

## Witterings Fieldtrip - Wednesday 6th November

Name \_\_\_\_\_

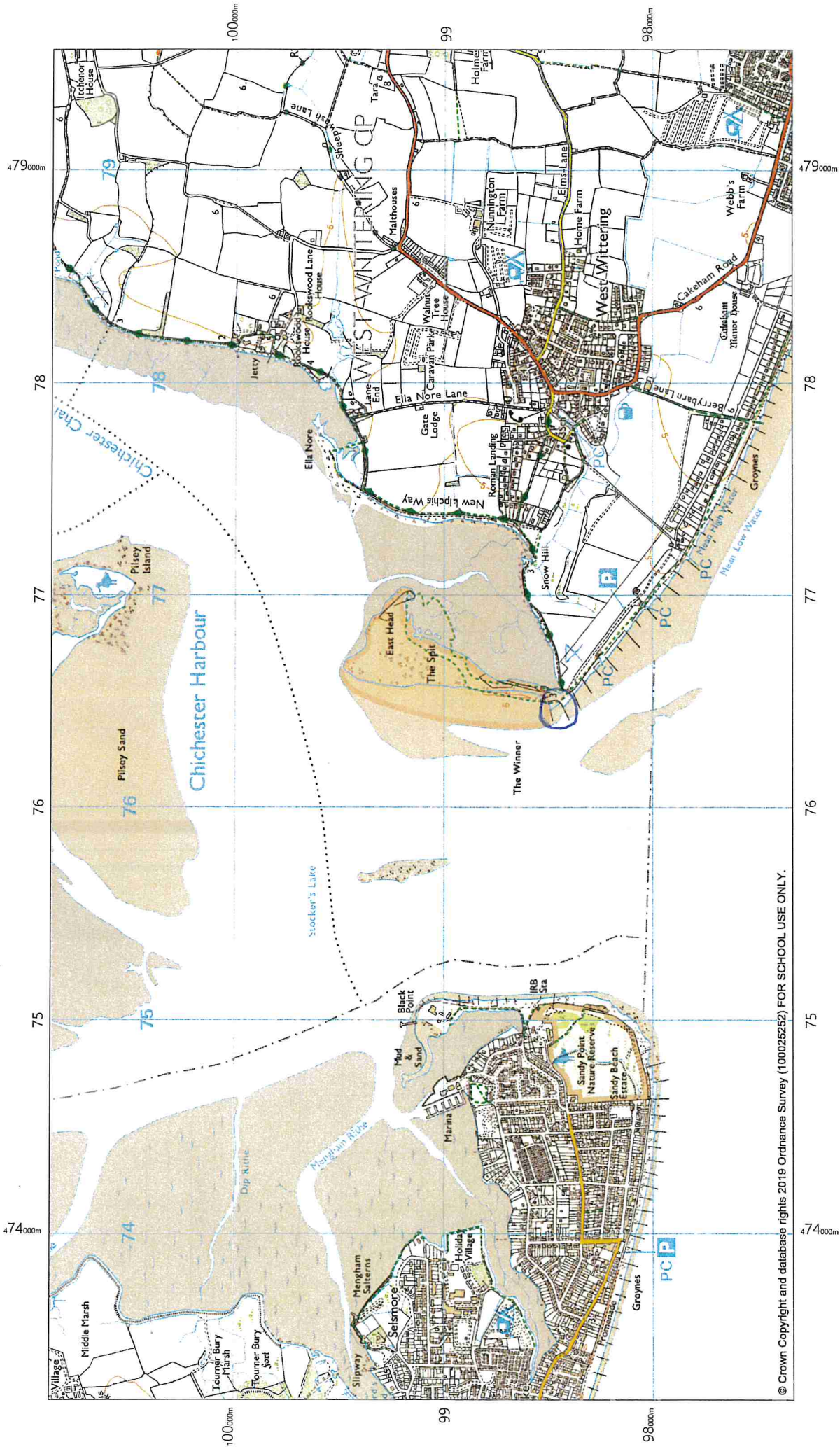
Emergency contact numbers:

	Group 1	Group 2
10.45	Introduction to Chichester Harbour, aims of the field trip. Safety briefing – consider the risks associated with coastal fieldwork.	Introduction to Chichester Harbour, aims of the field trip. Safety briefing – consider the risks associated with coastal fieldwork.
11.00	<p>Walk to suitable site to discuss the coastal geography of the local area and the formation of the sand spit, East Head. Discuss the littoral (longshore) drift on this stretch of coast. Consider the coastal system and deposition in this sediment cell and the current sediment circulation theory. Make notes and annotate map worksheet.</p> <p>Survey to look at the height of sediment at the groynes. (Groynes 21-24) Introduce field work technique. Complete field work to measure sediment height on either side of groynes. Evaluate fieldwork technique.</p>	<p>Walk to suitable site to discuss the coastal geography of the local area and the formation of the sand spit, East Head. Discuss the littoral (longshore) drift on this stretch of coast. Consider the coastal system and deposition in this sediment cell and the current sediment circulation theory. Make notes and annotate map worksheet.</p> <p><b>Beach Transect (groyne field 22/23)</b> Introduce fieldwork to study longshore drift, beach profile and sediment analysis. Students complete beach transects to include gradient, % cover, av pebble size and av. roundness. Discuss data and evaluate fieldwork technique.</p>
12.00	<p><b>Beach Transect (groyne field 23/24)</b> Introduce fieldwork to study longshore drift, beach profile and sediment analysis. Students complete beach transects to include gradient, % cover, av pebble size and av. roundness. Discuss data and evaluate fieldwork technique.</p>	<p>12.15 Survey to look at the height of sediment at the groynes. (Groynes 21-24) Introduce field work technique. Complete field work to measure sediment height on either side of groynes. Evaluate fieldwork technique.</p>
13.00	Return to car park and lunch	Return to car park and lunch
13.30	<p><b>Coastal Management Strategy</b> Walk to hinge (East side). Short talk to look at the history and approaches towards Coastal Management, and the current strategy of</p> <p>Adaptive Management at East Head. Look at the hard and soft engineering approaches used. Complete bi-polar surveys and field sketches for a hard and soft sea defence.</p>	<p><b>Coastal Management Strategy</b> Walk to hinge (West side). Short talk to look at the history and approaches towards Coastal Management, and the current strategy of</p> <p>Adaptive Management at East Head. Look at the hard and soft engineering approaches used. Complete bi-polar surveys and field sketches for a hard and soft sea defence.</p>
14.30	Short walk to view sand dunes and consider NT management techniques. View saltmarsh. Walk back to car park.	Short walk to view sand dunes and consider NT management techniques. View saltmarsh. Walk back to car park.
14.45	Return to car park	Return to car park.
15.00	Depart West Wittering	Depart West Wittering

### Student Expectations

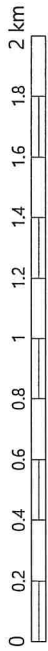
- You must conduct yourself in a responsible, considerate and courteous fashion at all times.
- You must meet the requirements of the visit in terms of arriving punctually at agreed rendezvous points, attending all planned events, and following the stated procedures in terms of travel.
- You must follow the advice of staff at all times whilst on the trip including safety instructions, including you have the ICE contact details in case of an emergency.
- You must contact the Trip Organiser or failing that a relevant member of staff at the College if you are going to be late or, at the last minute, are unable to attend the trip.

# Chichester Harbour Entrance



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Scale 1:25000



Feb 08, 2019 15:22




Chichester Harbour Education  
Dell Quay Stores  
Dell Quay Road  
Chichester  
PO207EB

