



QUARRY LIFE AWARD



# International Winners

EDITIONS 2012 & 2014



**HEIDELBERGCEMENT**

THE  
**QUARRY LIFE**  
AWARD

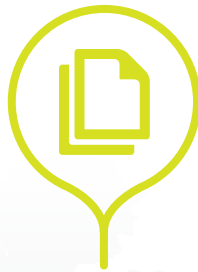


## Quarry Life Award at a glance



Countries

**22**



Submitted projects

**700**



Participating projects

**175**



Active researchers

**> 400**



Public votes

**140.000**



International winners

**10**



National winners

**105**



Total prizes

**€ 490 000**

Learn more & join the QLA Community



# International Winners

EDITIONS 2012 & 2014



## Quarries: a great chance for biodiversity promotion



 Dear nature fans,

For HeidelbergCement protecting nature and managing biodiversity in our quarries play an important role. Quarries and gravel pits transform the existing landscape into a completely new landscape. That's why it is our duty to minimize our impact on nature, and implement environmentally sound quarrying practices.

Biodiversity management is not new to HeidelbergCement: We've recognized that quarries are particularly suited for promoting biodiversity during and after operations. We have been implementing projects in our quarries and pits worldwide for many decades. The fact that we work together with local partners makes these projects even more valuable: we do not only gain external expertise, but also open the door for local perspectives and needs. I am sure that this approach has helped us to build our leadership position in biodiversity management.

To build on our cooperation with nature conservation organizations, scientific experts and local communities, we initiated the Quarry Life Award in 2011. Thanks to this bi-annual international competition and the work of hundreds of researchers worldwide, we have been able to further demonstrate the positive contribution that quarries can make to biodiversity. The participating projects have significantly increased scientific knowledge and have helped raise the awareness of biodiversity issues among the public and our own employees.

After the impressive results of the 1st Quarry Life Award in 2012, the 2014 edition has clearly exceeded the success of our premiere: almost 400 proposals from 22 countries were submitted, with hundreds of young researchers, associations, schools and universities involved in the selected projects. National Ministers of Environment, Ministers of Education or Industry, scientific experts and prominent NGOs supported the second edition and served on the national juries. The website attracted more than 80 000 visitors, while the public vote winner alone attracted more than 20 000 votes!

We hope the 2016 edition will continue to break records and we will see again many high level projects helping to continue research or evolve towards partnerships with the mining sector, NGOs or governmental institutions. We are proud of all our contestants and thank them for the exceptional scientific results of their projects as well as the educational concepts and sustainable business ideas they developed.

Despite the diversity of the participants, they all had something in common: the curiosity to learn about the specifics of the species in mining sites and to share their knowledge with the public.

Now, we are happy and proud to present the winning projects to you through this brochure. All of these projects are fascinating – their initiators even more so. Take a look at them, and you will see the huge value of getting involved and making nature the biggest winner.

I wish you enjoyable reading.

*Bernd Scheifele*

**Dr. Bernd Scheifele**  
Chairman of the Managing Board  
HeidelbergCement





# Quarry Life Award presents the International Winners

## — Edition 2014 —

Grand Prize Winner



*Poland*

Herpetological Association NATRIX

Raising Public Awareness



*Australia*

Sophie Malkin

Biodiversity Enhancement

*(Tied for category award)*



*Great Britain*

Bath Spa University

Biodiversity Enhancement

*(Tied for category award)*



*Czech Republic*

Jan Sevcik

Innovation and Biodiversity



*Ghana*

Kwasi Boadu Ntiamoah

Biodiversity and Education



*Russia*

Tatiana Trofimova

Student Project



*Germany*

Jessen Grammar School

## — Edition 2012 —

Grand prize Winner



*Czech Republic*

Klara Rehounkova,  
University of South Bohemia

2<sup>nd</sup> Prize



*Ghana*

Paul K. Nsiah

3<sup>rd</sup> Prize



*Great Britain*

Philip Wheeler,  
University of Hull

# 2014

Grand Prize Winner

INTERNATIONAL WINNERS 2014



Poland

## Herpetological Association NATRIX

### A COMPREHENSIVE INVENTORY OF HERPETOFAUNA AT THE LIMESTONE QUARRY 'GÓRAŹDŹE'



The Góraźdze limestone quarry in the Opole region is one of the biggest limestone extraction sites in Poland. The mining area has a high diversity of plants and a mosaic of different habitats like forests, grasslands and rock vegetation. The team from NATRIX, the Polish Herpetological Association, conducted a comprehensive inventory of the reptiles and amphibians living in the quarry and developed a plan for protecting and enhancing the biodiversity of the quarry when mining activities cease.

