MarLIN
The Marine Life Information Network for Britain & Ireland

Summary of time requirements and potential improvements for Marine Recorder data entry

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March 2005

Contract No: F90-01-784 - JNCC Contribution to *MarLIN* Programme

Report to the Joint Nature Conservation Committee

Reference:
Ager, O E D, Heard, J, Parr, J R (2005). Summary of time requirements and potential improvements for Marine Recorder data entry . *Report to Joint Nature Conservation Committee from the Marine Life Information Network (MarLIN).* Plymouth: Marine Biological Association of the UK. [JNCC Contract no. F90-01-784]

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1. Introduction

The aim of the contract was to increase the amount of data available in a standard electronic format on the JNCC marine database. The contract also included a scoping study of data from English Channel surveys undertaken by Norman Holmes. The results of that work are provided in a separate report (Oakley & Hiscock, 2005).

JNCC provided the *MarLIN* team with paper reports, records from field surveys and electronic data from the Irish Sea Pilot Project. Twenty person days were allocated to enter the survey data from 20 surveys into Marine Recorder (MR). Three person days were allocated for validation and verification of the data. A table showing the total time taken for data entry is provided in Annex 1.

Outputs

- CD of MR with newly entered survey data
- Report of data entry and validation process

1.1 Survey data entered

In order to provide feedback on the process of entering survey data into MR the individual surveys are discussed separately as follows.

1.11 Southern Science Reports

MarLIN was given nine Southern Science reports to enter into MR. Surveys were only entered into MR where latitude/longitude was provided within the report; therefore four surveys were not entered into MR (see Annex 1 for details).

1.12 BMNH Chalk Shore Data

Locations within these surveys were taken from previous MNCR surveys done at the same locations or were estimated from Ordnance Survey maps. The survey data was provided in spreadsheets, however 1 day was taken to edit the spreadsheets into the correct format to import into MR. There were eight species that could not be identified using the MR dictionary and other sources and therefore could not be entered (see Annex 2 for details).

1.13 Fal potential SSSI survey

MNCR survey site sheets were provided for a survey of the Lower Fal in 1996. The data provided included detailed metadata together with individual survey sheets. Species were entered (SACFOR scale) along with the site descriptions. As MNCR format the data 'fits well' into MR data structure. Several Intertidal Phase 1 Survey Forms were also provided for the Fal area. These forms included brief handwritten site descriptions and diagrams. There is no facility for inputting diagrams into MR and they were therefore left out.

In some but not all cases, biotopes and a brief species list were provided. The species were entered accordingly. The biotopes were recorded using the 1996 biotope classification, which could not be matched to current classifications. All biotopes were recorded in a table (Annex 3) for future reference.

1.14 Helford potential SSSI survey

Intertidal Phase 1 survey forms were provided for a survey of the Helford River in 1995 and 1996. Each form had a brief handwritten site description, which included species and biotopes. The descriptions were in many cases hard to read.

Biotopes included in this survey were recorded using the 1996 biotope classification and it was impossible to match them to current (version 04.05) biotope codes. A table is provided (Annex 3) listing the biotope code, along, with the corresponding survey event name, location, date and spatial reference The table will allow biotopes to be added easily to the corresponding event should they be translated into current classifications.

1.15 Milford Haven potential SSSI survey

MarLIN was provided with MNCR littoral/sublittoral site records for a survey carried out in Dyfed, Wales. Six different surveyors carried out the survey from the 26th-28th September 1992.

Detailed metadata was provided and entered in MR, however species were only recorded as part of the general site description. The site descriptions were entered as written and the species extracted and entered on the species page in MR. This has resulted in some duplication as species were recorded in both the written description and the species record. The species record however is correct. The hand-written descriptions were in some cases hard to decipher, which added significantly to the time taken to enter the data.

Finally biotopes were also recorded during the survey; however it was not possible to translate these 1992 classifications into current ones. No biotopes were entered into MR for this survey. Instead the biotope classification, along, with the corresponding survey event name, location, date and spatial reference were recorded in a table (Annex 3). The table will allow biotopes to be added easily to the corresponding event should they be translated into current classifications.

