Cover photograph: Medmerry, M. Stratton.
Document Title: Annual Survey Report 2013

Selsey Bill to Southampton Water

Reference: AR 92

Status: Final

Date: 16 September 2013

Project Name: Southeast Strategic Regional Coastal Monitoring Programme

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Checked By: S. McVey

Approved By: T. Mason
Southeast Strategic Regional Coastal Monitoring Programme

Annual Report 2013 – Selsey Bill to Southampton Water

1. Introduction
Analysis presented in this interim report provides an overview of beach changes and wave and tidal measurements since the commencement of the Southeast Strategic Regional Coastal Monitoring Programme. The first beach surveys took place during the winter of 2003 and changes are reported until spring 2013.

Data are presented at several levels:
- Process cell summary of percentage and actual profile change from 2012 to 2013
- Process cell summary of percentage and actual profile change from 2003 to 2013
- Detailed beach profile change from 2012 to 2013
- Detailed beach profile change from 2003 to 2013
- Profile envelope graphs (on CD)
- Trend analysis of beach cross-sectional area (on CD)

The process cell summary maps provide an at-a-glance summary of the changes during the past year and over the longer term. It is recommended that the user should use the maps to identify areas of interest and then examine the individual profile plots and trends. Colour-coded lines highlight areas of maximum change and identify profiles which might need closer examination.

2. Hydrodynamic data
a. Waves
A directional Waverider buoy was deployed off Hayling Island in July 2003 and in Bracklesham Bay in August 2008. The full wave reports are given at Annex A.

b. Tides
There are no Regional Monitoring Programme tide gauges in this area.
3. **Survey data – topographic**

Over the past year the East Solent has remained extremely stable showing only isolated pockets of change along the more dynamic and exposed sections of shoreline. In the longer term however, areas of erosion and accretion become more evident. Erosion is most notable along the Fareham & Gosport frontages, whilst accretion can be seen along many of the units east of Portsmouth Harbour entrance. The heavily-managed Hayling frontage shows both positive and negative change which can be attributed to the ongoing recycling and replenishment operations that are undertaken here annually.

Dates of the surveys are given in Annex E and the detailed topographic survey report is given in Annex F.

**Annex A**  Bracklesham Bay and Hayling Island Interim Wave Reports  
**Annex B**  N/A  
**Annex C**  N/A  
**Annex D**  N/A  
**Annex E**  High Level Report – field data collection (SCOPAC)  
**Annex F**  Topographic Survey Report for Selsey Bill to Southampton Water  
**Annex G**  N/A  
**Explanatory Notes**
Hayling Island Directional Waverider Buoy

Location
OS: 473700E 93006N
WGS84: Latitude: 50° 43.920' N  Longitude: 00° 57.424' W

Water Depth
~10 m CD

Instrument Type
Datawell Directional Waverider Mk III

Data Quality

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* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Portsmouth). The surge shown is the residual at the time of the highest Hs. The maximum tidal surge is the largest positive surge during the storm event.
Distribution plots

The distribution of wave parameters are shown in the accompanying graphs of:

- Wave roses (Direction vs. $H_s$) from July 2012 to June 2013 (top) and for all measured data (bottom)
- Percentage of occurrence of $H_s$, $T_p$, $T_z$ and Direction from July 2012 to June 2013
- Monthly time series of $H_s$ (red line is 3 m storm threshold)
- Incidence of storms during the reporting period and for all previous years. Storm events are defined using the Peaks-over-Threshold method. The highest $H_s$ of each storm event is shown

Summary

This reporting year was relatively quiet with no storms exceeding the 3m threshold, although some came close in November and December. Wave direction was slightly more SbW dominated than in previous years.

General

The buoy was first deployed on 10 July 2003.

Acknowledgements

Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council.
Annex A

Interim Wave Report

Storms at Hayling Island from Jul 2012 to Jun 2013

Storms at Hayling Island - all years
Bracklesham Bay Directional Waverider Buoy

Location
OS: 482207E 92091N
WGS84: Latitude: 50° 43.358' N Longitude: 00° 50.204' W

Water Depth
~10 m CD

Instrument Type
Datawell Directional Waverider Mk III

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* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Portsmouth). The surge shown is the residual at the time of the highest Hs. The maximum tidal surge is the largest surge during the storm event.
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Summary

This reporting year was relatively quiet with significant storms occurring only in November and May, with an unusually quiet February. Wave direction was slightly more SSW-dominated than in previous years.

General

The buoy was first deployed on 22 August 2008.

Acknowledgements

The shore station is kindly hosted by Fugro EMU Limited. Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council.
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Southeast Regional Coastal Monitoring Programme - Phase III - Channel Coastal Observatory Topographic Surveys
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**Southeast Regional Coastal Monitoring Programme - Phase III - Channel Coastal Observatory Topographic Surveys**

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Notes:
1. Access restricted during Olympics, re-scheduled to spring 2013
2. To be done by lidar, February 2013
3. Re-scheduled due to nesting birds
Annex F – Topographic Survey Report for the East Solent

1. Introduction

Analysis has been conducted for those sites where a minimum of four surveys have been recorded. In general, changes are measured relative to the Mean Low Water Springs level, although this has not been possible for much of the historic data at many of the sites. Where possible longer-term records from earlier monitoring programmes are also presented in the profile analysis. However, historical data was often collected using significantly different survey techniques, specifications and even datums. Continuity of record has been attempted but is not always possible.

The profile envelope, along with the two most recent profiles at each profile location are shown superimposed and relative to a Master Profile (on the accompanying CD). The Master Profile provides the basis for calculation of beach cross-section area changes. Where possible, identical depth boundaries have been used for all profiles within a Management Unit. However, even where this has not been possible, direct comparisons can be made for the beach cross sectional area at one profile over time, since the master profile is constant for each profile (Figure 1). In some instances, raising the lower depth of the Master Profile may reduce the overall cross sectional area of the profile. This may cause small changes in the beach profile to have a large impact on the percentage change. This effect has been taken into account in the analysis of change to beach profiles. The trend in cross-sectional area (CSA) is presented on the accompanying CD as a graph for each profile (Figure 2).