Quarries are an excellent habitat for reptiles and amphibians. In their research, the NATRIX team, led by Edyta Turniak, discovered several rare and endangered amphibian and reptile species, which reinforced the already high biodiversity value of the site. The researchers developed a list of recommended land reclamation practices as well as high-quality educational materials relating to the site.

#### Scientific quality

The grand prize was awarded to the project for its strengths across numerous areas: it was well focused and innovative, served to promote biodiversity, engaged local stakeholders, and raised public awareness. The scientific quality of the research and fieldwork was excellent, and the project produced clear recommendations that can be implemented at other sites. The project also enhanced the existing nature trail at the quarry, raising awareness for environmental protection and the value of mining sites for biodiversity. Read more about this project in the project archive on [www.quarrylifeaward.com](http://www.quarrylifeaward.com).

#### What's next?

In January 2015 the NATRIX team met Góraźdze Management Board to discuss the implementation of the project. Edyta Turniak said: "We are going to extend our research of the smooth snake (*Coronella austirca*), an endangered snake which was found at the quarry. Part of the €30 000 award

money will be spent on equipment for telemetric studies to analyse the movements of animals in the quarry and for scientific expeditions that will allow us to research other rare species of herpetofauna." The recommendations for reclamation work in the project's final report



will be put into practice. The quarry management and NATRIX are working together to develop the schedule for long-term activities to implement Góraźdze's Biodiversity Management Programme.



## Sophie Malkin

Quarries must often balance conflicting economic, social and environmental challenges. Undertaking genuine community engagement and building strong long-term relationships with the local community can provide invaluable benefits for both the mining company and the community. But community engagement must be designed and conducted with these three challenges in mind.

Sophie Malkin, a Graduate Town Planning Consultant, developed practical step-by-step guidance on how to undertake effective engagement based on best-practice techniques and successful global examples for the Tweed Sand Plant, owned by Hanson Australia, and located 140km south of Brisbane.

Every site is unique and requires different engagement processes, so the framework retains flexibility and allows quarry managers to tailor engagement to meet individual needs. The framework also focuses on the ecological value in quarries for educational purposes and overall enjoyment of the community.



## COMMUNITY ENGAGEMENT FRAMEWORK



### Framework structure

The framework comprises three parts providing guidance for three different stages of a quarry's life: when a quarry is proposed, an existing quarry, and an existing quarry with a proposed extension. Each part of the framework is structured into stages, first exploring the context of the site and local community, then presenting a range of methods for the quarry manager to select and tailor to the site. The framework focuses on four key aspects: flexibility, practicality, the promotion of biodiversity, and the encouragement of ongoing engagement.

### What's next?

The company is now building on Sophie's work to adapt her document as a group-wide practical guidance to community relationship management. The final document will include a range of communication tools, as well as case studies, and should be ready by the end of 2015. Sophie saw the QLAs as a fantastic chance "to broaden and deepen

my knowledge about the mining industry and the environmental and community outcomes it can achieve." She is looking forward to the guidance document being made widely available to quarry managers around the world and encourages everyone to get involved with the QLA. "It really is a great opportunity. Everyone is a winner – especially nature!" she says.

# 2014

**Biodiversity Enhancement**  
(Tied for category award)  
**Bath Spa University**

INTERNATIONAL WINNERS 2014



Great Britain

## FEASIBILITY OF BIODIVERSITY ENHANCEMENTS IN WOODLAND GROUND FLORA AROUND WHATLEY QUARRY



### Targeted introductions required

The data recorded by the Bath Spa team showed that woodland specialist ground flora have been very slow to colonise the Whatley Woodland plantations. This was determined to be due to the high nutrient content, in particular phosphates due to prior agricultural use, in some areas of the site. In order to enable these species to keep pace with the quarry development, the study concluded that there is a need to intervene to accelerate colonisation and boost biodiversity by targeted introductions of species.

