# Notice: ME16 9NT, Gallagher Aggregates Limited: environmental permit issued

The Environment Agency publish permits that they issue under the Industrial Emissions Directive (IED).

This decision includes the permit and decision document for:

- Operator name: Gallagher Aggregates Limited
- Installation name: Hermitage Quarry Waste Treatment Facility
- Permit number: EPR/LP3134YU/A001

### Notice: M22 4SZ, Vita Liquid Polymers Limited: environmental permit application advertisement

The Environment Agency consults the public on certain applications for waste operations, mining waste operations, installations, water discharge and groundwater activities. The arrangements are explained in its <a href="Public Participation Statement">Public Participation Statement</a>

These notices explain:

- what the application is about
- how you can view the application documents
- when you need to comment by

The Environment Agency will decide:

- whether to grant or refuse the application
- what conditions to include in the permit (if granted)

# Research and analysis: Assessment of sediment phosphorus capping to control

## nutrient concentrations in English lakes

This project investigated the effectiveness of a technique for stopping the release of phosphorus from lake sediments. If successful, this could accelerate the ecological recovery of lakes with excessive nutrients (eutrophication) and help to restore fish and wildlife populations.

The project has delivered detailed evidence on a method to control internal lake phosphorus loading to reverse eutrophication and has furthered our understanding of the factors likely to affect the success of sediment capping techniques.

The results of the study will be useful to staff in the Environment Agency and other bodies concerned with lake restoration projects across the UK.

# Research and analysis: A DNA based metabarcoding approach to assess diatom communities in rivers

This project has established a novel, DNA based method to monitor and assess the make-up of diatom communities in rivers. This new approach will mean we can analyse a lot more samples more quickly.

We collect data on animal and plant life in the river to help us to understand, assess and manage the health of the environment. Diatoms, with around 2800 UK freshwater species recorded, are a type of microscopic algae used alongside other organisms to assess the ecological status of a river.

This project is part of a wider programme of research by the Environment Agency and other UK agencies to explore and develop DNA based methods for ecological assessment. This work will help us to approach the development of DNA based methods for other organism groups and water body types. Examples of other work include assessing the feasibility of using DNA based methods for fish in lakes, macroinvertebrates in rivers and lakes, and for the monitoring and surveillance of non-native invasive species.

#### Research and analysis: Validation of landfill methane measurements from an unmanned aerial system

Landfill gas is made up of roughly equal amounts of methane and carbon dioxide. Modern UK landfills capture and use much of the methane gas as a fuel. But some methane escapes and is emitted to the atmosphere. Methane is an important greenhouse gas and controls on methane emissions are a part of international and national strategies to limit climate change. Better estimates of methane emissions from landfills and other similar sources would allow the UK to improve the quantification and control of greenhouse gas emissions.

This project tested the accuracy of methane measurement using an unmanned aerial system (UAS). We released known amounts of methane and measured these emissions using an UAS. The UAS experiments successfully measured the methane releases. The measured methane emission, taking into account the uncertainty in the measurements, always overlapped with the controlled methane emission release.