![Figure 1: Example Master Profile with CSA calculated from the surveyed GPS profile](image-url)
2. **Condition of process sub-cell**

The Beach Change Summary maps contain an at-a-glance condition of the whole of the East Solent with profile lines representing accretion, no change or erosion for each Management Unit. Whilst the maps displaying actual change in m$^2$ highlight the regions of erosion or accretion, it must be appreciated that given the long nature of many of the profile lines in the East Solent, large changes in actual volume may still only translate into small percentage changes in cross sectional area. It is the opposite case for the extremely short profiles.
3. **Condition of individual Management Units**

Changes within each Coastal Process Unit are summarised on two beach change maps: spring to spring and baseline to spring. Beach Change maps show the location of each beach profile, superimposed on 2013 aerial photography (note that the line may have been extended for clarity). Where possible, the annual change in cross-sectional area (CSA) has been calculated from spring 2012 to spring 2013 and from baseline 2003/04/05 to spring 2013.

**5aSU01: Selsey to Bracklesham Bay**

Last year’s coastal protection scheme at Bunn Leisure is now established; however a large managed realignment scheme has been carried out by the Environment Agency just east of Bunn Leisure. As a result, baseline surveys were not carried out due to the ongoing monitoring for the EA.

**Nov 2012 to Sept 2013**

At the east of the survey unit, accretion is dominant in front of Bunn Leisure. Profiles 5a00052 and 5a00058, located along the breach, show a loss of sediment of 46m² and 26m² respectively. With the exception of profile 5a00064, which has accreted, the rest of the unit shows little change or a net loss of sediment.

**5aSU02: Bracklesham to the Cakeham Estate**

**May 2012 to April 2013**

The majority of profiles in this unit have been stable or have shown accretion since spring 2012. Profile 5a00162 shows the greatest loss of sediment within this unit.

**Baseline June 2004 to April 2013**

Survey profiles at the southeast section of this unit (profiles 5a00119 to 5a00131) mostly indicate net accretion, whilst the northwest part contains four profiles which have eroded significantly (5a00145, 5a00149 and 5a00158 and 5a00162). However, the CSA graphs show some variability with intermittent periods of erosion and accretion since 2004.

**5aSU03: The Cakeham Estate to East Head**

**April 2012 to April 2013**

This unit has shown minor erosion across the majority of the unit. To the west of the unit there are three profiles with show net accretion, 5a00225, 5a00229, 5a00233.

**Baseline July 2007 to April 2013**

In contrast, over longer time periods the general trend for the more southward facing coastline (to the east) is one of stability or accretion. Nearer the mouth of Chichester Harbour, profiles 5a00215 and 5a00235 show losses in cross sectional area of 37m² and 85m² respectively.

**Difference Model Spring 2012 to Spring 2013**

There are patches of accretion and erosion, with more accretion further west.

**Difference Model Baseline Spring 2008 to Spring 2013**

Over the longer term, this unit has accreted across the majority of the area.

**5aSU06: Sandy Point to Inn on the Beach**

**April 2012 to April 2013**

Largely as a result of the annual recycling operations that take place along this frontage, the majority of the profiles throughout the unit show little change or minor erosion. Several profiles along the re-curve into Chichester Harbour entrance have however seen an increase in volume by up to 30%. Profile 5a00262 shows a higher level of erosion, above a 30% decrease in CSA.

**Baseline July 2006 to April 2013**

The changes observed over this longer time period are complicated by ongoing recycling and replenishment operations along the frontage. The eastern most 500m of this unit, along
the northern part of Chichester Harbour entrance, has shown minimal change in accretion, with slight erosion further west. The profiles in the annual extraction site and around to profile 5a00273 show net losses of cross sectional area in the approximate range of 15-30%. The rest of the unit appears stable with minimal erosion and accretion along the rest of the frontage.

**Difference Model Spring 2012 to Spring 2013**
Areas of erosion and accretion are patchy, with accretion greatest on the corner, east of the annual deposition site.

**Difference Model Baseline Spring 2003 to Spring 2013**
Over a 10 year period, the area has shown accretion in the east, with erosion to the west of the area, where the annual extraction sites are.

**5aSU07: Inn on the Beach to Langstone Harbour**
**April 2012 to April 2013**
Most profiles in this unit have shown stability or accretion since spring 2012. The exception is profile 5a00376 showing a loss of 20m$^2$.

**Baseline September 2006 to April 2013**
Accretion is evident along the recurve into the harbour entrance channel. At the most northerly extent of this unit (within the inlet at the entrance of Langstone Harbour) profiles 5a00403, 5a00406 and 5a00409 show net loss of sediment within the range 5-15%.

**Difference Model Spring 2012 to Spring 2013**
Areas of erosion and accretion are patchy, with accretion greatest around the western corner.

**Difference Model Baseline Spring 2003 to 2013**
A large area of accretion is present on the corner of the unit, with fairly high levels of erosion to the east of this. Erosion and accretion across the rest of the area is patchy.

**5aSU08: Langstone Harbour – Hayling Island Billy Trail**
**December 2011 to June 2013**
All profiles in this unit show minor to slight erosion, with the exception of profiles 5a00411DD and 5a00411T, which show erosion greater than 30%.

**Baseline March 2007 to June 2013**
Similarly, over the longer time period there is a trend of erosion. The majority of profiles have lost up to 5-30% CSA since March 2007. The exceptions are profiles 5a00411M and 5a00411B which have accreted.

