

## Baseline Ostracod Ecological Survey of Loch Leven, Scotland

### 1. Background

Loch Leven is a National Nature Reserve, therefore all information regarding its inhabitants need to be documented, in order to allow the effective conservation and management of the loch. However, there have been no ecological ostracod surveys of the loch detailing the presence of *Cytherissa lacustris* to date.

Therefore, a baseline ecological survey of the ostracod fauna would be valuable. The survey verified the presence of *Cytherissa lacustris*, it will provide more knowledge on ostracod ecology and distribution within the loch and finally the knowledge acquired helped to inform conservation and management of the NNR.

The trip will include documenting the living ostracod fauna, their distributions throughout the loch, and environmental factors that may affect their presence.

*Cytherissa lacustris* is a cold loving species found fossilized throughout the northern hemisphere, the living animals are now found in the arctic or at low depths in freshwater lakes. In the UK it has been recorded in 2 sites: Loch Assynt in Scotland and Semerwater in Northern England. Loch Leven is a recently discovered location in which *Cytherissa lacustris* is present.

### 2. Reasoning

During this period I was employed by QTemps Research – Quaternary Paleoenvironments and Climates (QPAC). QPAC is a pilot study funded by QMUL which involves working with professors David Horne and Simon Lewis. The Expedition fund allowed me to take part in valuable research into conservation a rare species in Britain and added towards my final year project in Environmental Science.

### 3. The Experience

Myself and Lukasz travelled up to Scotland from St Pancras, London towards the end of July. After arriving in Edinburgh we took a short local train into the Kinross and Perthshire county of Scotland. There we were greeted by David Horne who drove us to our accommodation in Kinross. On our way, we saw our first glimpse of the Loch we were going to be studying for the coming days – a large, beautiful lake flanked by fog-shrouded hills to the south.

The next morning, bright and early, we met with Jeremy Squire and Gus Routledge from Scotland's National Nature Reserves who took us out on the Loch in a boat usually reserve for transporting sheep. The clouds were grey with a high chance of rain but the work had to be done. Waterproofs and lifejackets on and we were off! We spent the day using Dave's dredge to take sediment samples from the bottom of the lake. We also visited St. Surfs Island, the site where Dave took his preliminary sample the summer before.



Myself (left), Lukasz (right), Gus (left) and Jeremy (Driver), out on the loch on the first morning.  
Photo: Dave Horne

Over the next few days, we drove around the edge of the loch, finding any accessible point on the map and sampling it. At each site it is essential that the physiochemical parameters are measured, this can be seen in the photo below. After a day's work we would return to our hotel and set up the microscopes in our rooms, we'd spend the next few hours see what we actually collected that day which includes using tiny pipettes to suck the ostracods out of the sediment.

Each day ended with a delicious meal at the Boathouse – which became our local over the few days - and a whisky while we had a final round up of the days work.

The overall experience was great, and the trip was a lovely bonus to my degree, carrying out my own fieldwork in a beautiful part of the United Kingdom.



Lukasz and I Net sampling on the shore of St. Surfs Island with the rain clouds looming overhead. Photo: Dave Horne

I am very grateful to QMUL Expeditions Fund as this trip would not have been possible without it. It has been amazing to work next to experts in the subject and to learn all the tricks of the trade, it is an experience I am sure to remember.