

CASE STUDY

UEPG Sustainable Development Awards
Winner 2013



A win-win partnership between the Water Resources Management authorities and a gravel pit run by an SME

In the 19th century the Main river was straightened and converted into a «Waterhighway». This led to an accelerated draining, to an erosion of the river bed and finally to an ecologically structural pauperism.

The gravel extraction priority area was located in a former river loop of the Main river, which is also located in the planning area of the water framework directive. In the course of the coordination between the nature conservation and the water resources management the idea was born to give back the Main river its natural meadow by integrating the gravel extraction.

In 1999, cooperation between the Bavarian water resources management and the Company Porzner Kies GmbH was established. This was a totally new approach and a milestone in the cooperation between governmental bodies and private companies.

The company developed a restoration plan which provided "Wanderbiotopen" (migratory biotopes) or moving biotope areas which fostered a huge increase in flora and fauna. The initiative also provides leisure facilities for the local community, and, most importantly, provides enhanced flood protection.

Porzner Kies Naturstein Zentrum Zapfendorf, an SME, won a UEPG Restoration Award for its outstanding initiative in developing dialogue and constructive cooperation with its stakeholders at its sand et gravel pits along the Main river.



The aggregates industry comprises some
15,000
COMPANIES (mostly SMEs)

operating in
25,000
QUARRIES & PITS
across Europe,

employing
230,000
PEOPLE directly and indirectly.

representing a turnover of more than
15 BILLION EURO.

The European Aggregates demand is
2.7 BILLION TONNES/YEAR.

The European average aggregates demand is
5.2 TONNES /CAPITA/YEAR

Source: UEPG Sustainable Development Indicators

Key facts about the Aggregates Industry

- ▲ Aggregates are sand, gravel (including marine aggregates), crushed rock, recycled and manufactured aggregates.
- ▲ Aggregates are used to construct Europe's essential infrastructure including homes, roads, railways, schools and hospitals.
- ▲ UEPG Members are contributing to the Circular Economy through the full life cycle of the quarry or pit: excellence in daily operations, complete use of the reserves, recycling and restoration.
- ▲ The Aggregates Industry has a proven record of best practices in water management.

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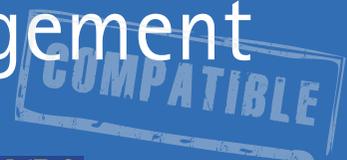
EUROPEAN AGGREGATES ASSOCIATION

A Sustainable Industry for a Sustainable Europe



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Aggregates sites and water management



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Positive contribution to water

Today, aggregates extraction is considered within the current river basin plans (in some countries) and, in the case of extraction in river beds many countries have specific procedures for authorising it.

After extraction, the restoration of the aggregates site is important to the operator, as under guarantee with the administrative authority, restoring the site provides benefits to the local community and nature conservation usually beyond what was there pre-extraction.

In many European countries, a water management plan (surface and groundwater) is included in the general planning of the extraction site setting the principles of how water will be controlled and how its quality preserved.

Aggregate operations are normally subject to an Environmental Impact Assessment and complex administrative processing that take into account possible effects on surface and underground water. Generally good practices and best techniques are applied in managing it.

The production of aggregates is mechanical and, in some cases, an important step of the process is to wash the extracted material with water, which is then clarified recycled and then used again to minimise consumption.

A limited impact on water quantity

The consumption of water of the Aggregates sector is very low. The use of good practices in aggregates sites to protect water quality and to minimise water consumption, through water efficiency and recycling, is widely adopted.

A limited impact on water quality

It is also important to point out that materials – crushed stone, sand and gravel – extracted and processed are inert in most of the cases. In practice there is little risk of water being polluted by hazardous substances.

As laid down in legislation, besides requiring the special authorisation needed for the river basin, it will be obligatory to put in place the necessary insurances that the environment will be restored following completion of activity as regards hydraulic, ecological and landscaping aspects.

A responsible Industry

The Aggregates Industry positively interacts with river basin management plans ensuring that any impact on the water environment caused by the aggregates industry is limited. Indeed, the Aggregates Industry can provide flood storage capacity during times of high water levels and in most cases can be a positive contributor to water quality and biodiversity, thanks to a good management of the site.

The Aggregates Industry has an important potential to have a positive contribution to water management.

Flood prevention and protection



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Our industry is a **staunch ally** of the bodies from the administration that manage the river basins when it comes to **guaranteeing that the watercourse has the capacity to allow flood-waters to pass along it**, using techniques such as **widening the course or creating supplementary watercourses, cleaning the channel and building defences against floods**.

Water supply

Dewatering by pumping pure groundwater, by means of extraction boreholes drilled at chosen places around a quarry, or by pumping water from the sump at the bottom of the extraction site, not only facilitates the extraction, but also preserves water resource and allows for their rational use, increasing resource efficiency.



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In several countries, this disciplined approach by quarry operators has led to **close co-operation with the suppliers of drinking water**, meeting all the quality requirements for human health.



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Basin management and dialogue



© Lafarge, Romania (UEPG SDA)

In many countries, the aggregates sector is acting as a **proactive industry** participating in river basin management.

Leisure

Former quarries and pits may be **restored for recreational purposes** like sailing, bathing, nature observation, etc., thus participating to water management.



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Creation of wetlands and biodiversity conservation



© Aarekies, Switzerland (UEPG SDA)

Extraction sites may be **restored to create a natural environment** intended to enhance both the **flora and fauna** typical of water-centred environment. The plans should be made prior to the extraction.

A sign of good environmental practices at many of the active extraction sites is the biodiversity they have attracted, this shows that quarrying crushed rock and minerals is not just harmless to its environment but that it may even be beneficial.



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Improvement of water quality

Aggregates (sand and gravel) are a **natural filter** that is widely used for water filtration to improve water quality and good chemical status.

The contribution of aggregates sites to good chemical status is proven by water supply activities. Several **independent scientific studies** have described that **water chemical status can be improved** thanks to a good managed aggregates site.



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Contribution to the circular economy

Resource efficiency is a priority in the use of water in aggregates sites and many companies are applying good practices to **minimise consumption**. For example, the recirculation of recycled used water is generally applied.

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