P17/6

Not to be cited without reference to Marine Scotland, Marine Laboratory, Aberdeen

FRV *Alba na Mara*

Cruise 1509A

PROGRAMME

DATES

15-24 September 2009

Loading – Fraserburgh
Unloading – Fraserburgh

In setting the cruise programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotlands' Working Time Policy (Lab Notice 34/03). In addition, the Scientist-in-Charge must formally review the risk assessments for the cruise with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Cruise Report, to I Gibb and the Cruise Summary Report (old ROSCOP form) to D Lichtman, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

Alba na Mara

K Summerbell (SIC on Alba)	15-24 September
J Hunter	15-24 September
M Breen	14-20 September (joining Alba on 15 September)
M Harding	14-20 September (joining Alba on 15 September)
P MacDonald	15-20 September

Small Boat Charter/Shore Based

P Copland (SIC on charter)	14-23 September
E Armstrong	14-23 September
D Parsons (Leeds University)	14-15 September

Dive boat /Shore based

B O'Neill (Project SIC)	14-20 September
J Mair	14-20 September

Project: MF0759 (10 days)

Gear

BT158 and modified Morgere doors
Roller clump
Scallop dredge and towing beam
Modified TV sledge for LISST
Day grab
Divers TUV (net drum and towing wire)
Quad of Nitrox
Diving equipment and divers hand held camera
LISST 100X
Scanmar
Load cells

Objectives

- To calibrate readings between a LISST 100X and Reson 7125, from the sediment plumes created behind towed objects on different sediment types.

Procedure

The divers and shore based personnel will travel on 14 September by road to Lossiemouth. The divers will launch the dive rib 'Dignity' and set up a shore base. The charter boat personnel will set up the Reson 7125 equipment and test that it's working. *Alba na Mara* will leave Fraserburgh on 15 September and head to Lossiemouth. Operations will be carried out until Sunday 20 September in inshore waters (20-25m) between Lossiemouth and Burghead. Once Alba na Mara and the charter vessel rendezvous on 15 September the rest of that day will be spent practicing sampling manoeuvres. The dive team will be carrying out work-up dives and boat handling training where appropriate.

Calibration trials will begin with the Scallop dredge on 16 September, fishing trawl BT158 on 17 and 18 September, then the roller clump on Saturday 19 September. Weather permitting the operations will include:

i. Four TUV dives per day where the LISST 100X will be positioned in the sediment plume at known distances behind the towed gear. The passenger in the TUV will take video footage of the towed gear and sediment plume.

ii. Measure the sediment plume with the Reson 7125 while the TUV LISST is sampling. The charter vessel will either hold a stationary position as the gear is towed past , or head in same direction and speed as Alba so hold positions relative to the gear (fig1 a & b).

iii. Measure the sediment plume with the Reson 7125 when the TUV LISST is not sampling. The charter vessel will conduct a series of perpendicular passes over the sediment plumes (fig 1c).

iv. Attach a modified sledge, that carries a LISST 100X, to the gear (roller clump only). TUV LISST and Reson sampling can also be conducted at the same time to calibrate all three techniques (fig 1d).

On Sunday 20 September there will be one TUV sampling dive in the morning to cover any missed tows from the previous days sampling. This will complete the diving activity. Alba na Mara will steam to Buckie harbour to offload the TUV, all other diving equipment, scallop

dredge and some scientific personnel, at approximately high tide (13:48 BST, 4.27m). Once completed Alba na Mara will steam to waters close to Nairn.

Calibration trials will be conducted on muddy sand near Nairn on Monday 21 and Tuesday 22 September. Sampling strategies will be similar to the sandy sediment (figure 1a-d) but without the divers TUV, and limited to either the roller clump or the fishing trawl. The charter vessel will need to steam from Lossiemouth to Nairn every morning and evening, to transport the shore crew. Alba na Mara will also travel back to Lossiemouth on the evening of 22 September, to allow further sampling in the morning of 23 September before heading to Fraserburgh for offloading on 24 September.

Concurrent load cell measurements will be taken ahead of the clump and either side of the trawl doors at both sites. Sediment grab samples will be taken from both areas (Lossiemouth and Nairn). These will be carried out in an evening if time allows, or at the end of the trip before heading back to Fraserburgh.

