



Habitat Advisory visit to Moanmore  
Lough, Co.Clare, Eire  
Undertaken on behalf of Patrick  
Hartigan, by Vaughan Lewis,  
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## 1.0 Introduction

This report forms the output of a site visit to Moanmore Lough, Co. Clare, Eire on 4 April 2006 on behalf of Patrick Hartigan. Information in the report is based on observations on the day of the visit and additional comments provided by Patrick Hartigan

Throughout the report, normal convention is followed, with right bank (RB) and left bank (LB) of the river identified when looking downstream.

## 2.0 Habitat Assessment

Moanmore Lough covered an area of some 15ha to the north of Kilrush, Co.Clare. The lough lay within an area of peat bog and heath, some of which had been subject to previous peat excavation. Rights of turbuary (peat cutting) remained in place over the land surrounding the northern third of the lake.

The lough was fed by a small inlet stream on its southern edge. The entry of the stream into the lough was partially occluded by growth of brooklime *Veronica beccabunga* and water cress *Rorippa nasturtium-aquaticum*. The stream was peat bedded, with a water depth less than 15cm and had little flow. Upstream of the lough, the stream ran through a largely coniferous plantation. There was no evidence of any gravel in the stream near to the lough. There were a number of smaller drains entering the lough at various locations around its perimeter. None of these provided any suitable habitat for spawning trout. No gravel was noted in the marginal areas of the lough.



**Moanmore Lough from the south east**

The lough had an extensive marginal growth of emergent vegetation, including bulrush *Typha arundinacea*, and common reed *Phragmites australis*. Submerged vegetation included willow moss *Fontinalis antipyretica*, white water lily *Nymphaea alba* and pond weed *Potamogeton* Spp.

Water quality in the lough was a concern, with the Environmental Protection Agency identifying its water quality as 'failing'. There were no indications as to which parameters were causing the failures, although the presence of blue-green algal blooms during the summer would suggest that over-enrichment is an issue. The land to the east of the lough had been intensively grazed by cattle. This practice was expected to cease in the near future, with tree planting planned for approximately 4 Ha of pasture land in the south east corner of the lough.

Land surrounding the north east and north west sides of the lough was not in the control of Patrick Hartigan. It appeared very likely that large scale peat extraction would take place over this land in the period leading up to 2015 when the rights of turbuary would be extinguished. Drainage ditches cut for peat extraction had the potential to dry out the local area, significantly affecting both its hydrology and associated vegetation. There was a considerable amount of rubbish strewn around this area, including old vehicles.



**Rubbish deposited at north end of lough**

The outfall from the lough was on the western shore, alongside a newly excavated track presumably constructed as part of the peat extraction. The channel was very overgrown with sedge *Carex* spp., hard rush *Juncus inflexus* and mixed grass species, making access for fish along it difficult.



**Newly excavated track with outfall from the lough to the left of the picture**

### **3.0 Fish stocks**

No formal assessment of fish stocks had been undertaken. However, stocks in the lough appeared to be relatively healthy, with up to a dozen fish to 250g caught on the few occasions that it was fished annually. The lough had not been stocked in recent years. No other fish species had been identified in the lough.

### **4.0 Recommendations for habitat management**

- Spawning habitat was very limited in the lough, with the stream entering at the southern end of the lough appearing to offer the only potential spawning opportunity for brown trout. Despite the lack of gravel in its lower reaches, it is possible that in high flows fish could migrate up the stream to areas of more suitable spawning habitat upstream. It would be beneficial if the stream could be traced upstream and any potential gravel bedded spawning riffles identified.

The mouth of the stream where it enters the lough should be kept clear of vegetation in the period September-January in order to allow access to migrating trout. In an average year, a combination of increased flows and frost will remove much of the vegetation. It may however be beneficial to manually remove some of the vegetation if it remains intact during this period.

- The proposed tree planting should ideally be comprised of a large percentage of deciduous trees. The benefits of hardwood tree belts are manifold and include:
  - Interception of surface water run-off
  - Detention of nutrients that are helping to feed algal blooms in the lough
  - Release of calcium salts via leaf break down (birch *Betula* Spp. is a particularly good genus for this), helping to buffer acidic flushes

In contrast, large scale conifer planting has been shown to be detrimental to water quality in upland areas, with release of fine sediment, increased surface water run-off and mobilisation of nutrients through the application of fertilisers some of the issues

of key concern. A copy of 'Restoring and Managing Riparian Woodlands' produced by Scottish Native Woodlands is included for further information.

- The presence of blue-green algae in the lough is of great concern. This group of algae flourishes in high nutrient water bodies when soluble nitrate becomes limiting, generally during the mid/late summer months. They are able to fix their own nitrate and hence have a selective advantage over competitive species at this time of the year. More generally, phosphate is the limiting nutrient in freshwater systems. Management of the area surrounding the lough should concentrate on reducing run-off of nitrate and phosphate. The cessation of grazing and planting of broadleaf woodland on the grazed area are both positive steps. Whilst land use adjacent to the inflow stream is outside of the lough owner's control, it would be worth attempting to influence it, in an effort to further reduce nutrient inputs.

Similarly, the forthcoming peat extraction has the potential to cause significant mobilisation of metal salts and fine sediment into the lough. Ideally, a buffer strip should be established around the lough and alongside any drainage ditches with a view to reducing the impact of this damaging activity.



**Drainage channel through peat bog**

The 'Guide to the restoration of nutrient-enriched shallow lakes' (Available from The Broads Authority, 18 Colegate, Norwich, Norfolk NR3 1BQ, England ISBN 0948119292) provides extensive detailed information regarding issues associated with high nutrient levels.