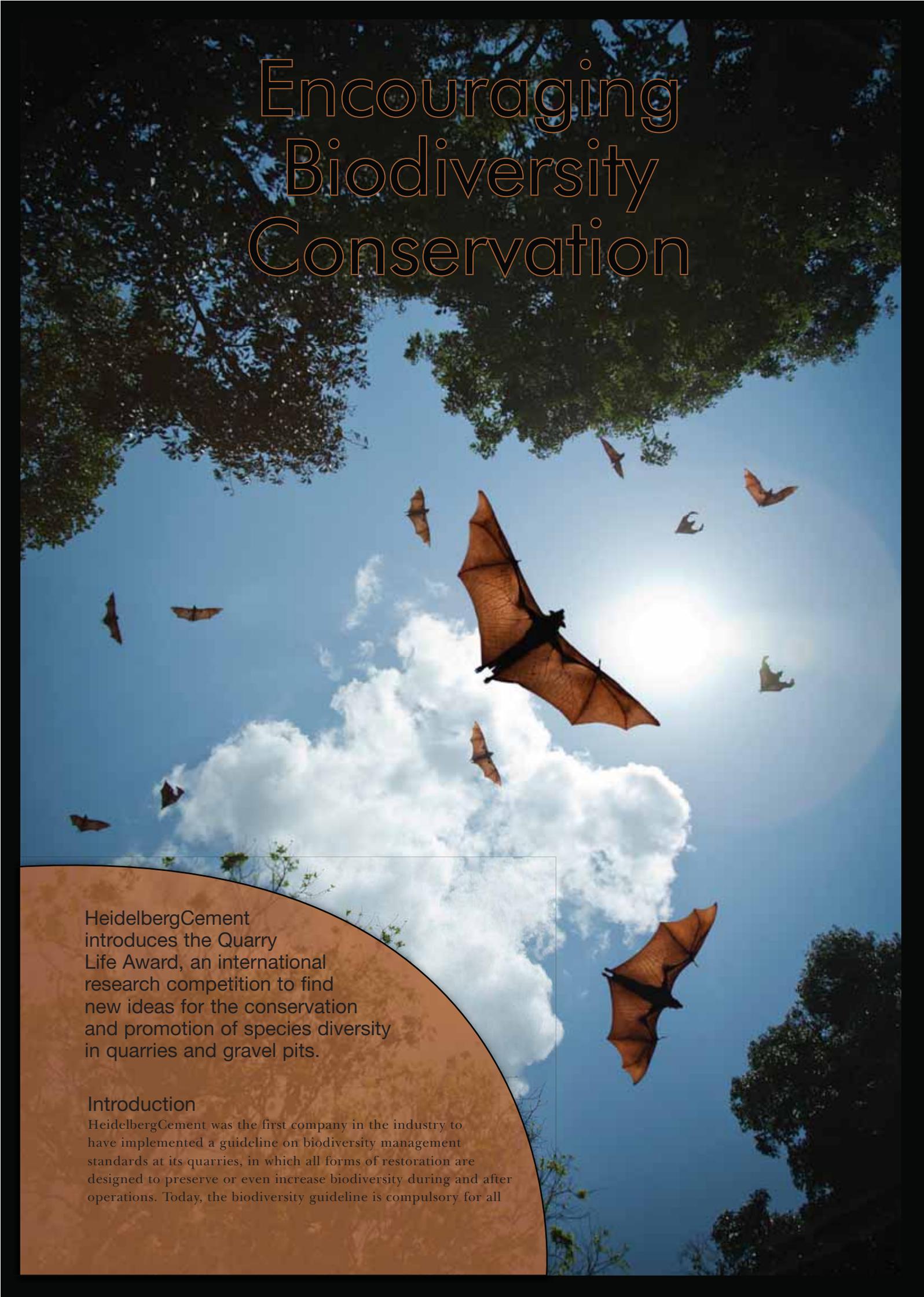


Encouraging Biodiversity Conservation



HeidelbergCement introduces the Quarry Life Award, an international research competition to find new ideas for the conservation and promotion of species diversity in quarries and gravel pits.

Introduction

HeidelbergCement was the first company in the industry to have implemented a guideline on biodiversity management standards at its quarries, in which all forms of restoration are designed to preserve or even increase biodiversity during and after operations. Today, the biodiversity guideline is compulsory for all

operations in Europe, whilst an adapted version serves as a guidance document for the Asian operations of the Group.

At the end of 2011, biodiversity management plans had been introduced at 115 of the company's European locations. By 2020, it is hoped that biodiversity management plans will be implemented in at least 50% of mining sites that are located within or adjacent to areas designated for their high biodiversity value.

The Quarry Life Award

In addition to the measures above, the company aims to engage scientists and local stakeholders into its biodiversity conservation and management activities. In many countries, this has frequently been realised through cooperation with local or national nature conservation organisations, as well as schools and universities. However, in October 2011, HeidelbergCement launched the Quarry Life Award, an international research competition to generate new ideas

for the conservation and promotion of species diversity in quarries and gravel pits.