**5aSU10: Hayling Ferry to Southsea Castle**
**April 2012 to April 2013**
Nearly all of the profiles in this unit have shown minimal change in cross sectional area since 2012. Along the recurve into Langstone Harbour, however, there has been some minor erosion. At the western end of this unit, profiles 5a00506 to 5a00512 show accretion of up to 30%.

**Baseline June 2007 to April 2013**
The profiles located in the harbour entrance and on recurve show little change or erosion of up to 30%, profile 5a00432 shows the greatest erosion with a loss of 83m$^2$. The rest of this unit shows accretion across the rest of the unit.

**5aSU11: Southsea Castle to Portsmouth Harbour Entrance**
**April 2012 to April 2013**
This unit has shown patches of minor erosion and accretion along the whole frontage but in general has remained stable.

**Baseline May 2007 to April 2013**
The trend for this unit over the longer term is one of erosion with some patchy minor accretion.
5bSU02: Fort Gilkicker, Stokes Bay and Browndown
October 2012 to March 2013
This unit has remained generally stable between 2012 and 2013, but with some erosion at profiles 5b00070 and 5b00073 at Fort Gilkicker, with accretion at profile 5b00072.
Baseline June 2003 to March 2013
There is a similar trend over the longer term, although the levels of erosion and accretion are slightly higher, with profiles 5b00129 and 5b00154 showing an increase in CSA of between 15-30% and 5b00115 showing a decrease of between 15-30%.
Difference Model Baseline Spring 2003 to Spring 2013
Both erosion and accretion and patchy across the unit, with generally minor change observed.

5bSU03: Lee-on-the-Solent
February 2012 to February 2013
This unit has been generally stable over the past year with only profile 5b00190 showing the highest rate of erosion at -12m².
Baseline June 2003 to February 2013
Over this longer time period there is a band of erosion across the central part of the unit. Profile 5b00184 exhibits the greatest loss of 38m². Either side of this band of erosion the unit has remained relatively stable with less than 5% change.
Difference Model Spring 2012 to Spring 2013
Across the unit, any change in elevation is minor and sparse.
Difference Model Baseline Spring 2008 to Spring 2013
Over a five year period, change is minor and patchy.

5bSU04: Lee-on-the-Solent to Titchfield Haven
February 2012 to June 2013
All profiles in this unit have shown accretion or minor losses – all under 15% change.
Baseline August 2004 to June 2013
The beach profiles across the majority of this unit are characterized by accretion over the longer term. Profiles 5b00244 to 5b00248 show an increase in CSA of over 30%.

5bSU05: Titchfield Haven to Hook Spit
February 2012 to April 2013
There have been only minor changes across the majority of this unit. The largest changes are for profiles 5b00293 and 5b00344 which show CSA change of between 15 and 30%.
March 2005 to August 2013
Over the longer time period this unit shows predominantly erosion to the east and stability to the west. Profile 5b00344 has shown the largest loss of 18m².
Difference Model Spring 2007/8 to Spring 2013
Erosion and accretion are patchy across the unit, with more accretion towards the west of the unit.

5cSU02: Hamble Common Point
February 2012 to June 2013
Over this time period there has been some minor erosion in this unit of between 5 and 15%.
Baseline March 2003 to June 2013
Profile 5c00021 has lost approximately 5m² due to loss of material around the beach toe, although this profile has remained stable in recent years. The profile adjacent to the marina has shown little change.
5cSU03: Hamble Oil Terminal  
**February 2012 to June 2013**  
There has been minimal change in this unit.  
**Baseline August 2003 to June 2013**  
Over the long term both profiles have shown no change.

5cSU04: Hamble Oil Terminal  
**February 2012 to June 2013**  
Over this time period there has been minimal change.  
**Baseline July 2003 to June 2013**  
Over the long term there has been no overall change.

5cSU05: Royal Victoria Country Park to Weston Point  
**February 2012 to June 2013**  
The majority of the profiles are stable, but with some minor erosion.  
**Baseline August 2003 to June 2013**  
Over this time period profiles have been generally stable, but with minor erosion at more profiles than in the short-term result - profile 5c00119 has undergone a loss of 7m$^2$ in CSA. Profile 5c00065 has increased in CSA by 15 to 30% since 2003. At either end of the unit there are also profiles which show minimal erosion.
Southeast Strategic Regional Coastal Monitoring Programme

Beach Change Summary: % change in cross-sectional area 2012 to 2013

East Solent Annual Report 2013

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2008

Kilometers

0 1 2 4
Beach Change Summary: % change in cross-sectional area Baseline 2004 to 2013

- **Accretion**
  - > 30%
  - 15 - 30%
  - 5 - 15%
  - Less than 5%
  - No Change

- **Erosion**
  - > 30%
  - 15 - 30%
  - 5 - 15%
  - Less than 5%

Summary not included in this unit due to beach engineering works.
Beach Change Summary: Actual change in cross-sectional area 2012 to 2013

East Solent Annual Report 2013

Southeast Strategic Regional Coastal Monitoring Programme

Aerial Photography: 2008

Kilometers

500420 (45)

Line name (% change)

Accretion

- > 30m$^2$
- 15 - 30m$^2$
- 5 - 15m$^2$

No Change

- Less than 5m$^2$
- 5 - 15m$^2$
- 15 - 30m$^2$

Erosion

- > 30m$^2$
- No Change
- Less than 5m$^2$

SU Boundary

5aSU04 5aSU13 5cSU09 5dSU09 5bSU02 5aSU01 5dSU21 5bSU05 5aSU09 5dSU20 5eSU01 5bSU04 5cSU11 5aSU05 5aSU06 5cSU13 5cSU07 5cSU04 5cSU11 5cSU12 5dSU13 5cSU12 5cSU13 5cSU14 5cSU15 5dSU09 5dSU10 5dSU12 5dSU14 5dSU15 5dSU17 5dSU18 5dSU19 5dSU20 5dSU21 5dSU22 5dSU23 5dSU24 5dSU25 5dSU26 5eSU02 5eSU01 5eSU02 5eSU01 5eSU02 5eSU01 5dSU24 5dSU23 5dSU24 5dSU23
Southeast Strategic Regional Coastal Monitoring Programme

