoveries from the inventories. Also, controlled burnings and storytelling based events raised interest.



Approx 30 pop up and events inside events reached thousands of people.



Approx. 280 social media posts in Facebook, Instagram and Twitter/X reached a potential audience of 2 663 000 people.

The project has received funding from the LIFE Programme of the European Union.