



## MARINE FISH FARM MONITORING REPORT

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

### SITE DETAILS

COMPANY: **Wester Ross Fisheries Ltd**  
LOCATION: **Ardmair (Isle Martin)**  
RECEIVING WATER: **Loch Broom**  
CAGE GROUP: **Steel**  
CONSENT NUMBER: **CAR/L/1003889**  
NGR: **NH 1012 9920**  
TEAM: **North Highland**  
SITE ID: **KAN2**

### SURVEY DETAILS

MONITORING METHOD: **Benthic**  
SURVEY TYPE: **Self Monitoring**  
SURVEY DATE: **25/01/2012**  
DATE RECEIVED: **14/05/2012**  
REPORT DATE: **28/05/2012**  
EVALUATED BY: **MW/AP** BIOMASS: **230 (t)**  
SUBMISSION NO: **N 3524** MAX BIOMASS **1050 (t)**

**CLASSIFICATION: Unsatisfactory**

REPORTED BY: **Marine Biologist**

REPORTED BY: **Marine Chemist**

DATE:

# MARINE FISH FARM MONITORING REPORT

SITE ID KAN2 SUBMISSION NO: N 3524

## SUMMARY

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

The seabed was described as soft, grey/brown mud with shell & stones along the transects; & soft, brown mud with shell at the Ref stations.  
No waste or fungus was reported.

### Biology:

There was an obvious enrichment effect at the cage edge & 25mN stations, which showed little similarity to the other stations. These stations had poor species richness & diversity, & were dominated by enrichment polychaete, Capitella. Due to the high numbers of enrichment polychaetes, the cage edge station met SEPA's criteria within the AZE, by the 25mN station failed the criteria outwith the AZE.

Some enrichment was also evident at the 25mS station. This station was dominated by the polychaetes, Mediomastus & Lumbrineris; the resulting ITI score indicated a changed community (but very close to the degraded border). This station failed 2 of the criteria outwith the AZE (& partially failed the other 2 criteria).

The 50m stations showed signs of slight enrichment. These stations were dominated by Lumbrineris, Mediomastus & Edwardsia, & the ITI scores indicated changed communities (only slightly higher than 25mS station, but met the criteria outwith the AZE).

Based on the faunal data, this survey is classified as borderline/unsatisfactory.

### Chemistry:

Redox potential (Eh): No surface readings were taken, readings were taken from 1 cm down to 5cm depth. This survey failed the SEPA action level for redox for values lower than -125mV in the surface sediments (0 - 3 cm). Failure occurred in the first replicates at the CE, 25m NNE, and 25m SSW stations. Values were negative from the surface down at the CE station, the 25m NNE station (1st replicate), and the 50m NNE station. Values at the remaining stations were negative with depth; the only station with positive readings throughout was at the 300m SE station (rep 2). Values were on the whole higher at the 50m SSW and 300m reference stations.

Loss on ignition (LOI%): All stations passed the SEPA action level for LOI, however LOI was highest at the CE and 25m NNE stations at 12%. At the remaining stations, LOI ranged from 4.2% at the 300m SE rep station to 7.5 at the 50m NNE station.

Particle size analysis (PSA): According to the UKSeaMap reclassification of the Folk Triangle, the sediment was classified as mixed sediment at the CE and 300m reference stations; the coarsest sediment in this category and overall was at the 300m E station with 41% gravel. Sediment at the 25m NNE, 50m NNE and 25m SSW stations was classified as mud and sandy mud, and at the 50m SSW station was classified as sand and muddy sand although the sediment only differed to the previous three stations by containing slightly less silt and clay and slightly more sand.

Marine chemistry would classify this survey as unsatisfactory based upon the redox

# MARINE FISH FARM MONITORING REPORT

SITE ID KAN2 SUBMISSION NO: N 3524

## SITE DETAILS

12 x 15m<sup>2</sup> cages  
site restocked Nov 2010 following the min 6 weeks fallow period (although unknown which cage group was stocked first)

depth = 14-22m

## DATA QUALITY

Extended monitoring survey complies with licence MPS.

Survey carried out during a period of peak biomass (however, prior to the highest peak in biomass).

## INTERNAL RECOMMENDATIONS