## Digimap for Schools



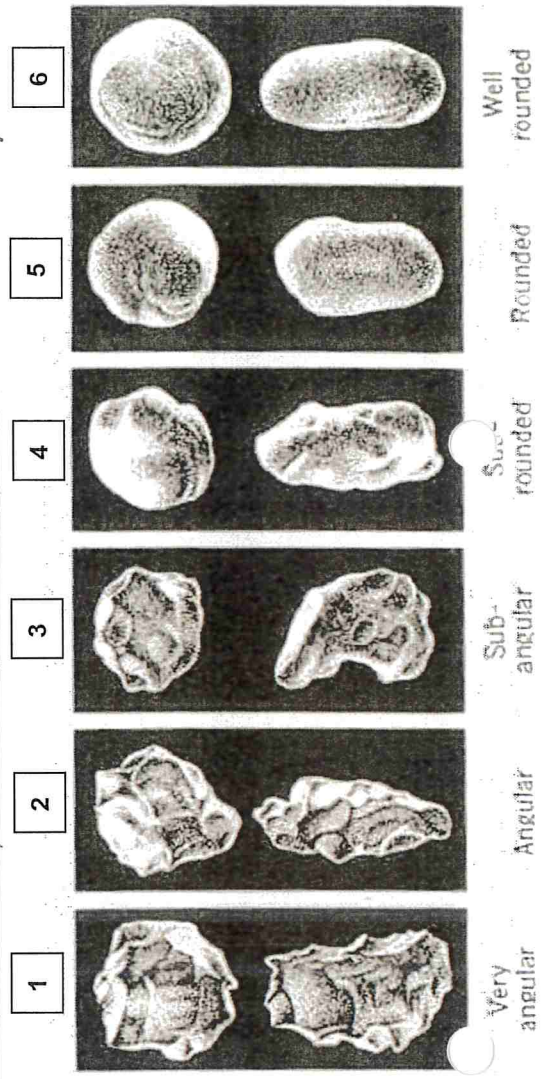


\* shingle size  
 less than a  
 thumb joint



### Beach Groyne Transect – Sediment Analysis

P o i n t	Distance from last point (metres)	Angle of slope to next point (degrees)	Sediment Survey			Pebble Size (long axis) (mm) <i>(collect 10 pebbles at sample point and measure)</i>	Mean Pebble Size (mm)	Pebble Roundness Score <i>(collect 10 pebbles at sample point and measure)</i>	Mean Pebble Round- ness Score
			% sand	% shin- gle	% pebb- les				
1	0								
2									
3									
4									
5									
6									
7									
8									
9									
10									

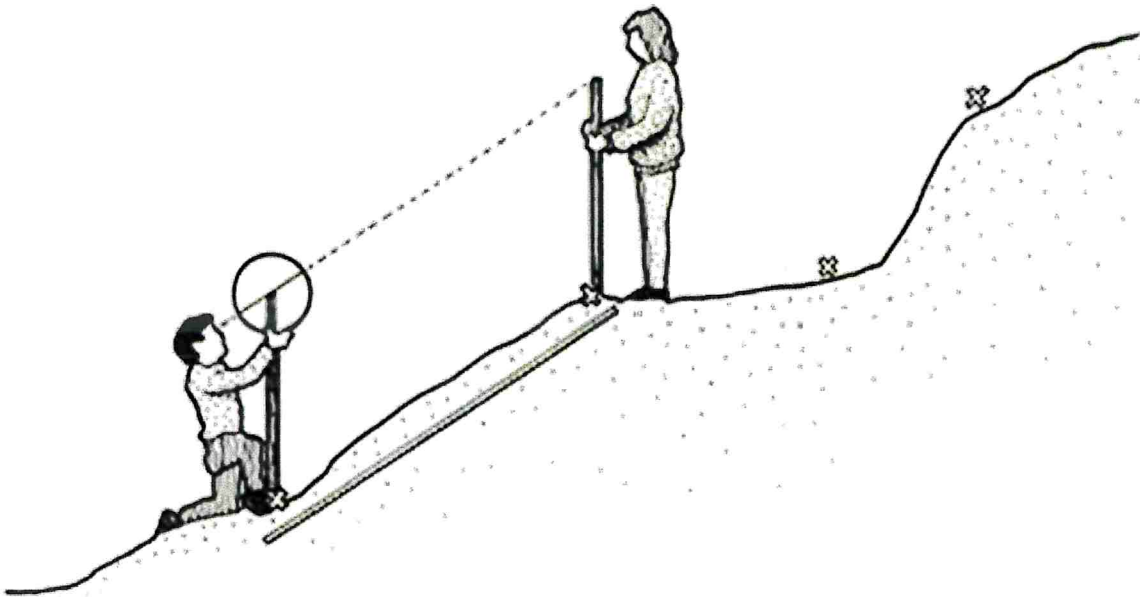


Power's Scale of Roundness:

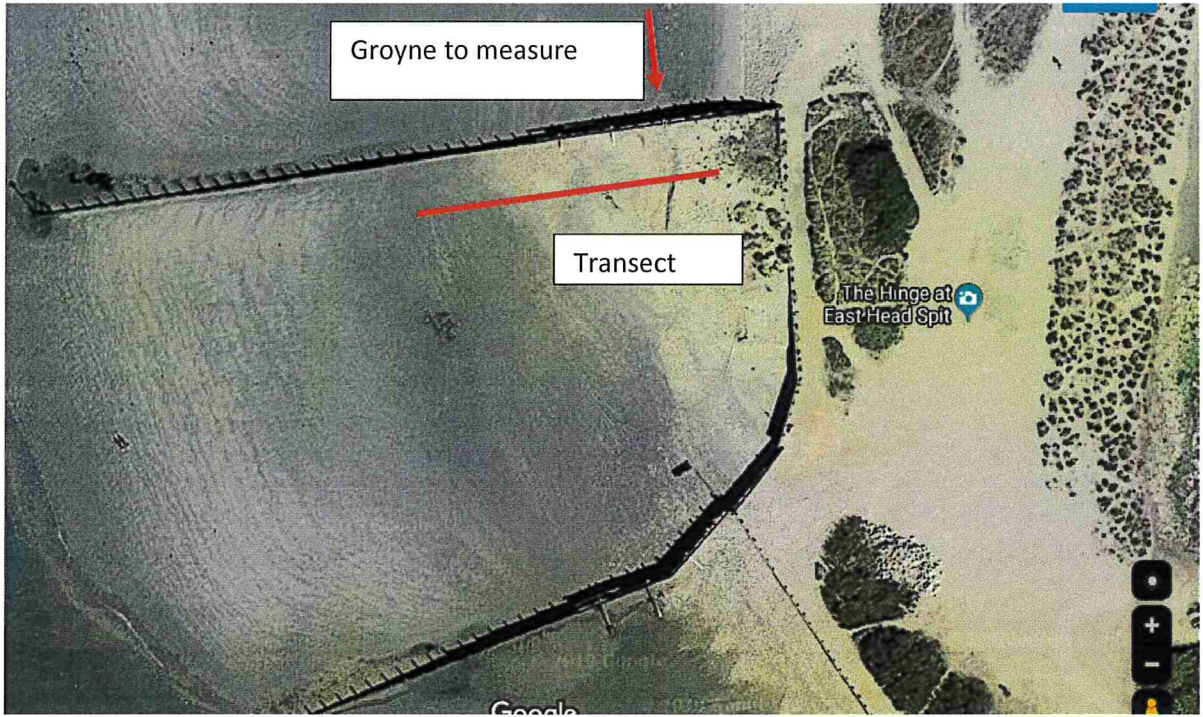
Descriptor	Score
very angular	1
angular	2
sub angular	3
sub rounded	4
rounded	5
very rounded	6

Follow a straight transect line from the edge of the sea to the end of the active beach. Split the line into segments where the slope angle changes. Each reading is taken from from break of slope to break of slope.

- Person A stands at a safe distance from the edge of the sea holding a ranging pole
- Person B stands holding a second ranging pole further up the beach where there is a break of slope
- The distance between the two ranging poles is measured using a tape measure
- The angle between matching markers on each ranging pole is measured using a clinometer
- Repeat this process at each break of slope until the top of the beach is reached



At each sample point lay down the quadrant and estimate the % of the sediment. Randomly select 10 pebbles/shingle and measure their long axis, record and calculate the mean. Do the same of the pebble roundness.





## Investigating the Height of Sediment Along the Groynes

At each distance along the groyne from the top of the beach, measure the height from the top of the groyne down to the sediment level. Take measurements on **both** the West and East side of the groyne. Subtract the measurement on the East side from the measurement on the West side to calculate the sediment height. Repeat measurements every 2 m along the groyne. Complete for the last 5 groynes along West Wittering Beach

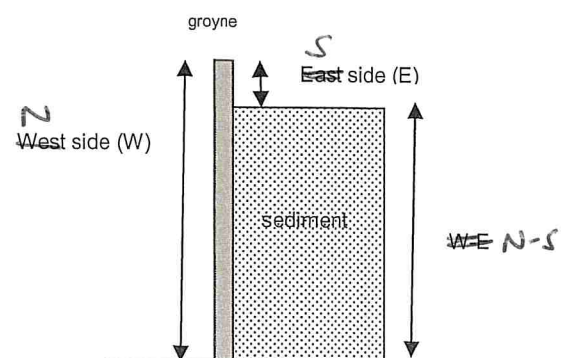
*See satellite image for groyne to measure*