1.16 Scottish Saline Lagoons

Site and species recording sheets were provided for a survey carried out on Scottish saline lagoons in 1984. The survey, carried out by S.M. Smith included 56 sheets which could entered into MR. Two additional site sheets which had no corresponding species records and one species record with no associated site information were found, these were not entered into MR.

In reference to the site information sheets, not all the information provided was relevant to MR, so only applicable information was entered. The species records were recorded using the SACFOR scale and were entered accordingly. Spatial references were not provided for all sites and therefore in some cases were estimated, a note of this was made in MR accordingly.

1.17 Irish Sea Pilot – Anglesey

The survey data was provided in a spreadsheet and metadata in pdf format. The spreadsheet needed to be edited slightly to the correct format for MR import. PSA data was included as a separate sample within each survey event. Percentages given in the spreadsheet have been entered as weights, due to the format of MR, the following assumptions have been made:

PSA from ISP	MR equivalent
2mm	2-4mm granule
1mm	1000-2000µm very coarse sand
0.5mm	500-100µm (sic) coarse sand
0.25mm	250-500µm medium sand
0.15mm	125-250µm fine sand
0.063mm	63-125µm fine sand
<0.063mm	<63µm silt and clay

1.18 Irish Sea Pilot – Irish Sea Mounds

The survey data was provided in a spreadsheet and metadata in pdf format. The spreadsheet needed to be edited slightly to the correct format for MR import. Biotope information was included with this survey, however the majority of codes did not match up to the most recent version within MR. Seven biotope records matched up with codes within MR and the remaining biotopes (shown in Annex 3) were entered as a higher level of biotope on advice from JNCC. PSA data was entered into MR. Percentages given in the spreadsheet have been entered as weights, due to the format of MR, the following assumptions have been made:

PSA from ISP	MR equivalent
Gravel	1000-2000µm very coarse sand
Cobbles	500-100µm (sic) coarse sand
Pebbles	250-500µm medium sand
Sand	125-250µm fine sand
Silt	63-125µm fine sand
Clay	<63µm silt and clay

2. Discussion

2.1 Estimating time for data input

The following points were considered prior to beginning the contract to give an estimation of time taken to input survey data into MR.

- Format of data
  Are data paper records/survey sheets/electronic?
- Are the records organised into separate surveys, locations etc or is sorting required?
- Are locations included with each record or separately?
  Crosschecking, matching up surveys with locations.
- Is a species list included?
  If a set species list is used it is easier to set up the spreadsheet for the import into MR.
- Size of dataset
  One or many surveys – if a very large dataset it can be advisable to divide into years
- How many different locations are there?
- How many different survey events are there (unique date, location and surveyor)?
  Survey events and locations have to be set up within marine recorder before an import can happen
- How many samples does each survey event have?
- How many replicates does each sample have?

- Only species data can be imported through the spreadsheet so any additional data will need to be entered through MR front end.
  Additional data may include depth, biotopes, PSA

From previous contracts to enter data into MR timing for specific things in MR have been roughly worked out as follows:

Marine Recorder feature	Approximate timing (minutes)
Survey	4
Survey Event	2
Location	2
Spreadsheet import (per sample)	2
Adding additional information (per item)	1
Snapshot of data (per survey)	5
Validation & verification (per survey)	30
Extraction for NBN (per survey)	30
Validation	5

It should be noted that entering marine data, especially past data requires interpretation. Data entry needs to be undertaken by staff with an understanding of the process and the surveys.

2.2 Data Input and validation process

The input of data and validation process are considered below. The comments will hopefully inform future work and development. Comments are in addition to those provided in July 2004 (see Annex 4).

- Species names are often spelt incorrectly on recording forms
- Older synonyms missing from MR dictionary - is it possible to add them?
- Handwriting on recording forms can often be difficult to read
- In some cases no/very little metadata was provided with survey. In these cases only very basic information about each survey could be entered
- History of biotopes i.e. matching old codes to new was a problem
- Species names not written out in full, abbreviations used but not consistent
- Location and grid references not always provided or correct
- Quicker for data entry if only one copy of MR open at a time
- Old biotopes are 'part of' many new biotopes
- Three and three code good way of entering species as it reduces the chance of data input error
- Some species not in dictionary or on NBN but some on ERMS
- No actual dates of when survey carried out only year
- Knowledge of marine biology was required in order to be able to enter the data provided. Handwriting that was difficult to read and needed interpretation.

