

TRACKING PROGRESS: The Cement Industry's Journey Towards Enhanced Biodiversity

A key priority for the European cement industry is to protect and preserve the ecosystems living in and around our quarries. Whilst these sites are the source of our products, nature conservation is at the heart of our activities.



CEMBUREAU fully supports the commitment of the European Commission to address the main causes of biodiversity loss in the EU and stands ready to engage in their policy such as the EU Biodiversity Strategy for 2030 and the EU Nature Restoration Law.

With the CEMBUREAU [2030 Biodiversity Roadmap](#), the cement industry's ambition is to contribute to halting biodiversity loss during the lifecycle of a quarry through rehabilitation processes.

Our vision for the future is to deliver sustainable growth, by enhancing the ecological value of the quarried areas, by protecting and restoring the ecosystems and by contributing to the global **"Nature Positive"** goal.

The roadmap outlines key actions and objectives for the industry until 2030, which are grouped into four focus areas:



**Ecosystem
rehabilitation
& Ecosystem
services**



**EU Pollinators
Initiative**



**Invasive Species
(focus on plants)**



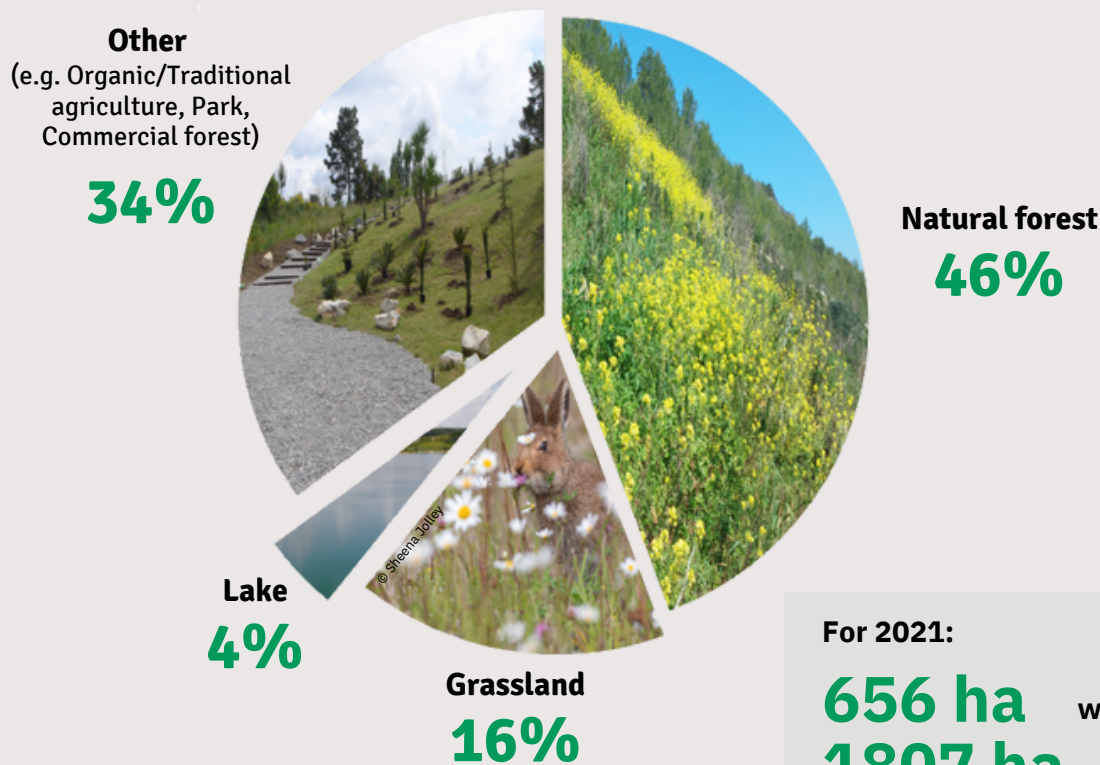
**Protected
Species**

**Explore the results of CEMBUREAU's Biodiversity Roadmap journey
from 2022 to 2024 in this brochure!**

Focus Area 1: Ecosystem rehabilitation & Ecosystem services

Quarry rehabilitation can create opportunities for ecosystem restoration, enhanced biodiversity, and the increased provision of ecosystem services.