### What's next?

The university now has a student working on a dissertation project to set up trial plots in the Whatley plantations to introduce ground flora based on the findings of the QLA

study. "We will identify suitable sites for introductions, probably along the northern side of the quarry, to take new flora species including ramson bulbs, bluebell bulbs, wild strawberry

A feasibility study to enhance ground flora in woodland plantings at Whatley Quarry and boost biodiversity was undertaken. Species composition and environmental conditions were recorded at the Whatley site and also in coppices at Asham Wood, a nearby ancient semi-natural woodland. The two sites were compared in terms of species and environmental conditions and the likelihood of success for ground flora introductions at Whatley determined.

Whatley is Hanson's largest UK's quarry and is located in the Mendip Hills Area of Outstanding Natural Beauty. "We were particularly interested in accessing the variety of habitats offered by the quarry that are normally not accessible to do research on biodiversity," says David Watson Head of Science at Bath Spa University. Asham Wood and Whatley Quarry are on similar geologies and provide a unique opportunity for research into woodland colonisation and enhancement.



runners, violets, and possibly yellow archangel," comments David Watson. Planting methods using a mulch will also be applied to keep down competitor species.



The Tovačov Lakes consist of four independent water areas that form hospitable habitats for many plant and animal species, including several protected species. The area is also a site for high capacity mining of sandy gravels. A research team led by Jan Ševčík performed biological surveys in the area to determine the most biologically valuable sites and appropriate management schemes were suggested to minimize the impact of mining operations on biodiversity.

"A very large number of species were found during the biological surveys in the quarry area," says Jan. "554 plant species, 107 spider species, 27 dragonflies, 111 butterfly species, 282 beetle species, 17 orthopterans and 7 amphibian species." And 21 different habitats listed in the Habitat Catalogue of the Czech Republic were noted.

The data showed that technically recultivated sites are quickly hosting many species, while sites created by ecological succession were richer in species during their development. Both could achieve a final ecological succession stage as forest.



## RESEARCH OF THE BIODIVERSITY OF TOVAČOV LAKES



### Importance of mining activities

Coastal lake zones and disturbed open habitats hosted the most biologically valuable sites. The open habitats were created during the mining activities, showing that mining can be an important process for habitat creation. To improve the functionality and quality of these valuable habitats and to keep and increase the current biological value of the sites, a set of 17 measures were presented in the study.

### What's next?

Following the success of the study Palacky University and the quarry management are working closely together. Jan and his team of biologists will prepare a detailed proposal for biodiversity management in selected areas of the site that will include digging of pools during 2015, renewal and digging of new pools in the following

years, and shrub removal. The team was also invited to join the process to create new mining documentation, in particular for the restoration plan. They suggested near-natural restoration of the newly created lake banks. Mapping of the biodiversity of the site and other research will also continue at the Tovačov lakes.



# 2014

## Innovation and Biodiversity

### Kwasi Boadu Ntiamoah

INTERNATIONAL WINNERS 2014



Ghana

## THE USE OF VERMICOMPOST AS TREATMENT FOR TOPSOIL IN RESTORING BIODIVERSITY



### Waste for growth

This is the first time in Ghana that a direct method of vermicomposting has been used to convert quarry waste into an efficient growth medium. The resulting compost supported all test flora grown in it and associated fauna in the test sites (excluding microbial organisms) increased by 1 375%! The project has also been useful to the local farmers who have been trained to prepare their own vermicompost.

### What's next?

Following his success with the project, the award, and following his graduation, Kwasi will soon be employed by GHACEM to continue his work, which is now tied into the company's strategic Mine Closure and Rehabilitation Management

Plan. The plan outlines a roadmap for decommissioning facilities and mitigating the impact of quarry operations. The strategy aims to restore quarried land to a satisfactory state, with particular regard to soil quality, wildlife natural habitat,

How to find a cheap and efficient method to convert mine waste into a potential growth medium to restore biodiversity during site reclamation? The Beposo Aggregates site in Ghana lacks topsoil and had to import topsoil during reclamation activities, but then a third year Geological Engineering student from the University of Mines and Technology in Tarkwa, Ghana had a bright idea!