The Quarry Life Award takes place in 18 countries in Europe, Central Asia, Australia and Africa. Students and scientists, as well as NGOs, were invited to participate by submitting project proposals focusing on the following topics:

- **Discover biodiversity in quarrying sites:** the project increases knowledge about biodiversity in the selected quarrying site.
- **Biodiversity and rehabilitation:** the project promotes biodiversity in quarry rehabilitation, such as nature protection, forestry, agriculture, recreation, etc.
- **Biodiversity and education:** the project provides new concepts for social activities focused on quarrying and biodiversity, such as nature trails, or cooperations with schools, universities, NGOs, etc.
- **Biodiversity management during extraction:** the project protects or promotes the biodiversity value of the quarry during its extraction period.



Quarry Life Award participant Stephen Griffiths placing artificial bat roosting sites at the Warrayure Conservation Offset Site, Victoria, Australia.

At the close of entries on 17 February 2012, more than 300 project ideas had been registered to compete for the first Quarry Life Award, with interest equally expressed in every key topic of the contest.

In a first evaluation phase following the close of entries, national juries reviewed each proposal. The jury members, including university professors, representatives of nature conservation organisations, national authorities and the company's respective Country Managers, had to select the five best projects in each country. Having started in March, selected candidates are currently performing their field project research to validate and develop their ideas. Final project reports are due in September this year.

Project ideas

Looking at three of the 80 selected projects, one can already see that the Quarry Life Award has been successful in addressing and involving different kinds of stakeholders.

Bat conservation

In Australia, candidate Stephen Griffiths is implementing a bat study at the Warrayure Conservation Offset Site, Victoria. Stephen is a PhD student in the Zoology Department of the University of Melbourne, Australia. He is near the end of his PhD, studying



The white-striped freetail bat is one of the few microbats that have been forced out of their native tree-hollows and into urban areas where they have to find alternative places to live.

microbat (Microchiroptera) roosting behaviour in urban environments in Melbourne.

“I applied for the Quarry Life Award as I saw it as a great opportunity to extend the reach of my PhD studies to a rural environment and to contribute to the current state of knowledge relating to ecology and conservation of microbats,” Stephen says. The majority of Australian microbats rely on tree-hollows to roost during the day; however, due to extensive deforestation, suitable day-roost sites are scarce in some areas and have been identified as a key limiting resource for bat conservation. Revegetated areas can provide bat foraging habitat, although suitable tree-hollows can take up to 100 years to develop. Stephen is aiming to fill this gap with artificial bat roosting sites and is interested in which types of bat boxes are preferred by different bats.

“Artificial roost boxes are a common tool of bat conservation projects in Europe and North America, yet so far they are infrequently used in Australia,” says Ken Brown, Quarry Life Award Coordinator Australia. “To improve their value for conserving populations of Australian bats, a clearer understanding of how bat-box design and placement affect their suitability to bats during critical times of the year – like the breeding season and winter hibernation – is necessary. In particular, it is important to know why bats move among numerous roosts and how this behaviour is affected by the availability of different types of bat-boxes in various human-altered landscapes. The results of the study will greatly improve the effectiveness of installing artificial roosts, which is a key element in the recovery of threatened Australian tree-roosting bats.”

“In my Quarry Life Award project I am assessing the use of the site by recording bat species and movements using electronic bat detectors. The detectors record the high pitched and distinctive calls of the bats and can be used to differentiate bat species. I will then install bat boxes and return to survey both the bat boxes and do further electronic bat detector surveys. Government search tools predict a threatened bat species may use the site and I hope that my research will confirm this,” Stephen adds. “Moreover, I hope to

investigate how variation in bat-box design, placement and orientation influences selection and occupancy by microbats.”

“The Quarry Life Award and its projects provide an opportunity to go beyond the company’s legal requirements and gain an insight into a variety of species living in our quarries. Any information the contestants discover can complement the management of a site and be incorporated into the existing site Biodiversity Management Plan,” concludes Ken.

Wild herb biodiversity

In contrast to this project, a group of pupils applied for the German Quarry Life Award with a quite different proposal. Their project takes place in the Vohenbronnen quarry in Southern Germany and focuses on biodiversity education. Pupils get to know the biodiversity in the quarry, classify plants in general and wild herbs in particular. Special partial habitats such as ruderal sites, borders and scrub succession in the quarry are investigated in more detail.

While collecting wild herbs, the pupils learn how to protect and spare resources by using only parts of the plants. Rare species are not used and rare habitats missed out, avoiding damage to the natural environment. Moreover, pupils learn about the use of wild plants as crop plants by collecting and drying wild tea herbs. By means of self-designed posters and labels for the home-made tea blends, the children sell their products in the school cafeteria and to the local community. The desired learning for the children is that they realise how to successfully adapt the needs of man in harmony with the preservation of nature. During the marketing phase, this awareness is shared with classmates, families and neighbours.

Educational trails

In Russia, a group of students submitted a biodiversity education project that explores the flora and fauna as well as the recreational and educational potential of the Shakh-Tau quarry. After an in-depth study of the quarry itself, the students will map and design informative trails and excursion routes for different target groups such as pupils, students or tourists. The project also includes the development of new excursion maps that are being tested in field trips with students and other groups.

Awards

All individual participants and participating groups will have to submit their final reports at the end of September 2012. The best three projects in each country contest will be awarded prizes of up to €5000. In December 2012, the International Jury, including experts from the internationally recognised conservation organisations BirdLife International and the Jane Goodall Institute, will reward the best international projects with awards of up to €30 000.

HeidelbergCement hopes to continue building a Quarry Life Award community, which can share and develop ideas together with universities, as well as local and national authorities. 🌍