The following points were noted during the data validation and verification process:

- Validation process was useful in identifying several errors. For example incorrect spatial references due either to input error (one case) or due to original recorder error (four cases).
- Identified the need to spell-check lengthy descriptions. Currently this has to be done by copying text into word and then back to MR. A spell-check function built into MR would be useful.
- The validation and verification process seemed repetitive and the format could be more straightforward to follow. The use of a word document as the template is repetitive and not 'smart'.
- In some cases verification had to be done for fields that were prescriptive in MR. For example checking that each point is which in the bounding survey box is unnecessary since MR will not let you enter a point outside of the box. Checking things that have to be entered in a certain way to complete a MR record seems to draw out the validation process unnecessarily
- The snapshot only shows one surveyor for each event when in many cases there are several surveyors recorded. Those names that do not appear cannot therefore be checked.
- The entire process took over 3 hours and involved 3 people. This seems like a very long period of time to dedicate to what could be much faster, easier process.

3. Conclusions

The contract work has demonstrated that older data can be assessed and entered into the MR format. Older data has associated problems but is retrievable. The contract successfully imported all datasets as required. MNCR survey sheets fit well into the MR format.

The data validation and verification process can be improved. A number of computerised short cuts can be suggested and the process made more intuitive. Such a move is vital if MR is to be adopted as a standard by the recording community both on a voluntary level and potentially by consultancies.

4. Annex 1 Time taken to input survey data, provided by JNCC, into Marine Recorder, * = survey not entered into MR.

	Survey Name	Format	Estimated time (person days)	Time taken (person days)
Southern Science	1989 Eastney long sea outfall EIA *	Report (No metadata, map but no site lat/longs)	5	4
	1990 Eastney long sea outfall EIA *	Report (No metadata, map but no site lat/longs)		
	1991 Eastney long sea outfall EIA *	Report (No metadata or lat/longs)		
	1991 Nab Tower sludge dumping ground EA	Report (No metadata but has site locations)		
	1990 Cowes long sea outfall EA pre-operation	Report (No metadata, map but no site lat/longs)		
	1992 Cowes long sea outfall EA post operation *	Report (No metadata but has map & site locations)		
	1992 Dover long sea outfall impact on fisheries & ecology	Report (No metadata but has site locations)		
	1992 Folkestone long sea outfall EIA	Report (No metadata but has site locations)		
	1992 Shoreham long sea outfall dredging IA	Report (No metadata but has site locations)		
BMNH Chalk Shore Data	South-east England (13 sites)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.	5	5
	Flamborough (7sites)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.		
	North Norfolk (4 sites)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.		
	Isle of Wight (6 sites)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.		
	Dorset (4 sites)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.		
	Devon (1 site)	Species list on spreadsheet, no abundances or site locations. Some locations in MNCR database.		
	Fal/Helford report		1	
	Milford Haven		1	2
	Scottish Saline Lagoons	Species list with locations and description of lagoon	2	3
		Location and description of lagoon (no species)	1	
ISP	Anglesey	Excel spreadsheets	2.5	1.5
	Irish Sea Mounds	Excel spreadsheets	2.5	1.5

