

## Condition 1 - Survey methodology

Details of survey methodology, as advised by Park Authority Natural Heritage Planning Advisor

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**Sent:** Thu, 18 Jan 2018 17:20:54 +0000  
**To:** McElwaine, Mark (Glasgow 2018) (Mark.McElwaine@glasgow.gov.uk)  
**Cc:** Alison Williamson; Alan Bell  
**Subject:** fish surveys  
**Attachments:** fish and macrophytes.docx

Hi Mark,

I've looked through a previous survey in another part of Loch Lomond that was carried out by Ecofish Consultants in Motherwell. The survey was 30MB so too large to send through. However I've attached the basics on why we think survey work in Loch Lomond is required. Hopefully to narrow down the survey work required please refer more to my notes below.

1. The main area of focus should be the areas where dredging is required as these are the shallow areas where there is the possibility of spawning fish.
2. The area concerned ie at Drumkinnon Bay appears to be according to the British Geological Survey predominantly made ground as it consists of concrete, glass, metal amongst large boulders. The problem being that the boreholes they based this on were very small in number and we would seek clarification that the loch bed to be dredged is indeed this substrate. This would rule out any further survey work in , if not all, some of the areas to be dredged. The reason being that it is unsuitable as fish spawning areas and for macrophytes .
3. The fish of particular note in this area could be powan. According to research papers there are a high number of ruffe and, if the water is enriched ie eutrophic, there will also be roach. These fish if present will significantly reduce powan numbers (they predate on the eggs) .
4. Enriched water will also affect spawning fish so your surveyor should be able to make a judgement on this factor also which will possibly rule out the requirements for any further surveys.

I hope this is helpful and don't hesitate to keep in touch to see how we can take this forward within a tight timeframe.