		Groyne Number														
Distance along groyne (m)	20			21			22			23			24			
	<i>WN</i>	<i>ES</i>	W-E	W	E	W-E	W	E	W-E	W	E	W-E	W	E	W-E	
Top of groyne 0 <i>(furthest inland)</i>																
2																
4																
6																
8																
10																
12																
14																
16																
18																

W = West side of groyne

E = East side of groyne

W-E = Subtract measurement on East side from measurement on West side



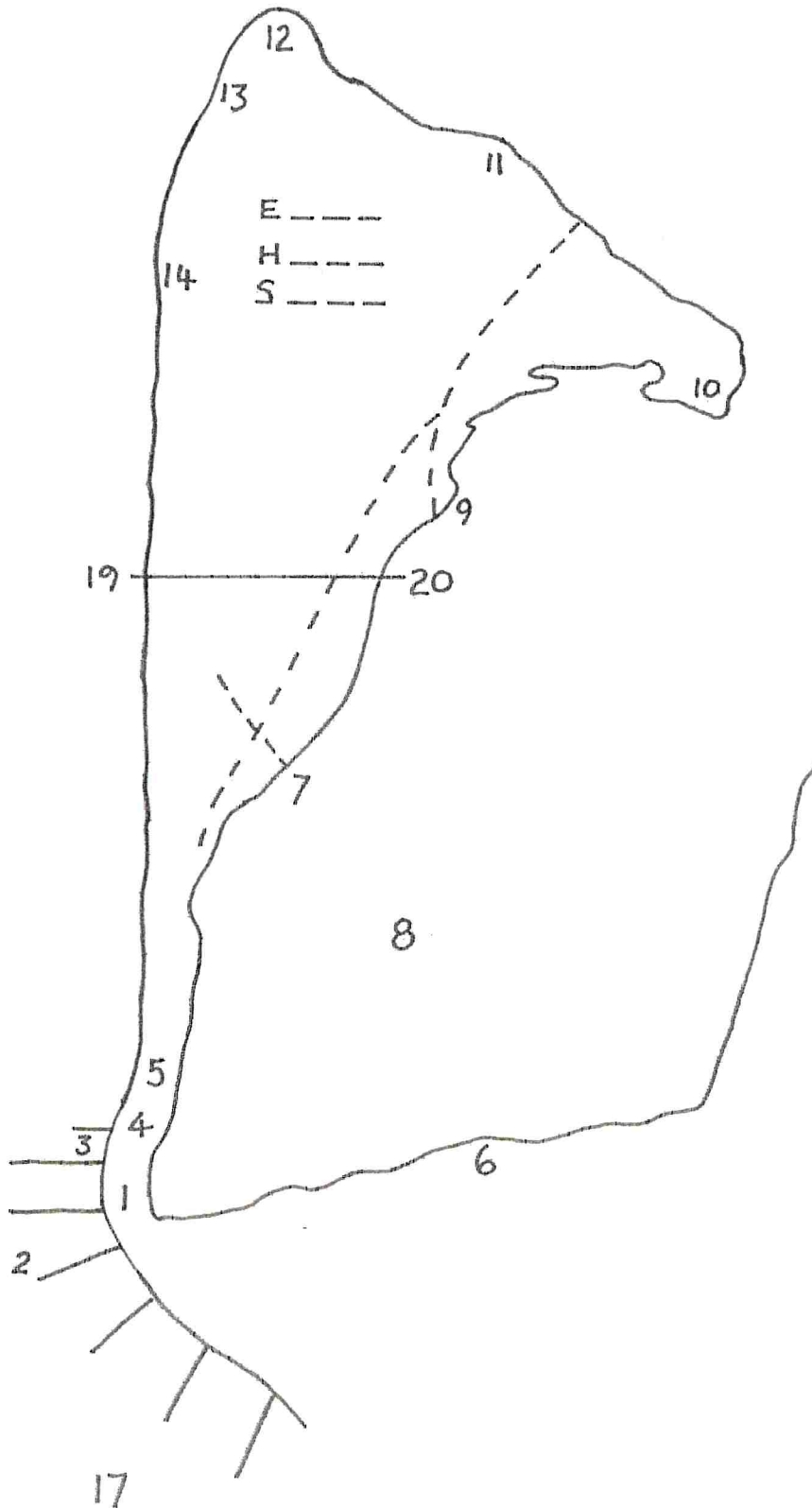
# East Head – Management and Sea Defences

