

Particles in the Environment Update

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Beach Monitoring Update

Monitoring continues using the Nuvia Synergy system



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Beach Monitoring Programme 2011/12

Week Starting	Softrak Beach Monitoring	Area Targets (ha)
04-Apr	Sellafield (a)	4
11-Apr	Buffer Time	-
18-Apr		
25-Apr		
02-May		
09-May	Sellafield (b)	4
16-May	St Bees (1)	4
23-May	Vehicle Maintenance/Strandline	
30-May	Drigg (1)	5
06-Jun	Sellafield (c)	4
13-Jun	Braystones (1)	14
20-Jun		
27-Jun		
04-Jul	Sellafield (d)	4
11-Jul	Seascale (1)	5
18-Jul	St Bees (2)	4
25-Jul	Buffer Time	-
01-Aug		
08-Aug		
15-Aug		
22-Aug		
29-Aug		
05-Sep	Sellafield (e)	4
12-Sep	St Bees (3)	4
19-Sep	Vehicle Maintenance/Strandline	
26-Sep	Seascale (2)	5
03-Oct	Sellafield (f)	4
10-Oct	Whitehaven North/Harrington	4

Week Starting	Softrak Beach Monitoring	Area Targets (ha)
17-Oct	COMPLETED Braystones (2)	18
24-Oct		
07-Nov		
14-Nov	Sellafield (g)	4
21-Nov	Whitehaven North/Harrington	4
28-Nov	St Bees (4)	4
05-Dec	Sellafield (h)	4
12-Dec	Allonby	4
19-Dec	Vehicle Maintenance/Strandline	-

Christmas Break

02-Jan	St Bees (5)	8
09-Jan		
16-Jan	Sellafield (i)	3
23-Jan	Investigation	4
30-Jan	Braystones (3)	14
06-Feb		
13-Feb		
20-Feb	Sellafield (j)	3
27-Feb	Seascale (3)	4
05-Mar	Drigg (2)	4
12-Mar	Sellafield (k)	3
19-Mar	Vehicle Maintenance/Strandline	-
26-Mar	Buffer Time	
Cumulative Totals ==>		150 ha

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Beach Monitoring Progress – April to end of September 2011

- 77.37 ha monitored against programme target of 61 ha
- Total of 134 particles and 3 stones recovered
- Majority of finds recovered remain from Sellafield beach
- Repeat area monitoring on Sellafield, Braystones, St Bees & Seascale

Beach location	Area covered (ha)	No of stones found	No of particles found
St Bees	16.20	0	26
Braystones	17.96	0	22
Sellafield	28.82	3	85
Seascale	7.40	0	0
Drigg	7.00	0	1
TOTAL	77.37	3	134

Beach Monitoring Progress – April to end of September 2011

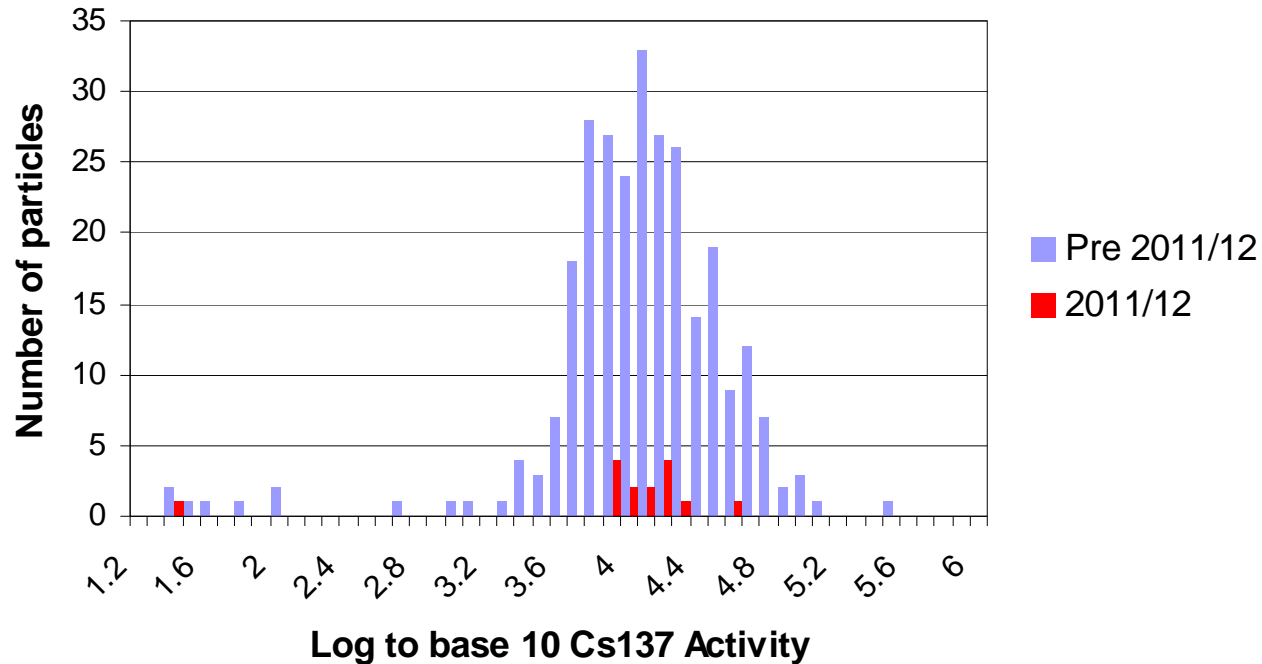
Table: Particle find rates (per hectare) for 2010/11 and 2011/12 (April-September)