Beach Change Summary: Actual change in cross-sectional area Baseline 2004 to 2013

East Solent Annual Report 2013

Aerial Photography: 2008

East Solent

Actual change in cross-sectional area

- **Accretion**
  - > 30m²
  - 15 - 30m²
  - 5 - 15m²

- **Erosion**
  - No Change
  - Less than 5m²
  - 15 - 30m²
  - > 30m²

Summary not included in this unit due to beach engineering works
Southeast Regional Coastal Monitoring Programme

% change in cross-sectional area Nov 2012 to Sept 2013 (1 of 3)

East Solent Annual Report 2013

Selsey to Bracklesham Bay: 5aSU01

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area Nov 2012 to Sept 2013 (2 of 3)

Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Selsey to Bracklesham Bay: 5aSU01

% change in cross-sectional area

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eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

0 50 100 150 200 m
### % change in cross-sectional area Nov 2012 to Sept 2013 (3 of 3)

#### Selsey to Bracklesham Bay: 5aSU01

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Legend:
- **Blue**: > 30 %
- **Blue**: 15 - 30 %
- **Blue**: 5 - 15 %
- **Blue**: Less than 5 %
- **Red**: 15 - 30 %
- **Red**: > 30 %
- **Red**: > 30 %

**SU Boundary**

**Aerial Photography: 2013**

**Directional Arrow**

Scale: 0 50 100 150 200 m
Southeast Strategic Regional Coastal Monitoring Programme

% change in cross-sectional area May 2012 to April 2013 (1 of 2)

Bracklesham to The Cakeham Estate: 5aSU02

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change

eg: 5f00420 (45) Line name (actual change, m²)

Aerial Photography: 2013
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area June 2004 to April 2013 (1 of 2)

Bracklesham to The Cakeham Estate: 5aSU02

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area May 2012 to April 2013 (2 of 2)

Bracklesham to The Cakeham Estate: 5aSU02

% change in cross-sectional area

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<tbody>
<tr>
<td>5f00420</td>
<td>(45)</td>
</tr>
</tbody>
</table>

Legend:
- **Blue**: > 30 %
- **Blue**: 15 - 30 %
- **Blue**: 5 - 15 %
- **Blue**: Less than 5 %
- **Red**: No Change
- **Red**: 15 - 30 %
- **Red**: > 30 %

Aerial Photography: 2013
% change in cross-sectional area June 2004 to April 2013 (2 of 2)

Bracklesham to The Cakeham Estate: 5aSU02
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

The Cakeham Estate to East Head: 5aSU03

% change in cross-sectional area April 2012 to April 2013 (1 of 3)

Aerial Photography: 2013

% change in cross-sectional area

- > 30 %
- 15 - 30 %
- 5 - 15 %
- Less than 5 %
- No Change
- 15 - 30 %
- > 30 %

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

0 50 100 150 200 m

Channel Coastal Observatory
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area July 2007 to April 2013 (1 of 3)

The Cakeham Estate to East Head: 5aSU03
Southeast Strategic Regional Coastal Monitoring Programme

% change in cross-sectional area April 2012 to April 2013 (2 of 3)

The Cakeham Estate to East Head: 5aSU03

% change in cross-sectional area

Accretion

- > 30 %
- 15 - 30 %
- 5 - 15 %
- Less than 5 %

No Change

- 15 - 30 %
- > 30 %

Erosion

- 5 - 15 %
- Less than 5 %

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area July 2007 to April 2013 (2 of 3)
Southeast Strategic Regional Coastal Monitoring Programme

% change in cross-sectional area April 2012 to April 2013 (3 of 3)

The Cakeham Estate to East Head: 5aSU03

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%
- No Change

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

Channel Coastal Observatory

0 50 100 150 200 m
% change in cross-sectional area July 2007 to April 2013 (3 of 3)

The Cakeham Estate to East Head: 5aSU03
% change in cross-sectional area April 2012 to April 2013 (1 of 4)

Sandy Point to Inn on the Beach: 5aSU06

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change
- 5 - 15%
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Extraction site 2004-2013

Aerial Photography: 2013
% change in cross-sectional area July 2006 to April 2013 (1 of 4)

Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Sandy Point to Inn on the Beach: 5aSU06
% change in cross-sectional area

<table>
<thead>
<tr>
<th>% change in cross-sectional area</th>
<th>5aSU06</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 30 %</td>
<td>5a00420 (45)</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>5a00420 (45)</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>5a00420 (45)</td>
</tr>
<tr>
<td>Less than 5 %</td>
<td>5a00420 (45)</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>5a00420 (45)</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>5a00420 (45)</td>
</tr>
</tbody>
</table>

eg: 5a00420 (45)

Line name (actual change, m²)

- Annual deposition site 2004-2013
- SU Boundary

Aerial Photography: 2013

Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Sandy Point to Inn on the Beach: 5aSU06

% change in cross-sectional area April 2012 to April 2013 (2 of 4)
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area

Accretion
> 30 %
15 - 30 %
5 - 15 %
Less than 5 %

Erosion
5 - 15 %
15 - 30 %
> 30 %

No Change

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Annual deposition site 2004-2013

% change in cross-sectional area July 2006 to April 2013 (2 of 4)

Sandy Point to Inn on the Beach: 5aSU06
% change in cross-sectional area April 2012 to April 2013 (3 of 4)

Sandy Point to Inn on the Beach: 5aSU06
% change in cross-sectional area July 2006 to April 2013 (3 of 4)

Sandy Point to Inn on the Beach: 5aSU06
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area April 2012 to April 2013 (4 of 4)

Sandy Point to Inn on the Beach: 5aSU06
Southeast Strategic Regional Coastal Monitoring Programme