TYPE OF AREA RESTORED IN 2021



For 2021:

656 ha were restored &
1807 ha were allocated to temporary habitats

Case study 1:

The **Zlatna Panega Quarry** and its expansion site, Zlatna Panega, are limestone and marl extraction areas owned by Zlatna Panega Cement, part of the **Titan group**. They cover around 108 hectares and are located adjacent to the Natura 2000 site Karlukovo Karst, in **Bulgaria**.

The quarry sites underwent a **Net Impact Assessment of Biodiversity** (NIA Study) to evaluate the current and future states of the quarry, assess rehabilitation efforts, and recommend actions to enhance biodiversity post-operation. The assessment found that open pit mining negatively affects biodiversity, recommending long-term rehabilitation activities such as afforestation expansion, habitat diversification, and maintenance of local grass formations recommended to mitigate habitat loss.



The success of an area's rehabilitation is also measured through the establishment of ecological processes that guarantee the autonomy of regeneration, as well as the development of habitats. Pollination is one of these processes, promoted, in most cases, by insects that increase the quality of fruit production and the capacity for seed germination, contributing to spontaneous restoration.

Case study 2 & 3:

The contribution of fauna to pollination

This case study investigated pollination dynamics in quarries of **Secil, Portugal**, undergoing **active and passive rehabilitation**. It found that both strategies effectively restored pollinator communities, with active rehabilitation showing a greater role for wild solitary bees, enhancing pollinator diversity compared to passive restoration.

Learn more about this study [here](#).

Seed dispersal

In this case from **Secil, Portugal**, the focus was on **seed dispersal by birds** in ecological restoration. While birds like warblers, robins, and thrushes were identified as important seed dispersers, the study noted lower bird abundance in rehabilitated areas compared to natural habitats, likely due to inadequate habitat conditions. Suggestions included enhancing habitat management to promote bird settlement and seed dispersal in restored areas.

Learn more about this study [here](#).



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Case study 4:

Native seeds collection

The project aims to establish a supply chain of **native herbaceous seeds** in **Piedmont, Italy**, with high biodiversity, aligning with EU Directive 2010/60/EU and Legislative Decree no. 20/2021. To make native seeds economically competitive, it minimizes intermediaries in the supply chain. Key actions involve creating a website cataloguing certified donor sites, defining regions of origin, testing flower harvesting prototypes, developing meadow characterization protocols, analyzing collected seeds, and creating informative materials. The University of Turin's Department of Agricultural, Forestry and Food Sciences coordinates the project with contributions from various partners, including **Buzzi Unicem srl**.

Learn more about this project [here](#).



Programma di sviluppo rurale 2014-2020

Misura 16 Cooperazione

Sottomisura 16.1 Sostegno per la costituzione e la gestione dei gruppi operativi del PEI in materia di produttività e sostenibilità dell'agricoltura

Operazione 16.1.1 Costituzione, gestione e operatività dei gruppi operativi del PEI

PRÀ DA SMENS - Realizzazione di filiere corte piemontesi per la raccolta di sementi autoctone in praterie permanenti e loro impiego diretto per la rivegetazione

Il progetto si propone di valorizzare i prati e pascoli permanenti idonei per la raccolta di sementi autoctone di origine locale, favorendo il contatto diretto tra le aziende agricole che gestiscono le praterie e gli utilizzatori finali delle sementi

Costo complessivo: € 474.967,88
Contributo pubblico concesso: € 470.478,47
di cui quota FEASR: € 202.870,32