Kwasi Boadu Ntiamoah's concept was to use African Night Crawlers to directly recycle organic food waste into vermicompost on highly degraded mine laterite and use this vermicompost to amend quarry waste (laterite) into a suitable growth medium able to promote biodiversity. Laboratory analysis showed that all the physicochemical properties of the amended laterite conform to UN Food and Agriculture Organization soil standards. The results could be used as a baseline for quarry site reclamation globally.



enhancement of biodiversity, landscape and appropriate beneficial uses. "I really wanted the mining companies to buy into this idea," says Kwasi. "My methods are cheap and efficient, but they make mother nature the biggest winner."



## Tatiana Trofimova

The Pechurki quarry near Slantsy city in Russia is home to 14 rare species of plants and animals that are included on the Red List of endangered species. The area is south-west of St. Petersburg and also offers migratory birds a place for resting and feeding. The project helped to increase public awareness of environmental issues and the state of biological diversity in the region.

The main goal was the development of environmental education and awareness amongst the local population. "We also wanted to know the opinion of the younger generation on the development of such areas," says Tatiana Trofimova, the ecologist at the Baltic Fund for Nature in St. Petersburg who led the project.

A variety of activities were undertaken from an ecological game-quest to trips to the quarry for school students, an art competition and a photo exhibition in the Slantsy city library. The main recommendations of the project were to divide the quarry into two zones: one easily accessible to people and the second with very limited human access.



### What's next?

The project has stimulated young ecologists, introduced younger people to the field of nature protection and promoted ideas on biodiversity. During the summer of 2015 the

## YOUTH VIEW AT QUARRY NATURE



### Great education game

A novel development of the project was a board game: EcoQuarry. The game consists of a playing board, 56 task cards, 57 answer cards outlining different methods of restoration, and 8 event cards. The players aim to reclaim an imaginary quarry using various restoration methods with the winner being the first to get to the finish with a fully restored, biodiverse environment!



quarry site will see some changes. "Our goal now is to implement the project," says Tatiana. "When I visit the quarry I hope to see more people birdwatching and enjoying eco-

trails." Camping sites are also being prepared. Tatiana encourages people to get involved with the Quarry Life Award. "Don't hesitate to participate – your ideas may come real", she says.

# 2014

INTERNATIONAL WINNERS 2014

Student Project



Germany

## Jessen Grammar School

## DESIGN AND DEVELOPMENT OF SUITABLE SPAWNING GROUNDS FOR THE PROTECTION OF NATIVE AMPHIBIANS

To preserve and improve biological diversity, coupled with the objectives of re-cultivation of gravel quarrying areas, requires better understanding of the ecological niches of threatened species and to carry out appropriate restoration work in a targeted fashion. A school-led project has made a small but vital contribution to securing the future for amphibians in one quarry near Potsdam.



Seventh grade pupils at the Jessen grammar school studied the potential spawning waters of native amphibian species of moor frog (*Rana arvalis*), natterjack toad (*Bufo calamita*), European green toad (*Bufo viridis*) and the European tree frog (*Hyla arborea*) in the area of the gravel pit Steinsdorf that is part of the Elster- Kies plant situated 80 km from Potsdam.

### Toad patrol

The school group met every Friday at 8pm at the quarry and observed, caught and determined several species of amphibians during the spawning season at dusk and into the early hours of the night. The data gathered in this way was mapped to provide better understanding of distribution of amphibians in different habitats.

The study showed that most of the amphibians needed lots of smaller lakes and pools as habitat. The findings from the project is to be applied to a newly developed and still to be filled flushed sand surface area east of the original study area.

### What's next?

After the Quarry Life Award collaboration continued between the school and the gravel company Elster- Kies. The school group have continued to visit the site and monitor

the amphibian populations. On one trip they were filmed while they worked in the early evening. Some of the areas with sand flashing have been created and will have mining



waste and topsoil applied to them so that the surface can be recultivated. In these types of areas the greatest numbers of frogs and toads were observed in the original study.



## Award Ceremony 2014

On 9 December 2014, the second edition of the Quarry Life Awards announced its International Winners at a gala ceremony organized in Prague under the auspices of the Czech Ministries for Environment, for Industry, and for Education, and the Prime Minister of the Czech Republic.

