European Commission

Cherishing nature's services

Photo: LIFE08 ENV/PL/000519

Nature gives us essential ecosystem services like food, clean air, water, shelter and medicine. Our economy depends on these services. They are vital for our cultural heritage and treasured for their recreational and aesthetic values. But our ecosystems are being damaged, and biodiversity lost due to human activities. This has grave consequences for our society, economy and for human health and well-being. In May 2020, the EU launched its 2030 Biodiversity strategy, which aims to fix our broken relationship with nature. LIFE, the EU's fund for the environment, nature and climate action, has funded many projects that are helping restore valuable ecosystems, enhancing the delivery of services vital for humankind.

Fast Facts

- Ecosystem services are the direct and indirect contributions of ecosystems to human well-being.[1]
- They can be provisioning (food, clean air and water), regulating (water and climate regulation), supporting (photosynthesis, nutrient cycling) or cultural (recreation, inspiration).
- In the EU alone, around 84% of crop species and 78% of wildflower species depend on animal pollination.[2]
- Half of global GDP – some €40 million – depends on nature.
- But biodiversity degradation is compromising ecosystems.
- The global population of wild species has fallen by 60% over the past 40 years.
- And one million species are at risk of extinction.
- This has environmental, economic and social costs for future generations.
- We need to recognise the value of healthy ecosystem and their capacity to provide services for our wellbeing and view them as part of the solution to societal challenges.

How the EU and LIFE are helping

- In May 2020, the European Commission adopted the EU's 2030 Biodiversity strategy – a core component of the European Green Deal.
- The strategy is a comprehensive, ambitious and long-term plan for protecting nature and reversing the degradation of ecosystems.
- Post-Covid-19, the strategy also wants to increase our resilience to future threats such as climate change, food insecurity and disease outbreaks.
- It will restore degraded ecosystems by:
  - Establishing protected areas for at least 30% of land and 30% of sea in Europe.
  - Halting the decline of pollinators, such as bees.
  - Reducing the use of pesticides by 50% by 2030.
  - Restoring 25 000 km of the EU's rivers.
  - Planting three million trees also by 2030.
  - Unlocking €20 billion euros each year in funding for biodiversity.
  - Positioning the EU as a world leader in getting to grips with the global biodiversity crisis.

[1] https://biodiversity.europa.eu/topics/ecosystem-services
[2] https://ec.europa.eu/environment/nature/conservation/species/pollinators/index_en.htm

- The LIFE Programme, meanwhile, has to-date co-funded 755 projects. Of these, some 70 projects directly focus on ecosystem services. Many others have also contributed to this objective indirectly while tackling various environmental or climate-related problems. All of these projects are a repository of knowledge and experience to meet the challenges ahead.
- In its previous 2020 Biodiversity strategy, the EU set the objective of maintaining and restoring ecosystems and their services. The use of green infrastructure was recognised as important to deliver results.
- This strategy also called on member states to map and assess the state of ecosystems and their services in their national territory. To this end, the EU developed its Mapping and Assessment of Ecosystems and their Services (MAES) methodology.
- The contribution of LIFE-funded projects in these areas is multifaceted. Some projects are helping protect biodiversity by developing green infrastructure that enhance the delivery of ecosystem services and connectivity with Natura 2000, the backbone of the EU's green infrastructure.
- Others deploy nature-based solutions that simultaneously help halt biodiversity loss, tackle climate change and enhance our health and well-being.
- Many projects that are focused on the restoration of priority habitats in Natura 2000 sites such as grassland, peatlands and forests, directly help implement the Habitats Directive. They also enhance the delivery of multiple ecosystem services.
- Finally, some projects raise awareness of ecosystem services by developing models, offering training and producing various publications.

A snapshot of LIFE's work on green infrastructure and ecosystem services

Greece assesses and improves its conservation capability

LIFE-IP 4 NATURA is Greece's most important nature conservation project. Started in 2018, the eight-year so-called Integrated Project aims to substantially enhance the country's nature conservation framework, making it compliant with the EU's nature legislation. Its actions cover all aspects of nature protection: policy, economy, society and science.

The project brings together government, national organisations like NGOs and citizens in order to improve the conservation status of important species and habitats within the country's Natura 2000 network. This network comprises over 600 sites, covering 27.2% of Greece's land and 6.1% of its waters.

The project is also using the MAES methodology for the first time at national level. MAES is helping identify, map and assess various ecosystems' condition and their services across the country. This mapping will help strengthen the area's relevance within the Natura 2000 network and connect it to other areas. It will ultimately highlight the natural capital Greece has at its disposal and the benefits this capital can offer its people.

LIFE-IP 4 NATURA is also drawing up habitat and species' Action Plans and Natura 2000 network site management strategies. These will help protect Greece's ecosystems in a structured manner for the first time.