Beach location	Find Category	2010/11	2011/12
St Bees	Alpha Rich	1.074	1.543
	Beta Rich	0.057	0.062
Braystones	Alpha Rich	1.397	1.225
	Beta Rich	0.104	0.000
Sellafield	Alpha Rich	1.877	2.498
	Beta Rich	0.238	0.451
Seascale	Alpha Rich	0.196	0.000
	Beta Rich	0.000	0.000
Drigg	Alpha Rich	0.239	0.143
	Beta Rich	0.000	0.000

- Although too early in the programme to draw conclusions, average find rates appear broadly similar between 2010/11 and 2011/12 (to date).
- Find rates could be expected to be slightly higher at St Bees, Braystones and Sellafield where repeat box monitoring is in areas where previous find rates have been elevated.

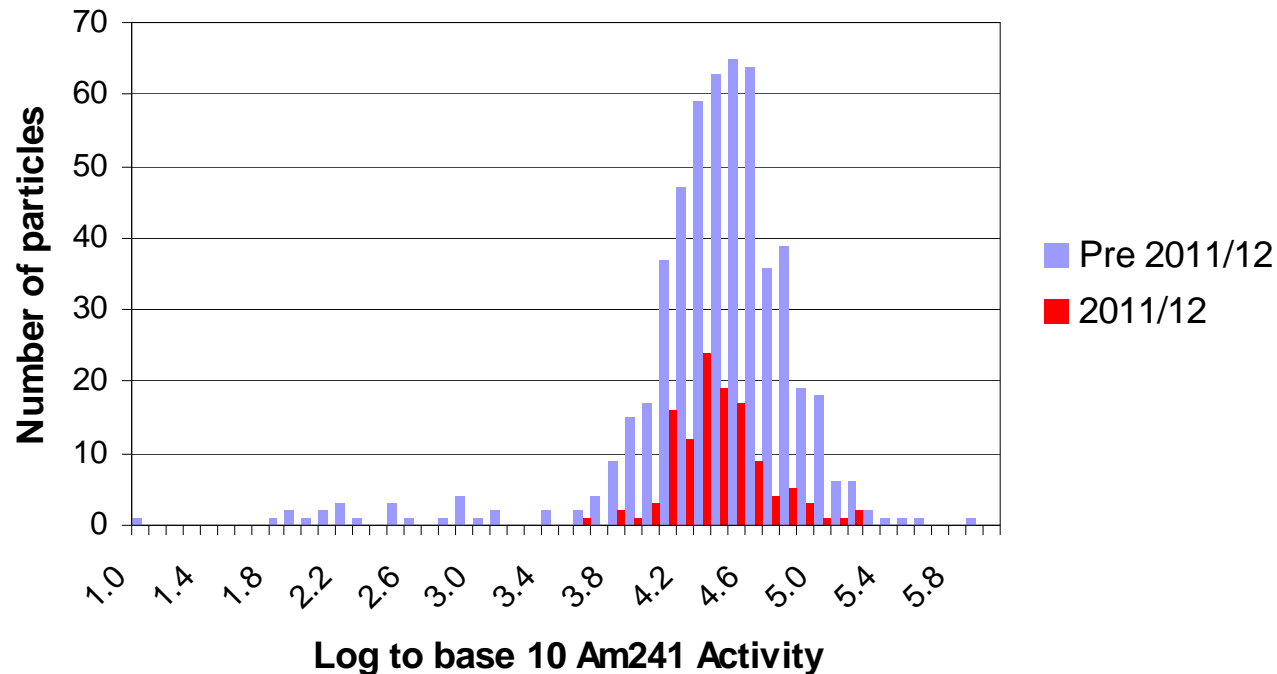
Beach Monitoring Finds – Activity Distribution

- The graph shows how the distribution of Cs-137 activity of 2011/12 finds remains consistent with that of previously recovered finds



Beach Monitoring Finds – Activity Distribution

- The graph shows how the distribution of Am-241 activity of 2011/12 finds remains consistent with that of previously recovered finds



Beach Monitoring – Supporting Work

- The latest phase of detailed external analysis of finds – to understand their composition - is due to complete this month
- Sellafield Ltd is continuing to engage recognised statistical analysis experts to provide advice on the monitoring programme
- The HPA are performing a review of their risk assessment to take account of the monitoring results from introduction of the Synergy system

Beach Monitoring Summary

- Beach monitoring remains on programme for 2011/12
- First year of defined repeat area monitoring at Sellafield, Braystones, St Bees & Seascale
- Find rates for stones continue to decline
- Overall find rates for particles appear similar in 2011/12 to those observed in 2010/11
- Activity levels of 2011/12 finds are in-line with previous
- Supporting work progressing well