From the 400 project proposal received in March 2014, 95 projects were selected to perform field research in 22 countries around the world. The best of these selected projects were highlighted during the gala ceremony in Prague in five categories: "Raising Public Awareness", "Biodiversity Enhancement", "Innovation and Biodiversity", "Biodiversity and Education", and a "Student Project" category. The winner in each category received a cash award of €10 000. In addition the best overall project received a Grand Prize of €30 000.

**Daniel Gauthier**  
*Managing Board member of HeidelbergCement  
 QLA International Jury member*



"The second edition of the Quarry Life Award was a tremendous success," said Daniel Gauthier, member of the Managing Board in charge of Environmental Sustainability. "The Quarry Life Award has generated fresh enthusiasm amongst researchers, students,

environmental organisations and our own employees. Through the competition and the research projects, HeidelbergCement not only improves its own biodiversity management practices, but allows other quarrying companies to improve theirs as well contributing to a sustainable increase in knowledge about the biological value of mineral extraction sites worldwide!"



During the Ceremony Nick Baker, British naturalist and TV presenter, inspired the audience with his passion for all living things. "Quarries played a key role in my life," said Nick. "A lot of the fine places where I found sanctuary and wild habitats, and therefore wildlife and

biodiversity, most of these places were in quarries. Actually I am a kid that grew up in quarries. Inevitably when you dig a hole in the ground, water gets in the bottom and as you know water is a magnet for life. It's not just attracting birds, dragonflies, pond beetles, mammals, but it's everything, the complete nature!"

**Richard Grimmett**  
*Director for Conservation Birdlife International  
 QLA International Jury member*



"Quarries have an important role to play in relation to biodiversity conservation and, clearly, they can have a major impact. There are opportunities for restoration and habitat creation, and for creating new wetlands and grasslands. It is about managing the impacts and maximizing the

conservation opportunities, while avoiding sensitive areas.

We have seen some great projects put forward, some great opportunities for universities and civil society to work with quarries to address some biodiversity issues and to add conservation value. Some of the projects I have seen really contribute towards an understanding of the conservation issues and what the management responses might be.

I have really been impressed by the projects that have come forward and I am very much looking forward to the next edition!"

# 2012

INTERNATIONAL WINNERS 2012

Grand prize Winner



Czech Republic

Klara Rehounkova,  
University of South Bohemia

## SANDPIT FOR BIODIVERSITY AT CEP II QUARRY



### Is disturbance better for nature?

The initial botanical survey recorded a total of 183 plant species within the whole sand pit. 507 species of animal were also recorded including many species that are listed as endangered. Perhaps the most interesting find was a ground beetle (*Bembidion testaceum*) which is a very rare species in Bohemia. Interestingly the species richness was higher in the disturbed sites.

The research provided clear evidence that mosaics of spontaneously established forests habitats and open sand habitats are the most valuable areas from the conservation point of view acting as a refuge for many endangered species that are declining in their natural habitats. More closed successional woodland stands – the traditional solution - usually hosted less species, but still provided suitable conditions for some target species.

### Project news

The results of the project at CEP II were being implemented even before the prize announcement in 2012! The team from the University of South Bohemia together with the mining company Českomoravský štěrk, the Protected Landscape Area Třeboňsko and others started work on modifying some banks of the sand pit to provide a variety of habitats and

surfaces that should be more suitable for endangered species and to boost biodiversity. Compared to the previous forestry technical restoration this “natural restoration” provides four times more geodiversity. With many small habitats, including some 40 pools, rapid colonization by a wide variety of plant and animal species has been monitored.

Land reclamation policy in the Czech Republic requires old mining sites to be returned to their original use, for example to forestry or agricultural use. The project at CEP II compared the effect of technical reclamation and “spontaneous succession” on the communities of plants and animals in the abandoned areas of the sand pit to determine the impact of different near-natural restoration methods.

The objectives of the project were to evaluate biodiversity and conservation potential in the CEP II sand pit through a unique large-scaled scientific experiment, to collect data on flora, fauna, habitats and restoration, and make proposals for future plans for rehabilitation of this environment.





