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Report: 1907H Loch circulation model validation fieldwork 2007 (FC11102) Phase I

16-20 July 2006

Location

Loch Ewe, Ross-shire

Personnel

J Beaton (OIC)
D Lichtman

Vessels and transport

MV Glen Tarff
Transit van
Flat-bed pick-up truck (equipment delivery only)

Objectives

The aim is to collect data to verify a loch circulation model in Loch Ewe. A total of six moored instruments will be deployed at locations in Loch Ewe and a PAR sensor is to be set up at the FRS ML Fish Cultivation Unit at Mellon Charles.

1. Deploy an Aanderaa remotely monitored environmental data buoy

2. Deploy an Aanderaa RDCP600 recording doppler current profiler in a trawl-resistant bottom mount

3. Deploy two Sontek Argonaut acoustic current meters

4. Deploy two RBR water level recorders

5. Set up data buoy receiver station at the field station

6. Set up Licor PAR sensor and data buoy receiver

7. Take an NXIC CTD profile at each mooring deployment site and positions along a transect as time allows

8. Perform GPS drifter buoy survey as time allows

Narrative

Staff and equipment travelled to Loch Ewe on the 16 July. The Flat-bed pick up truck was unloaded at the Marine harvest slipway. Preparations were made for the following day.

The next day staff met the *Glen Tarff* and loaded the equipment. The Aanderaa data buoy was deployed first, at mooring position 2, followed by the two Sontek current meters (3 and 4) and the water level recorder in the South of the loch (5) as shown in Figure 1 below. CTD profiles were collected at locations H, I, G, E and F on the way back to the pier at Aultbea.

On the 18 July CTD stations F, E and G were repeated on the way out after leaving the pier. After checking the wind direction the drifter buoys were released in the area of CTD station C. The RDCP in its trawl-resistant bottom mount was deployed at position 1. CTD profiles were then collected at stations D, C, B and K as we worked our way up to deploy the second water level recorder at position 6. A CTD profile was collected by the water level recorder mooring before profiling at stations A and J. The drifter buoys were then recovered before heading in.

During the following two days CTD stations L, M and N were collected and the drifters were released three more times, the first time between CTD stations L and M, the second time near the data buoy and CTD station B and for the last time the drifter buoys were deployed at different points around the Isle of Ewe.

The data buoy receiver station and PAR sensor were setup at the FRS ML Fish Cultivation Unit over the 19 and 20 July. These instruments are being logged by computer and the data automatically transferred to the laboratory network in real time.

Laboratory staff returned to Aberdeen on the afternoon of the 20 July.

J Beaton
1 November 2007

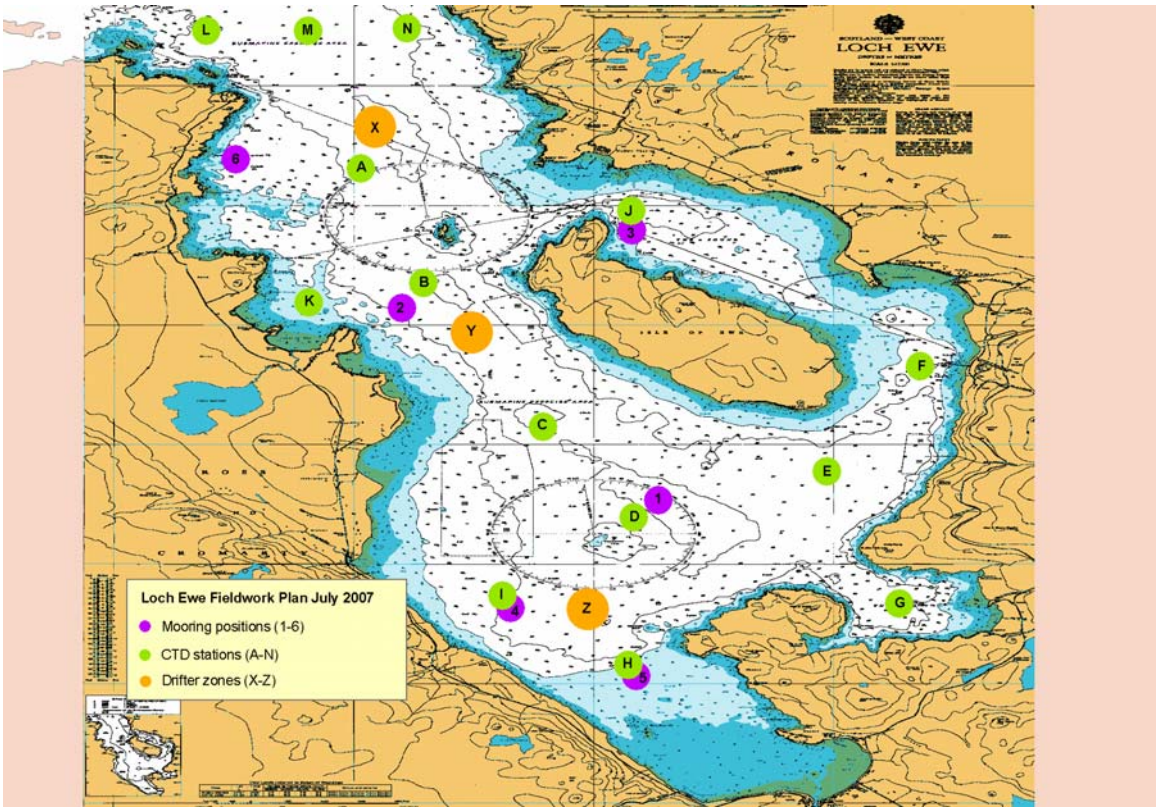

Figure 1: Chart of Loch Ewe Fieldwork positions July 2007