Sandy Point to Inn on the Beach: 5aSU06

% change in cross-sectional area July 2006 to April 2013 (4 of 4)

East Solent Annual Report 2013
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area April 2012 to April 2013 (1 of 2)

Inn on the Beach to Langstone Harbour: 5aSU07

% change in cross-sectional area

- > 30%
- 15% - 30%
- 5% - 15%
- Less than 5%
- No Change
- 5% - 15%
- 15% - 30%
- > 30%

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

Extraction site
2004-2013
% change in cross-sectional area September 2006 to April 2013 (1 of 2)

Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Inn on the Beach to Langstone Harbour: 5aSU07

% change in cross-sectional area

<table>
<thead>
<tr>
<th>Line name</th>
<th>Actual change, m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>eg: 5f00420</td>
<td>(45)</td>
</tr>
</tbody>
</table>

Aerial Photography: 2013

Extraction site 2004-2013

SU Boundary

East Solent Annual Report 2013
% change in cross-sectional area April 2012 to April 2013 (2 of 2)

Inn on the Beach to Langstone Harbour: 5aSU07
% change in cross-sectional area September 2006 to April 2013 (2 of 2)

<table>
<thead>
<tr>
<th>Line name</th>
<th>Actual change, m²</th>
<th>% change in cross-sectional area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inn on the Beach to Langstone Harbour</td>
<td>5aSU07</td>
<td>±0.5</td>
</tr>
</tbody>
</table>
Southeast Regional Coastal Monitoring Programme

% change in cross-sectional area Dec 2011 to June 2013 (1 of 4)

East Solent Annual Report 2013

Langstone Harbour - Hayling Island Billy Trail: 5aSU08

Aerial Photography: 2013

% change in cross-sectional area

- 30 %
- 15 - 30 %
- 5 - 15 %
Less than 5 %
No Change
15 - 30 %
> 30 %

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary
% change in cross-sectional area March 2007 to June 2013 (1 of 4)
% change in cross-sectional area Dec 2011 to June 2013 (2 of 4) Langstone Harbour - Hayling Island Billy Trail: 5aSU08

<table>
<thead>
<tr>
<th>SU Boundary Aerial Photography: 2013</th>
</tr>
</thead>
</table>

% change in cross-sectional area

- **> 30 %**
- **15 - 30 %**
- **5 - 15 %**
- **Less than 5 %**
- **15 - 30 %**
- **> 30 %**

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary
% change in cross-sectional area March 2007 to June 2013 (2 of 4)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

eg: 5f00420 (45)
Southeast Regional Coastal Monitoring Programme

% change in cross-sectional area Dec 2011 to June 2013 (3 of 4)

Langstone Harbour - Hayling Island Billy Trail: 5aSU08

% change in cross-sectional area

- > 30 %
- 15 - 30 %
- 5 - 15 %
- Less than 5 %

Accretion

Erosion

No Change

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area March 2007 to June 2013 (3 of 4)
% change in cross-sectional area Dec 2011 to June 2013

East Solent Annual Report 2013

Southeast Regional Coastal Monitoring Programme

Langstone Harbour - Hayling Island Billy Trail: 5aSU08

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%
- No Change

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
<table>
<thead>
<tr>
<th>Line name</th>
<th>(actual change, m²)</th>
<th>% change in cross-sectional area</th>
</tr>
</thead>
<tbody>
<tr>
<td>5a00411A</td>
<td>(-5)</td>
<td>Erosion 5 - 15 %</td>
</tr>
<tr>
<td>5a00411B</td>
<td>(29)</td>
<td>Erosion 15 - 30 %</td>
</tr>
<tr>
<td>5a00411C</td>
<td>(-3)</td>
<td>Erosion &gt; 30 %</td>
</tr>
<tr>
<td>5a00411D</td>
<td>(-7)</td>
<td>Accretion 5 - 15 %</td>
</tr>
</tbody>
</table>

% change in cross-sectional area March 2007 to June 2013 (4 of 4)

Langstone Harbour - Hayling Island Billy Trail: 5aSU08
% change in cross-sectional area April 2012 to April 2013 (1 of 4)

Hayling Ferry to Southsea Castle: 5aSU10

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change
- 15 - 30%
- > 30%

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary
% change in cross-sectional area July 2007 to April 2013 (1 of 4)

Hayling Ferry to Southsea Castle: 5aSU10
% change in cross-sectional area April 2012 to April 2013 (2 of 4)

Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Hayling Ferry to Southsea Castle : 5aSU10

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%
- No Change

eg: 5f00420 (45)  
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area June 2007 to April 2013 (2 of 4)

Hayling Ferry to Southsea Castle: 5aSU10
% change in cross-sectional area April 2012 to April 2013 (3 of 4)

Hayling Ferry to Southsea Castle: 5aSU10
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area June 2007 to April 2013 (3 of 4)

Hayling Ferry to Southsea Castle : 5aSU10

% change in cross-sectional area

- > 30 %
- 15 - 30 %
- 5 - 15 %
- Less than 5 %
- No Change
- 15 - 30 %
- > 30 %

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

0 50 100 150 200 m
% change in cross-sectional area April 2012 to April 2013 (4 of 4)

Hayling Ferry to Southsea Castle: 5aSU10

% change in cross-sectional area
- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area June 2007 to April 2013 (4 of 4)

Hayling Ferry to Southsea Castle: 5aSU10

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- No Change
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
# % change in cross-sectional area

<table>
<thead>
<tr>
<th>Line name</th>
<th>Actual change, m²</th>
<th>% change in cross-sectional area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU Boundary</td>
<td>5f00420 (45)</td>
<td></td>
</tr>
</tbody>
</table>

% change in cross-sectional area April 2012 to April 2013 (1 of 2)

Southsea Castle to Portsmouth Harbour Entrance : 5aSU11
% change in cross-sectional area May 2007 to April 2013 (1 of 2)