Soil degradation due to erosion is a major issue in Africa. To reduce erosion due to rainfall and run-off it is important to adequately stabilise slopes during rehabilitation of quarries. Failure to do this can lead to pollution and flooding of rivers and streams with a major impact on biodiversity and the environment. This innovative project from Ghana developed a practical solution based on the indigenous plant *Pennisetum purpureum* (elephant grass).

The project was led by Paul Nsiah and tackled slope erosion on reclaimed mining land by designing a biological geotextile mat made of dried elephant grass stems. The study also showed that adding either topsoil or organic manure to mine soil promoted the survival and growth of fruit and tree crops. In addition local communities received training on indigenous forest tree crops and were involved in selecting fruit trees to be planted on the slopes for their own use.



### Project news

Paul Nsiah reports that “the Yongwa Quarry site is now restored and is no longer in need of human intervention.” After proving his innovative product, the Esonosre Mat, Paul has completed the stabilization of slopes surrounding

## PENNISETUM PURPUREUM AS A BIOLOGICAL GEOTEXTILE AND TOPSOIL APPLICATION TO PROMOTE BIODIVERSITY



### Mat advantages

The results from a trial plot were clear: average total sediment yield from the geotextile mat was far lower (29.1 kg) than that from the bare soil (106.2 kg). The developed mat was named the Esonosre mat and has proven to be able to protect the topsoil and its living organisms, and the seeds and seedling of diverse plant species, helping to conserve biodiversity in both the terrestrial and the aquatic ecosystem through sediment retention. The project provided a practical mine-site reclamation guideline that also benefits the local communities.

the quarry. Monitoring is continuing to identify the species that are most adaptable to these conditions, but the findings already show that the local community’s fruit tree crops are well adapted. The innovative project

has served as an example to other countries including Togo where soil rehabilitation is also a real challenge. There the plant *Mucuna pruriens* is now being tested as a fast-growing, soil-stabilizing plant.

# 2012

INTERNATIONAL WINNERS 2012

3<sup>rd</sup> Prize



Great Britain

Philip Wheeler,  
University of Hull

## RESTORATION OF QUARRY SILT LAGOONS FOR WADING BIRDS



Wading birds have declined across Europe as the intensification of lowland agriculture has caused habitat destruction and degradation. Aggregates extraction sites have areas of exposed fine sediments deposited as waste material in silt lagoons, which could recreate lost wader habitat. This project explore the potential of the restoration of silt lagoons for wading birds at Wykeham quarry.

This project explored the potential of the restoration of silt lagoons for wading birds at Wykeham quarry. Sediment composition, invertebrate food availability and bird activity were investigated. The silt lagoon supported a variety of birds including six species of waders, present in high numbers during migration season.



### Feeding potential

Analysis revealed that the sediments from active sites were relatively fine and uniform and hosted very few invertebrates compared to past extraction sites. However, the nutrient availability, the water chemistry and organic content all indicated the potential to support abundant and diverse invertebrates.

Philip Wheeler suggested that these compacted sediments result in the formation of an impenetrable layer which then prevented the growth of invertebrates - essential feeding element for the wading birds. A solution could be to introduce some larger, more variable sediment – like gravel - that could improve oxygen diffusion and enhance the value of these sites for wader conservation.

### Project news

This project has now become a BirdLife project and at the end of March 2015 trials for habitat restoration on the silt lagoon at Wykeham were set up. Four different areas were selected and sampling from these plots will examine if adding gravel to the

sediment improves the abundance of invertebrates. How the birds use the plots will also be monitored. Hull University are continuing the bird surveys at the key sites at the quarry to ensure a full year of data on how the birds use them and see if key species

are also breeding there. Monthly data collection on invertebrates and water chemistry and sediments are also continuing through to at least Autumn 2015 to follow up Philip's insights on invertebrate abundance and diversity.

# Other outstanding projects

# 2012

## Outstanding Education Project

### Herbal Tea from the Quarry

Heinrich-Kaim School, Schelklingen, Germany



The Vohenbronnen quarry is a valuable habitat for many plants, including protected ones, and this project to produce herbal tea required the pupils of Heinrich-Kaim School to identify and gather herbs on-site. It was a wonderful project providing a unique opportunity for the school to pursue a goal with a large group of pupils and involving lessons across the curriculum. The school's efforts also generated public interest and received press, radio and internet attention.

