MARINE FISH FARM MONITORING REPORT

REPORT FROM: **MARINE SCIENCE DINGWALL**
REPORT TO: **OPERATIONS STAFF**

SITE DETAILS

COMPANY:	**Wester Ross Fisheries Ltd**
LOCATION:	**Corry, Loch Broom**
RECEIVING WATER	**Loch Broom**
CAGE GROUP:	
CONSENT NUMBER:	**CAR/L/1001809**
NGR:	**NH 1538 9058**
TEAM:	**North Highland**
SITE ID:	**BRO1**

SURVEY DETAILS

MONITORING METHOD:	**Benthic**		
SURVEY TYPE:	**Self Monitoring**		
SURVEY DATE:	**18/01/2011**		
DATE RECEIVED:	**29/04/2011**		
REPORT DATE:	**18/07/2011**		
EVALUATED BY:	**MW/AP**	BIOMASS:	**603** (t)
SUBMISSION NO:	**N 3364**	MAX BIOMASS	**1050** (t)

CLASSIFICATION: Unsatisfactory

REPORTED BY: Marine Biologist

REPORTED BY: Marine Chemist

DATE:

ISSUE NO: **1**

MARINE FISH FARM MONITORING REPORT

SITE ID BRO1 SUBMISSION NO: N 3364

SUMMARY

Evaluated against quality criteria stated in SEPA's Fish Farm Manual Annex F according to NWM/MAR/010

The sediment at the cage edge was described as Black smelly mud with shell. No waste or fungus was noted.
The sediment at the AZE & Ref stations consisted of brown mud with shell & stones.

Biology:
There was an obvious enrichment effect at the cage edge & 51m (AZE-10) stations, which showed little similarity to the other AZE & Ref stations. These stations had poor species richness & were dominated by the enrichment polychaetes, Capitella & Malacoceros. The resulting ITI scores indicated degraded communities. The cage edge station meets SEPA's criteria within the AZE, but the 51m station fails all of SEPA's criteria outwith the AZE.

The 61m (AZE) & 71m (AZE+10m) stations had quite good species richness & diversity values. However, these too were dominated by Capitella (along with Lumbrineris), & while their ITI scores were higher than at the 51m station, they still indicated degraded communities. These stations met 2 & failed 2 of SEPA's criteria outwith the AZE.

Due to the presence of enrichment at the AZE stations, this survey is classed as unsatisfactory based on the faunal data.

Chemistry:
Redox potential (Eh): No surface redox readings were taken. The cage edge station and 1st replicate at the 51m SE station failed SEPA's action level of -125 mv in the top 3cm of the sediment. The 61m SE station and rep 1 of the 71m SE station showed low negative values although passed the SEPA's action level. The two reference stations showed negative values indicating the background tendancy of the site towards anoxic conditions.

Loss on Ignition (LOI): LOI values passed SEPA's action level of 27%; the highest value was at the cage edge station with a value of 10%. Reference station 2 was the next highest at 4.2%.

Particle size analysis (PSA): PSA data showed that the seabed was composed mostly of brownish grey gravelly silty organic sand with shell fragments accompanied by a strong marine odour. Only at the cage edge was there an H2S smell.

Due to the redox failure at the AZE stations, this survey is classified as unsatisfactory for Marine Chemistry.

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SITE DETAILS

68 x 12m cages
restocked Sept '09

depth = 22-25m

DATA QUALITY

Survey complies with license MPS requirements.
Carried out after peak biomass.

INTERNAL RECOMMENDATIONS

Care needs to be taken with position fixing for site-specific MPSs - the site appears to be ~200m away from the modelled NW positions, & the distances appear to be at 44m, 75m & 100m rather than 51m, 61m & 71m.