5. Annex 2 Species not found in MR dictionary

Species Name	Survey	SE ID	SE Name	Abundance
Aeginia longicornis	2003 Irish Sea - Anglesey	3E0	Anglesey ST2 G2	1
Autolynid	1995 Isle of White chalk	3FC	Culver (S) 6	P
Autolynid	1995 Isle of White chalk	400	Alum Bay 6	P
Autolynid	1995 Devon/Dorset chalk	401	Studland Bay Old Harry 6	P
Chironomid	1995 Flamborough chalk	3F3	Little Thornwick 3	P
Chironomid	1995 Flamborough chalk	3F4	Thornwick 4	P
Chironomid	1995 Isle of White chalk	3FB	Culver (N) 3	P
Chironomid	1995 Isle of White chalk	3FB	Culver (N) 4	P
Chironomid	1995 Isle of White chalk	3FB	Culver (N) 6	P
Chironomid	1995 Isle of White chalk	3FC	Culver (S) 6	P
Chironomid	1995 Isle of White chalk	3FD	FW Bay (E) 3	P
Chironomid	1995 Isle of White chalk	3FD	FW Bay (E) 4	P
Chironomid	1995 Isle of White chalk	3FD	FW Bay (E) 6	P
Chironomid	1995 Isle of White chalk	3FE	FW Bay (W) 4	P
Chironomid	1995 Isle of White chalk	3FF	Needles lighthouse 2	P
Chironomid	1995 Isle of White chalk	3FF	Needles lighthouse 3	P
Chironomid	1995 Isle of White chalk	3FF	Needles lighthouse 4	P
Chironomid	1995 Isle of White chalk	3FF	Needles lighthouse 6	P
Chironomid	1995 Isle of White chalk	400	Alum Bay 4	P
Chironomid	1995 Devon/Dorset chalk	401	Studland Bay Old Harry 6	P
Chironomid	1995 Devon/Dorset chalk	402	Old Harry Parsons Barn 4	P
Chironomid	1995 Devon/Dorset chalk	402	Old Harry Parsons Barn 6	P
Chironomid	1995 Devon/Dorset chalk	403	Ballard Cliff 4	P
Chironomid	1995 Devon/Dorset chalk	403	Ballard Cliff 6	P
Chironomid	1995 Devon/Dorset chalk	404	White Nothe 2	P
Chironomid	1995 Devon/Dorset chalk	404	White Nothe 4	P
Chironomid	1995 Devon/Dorset chalk	404	White Nothe 6	P
Chironomid	1995 Devon/Dorset chalk	406	Beer 3	P
Chironomid	1995 Devon/Dorset chalk	406	Beer 4	P
Crab zoea	2003 Irish Sea - Anglesey	3E2	Anglesey ST4 G2	1
Crab zoea	2003 Irish Sea - Anglesey	3E2	Anglesey ST4 G4	1
Eusyllnid	1995 Isle of White chalk	3FD	FW Bay (E) 6	P
Eusyllnid	1995 Isle of White chalk	400	Alum Bay 4	P
Eusyllnid	1995 Devon/Dorset chalk	401	Studland Bay Old Harry 6	P
Eusyllnid	1995 Devon/Dorset chalk	403	Ballard Cliff 4	P
Eusyllnid	1995 Devon/Dorset chalk	403	Ballard Cliff 6	P
Lasius fulginosus	1995 Isle of White chalk	3FC	Culver (S) 2	P
Lekanesphaera levii	1995 Flamborough chalk	3F8	South Landing 4	P
Neomolgus littoralis	1995 Isle of White chalk	3FD	FW Bay (E) 0	P
Neomolgus littoralis	1995 Devon/Dorset chalk	401	Studland Bay Old Harry 0	P
Neomolgus littoralis	1995 Devon/Dorset chalk	402	Old Harry Parsons Barn 0	P
Neomolgus littoralis	1995 Devon/Dorset chalk	403	Ballard Cliff 0	P
Neomolgus littoralis	1995 Devon/Dorset chalk	403	Ballard Cliff 1	P
Neomolgus littoralis	1995 Devon/Dorset chalk	404	White Nothe 0	P
Neomolgus littoralis	1995 Devon/Dorset chalk	406	Beer 0	P
Micralymma marina	1995 Flamborough chalk	3F3	Little Thornwick 3	P
Syllid	1995 Flamborough chalk	3F4	Thornwick 6	P
Syllid	1995 Flamborough chalk	3F6	N. Landing E scar 6	P