Southsea Castle to Portsmouth Harbour Entrance: 5aSU11

% change in cross-sectional area

- Less than 5%
- 5 - 15%
- 15 - 30%
- > 30%

Accretion

No Change

Erosion

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area April 2012 to April 2013 (2 of 2)

Southsea Castle to Portsmouth Harbour Entrance : 5aSU11
Southeast Strategic Regional Coastal Monitoring Programme

Southsea Castle to Portsmouth Harbour Entrance: 5aSU11

% change in cross-sectional area May 2007 to April 2013 (2 of 2)

East Solent Annual Report 2013

Aerial Photography: 2013
% change in cross-sectional area October 2012 to March 2013 (2 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area April 2003 to March 2013 (2 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area October 2012 to March 2013 (3 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area April 2003 to March 2013 (3 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area October 2012 to March 2013 (4 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area June 2003 to March 2013 (4 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02
% change in cross-sectional area February 2012 to February 2013 (1 of 2)

Lee On Solent BMP Site: 5bSU03

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 15 - 30%
- > 30%

No Change

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area June 2003 to February 2013 (1 of 2)

Lee On Solent BMP Site: 5bSU03
% change in cross-sectional area February 2012 to February 2013 (2 of 2)
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area June 2003 to February 2013 (2 of 2)

Line name (actual change, m²)

% change in cross-sectional area

- More than 30%
- 15% - 30%
- 5% - 15%
- Less than 5%
- No change

eg: 5f00420 (45)

Aerial Photography: 2013

Lee On Solent BMP Site: 5bSU03
% change in cross-sectional area February 2012 to June 2013 (1 of 2)

Lee On Solent to Titchfield Haven: 5bSU04

% change in cross-sectional area

- > 30 %
- 15 - 30 %
- 5 - 15 %
- Less than 5 %
- No Change
- 5 - 15 %
- 15 - 30 %
- > 30 %

eg: 5f00420 (45)
Line name (actual change, m²)

Aerial Photography: 2013

SU Boundary
% change in cross-sectional area August 2004 to June 2013 (1 of 2)  
Lee On Solent to Titchfield Haven: 5bSU04
### % change in cross-sectional area

<table>
<thead>
<tr>
<th>Line name (actual change, m²)</th>
<th>% change in cross-sectional area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU Boundary</td>
<td>&gt; 30%</td>
</tr>
<tr>
<td>5b00271 (6)</td>
<td>5 - 15%</td>
</tr>
<tr>
<td>5b00237 (2)</td>
<td>15 - 30%</td>
</tr>
<tr>
<td>5b00240 (5)</td>
<td>&gt; 30%</td>
</tr>
<tr>
<td>5b00244 (5)</td>
<td>Less than 5%</td>
</tr>
<tr>
<td>5b00247 (-5)</td>
<td>5 - 15%</td>
</tr>
<tr>
<td>5b00245 (-2)</td>
<td>15 - 30%</td>
</tr>
<tr>
<td>5b00242 (-1)</td>
<td>&gt; 30%</td>
</tr>
<tr>
<td>5b00234 (-7)</td>
<td>No Change</td>
</tr>
<tr>
<td>5b00251 (-1)</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
- **Blue:** > 30%
- **Light Blue:** 15 - 30%
- **Light Blue:** 5 - 15%
- **Light Blue:** Less than 5%
- **Red:** > 30%
- **Red:** 15 - 30%
- **Red:** 5 - 15%
- **Red:** No Change

**Example:** 5b00420 (45)

Aerial Photography: 2013
Lee On Solent to Titchfield Haven: 5bSU04

% change in cross-sectional area August 2004 to June 2013 (2 of 2)

Aerial Photography: 2013
Southeast Strategic Regional Coastal Monitoring Programme

% change in cross-sectional area February 2012 to April 2013

East Solent Annual Report 2013

Titchfield Haven to Hook Spit: 5bSU05

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 5 - 15%
- 15 - 30%
- > 30%
- No Change

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

0 50 100 150 200 m
% change in cross-sectional area March 2005 to August 2013 (1 of 4)

Titchfield Haven to Hook Spit: 5bSU05
% change in cross-sectional area February 2012 to April 2013 (2 of 4)

- Titchfield Haven to Hook Spit: 5bSU05

- % change in cross-sectional area
  - > 30 %
  - 15 - 30 %
  - 5 - 15 %
  - Less than 5 %
  - 5 - 15 %
  - 15 - 30 %
  - > 30 %
  - No Change

- eg: 5f00420 (45)

- Line name (actual change, m²)

- SU Boundary
% change in cross-sectional area March 2005 to August 2013 (2 of 4)

Titchfield Haven to Hook Spit: 5bSU05

% change in cross-sectional area

<table>
<thead>
<tr>
<th>% change</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>&gt; 30 %</td>
<td>Accretion</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>Erosion</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>Infill</td>
</tr>
<tr>
<td>Less than 5 %</td>
<td>No Change</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>Erosion</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>Erosion</td>
</tr>
<tr>
<td>&gt; 30 %</td>
<td>Erosion</td>
</tr>
</tbody>
</table>

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary
% change in cross-sectional area February 2012 to April 2013 (3 of 4)

Titchfield Haven to Hook Spit: 5bSU05

<table>
<thead>
<tr>
<th>SU Boundary</th>
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<tbody>
<tr>
<td>% change in cross-sectional area</td>
</tr>
<tr>
<td>&gt; 30 %</td>
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<tr>
<td>5 - 15 %</td>
</tr>
<tr>
<td>Less than 5 %</td>
</tr>
<tr>
<td>5 - 15 %</td>
</tr>
<tr>
<td>15 - 30 %</td>
</tr>
<tr>
<td>&gt; 30 %</td>
</tr>
<tr>
<td>No Change</td>
</tr>
</tbody>
</table>

eg: 5b00420 (45)