The school thought of integrating this activity formally into the curriculum. It would be feasible to create a different tea mix every year and to offer this in the school canteen or during school festivities. Other natural products could also be made, for example, herbal salts or St. John's wort oil.

## Outstanding Community Engagement

### Green Quarry

Saja, Gabriel and Rémar Erens, Benelux



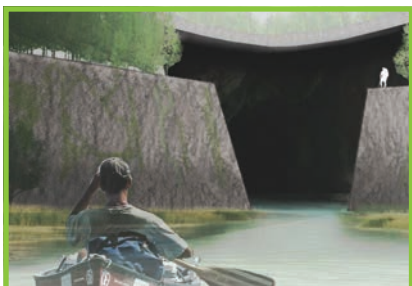
The Tiendeberg quarry - the green quarry - is part of the Mount Saint Peter area: a unique chain of hills running across Flanders, Wallonia and The Netherlands. With its combination of calcareous grasslands, acidic dry and wet soil, rocks, thickets, forest, pools, dry valleys, arable fields, orchards and quarries the region is well known for its microclimate and variety of endangered vegetation and animal species. It is a real biodiversity hotspot.

In collaboration with Natuurpunt the biodiversity of the quarry area was analysed, revealing the impressive historic, landscape and ecological value of the area – and the ecological pressures on it. Establishing a sound cooperation between Natuurpunt, HeidelbergCement and the local community network will surely help relieve this pressure. Since 2012 the Green Quarryteam continues to develop biodiversity and nature conservation in the area.

## Outstanding Design Scheme

### Reclaiming Bjørnetuet: A Sustainable Afterlife of a Hard Rock Quarry

Mats Larsen, Northern Europe



Bjørntvet is a working limestone quarry located in Bjørntvetåsen, Norway, a forested hill in the middle of the city of Porsgrunn surrounded largely by residential areas. The whole site holds great potential for biodiversity due to its rare limestone geology. Mats Larsen developed a design to ensure a sustainable after-use for the Bjørntvet quarry that protected and enhanced biodiversity and social programming. The main suggestions made in the design were a sizable increase for the city's public space, a new "out-of-the-ordinary" park for the city and improved connectivity.

After the project Mats was temporarily employed by Norcem to carry on working on the plan for the quarry. His work was presented to the community of Porsgrunn and received a positive response.





## Award Ceremony 2012

On 13 December 2012, the names of the Quarry Life Awards International winners were revealed during a gala ceremony in Heidelberg, Germany. Opening the ceremony, Dr Jane Goodall, world renowned primatologist, UN-messenger of peace and environmental activist, gave an enlightening speech on her "reasons for hope" despite the terrible challenges that face our planet.

With the Quarry Life Award, HeidelbergCement has established a competition that discovers new ideas for the promotion and protection of biodiversity at its quarry sites. In the first edition, a total of 80 projects from 18 countries competed at both national and international levels. The three best projects from each national contest received prize money



Klara Rehoukava  
First Prize Winner - Edition 2012

of €1 500, €3 000 and €5 000. At international level, the 13 December ceremony revealed the names of the best three projects and awarded them with prizes of €10 000, €20 000 and €30 000.

"The first Quarry Life Award was a complete success," said Dr. Bernd Scheifele at the Quarry Life Award press conference before the event. "We are proud of the acceptance and enthusiasm with which we were greeted in every country by contestants and participating environmental organisations, as well as our own employees. Through the Award and the results of the many projects, we are striving to contribute to a sustainable increase in knowledge – crossing national boundaries – about the biological value of mineral extraction sites."

### Dr Jane Goodall, DBE, Primatologist, UN-Messenger of Peace



"I so well remember when I was with you in the 2012 International Ceremony and how truly impressed I was by the quality of the projects that are transforming these man-made quarries into new habitats. How exciting that several of the original projects with the support of HeidelbergCement have developed into research programmes.

I would like to congratulate again the awardees on the hard work they have put into their projects. It is the dedication that they have shown along with the resilience of nature that gives me so much hope for the future of our planet, despite the terrible harm we have inflicted.