Species Name	Survey	SE ID	SE Name	Abundance
Syllid	1995 Flamborough chalk	3F6	N. Landing E scar 7	P
Syllid	1995 Flamborough chalk	3F7	Selwick 6	P
Syllid	1995 Flamborough chalk	3F7	Selwick 7	P
Syllid	1995 Flamborough chalk	3F8	South Landing 6	P
Syllid	1995 Flamborough chalk	3F8	South Landing 7	P
Syllid	1995 Flamborough chalk	3F9	Sewerby 4	P
Syllid	1995 Flamborough chalk	3F9	Sewerby 5	P

6. Annex 3 Biotopes table

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000003E4	26 Sept 1992	West of Cresswell Quay	Daugleddau	LRK.PC LRK.FV (impoverished) LRK.AN LMu.SH LRK.CHL
MRMLN004000003DD	26 Sep 1992	Upper Cresswell River	Daugleddau	LMu.AL LMu.SH – *Scrobicularia* community LMxd.FC(eranoides) LRK.CHL - *Chlorophycota*
MRMLN004000003DC	26 Sep 1992	Lawrenny Quay	Daugleddau	LMu.SH LRK.PC LRK.FS(piralis) LRK.CHL LMud.CHL LRK.CHL LRK.BAN LSa.LC (Lanice conchilega) LRK.PB LRK.FS(erratus) LRK.FV LRK.AN LRK.FC LMud.CHL
MRMLN004000003CB	26 Sep 1992	North of Williamston Park	Daugleddau	LRK.FV LRK.AN LRK.CHL LMu.SH (enriched) extensive: *Heliste* adundant with occasional *Arenicola* and *Macoma* in places, especially in mid and upper shore. *Scarbicularia* frequent but *Corophium* rare.

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000003CD	26 Sep 1992	Lawrenny Point	Daugleddau, Dyfed	LRK.AN – with *Polysiphonia lanosa* and *Clava* sp. LRK.PB LRK.F(serratus) LRK.BARN (no/few *patella*) LRK.FV LRK.Pc LRK.FSpiralis LRK.FC LRK.CHL
MRMLN004000003D3	27 Sep 1992	Eastern Angle Bay	Milford Haven	LSaMu.AM (modified) typical in some areas but mixed with *Hediste* over other parts. Fairly extensive. LSaMu.AM/LSa.CP LRK.PC LRK.FS LRK.CHL LRK.AN LMxd.LS (modified). Occurs scattered on rocks with sediment transition. Mostly filamentous red algae and *ectocarpoids* on small stones in muddy ground.
MRMLN004000003CF	27 Sep 1992	Sawdern Point, Angle Bay	Milford Haven	LRK.VLS LRK.Pc LRK.FSpiralis LRK.CHL LRK.PB - With *Mytilus*. LRK.FBM LRK.FV LRK.HP (modified). Patches on disturbed cobble. LRK.AN LRK.FSerratus LRK.MAST LRK.AUD LRK.LDC (modified). *Corallinacea* scattered, silt in places LRK.UBE LRK.GRP LsA.CP LSaMu.AM
MRMLN004000003CE	27 Sep 1992	Mid Angle Bay	Milford Haven	LRK.PC LRK.FS LRK.CHL

Event ID	Date	Event Name	Location	Biotopes on form
				LRK.FV LRK.AN LRK.FS L.Mxd.LS (modified) scattered pebbles on muddy sand with *Griffithsia, Ceramium, Gracillaria* and occasional *Laminaria saccharina*. LSa.CP (typical-modified) many *Arenicola*, *Cerstoderma*, *Hediste* also common LSaMu.AM (typical-modified) Many *Arenicola* & *Cerastoderma*, *Hediste* also common.
MRMLN004000003CC	27 Sep 1992	Sawdern Point	Milford Haven	LRK.VLS LRK.PC LRK.FS LRK.CHL LRK.PB LRK.FBM LRK.FV LRK.HP (modified) patches disturbed on cobble LRK.AN LRK.FS LRK.MAST LRK.AUD LRK.LDC (modified) to typical, Corallinacea scattered, silt in places. LRK.UBE LRK. grp LSa.CP L.SaMu.AM
MRMLN004000003C8	27 Sep 1992	Angle Point	Milford Haven	LSa.LC LMxd.LS LRK.VLS LRK.FS(piralis) LRK.PB LRK.FV LRK.AN LRK.FS(erratus) LRK.CHL