Seabed Sediment Grab Sampling

- In August a 2 week seabed grab sampling campaign was carried out
- A collaborative effort - Environment Agency, Sellafield Ltd and Nuvia
- Aim of collecting samples for particle monitoring
- Nuvia provided continuity between beach & seabed monitoring techniques and operations



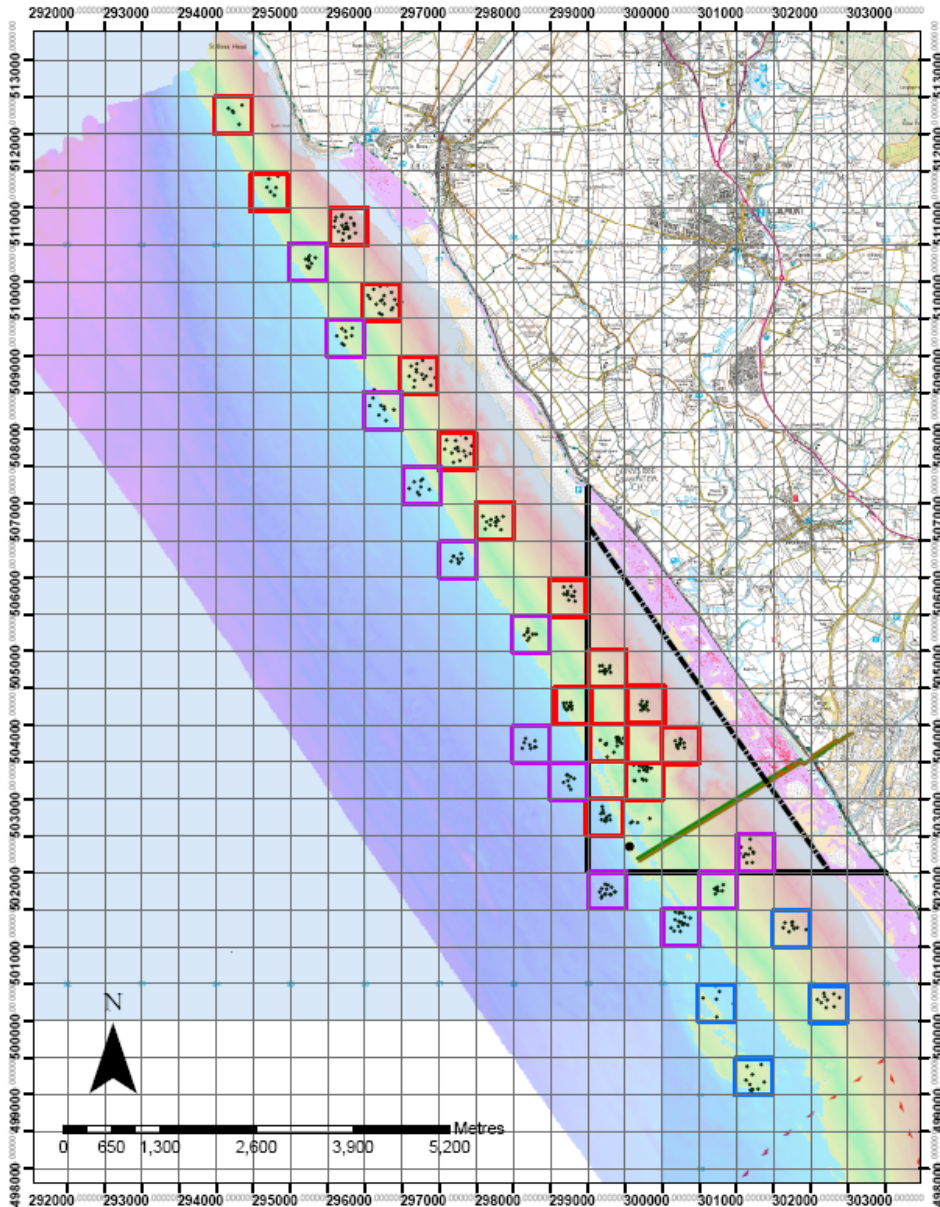
Seabed Sediment Grab Sampling



- Total of 262 grab samples taken
- No radioactive particles detected in any sample
- 147 sub-samples retained for laboratory analysis
- Lab work due to complete in November 2011
- Helping to generate an improved picture of the seabed

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Trial Offshore Sampling Grid



Grab Sampling

- Boxes show locations of samples taken in August 2011
- Future campaigns will build on the data gathered this year
- A targeted programme of further sampling is being developed for 2012

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Seabed Monitoring – Further Work

- Data review of results from August grab sampling ongoing
- Objectives for an expanded grab sampling plan for 2012 are being developed and will be agreed with the Environment Agency in the New Year
- A re-assessment of seabed monitoring options is being planned for 2012 – informed by recent work (Aquadopp, grab sampling etc)
- Aim of determining the Best Available Technique (BAT) for seabed monitoring