The importance of ecosystem services will be fed into the policy and governance arenas, helping lawmakers make the right decisions for nature.

Meanwhile, public awareness of the Natura 2000 network, the habits and species it supports and the ecosystem services it provides will rise due to the information campaign underway.

Find out more:
https://edozoume.gr/en/

Photo: LIFE16 IPNATGR000002

Ecosystems uncorked in German winegrowing region

With its sunny and dry micro-climate, Saale-Unstrut in Saxony-Anhalt is one of Germany's most important winegrowing regions. But climate change is starting to take its toll, with winegrowers increasingly faced with drought, heavy rainfall and winter windstorms. All this leads to soil erosion and more water stress at the vineyards, hampering production.

LIFE VinEcoS is introducing several measures to boost biodiversity and improve ecosystem services at the state winery Kloser Pforta and other commercial vineyards across the region.

To this end, the team has added multifunctional seed mixtures to the vineyards in order to increase biodiversity and reduce soil erosion on steep slopes. Results show that the number of plant species was more than three times higher than in conventionally sown plots. Meanwhile, bee species were more than four times higher than previously, while the number of butterfly species was up by 50%.

The introduction of sheep grazing has led to a 25% reduction in the number of hours working with machinery per hectare. In addition, the combination of grazing and new seed mixtures increased vegetation cover, which should help prevent soil from being washed down hillsides after heavy rainfall.

Crucially, the team has developed a toolset to evaluate ecosystem services in the vineyards. This included measurements on the number of flowering pollen and nectar plants, butterflies, hoverflies, and wild bees, as well as different soil parameters. This information is invaluable for other winegrowers in the region and beyond, wanting to also adopt a more biodiversity-friendly approach.

Photo: LIFE15 CCA/DE/000103

Find out more:
https://www.life-vinecos.eu

Maximising the potential of our grasslands

Photo: LIFE16 NAT/LV/000262

Photo: LIFE13 ENV/LT/000189/Vytautas Motyvenas

Natural and semi-natural grasslands provide a range of ecosystem functions and services, which are essential for maintaining biodiversity and our health. In the Baltic States, these ecosystems are however under threat due to urbanisation, farming and land abandonment in remote areas.

The **LIFE Viva Grass** project sought to halt the loss of these grasslands and to improve semi-natural grassland management by developing an Integrating Planning Tool. The online tool links grassland data, such as land quality, and habitat types with expert guidance on ecosystem services. The tool allows users to assess grassland ecosystem services in certain areas and to develop ecosystem-based grassland management and planning scenarios.

The project saw grassland ecosystem services being mapped and assessed in nine demonstration areas in Estonia, Latvia and Lithuania. 400 farmers and landowners were trained on how to use the tool, while an information campaign was launched to the wider public.

The tool is being used in planning and decision taking for sustainable grassland management. It is encouraging the multifunctional use of grasslands to boost the sustainability and economies of rural areas.

A second project, **GrassLIFE**, meanwhile, produced a report entitled: Grassland, Biodiversity and Business which looked at five categories of grassland products and their business potential. The products covered are meat, dairy, honey, grass and wild medicinal plants. The report for the first time shows that there is a great opportunity to develop the production, entrepreneurship and marketing of these five products. It also highlighted the importance of sustainable farm practices on grasslands.

Find out more:
https://vivagrass.eu
https://grasslife.lv

How a mining site became a haven for biodiversity

Photo: LIFE14 NAT/BE/000364/Alexandre Sneessens

Photo: LIFE14 NAT/BE/000364/Pascal Haudegond

Land fragmentation – the division of habitat into smaller and more isolated fragments - is a significant cause of biodiversity loss in many European countries. Examples of this fragmentation can be seen in intensive agriculture, urban expansion, transport and energy infrastructure as well in some economic activities with a high impact on the environment. These activities can negatively impact habitats and species and reduce the spatial and functional coherence of the landscape.

The unprecedented **Life in Quarries** project is aiming to make amends by integrating several mining sites in Wallonia, Belgium with green infrastructure.

The project team first carried out an assessment on the restoration, maintenance and management of pioneer species and habitats before developing effective restoration plans. A study of the ecosystem services of six quarries in the region subsequently revealed the potential of these sites as biodiversity hosts.

The project went on to build temporary ponds, install shelters, manage scree, create water courses and restore grasslands.

Life in Quarries is unique as these biodiversity measures are happening in tandem with the excavations; not at the end of works as is usually the case. The project is also maintaining rare and threatened transient habitats that host pioneer species.

As a result of the project, several rare and protected species are today flourishing, including the sand martin, lizards, wall lizards, snakes and natterjack toads.

Find out more:
http://www.lifeinquarries.eu

Raising the profile of a forest in Cyprus

Troodos National Forest Park is located in the heart of Troodos mountain range in Cyprus. The Park is one of the most visited Natura 2000 sites and one of the most important natural ecosystems and biodiversity areas on the island. The ongoing **iLIFE-TROODOS** project aims to further increase public awareness of the area's natural values and the ecosystem services it provides.