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000003DA	28 Sep 1992	East Angle Harbour	Milford Haven	LMxd.Pc LMxd.FS(piralis) LMxd.FC LRK.An LMxd.FV LMud.CHL Lmud.SH – no Scorbicularia (except shells) but abundant *Hediste*, few *Arenicola* LMxd.Vm
MRMLN004000003D9	28 Sep 1992	Southwest Angle Bay	Milford Haven	LMud.SH LMud.CHL LMxd.PC LMud.FS(piralis) LMxd.AN LMxd.VM LRK.CHL LRK.Pc LRK.FS(piralis) LRK.FV LRK.AN LRK.FS(erratus)
MRMLN004000003CA	29 Sep 1992	NE Rhoscrowther Refinery	Milford Haven	LRK.PC LRK.CHL LRK.FS LRK.FV LRK.AN LRK.PB LRK.VLS LMud.SH LMxd.LS

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN00400 0003C9	29 Sep 1992	Pwllcorchan	Milford Haven	LRK.Pc LRK.FS(piralis) LRK.FV LRK.CHLR LMud.CHL LMxd.FS LRK.VLS LMxd.FC LRK.PB LRK.AN LMud.SH LMxd.LS LRK.BAN LRK.Indet – barnacle dominate store with Chondrus, Littorina littoria and Mytilus clumps
MRMLN00400 0003DB	26 Sep 1992	North of Williamston Quarry	Daugleddau	LRK.PS LRK.PC LRK.FV LRK.AN LRK.CHL LRK.Mu.SH
MRMLN00400 0004A7	04 Jun 1996	Site 1 (Nare Point)	Helford	LRK.YG LRK.VER LRK.PB LRK.FSP LRK.FSE.MAS LRK.LAU LRK.FSE.FSE
MRMLN00400 0004B7	04 Jun 1996	Site 2 (Men-a-ver)	Helford	FSER.MAS
MRMLN00400 0004B8	04 Jun 1996	Site 3 (Dennis Head)	Helford	LRK.PB
MRMLN00400 0004BC	04 Jun 1996	Site 7 (Ponsence Cove to Boshan Cove)	Helford	LRX.FVES.BP

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000004BD	04 Jun 1996	Site 8 (west of Bosahan Cove)	Helford	LRK.VER LRK.PB LRK.PEL LRK.RED.LAU LRK.FSE.FSE
MRMLN004000004BE	04 Jun 1996	Site 9 (east of Treath)	Helford	LRK.VER.VER LRK.PEL LRK.PB LRK.FSE.FSE
MRMLN004000004C5	04 Jun 1996	Site 10 (west of Penarvon Cove)	Helford	LRK.VER LRK.PEL LRK.FSP LRK.FSE.HAS LMXP.FSE.FSE LMXD.SAR
MRMLN004000004C6	04 Jun 1996	Site 11 (east of Frenchmans Creek)	Helford	LRK.VER LRK.PB LRK.FSE LMXD.FSE
MRMLN004000004C7	04 Jun 1996	Site 12 (south bank opposite Groyne Point)	Helford	LRK.PEL LRK.FSP LRK.PB LRK.FSE.FSE LMXD.FSE
MRMLN004000004C8	04 Jun 1996	Site 13 (Groyne Point)	Helford	LRK.VER LRK.PEL LRK.ASC.ASC LMXD.FSE
MRMLN004000004C9	04 Jun 1996	Site 14 (Lower Calamansack)	Helford	LRK.PB LRK.ASC.ASC LMXD.FSE