Together all the ongoing projects to restore beauty to the HeidelbergCement quarries around the world are making a real difference. Thank you HeidelbergCement for making these projects possible, for encouraging the imagination and for sharing the results with the world!"



## A short selection of QLA projects implemented at local level



### 2014 Creation of a nature trail with NGO *1st place Benelux*

Following four days hard work with volunteers the nature trail at the Loën quarry has been constructed and was opened on 21 May 2015. New development is taking place following feedback from the trail's first visitors. This includes development of a quarried terrace providing a better view of the wetland areas and the birds.



### 2014 Mining and biodiversity comics publishing for the elementary school students around mining areas *Indonesia*

This novel project is one of five 2014 winners in Indonesia that are all in the process of being implemented in the country. The comic about mining and biodiversity was effective in enhancing knowledge and promoting a positive attitude with elementary students. More editions of the comic will be published by PT Indocement and a further contract with the creators is being drafted.



### 2014 A modern nature trail in Degerhamn *3rd place Northern Europe*

The nature trail has been constructed and was opened on 13 June 2015. Using the QLA award as its basis, the 2 km long nature trail around the quarry brings visitors to places displaying both nature values and industrial heritage. Along the trail, information signs describe the unique surroundings and industrial activities at the site.



### 2014 Quarries as an element of ecological education of modern youth *2nd place Ukraine*

More than 30 events were held during the project reaching some 800 people. But that was just the beginning! The campaign got positive feedback and invitations to present are increasing from educational establishments. After the Awards, the young team of researchers from Pryazovsk Nature Park and professors at Melitopol State Pedagogical University has kept working on the project and continued to pass on their love of nature to younger generations despite the country situation.



### 2012 Integrated constructed wetland for wastewater treatment, nutrient recovery and quarry renaturalisation *1st place Tanzania*

Since winning the QLA Leonard Gastory Lugali has continued developing his research and has set up an environmental and engineering consulting business undertaking a number of design and implementation projects for integrated waste management including Constructed Wetland Technology. Leonard has also conducted radio seminars to promote this knowledge in the region.

### 2012



### Study of the biodiversity of HeidelbergCement's quarries in Georgia, preparation of a coloured illustrated book with an electronic version *2nd place Georgia*

200 copies of the Botanical Diversity of HeidelbergCement Quarries in Georgia book have been published. The publication covers 250 plant species (trees, bushes and herbs) found in the quarries. All plants are illustrated in colour and are described with information on flowering period, typical habitat and distribution range. The book is now a reference document for universities in Georgia as no similar publication existed before.



## HeidelbergCement - BirdLife International: Partners to enhance biodiversity in quarries

**B**irdLife International is the world's largest partnership of national civil society nature conservation organisations and is the world leader in bird conservation.

Since 2011 HeidelbergCement and BirdLife have been working together to further improve biodiversity protection and restoration standards at mining sites in Europe. A key tool to achieve this is a Biodiversity Conservation Programme that was developed and is being jointly implemented on its operational sites. This programme started with a prioritisation of HeidelbergCement's 425 mining sites in Europe and Central Asia in relation to their biodiversity value.

On 17 March 2015 the partnership was extended until 2017 to further expand this joint nature conservation work from Europe to Asia and Africa. At the same time the partnership intends to broaden the scope of cooperation from the management of local biodiversity and the restoration of quarrying sites to a wider natural resources and environmental management.



### Global network, local knowledge

With their enormous global network BirdLife has already supported HeidelbergCement in implementing 17 local projects in 11 countries in Europe.



Boris Barov, BirdLife partnership manager says: "Working in partnership with HeidelbergCement has given us a unique chance to implement small scale but high impact projects. What makes this collaboration really interesting is the need to think 'out of the box' and promote win-win approaches to nature conservation and business."

### BirdLife and the Quarry Life Award

BirdLife also benefits from the Quarry Life Award contest, as it puts forward innovative ideas from young and enthusiastic researchers. The QLA teams can seek advice and assistance from BirdLife partners who are well informed of the biodiversity priorities in their country and have good relationships with the universities, practitioners and government. BirdLife International supports this contest by selecting the strongest proposals for recognition and implementation at both national and international levels.



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