LOCH MORAR EXPEDITION 1978

The aim of the expedition during 1978 was one of consolidation; administrative, technical and scientific. Having in view the limitations inherent in the use of loaned equipment and the difficulty in obtaining cash sponsorship for so controversial an objective, the expedition is in the process of gearing itself to raise its own funds through a return to an extended membership. The success of the Bristol branch gives us grounds for optimism and the formation of a new committee under the chairmanship of Barry Bell has provided a great increase in operational efficiency. The Bristol branch members under Gary Williams have made an ever increasing contribution to the work from 1977 and members in general have assumed a larger burden in contributing funds.

On the operational side, work has been restricted to trials in underwater photography and to the assessment of sonar triggering mechanisms which will be important in the next phase as funds become available.

Scientifically, we had to fill many of the holes left in the programme of 1977 due to some of the scientific staff finding it impossible to attend. Greater progress has also been made due to the direct supervision of the work by Dr. Duncan of Royal Holloway College. This was the main area of operations throughout the year and has been a success with several unique achievements, particularly in the field of deep water research.

We have also begun a reassessment of the evidence in support of the case for an unknown animal through a " Devils advocate dept." in order to decide which evidence we can responsibly put forward in our dealings with the public, potential sponsors and with the scientific community.

The work was undertaken with these objectives:-

1. To support Royal Holloway College in a biological study of the loch with emphasis on deep water.
2. To obtain cores from the deep water to establish the history of the loch. These to be distributed to interested parties especially Cambridge and Edinburgh Universities.
3. To obtain film of the loch bed at depth.
4. To produce underwater films illustrating various aspects of the environment.
5. To develop a sonar trigger.

Three visits were made to the loch, January, at Easter and in June.

1. The biological programme was supported on all three visits with considerable success. Water chemistry, oxygen levels, light attenuation, phytoplankton, zooplankton, bottom fauna (including some from the deep basin of great interest), and aquatic botany were all subjects of study together with preparations for a study on fish. The work was conducted by Dr. Duncan, Mr. D. Shirt, Miss Angela Newton and Mr. R. Grinvalds and is the subject of a separate report by the scientific officer.

2. The first attempt at obtaining deep cores was made in January using the equipment of the Dept. of Geology, Edinburgh University with whom we collaborated, and with the support of 75 Engineer Reg. A raft was successfully located over the deep area and the corer lowered and recovered. No core was retained however and after two attempts the operation had to be abandoned due to the Edinburgh staff being unable to continue.

At Easter, two of our members, Mr. Steve Beck and Mr. Peter Newton constructed a corer to our own design with which we had the good fortune to obtain a five inch core from 500ft. of water. When examined at Cambridge by Dr. J. Birks this was found to have penetrated the glacial clay and although poor in pollen, contained abundant cysts of marine algae. This is firm evidence that Morar was open to the sea until appox. 6,000 years ago. The fact that we penetrated to the glacial layer within so short a distance suggests that the slope was too steep for the accumulation of much subsequent material or that slump had occured.

During the summer we obtained longer (14in.) and less disturbed cores from the 1,000 basin in an attempt to secure more detailed and precise sequences. These consist of darker mud and do not penetrate to the glacial deposits. The work was again supported by 75 Engineer Reg. and valuable assistance was received from Penton Hook Marinas Ltd. and MacIntyres Marine Engineers. Although the cores are unique, they are still not long enough to provide as complete a record as we would wish. They are at present being analysed at the Dept. of Paleobotany, Cambridge, the Freshwater Biological Association and the British Museum.

3. In January, in collaboration with Seer T.V. Surveys and 75 Engineer Reg. a T.V. camera was lowered to the deeper parts of the loch. We regret that the lighting system was not suitable to provide pictures of value and that the recording apparatus failed. Unfortunately there was insufficient time for the firms representative to rectify this.

4. A series of still pictures and underwater films were obtained to back up video tape from 1977 illustrating trout shoaling since this is of interest to fish behaviourists. This work was carried out by the expeditions divers and photographers, John and Peter Bellars. Other photographic trials were made to asses equipment.

5. A sonar trigger was tested in the summer and proved adequate on targets of the expected strengths at ranges of up to 70ft.

In addition, a fixed sonar beam was operated for a short period for test purposes and experiments to find better techniques of dredging conducted.