This is being achieved through a major information and awareness campaign, encompassing such actions as media outreach, social media and advertising. The project is also holding specialist workshops on the forest, and even creating cartoons for children.

iLIFE-TROODOS will increase awareness about the natural values and ecosystem services of Troodos National Forest Park, thereby strengthening public support for Natura 2000. It is also changing the perceptions of various groups, who are less aware of green issues.

Photos: LIFE16 GIE/CY/000709

This nationwide campaign expects to reach 90% of Cypriots and 25% of all tourists visiting the island. In addition, nature trails will be enhanced for disabled people, giving them easier access to the park.

More information:
https://ilifetroodos.eu/

EA-04-20-216-EN-N

Curbing urban climate change

Sustainable climate adaptation solutions can help protect cities against the devastating effects of climate change.

In Rotterdam, **LIFE URBAN ADAPT** is running two demonstration projects: one in the Zomerhof district and a second along the Nieuwe Maas river.

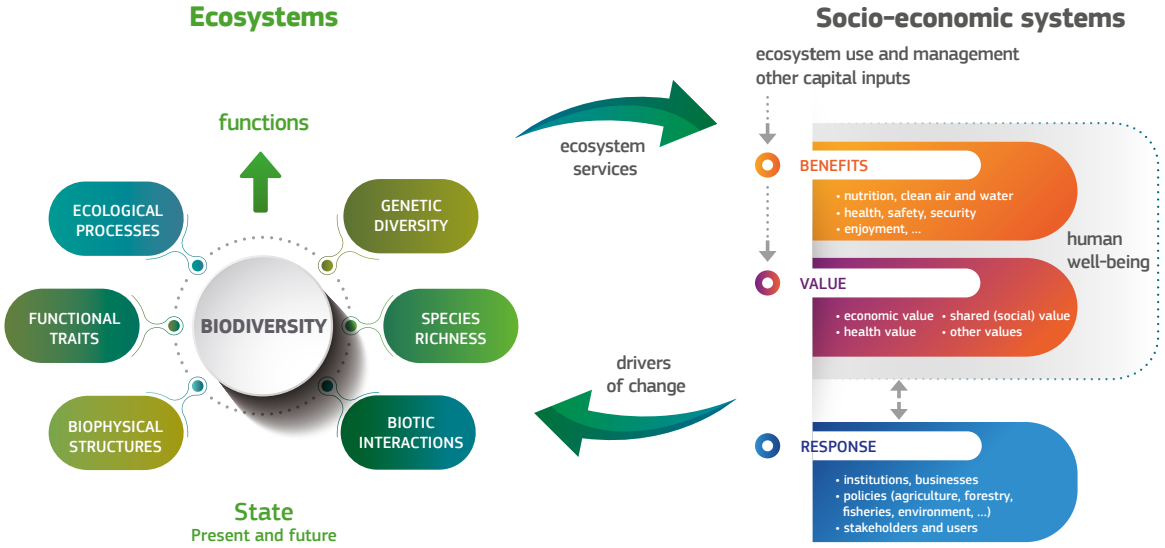
In Zomerhof, expected results include 11 550 m^2 of new green infrastructure, 800 m^3 extra water storage capacity and 10% less nitrogen dioxide reduction in the air.

The 37 500 m^2 of green borders along the Nieuwe Maas river will improve the water quality, while boosting biodiversity and flood resilience.

It is expected that the project will increase the climate resilience of the two districts while restoring their ecosystems and biodiversity.

Find out more:
https://www.urbanadapt.eu/en/

Framework for ecosystem assessment



The conceptual framework drawn up by the MAES initiative (Maes et al., 2013a), which links socio-economic systems with ecosystems.

Learn more

ec.europa.eu/life
LIFE programme
@LIFEprogramme
LIFE programme

How to apply for LIFE funding

The European Commission organises annual calls for proposals.
Full details are available at https://ec.europa.eu/easme/en/life

European Green Deal

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

EU 2030 Biodiversity strategy

https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm

Contact

European Commission – Directorate-General for the Environment – B-1049 Brussels (env-life@ec.europa.eu).
European Commission – Directorate-General for Climate Action – B-1049 Brussels (clima-life@ec.europa.eu).
European Commission – Executive Agency for Small and Medium-sized Enterprises (EASME) – B-1049 Brussels (EASME-LIFE-ENQUIRIES@ec.europa.eu).

Print	EA-04-20-216-EN-C	ISBN 978-92-9202-912-8	doi: 10.2826/05030
PDF	EA-04-20-216-EN-N	ISBN 978-92-9202-907-4	doi: 10.2826/540328

Publications Office of the European Union