

Risk Assessment

The primary risks arising from the behaviour of coastal forcing processes (wind, waves and tides) and the reaction of the shoreline (beach and cliff changes, artificial defence conditions) across this frontage are:

- Overtopping of artificial defences causing flooding of the hinterland,
- Breaching of artificial coastal defences, causing erosion of the shoreline
- Erosion of dunes and cliffs providing potential pathways for water penetration into the hinterland
- Wind blown sand nuisance to people and property

The primary consequences of this behaviour are:

- Damage to and/or loss of property and infrastructure
- Damage to environmental habitats.

The table below shows the overall risk rating(s) that apply within this section of frontage. Overall risk is defined from the probability of conditions/behaviour occurring and the consequences the conditions/behaviour would have.

Duddon Estuary to Tarn Point Overall Risk Rating				
SMP Policy Unit (11c)	Section of Frontage	Probability Index	Consequence Index	Overall Risk Rating
16.8	Duddon Estuary (Both banks upstream of Viaduct and right bank south to Green Rd Station)	Low	Medium/High	Medium
16.9	Millom Marshes	Low	Medium	Low
16.10	Red Hills (Industrial area)	Low	Medium	Low
16.11	Hodbarrow Mains	Low	Medium/Low	Low
SMP Policy Unit (11d)	Section of Frontage	Probability Index	Consequence Index	Overall Risk Rating
1.1	Hodbarrow Point to Haverigg	Low	Medium/Low	Low
1.2	Haverigg	Low	High	Medium
1.3	Haverigg to Hartrees Hill	Medium	Medium/High	Medium
1.4	Silecroft (Hartrees Hill)	Low	High	Medium
1.5	Hartrees Hill to Selker	Low	Medium/High	Low

Current Behaviour

Analysis of the monitoring data collected in 2014 provides the following key points:

Offshore Wave Climate:

- No new data available for analysis

Wind Climate:

- No new data available for analysis

Sea Levels:

- Maximum tide level recorded on Workington tide gauge = +5.696 (m ODN) on 3rd January 2014, equivalent to a level that would be expected to be exceeded once every 25 to 50 years.

Beach Changes:

Middle Duddon Estuary:

- Profile change: 17% – accretion, 17% – erosion, 67% – no change

Millom to Haverigg:

- General accretion of beach and dunes
- Changes to seaward edge of the nearshore sandbank associated with movement of nearshore channel
- Profile change: 67% – accretion, 0% – erosion, 33% – no change