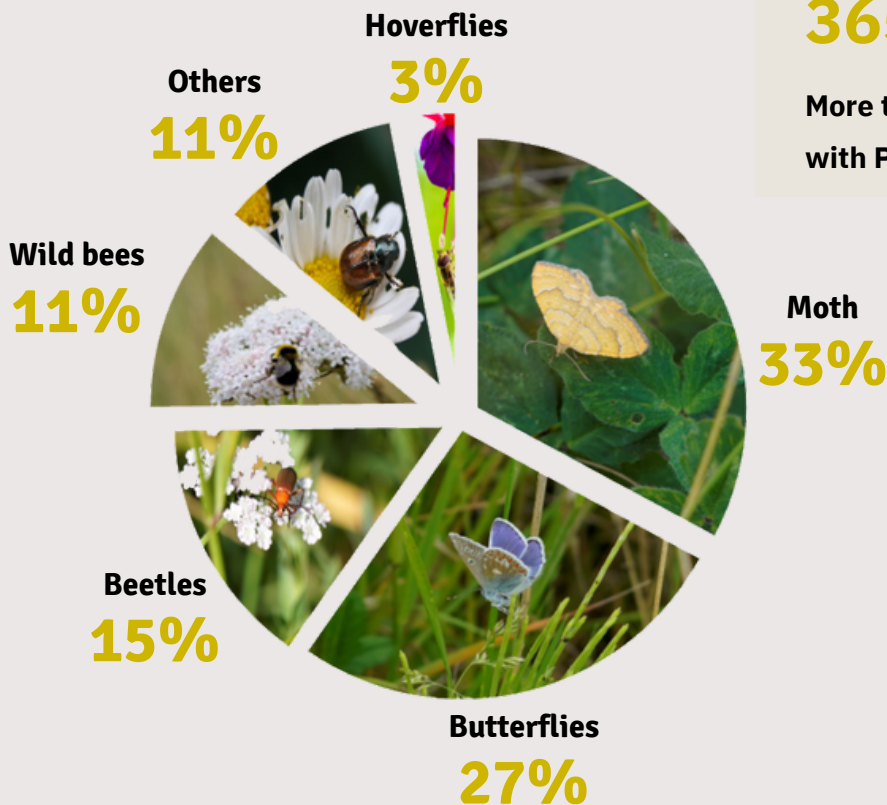


www.regione.piemonte.it/svilupporurale

Focus Area 2: EU Pollinators Initiative

Evidence increasingly shows the value of quarries, both active and rehabilitated, as rich pollen and nectar sources, while the bare substrates and slopes/cliffs provide abundant nesting opportunities, in particular for mining bees.

POLLINATORS GROUPS 2021



365 pollinator species were reported.

More than **5,900** people have been reached with Pollinator related communication materials.

Moth
33%

- **Moths** are an extremely diverse group of insects. From the large (macro) to the small (micro), brightly coloured to very camouflaged, from night flying to day flying, moths belong to the same taxonomic order as butterflies.
- **Butterflies** are day-flying winged insects, characterized by four wings that exhibit diverse colours and patterns and fold together when at rest. Most conspicuous for their fluttering flight behaviour, these insects are very sensitive indicators of the health of the environment.
- **Beetles** are insects that form the order Coleoptera, of which a sub-set play an important role in pollination. Their front pair of wings are hardened into wing-cases, elytra, distinguishing them from most other insects.
- **Wild bees** are defined as any bee that is not domesticated (for example the honeybee) and include the well-known bumblebees along with mason and mining bees.
- **Hoverflies** make up the insect family Syrphidae. They are often seen hovering or nectaring at flowers; the adults of many species feed mainly on nectar and pollen, while the larvae (maggots) eat a wide range of foods.

Some **examples of the type of activities** which were performed:

Creation of:

- shallow-edged ponds with emergent vegetation
- insect nests in the plant
- calcareous grasslands
- biotope building blocks (e.g. deadwood)
- conservatory orchards
- planting of nectar-rich wild shrubs

Engagement with stakeholders

Aligned with the Roadmap's targets, in September 2023, CEMBUREAU hosted a webinar "[What's buzzing in our quarries? The European cement sector gives pollinators a helping hand](#)", attracting around 100 participants.

This online event welcomed key stakeholders from the European Commission, academia, and the cement industry, and focused on the vital role of quarries as habitats for pollinators.



Case study 5:

The Great Banded Furrow-Bee (*Halictus scabiosae*) is a wild bee found in **France**, known for its distinct markings. **Vicat cement**, **collected seeds** from Grey Scabious (*Scabiosa canescens*) plants in 2017 and reintroduced them into a quarry to mitigate environmental impact. This action has positively affected pollinators, including the Great Banded Furrow-Bee, raising questions about the interplay between bee presence and plant cultivation success.



Case study 6:

In line with **CRH's** focus on biodiversity, and as a business supporter of the All-Ireland Pollinator Plan, **Irish Cement** implements a series of pollinator focused actions at their Limerick Plant. These include **enhancing grassland areas** with native Irish wildflowers and planting hedgerows; reducing the frequency of mowing to promote the growth and blooming of flowering plants across the season; and engaging staff members for example through biodiversity talks and educational signage.