Line name (actual change, m²)
Southeast Strategic Regional Coastal Monitoring Programme

East Solent Annual Report 2013

% change in cross-sectional area March 2005 to August 2013 (3 of 4)

Titchfield Haven to Hook Spit: 5bSU05

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 5 - 15%
- 15 - 30%
- > 30%
- No Change

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013

0 50 100 150 200 m
% change in cross-sectional area February 2012 to April 2013 (4 of 4)

Titchfield Haven to Hook Spit: 5bSU05
% change in cross-sectional area March 2005 to August 2013 (4 of 4)

Titchfield Haven to Hook Spit: 5bSU05
% change in cross-sectional area February 2012 to June 2013 (1 of 1)

Hamble Common Point: 5cSU02
% change in cross-sectional area March 2003 to June 2013

- Hamble Common Point: 5cSU02

Legend:
- **Accretion**
  - > 30%
  - 15 - 30%
  - 5 - 15%
  - < 5%
- **Erosion**
  - 5 - 15%
  - 15 - 30%
  - > 30%
  - No Change

Example: 5F00420 (45) line name (actual change, m²)

Aerial Photography: 2013
Southeast Strategic Regional Coastal Monitoring Programme

Hamble Oil Terminal: 5cSU03

% change in cross-sectional area February 2012 to June 2013 (1 of 1)

East Solent Annual Report 2013

% change in cross-sectional area

- 15 - 30 %
- > 30 %
- 5 - 15 %
- Less than 5 %
- 5 - 15 %
- No Change

eg: 5f00420 (45)

Line name (actual change, m²)

SU Boundary

Aerial Photography: 2013
% change in cross-sectional area August 2003 to June 2013

<table>
<thead>
<tr>
<th>Line name (actual change, m²)</th>
<th>% change in cross-sectional area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU Boundary</td>
<td></td>
</tr>
<tr>
<td>eg: 5f00420 (45)</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- **Accretion**
  - > 30 %
  - 15 - 30 %
  - 5 - 15 %
  - Less than 5 %
- **Erosion**
  - 15 - 30 %
  - > 30 %
  - No Change

Aerial Photography: 2013
% change in cross-sectional area February 2012 to June 2013 (1 of 1)

East Solent Annual Report 2013

Hamble Oil Terminal: 5cSU04

Aerial Photography: 2013

SU Boundary

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 5 - 15%
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)
### % change in cross-sectional area

<table>
<thead>
<tr>
<th>Line name (actual change, m²)</th>
<th>SU Boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamble Oil Terminal: 5cSU04</td>
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</tbody>
</table>

### Aerial Photography: 2013

- **SU Boundary**

% change in cross-sectional area July 2003 to June 2013 (1 of 1)

<table>
<thead>
<tr>
<th>% change</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 30 %</td>
<td>Blue</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>Blue</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>Blue</td>
</tr>
<tr>
<td>Less than 5 %</td>
<td>Blue</td>
</tr>
<tr>
<td>5 - 15 %</td>
<td>Red</td>
</tr>
<tr>
<td>15 - 30 %</td>
<td>Red</td>
</tr>
<tr>
<td>&gt; 30 %</td>
<td>Red</td>
</tr>
<tr>
<td>No Change</td>
<td>No Change</td>
</tr>
</tbody>
</table>

---

Hamble Oil Terminal: 5cSU04
Southeast Strategic Regional Coastal Monitoring Programme

Royal Victoria Country Park to Weston Point: 5cSU05

% change in cross-sectional area February 2012 to June 2013 (1 of 4)

Aerial Photography: 2013

% change in cross-sectional area

- > 30%
- 15 - 30%
- 5 - 15%
- Less than 5%
- 5 - 15%
- 15 - 30%
- > 30%

eg: 5f00420 (45)
Line name (actual change, m²)

SU Boundary
% change in cross-sectional area August 2003 to June 2013 (1 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05
% change in cross-sectional area February 2012 to June 2013 (2 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05
% change in cross-sectional area August 2003 to June 2013 (2 of 4)
Southeast Strategic Regional Coastal Monitoring Programme

% change in cross-sectional area February 2012 to June 2013 (3 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05
% change in cross-sectional area August 2003 to June 2013 (3 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05
% change in cross-sectional area February 2012 to June 2013 (4 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05

eg: 5f00420 (45)
% change in cross-sectional area August 2003 to June 2013 (4 of 4)

Royal Victoria Country Park to Weston Point: 5cSU05
Southeast Regional Coastal Monitoring Programme

Change in elevation (Topographic Difference Model) 2012 to 2013 (1 of 3)

East Solent Annual Report 2013

The Cakeham Estate to East Head: 5aSU03

Change in Elevation (m)
- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion
- Erosion

Model Extent

Aerial Photography: 2013

Change in elevation (Topographic Difference Model) 2012 to 2013 (1 of 3)
Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion

Erosion

Model Extent

Aerial Photography: 2013

Change in elevation (Topographic Difference Model) 2008 to 2013 (1 of 3)
The Cakeham Estate to East Head: 5aSU03

Change in elevation (Topographic Difference Model) 2012 to 2013 (2 of 3)
The Cakeham Estate to East Head: 5aSU03

Change in elevation (Topographic Difference Model) 2008 to 2013 (2 of 3)

Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion

Erosion

Model Extent

Aerial Photography: 2013
Change in elevation (Topographic Difference Model) 2008 to 2013 (3 of 3)

The Cakeham Estate to East Head: 5aSU03

East Solent Annual Report 2013

Accretion
Erosion

Change in Elevation (m)

-3 <=
-2.5 - 3
-2 - 2.5
-1.5 - 2
-1 - 1.5
-0.5 - 1
-0.25 - 0.5
0.25 - 0.5
0.5 - 1
1 - 1.5
2 - 2.5
2.5 - 3
3 - 3.5
3.5 -