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000004A9	05 Jun 1996	Merthen Quay	Helford	LRK.YG LRK.VER LRK.Asc.Asc LMuD.AR LMGR.HED LMxD.FVes LRK.PEL
MRMLN004000004A4	04 Jun 1996	Pelyn Creek to north of Percuil Village	Pelyn Creek to north of Percuil Village, Fal	LMxD.SAR
MRMLN004000004A2.01	03 Jun 1996	Castle Cove to Just Creek [Sample ref: Castle Cove]	Fal (East side)	LRK.PEL LRK.FSP LRK.FSE.FSE LRK.FSE.RED LRK.LDIG LRK.RED.LAU LRK.RED.MAS
MRMLN004000004A2.02	03 Jun 1996	Castle Cove to Just Creek [Sample ref: North of Castle Cove]	Fal (East side)	LRK.VER.VER LRK.PEL LRK.FSE.FSE
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.1)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak1d24)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.3)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.4)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.5)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.6)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN004000003D4	04 Jun 2003	Peak 1 (peak 1.7)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.1)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.2)	Northwest Irish Sea	CR.HCR.ShM (entered as HCR)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak2a25)	Northwest Irish Sea	CMS/HCR (entered as HCR)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.3)	Northwest Irish Sea	CMS/HCR (entered as HCR)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.6)	Northwest Irish Sea	CMS/HCR (entered as HCR)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.4)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.6)	Northwest Irish Sea	CMS.Sh) (entered as CMuSa)
MRMLN00400 0003D5	04 Jun 2003	Peak 2 (peak 2.7)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.1)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.2)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.3)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.4)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.5)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.6)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.7)	Northwest Irish Sea	CR.HCR.MuS(entered as HCR)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.9)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN00400 0003D6	04 Jun 2003	Peak 3 (peak 3.5)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN00400 0003D7	04 Jun 2003	Peak 4 (peak 4.1)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)

Event ID	Date	Event Name	Location	Biotopes on form
MRMLN004000003D7	04 Jun 2003	Peak 4 (peak 4.2)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN004000003D7	04 Jun 2003	Peak 4 (peak 4a26)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN004000003D7	04 Jun 2003	Peak 4 (peak4d30)	Northwest Irish Sea	CR.HCR.MuS (entered as HCR)
MRMLN004000003D7	04 Jun 2003	Peak 4 (peak 4.3)	Northwest Irish Sea	Cr.HCR.ShM (entered as HCR)
MRMLN004000003D7	04 Jun 2003	Peak 4 (peak 4.5)	Northwest Irish Sea	CMS.Sh (entered as CMuSa)
MRMLN004000003D7	04 Jun 2003	Peak 4	Northwest Irish Sea	CMS/HCR (entered as HCR)

7. Annex 4 Comments on MR Validation/Verification procedure

Jon Parr undertook the verification exercise alongside Olwen Ager who entered or supervised the majority of the data input. The general size and accuracy of the datasets were assessed visually using GIS before a subset (16 of 116) were randomly chosen to investigate.

The subset selection follows the suggestion made in the documentation but we are aware that there is an argument for a wider sample. As comments show later there are concerns at the length of the verification process and unless much of the process can be automated or made more intuitive it is going to be difficult to use a larger representative sample.

The current set of data is unusual in that it is the culmination of several periods of data capture and has had to deal with new system and a multitude of changes. Once a clear, concise and easy to use verification procedure has been implemented it would be the intention to verify each dataset after entry prior to submission to the NBN Gateway and to JNCC. This would be less time consuming and could be done in more detail.

The current system is to follow a series of field names detailed by a word document table and investigate each entry relevant to the comment made. The method and form is not user friendly or intuitive and there is much repetition. Ideally the verification process should be a 'process' that leads the verifier through step by step and a form to allow the verifier to easily record his/her results.

Repetition is caused by listing each geographical field or areas that are not relevant.

To improve the verification procedure clearer documentation could be considered, almost like a summary booklet on the data that needs to be gone through and checked. Preferably this would be an automated system that asks the question, produces the result and asks whether this is correct. For example the geographical data could be done this way i.e. plot the survey point and ask it to be verified, plot the bounding box corners and verify etc… If the verifier is led through the process they can be asked to sign off each stage. The receiver of the data can then be sure that it has been done and to what level. Currently the form is repetitious and free text. Verification could be largely tick box with comments where appropriate. The receiver of the data then has a judgement on the data provided.

We would be happy to expand on the comments above and provide a more scoped specification.

Jon Parr
Olwen Ager

July 2004