Focus Area 3: Invasive Species (focus on plants)

CEMBUREAU's vision is to contribute in reducing the number of native species threatened by invasive alien plant species, to facilitate the sharing of experiences within the sector and to provide the knowledge and tools to enable companies to manage invasive plant species in quarries.

Combating the Spread of Giant Hogweed in Quarries:

Giant hogweed, (*Heracleum mantegazzianum*), while native to Caucasus has been introduced and subsequently spread across Western Europe, and North America. Originally seen as an ornamental, this plant has become not only invasive but also poses a health and safety risk to humans causing the skin to become very sensitive to sunlight resulting in blisters and scars. As with many invasive plant species bare ground and low competition with other plants makes quarries a prime place for giant hogweed to flourish, as has been observed in a number of quarries at **CRH** cement plants in Europe, including our Opterra cement works in **Germany**. Given the safety concerns and negative biodiversity impacts related to this plant, **removal actions** are undertaken periodically.

Case study 7:

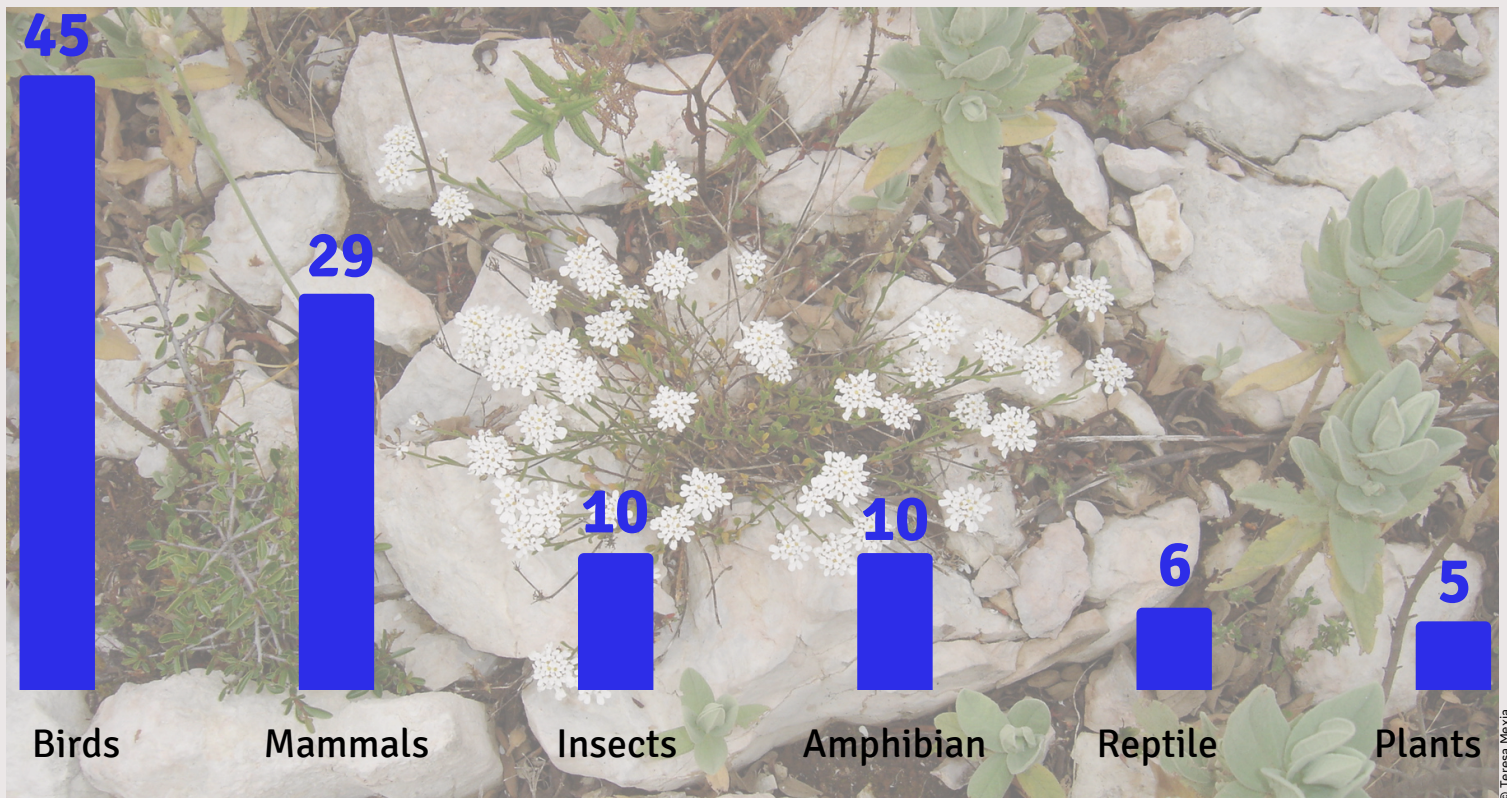
In quarries, invasive alien plant species can quickly spread across disturbed areas and bare substrates, posing a threat to biodiversity. **Heidelberg Materials** supports its quarry staff in managing these species by providing regional **guidelines**, developed in collaboration with conservation NGOs. These guidelines identify the most problematic invaders and offer management options, forming part of the company's invasive alien species training program.