Normal contacts will be maintained with the Laboratory

Submitted:
K Summerbell
3 September 2009.

Approved:
I Gibb
3 September 2009.

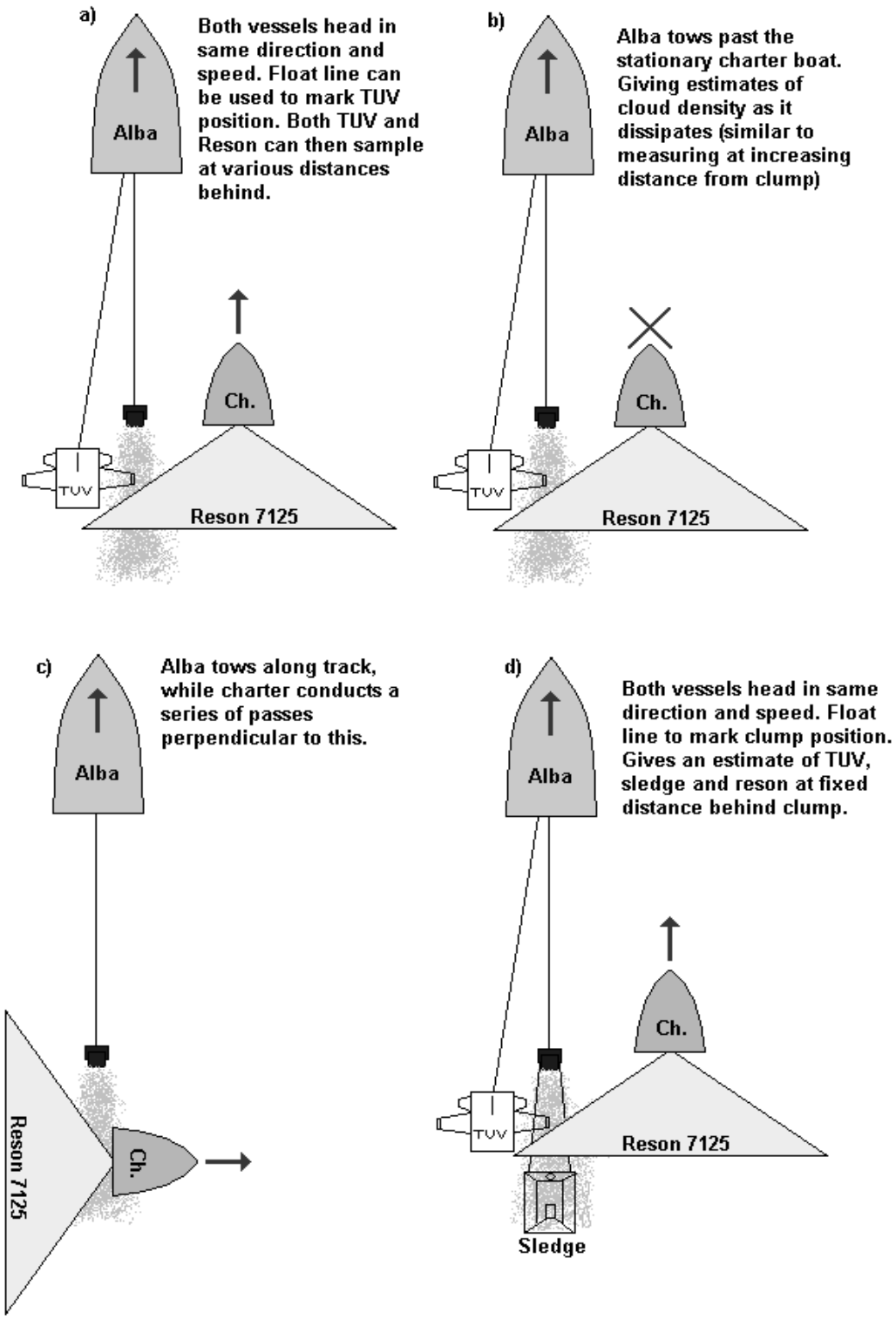

Figure 1: Sampling strategies of charter vessel.