Aerial Photography: 2013

Model Extent

0 50 100 150 200 m
East Solent Annual Report 2013

Southeast Regional Coastal Monitoring Programme

Change in elevation (Topographic Difference Model) 2003 to 2013 (1 of 4)

Sandy Point to Inn on the Beach: 5aSU06

Accretion

Erosion

Change in Elevation (m)

>= 3
2.5 - 3
2 - 2.5
1.5 - 2
1 - 1.5
0.5 - 1
0.25 - 0.5
-0.25 - 0.25
-0.5 - -0.25
-1 - -0.5
-1.5 - -1
-2 - -1.5
-2.5 - -2
-3 - -2.5
<= -3

Model Extent

Extraction site

2004-2013

Aerial Photography: 2013

N

0 50 100 150 200 m
Change in elevation (Topographic Difference Model) 2003 to 2013 (2 of 4)

Sandy Point to Inn on the Beach: 5aSU06
Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Change in elevation (Topographic Difference Model) 2012 to 2013 (3 of 4)

Sandy Point to Inn on the Beach: 5aSU06

East Solent Annual Report 2013

Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- 0 - 0.25
- -0.25 - 0
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion

Erosion

Extraction site 2004-2013

Annual deposition site 2004-2013

Aerial Photography: 2013

Model Extent

0 50 100 150 200 m
Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Change in elevation (Topographic Difference Model) 2003 to 2013 (3 of 4)

Sandy Point to Inn on the Beach: 5aSU06

Change in Elevation (m)
- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- 0 - 0.25
- -0.25 - 0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3
Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Change in elevation (Topographic Difference Model) 2012 to 2013 (4 of 4)

Sandy Point to Inn on the Beach: 5aSU06

Change in Elevation (m)
- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Extraction site 2004-2013

Aerial Photography: 2013

Model Extent

0 50 100 150 200 m
Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Inn on the Beach to Langstone Harbour: 5aSU07

Change in elevation (Topographic Difference Model) 2012 to 2013 (1 of 2)

East Solent Annual Report 2013

Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- 0 - 0.25
- -0.5 - 0.25
- -1 - 0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Extraction site 2004-2013

Aerial Photography: 2013

Model Extent

0 50 100 150 200 m
Southeast Regional Coastal Monitoring Programme

Change in elevation (Topographic Difference Model) 2012 to 2013 (2 of 2)

Inn on the Beach to Langstone Harbour: 5aSU07

East Solent Annual Report 2013

Aerial Photography: 2013

Model Extent

Change in Elevation (m)
- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion

Erosion

0 50 100 150 200 m
Change in elevation (Topographic Difference Model) 2003 to 2013 (2 of 2)

Inn on the Beach to Langstone Harbour: 5aSU07

Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - 0.25
- -1 - 0.5
- -1.5 - 1
- -2 - 1.5
- -2.5 - 2
- -3 - 2.5
- <= -3

ModelExtent

Aerial Photography: 2013

0 50 100 150 200 m
Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Accretion

Erosion

Model Extent

Aerial Photography: 2013
Southeast Regional Coastal Monitoring Programme

Change in elevation (Topographic Difference Model) 2003 to 2013 (4 of 4)

Fort Gilkicker, Stokes Bay & Browndown: 5bSU02

Aerial Photography: 2013
Southeast Regional Coastal Monitoring Programme

East Solent Annual Report 2013

Lee On Solent BMP Site: 5bSU03

Change in elevation (Topographic Difference Model) 2012 to 2013 (1 of 2)

Change in Elevation (m)

- >= 3
- 2.5 - 3
- 2 - 2.5
- 1.5 - 2
- 1 - 1.5
- 0.5 - 1
- 0.25 - 0.5
- -0.25 - 0.25
- -0.5 - -0.25
- -1 - -0.5
- -1.5 - -1
- -2 - -1.5
- -2.5 - -2
- -3 - -2.5
- <= -3

Erosion

Accretion

Model Extent

Aerial Photography: 2013

0 50 100 150 200 m

Channel Coastal Observatory
Change in elevation (Topographic Difference Model) 2008 to 2013 (1 of 2)

Lee On Solent BMP Site: 5bSU03
Lee On Solent BMP Site: 5bSU03

Change in Elevation (Topographic Difference Model) 2012 to 2013 (2 of 2)

Accretion

-0.5  -  0.5
-1  -  -0.5
-1.5  -  -1
-2  -  -1.5
-2.5  -  -2
-3  -  -2.5
<= -3

Erosion

0.25  -  0.5
-0.25  -  0.25
-0.5  -  -0.25
-1  -  -0.5
-1.5  -  -1
-2  -  -1.5
-2.5  -  -2
-3  -  -2.5
>= 3
Southeast Regional Coastal Monitoring Programme

Change in elevation (Topographic Difference Model) 2008 to 2013 (2 of 2)

Lee On Solent BMP Site: 5bSU03

East Solent Annual Report 2013

Model Extent

Aerial Photography: 2013

Change in Elevation (m)

-3 <= -2.5
-2 <= -1.5
-1 <= -1
-0.5 <= -0.25
-0.25 <= 0.25
0.25 <= 0.5
0.5 <= 1
1 <= 1.5
1.5 <= 2
2 <= 2.5
2.5 <= 3
>= 3

Accretion

Erosion
EXPLANATORY NOTES

Change in Cross-sectional Area (CSA)

The annual change in cross-sectional area is calculated as the difference in CSA between two surveys, expressed as a percentage change compared to the earlier CSA.

\[
\frac{CSA_1 - CSA_2}{CSA_2} \times 100
\]

Eqn (1)

where \(CSA_1\) = most recent springtime survey and \(CSA_2\) = spring survey previous year. Therefore, an annual change of \(-14\%\) represents erosion during the last year of 14\% of the area of last year’s survey.