Focus Area 4: Protected Species

The rehabilitation schemes at quarries have offered researchers and local communities the chance to study and engage in projects directly related to protecting species, including plants, pollinators, invertebrates, amphibians, reptiles, mammals, and birds.

PROTECTED SPECIES TYPES 2021



105 protected species under the EU Birds & Habitats Directive were reported.

José Oliveira, Quarry Manager: “The **SECIL-Outão** quarries in southwest **Portugal**, located in a Natura 2000 site, have been undergoing progressive rehabilitation since 1980. With 46% of the area restored, my role as Quarry Manager involves the implementation of **integrated Rehabilitation and Biodiversity Management Plans** as well as the engagement with multidisciplinary teams. This results to addressing the challenges associated with restoration, and ultimately enabling species to thrive in this unique environment.”

Case study 8:

CCB, a part of **Cementir Holding** operating in **Belgium's** Wallonia region, is committed to enhancing biodiversity through various initiatives. Specifically, it focuses on attracting the natterjack toad (*Epidalea calamita*), a protected designated species, to its quarry sites. CCB achieves this by **creating specially designed temporary and permanent ponds** within the perimeters of its quarries in Gaurain, Clypot, and Barry. Currently, CCB has successfully established and manages 24 temporary ponds each in Gaurain and Clypot quarries, where natterjack toads migrate and reproduce in significant numbers from March to October. These ponds also support a diverse range of plant, amphibian, and insect species, contributing to overall biodiversity enhancement at the quarries.



Case study 9:



The **Quarry Life Award** (QLA) is a scientific and educational competition, fostering biodiversity understanding and innovation in quarries. Hosted by **Heidelberg Materials**, winning projects are used to develop best quarry management practices. The insights from projects include enhancing amphibian habitats in Spain, like the natterjack toad (*Epidalea calamita*) and identifying suitable habitats for arthropods in the Czech Republic, including some listed on the IUCN Red List, highlighting the importance of quarries in species conservation.

Learn more about the QLA and its projects [here](#).

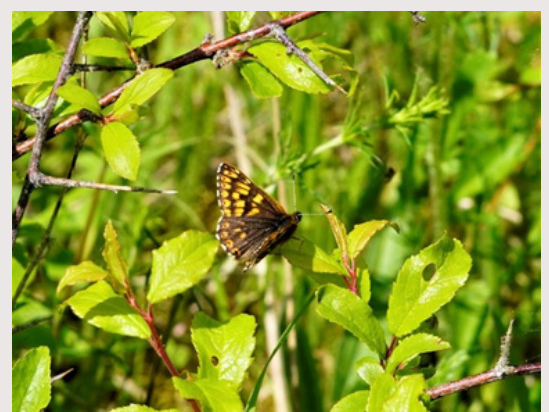


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Case study 10:



Kensworth is a chalk pit in the **United Kingdom** supplying raw materials to **Cemex's Rugby Cement** works. Initially, its restoration plan included creating habitats like woodland and grassland for grazing livestock. Through a **partnership with the Royal Society for the Protection of Birds (RSPB)**, Cemex revised Kensworth's restoration plan to focus on **creating chalk grassland**, a rare habitat in the UK. The plan involves introducing wildflower species to attract rare invertebrates, enhancing biodiversity. Herdwick sheep are used for grazing to control vegetation and support habitat requirements, including for species like the Duke of Burgundy Butterfly.





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