Date: \_\_\_\_\_ Wind Direction: \_\_\_\_\_ State of tide: \_\_\_\_\_

Add the following to your map: hinge, neck, tip, hook, rock berm, sea wall, rock armour (rip rap), groynes, gabions, beach nourishment, marram grass planting, sand dunes, sand, shingle, salt marsh, dog bins, notices, protected areas (rope fences), board walks, entrance to Chichester Harbour, 'The Winner' sand bar, West Wittering beach, W-E transect line, West Wittering village, Snow Hill Creek.



16



15

18

17



# Coastal Management Survey

Sea Defence 1	Type/Name ..... <i>Gabions</i> ..... Soft or Hard Engineered?								
	Negative evaluation factor	-3	-2	-1	0	+1	+2	+3	Positive evaluation factor
Cost	Expensive								Cheap
Effectiveness	Ineffective (unable to hold the line)								Effective protection (able to hold the line)
Appearance	Ugly (poor aesthetic value)								Attractive (high aesthetic value)
Beach access	Poor access to the beach								Good provision for beach access
Public Safety	High-risk safety hazard to the public								No obvious safety hazard risk to the public
Lifespan	Short lifespan								Long lifespan
Impact on natural processes	Disturbs natural processes and habitats (bad effects)								Maintains natural processes and habitats (good effects)
Effect if the method failed	High damaging impact								Low to no impact
<b>TOTAL SCORE:</b>									

Field Sketch of sea defence 1. Annotate the sketch and explain what it is made of.

Question: When and why was it put here? How does it work?

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<b>Sea Defence 2</b>	Type/Name <i>Beach nourishment/dune stabilization</i> Soft or Hard Engineered?								
	<b>Negative evaluation factor</b>	-3	-2	-1	0	+1	+2	+3	<b>Positive evaluation factor</b>
<b>Cost</b>	Expensive								Cheap
<b>Effectiveness</b>	Ineffective (unable to hold the line)								Effective protection (able to hold the line)
<b>Appearance</b>	Ugly (poor aesthetic value)								Attractive (high aesthetic value)
<b>Beach access</b>	Poor access to the beach								Good provision for beach access
<b>Public Safety</b>	High-risk safety hazard to the public								No obvious safety hazard risk to the public
<b>Lifespan</b>	Short lifespan								Long lifespan
<b>Impact on natural processes</b>	Disturbs natural processes and habitats (bad effects)								Maintains natural processes and habitats (good effects)
<b>Effect if the method failed</b>	High damaging impact								Low to no impact
<b>TOTAL SCORE:</b>									

Field Sketch of sea defence 2. Annotate the sketch and explain what it is made of.

Question: When and why was it put here? How does it work?

.....

.....

# Coastal Management Survey

Sea Defence 3	Type/Name ..... <i>Groyne</i> ..... Soft or Hard Engineered?								
	Negative evaluation factor	-3	-2	-1	0	+1	+2	+3	Positive evaluation factor
Cost	Expensive								Cheap
Effectiveness	Ineffective (unable to hold the line)								Effective protection (able to hold the line)
Appearance	Ugly (poor aesthetic value)								Attractive (high aesthetic value)
Beach access	Poor access to the beach								Good provision for beach access
Public Safety	High-risk safety hazard to the public								No obvious safety hazard risk to the public
Lifespan	Short lifespan								Long lifespan
Impact on natural processes	Disturbs natural processes and habitats (bad effects)								Maintains natural processes and habitats (good effects)
Effect if the method failed	High damaging impact								Low to no impact
<b>TOTAL SCORE:</b>									

Field Sketch of sea defence 3. Annotate the sketch and explain what it is made of.

Question: When and why was it put here? How does it work?

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Small handwritten mark on the left side.

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