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FRV *Scotia*

Cruise 0906S

REPORT

1-5 June 2006

Personnel

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Out turn days per project: 3.2 days AE11a (10118); 1.8 days AE08o (10109)

Gear

BT 101 (48' Aberdeen trawl) with tickler chain and small mesh cod end.

Objectives

Perform fish disease survey in the Moray Firth, east of Orkney, Bell Rock and St Abbs using standard ICES protocols.

Conduct annual fish (haddock, dab) disease survey at Moray Firth, east of Orkney, Bell Rock, Marr Bank, Wee Bankie and St Abbs using standard ICES protocols for external fish diseases (i.e. lymphocystis, ulcers, X cell, hyperpigmentation, fat cell necrosis, epidermal hyperplasia). Collect dab liver samples for light microscopy (50 per region, 20-24cm group). Determine prevalence and report fish data to ICES.

Conduct baseline survey of external diseases for whiting (*Merlangius merlangus*) for monitoring purposes i.e. epidermal hyperplasia, *Lernaeocera branchialis*, *Diclidophora merlangi* and *Clavella abunca*.

Collect tissues from common dab for mixed function oxidase activity and PAH bile metabolites.

Conduct study on liver and other tissue histopathology from dragonet, *Callionymus lyra*.

Examine *Lernaeocera* infected and uninfected gadoids for infection by trypanosomes.

Prepare images of parasites from the examination and dissection of gadoids and other fish species.

Collect tissues from common dab for mixed function oxidase activity and PAH bile

metabolites.

Narrative

FRV *Scotia* will work in the Moray Firth, east of Orkney, Bell Rock, St Abbs, Wee Bankie and Marr Bank obtaining fish samples by trawling. The cruise will start and terminate in Aberdeen.

FRV *Scotia* sailed from Aberdeen on 1 June at 0800 and commenced trawling in the Moray Firth in the vicinity of the Beatrice oil platform during the late afternoon (1500). Sampling was undertaken at Fair Isle on 2 June, and later in the East Buzzard Control area. Sampling commenced at Montrose Bank on 3 June, followed by Marr Bank, St Abbs Head and Wee Bankie. Bell Rock was sampled on 4 June. A total of 11 trawls were successfully completed.

Results

All common dab, *Limanda limanda* were examined for external disease by standardized ICES protocols (n=8222). Sufficient fish were present in the middle length classes (19-24 cm) for a full data set to be completed for the long term monitoring positions. Liver tissue was fixed for light microscopy from up to 50 fish (21-24 cm) dab from each area for examination in the laboratory for evidence of neoplastic lesions (n=217). One additional liver sample was fixed for investigation for neoplastic lesions from common dab (<25 cm). Market-sized haddock were caught in Fair Isle and East Buzzard control and examined for vertebral anomalies. Blood films from *Lernaeocera* infected haddock and whiting were prepared and will be examined microscopically in the laboratory for presence of trypanosomes. External diseases according to ICES recommendations for whiting, *Merlangius merlangus* i.e. epidermal hyperplasia, *Lernaeocera branchialis*, *Diclidophora merlangi* and *Clavella adunca* was recorded from 50-100 fish per area. Haddock (50 per area) were examined and presence of *Clavella adunca* recorded. All tissues from dragonet, *Callionymus lyra* were sampled for light microscopy (n=19). Selected lesions and parasites were photographed. Gravid *Clavella* were taken and placed into culture for fecundity and lifecycle stage studies (morphology and number of stages). At each area, 20 common dab were sampled for mixed function oxidase function activity. PAH bile metabolites and PAH concentration in liver and flesh. Liver and flesh was collected from 25 fish (common dab) per area. These tissues will be examined for brominated flame retardants in the laboratory.

Lernaeocera branchialis was recorded on a female *Callionymus lyra* and represents an unusual record.

The programme aims were achieved and helped by the excellent co-operation of the officers and crew of the FRV *Scotia*. *Scotia* docked in Aberdeen on 4 June.

David Bruno, Chief Scientist
10 November 2006