

New partnership project between BirdLife and HeidelbergCement Group in ENCI quarry

A new project has been added to the list of partnership projects between HeidelbergCement Group (to which the cement company ENCI belongs) and BirdLife this spring. BirdLife is the world's largest nature conservation Partnership. Since 2011 HeidelbergCement and Birdlife have been working together to better protect biodiversity in quarries.

The transformation of the ENCI quarry into a diverse ecological area offers an ideal field scale scientific test ground for biodiversity research and ecological restoration. Two questions of particular significance to biodiversity management at post mining landscapes will be investigated by a research team from the Dutch Biosphere Science Productions.

First research question:

To what extent this man-made environment can resemble the natural conditions of a calcareous grassland with its typical plant and animal communities? An indicator bird species was selected to help find the answer. The Red-backed Shrike or *Grauwe Klauwier* (*Lanius collurio*) is a rare bird in the Netherlands which has been in decline for a number of decades. However, it has recently started to recolonize parts of the Netherlands, including the Province of Limburg where ENCI is located. Scientists have noted that while the shrike has spread into suitable areas in other parts of the province, its settlement in the surroundings of the ENCI-quarry has not yet happened. This bird feeds predominantly on large insects such as beetles and grasshoppers which on their part depend on species rich grasslands and abundant flowering plants. Based on their knowledge of the Red-backed Shrike diet from similar locations in the country, the project team will be looking for the possible 'gaps' in the ecosystem that may be acting as bottlenecks preventing the shrikes from using the restored parts of the quarry.



Male Red-backed Shrike with typical food – a bush-cricket

Second research question:

In the focus of the research team is one particular suspect, the well-known invasive plant Buddleja or 'butterfly bush' (*Buddleia davidii*) which occupies large areas in the quarry. The second research question will be to what extent the prevalence of Buddleja can be blamed for limiting the development of suitable insect community as a food base for the Red-backed Shrike? Earlier research on the role of Buddleja plants for the insects concluded that only a very

limited number of species could use the plant in their life cycle, and those were different insect groups than the ones important for the Shrike diet. During field research, the amount of Buddleja plants found in the surroundings of the ENCI-quarry was large, while insect presence on the plants was extremely limited.

Both research questions have their ecological background, but knowing their answer will deliver important practical tips for the on-going restoration work on the ENCI quarry and in other landscape restorations.

The research team of Biosphere Science Productions will work until 2015 in the ENCI quarry. The project is sponsored by the HeidelbergCement Group, BirdLife Europe, ENCI, Natuurmonumenten (NL nature conservation organization and future owner of the quarry) and the Province of Limburg.

ENCI Gebied is the development foundation for the ENCI lands. It is a partner in the RESTORE project.

