

# TEACHER NOTES

## Geography

### Coasts - Conservation



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RED FUNNEL

## Contextual Summary

This is a geography resource which engages students with the environment of Southampton Water and the Solent, whilst on their Red Funnel ferry journey across to and/or from the Isle of Wight. It includes pre-visit, on-site, and post-visit activities. This resource focuses on both the human and physical geography of the area, and specifically looks at how the two interact.

The title of the resource 'The Conservation Conundrum' is the essence of what the resource aims to get across: the importance of the area as both an environmental and economic resource and the issues which

arise due to the conflict between the two, and how they might be managed.

Focusing on the human and physical geography of the area, the resource will

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develop, why they are important, what threats they face, how they survive in this location and how they are being conserved. They will also consider the difficulties of balancing the needs of many different user groups which live around/work/use the area.

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## Task Implementation

The pre-visit activity starts by giving some historical context to the environment along Southampton Water, which was once fringed along its length by mudflats and saltmarshes.

Extensive reclamation of these ecosystems for port development, industry, residential and recreational developments have led to the loss of much of the natural ecosystems. As background to the on-site activities, students then learn about the development and features of mudflats and saltmarshes and put what they have learnt to the test through an activity which requires them to add labels in the correct place on a simple diagram. A good animation to help them to understand the role of tidal changes in their formation and features can be found here:

[http://en.wikipedia.org/wiki/Salt\\_marsh#/media/File:Salt\\_pannes\\_and\\_pools\\_high\\_and\\_low\\_tide.gif](http://en.wikipedia.org/wiki/Salt_marsh#/media/File:Salt_pannes_and_pools_high_and_low_tide.gif)

Students then conduct some independent research into why these ecosystems are important, both in terms of a habitat for different types of wildlife, but also in terms of their recreational value and as a method of soft coastal defense.

The on-site activities are simple and straightforward, and reinforce / practice all that students have learnt in the pre-visit tasks. There are five simple tasks, which can be completed in any order as they make their journey across to/from the island, although tasks 4 and 5 must take place at specific times / locations. The first task simply involves them taking some pictures of the mudflats (if these are visible as they are covered at high tide) and saltmarshes. They might also consider taking pictures as evidence of any threats that they observe. Task 2 involves them making a simple labelled field sketch of the saltmarsh. In task 3, they complete a table giving the main threats they think pose a risk to the ecosystems / natural environment of Southampton Water and, importantly, explain how/why they consider each to be a threat.

continued...

SUBJECT												
Geography												
UNIT												
Coasts (Conservation)												
OPPORTUNITIES FOR USE												
<input checked="" type="checkbox"/> Pre-Visit												
<input checked="" type="checkbox"/> On-Site Activity												
<input checked="" type="checkbox"/> Post-Visit												
CURRICULUM / SYLLABUS												
<input checked="" type="checkbox"/> National Curriculum 2014												
<input checked="" type="checkbox"/> Curriculum for Excellence												
Applies to Resources numbered:												
<table border="1"><tr><td>1</td><td>0</td><td>7</td><td>2</td><td>4</td><td>1</td></tr><tr><td>1</td><td>0</td><td>7</td><td>2</td><td>4</td><td>2</td></tr></table>	1	0	7	2	4	1	1	0	7	2	4	2
1	0	7	2	4	1							
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## Task Implementation (continued)

When nearing Calshot Spit, near the mouth of the estuary, students should ensure that they complete task 4, which requires them to add labels/annotation to an image of the spit to explain how it has formed here and what it is like. Task 5 is an Environmental Quality Assessment; the aim being to a) learn and practise a commonly used fieldwork technique and b) to help students to investigate how EQ varies along Southampton Water. More able students are encouraged to complete extension activities to present and explain their EQA results, and also to consider the relative strengths and limitations of this technique and how it could be improved.

The aim of the post-visit activity is two-fold; firstly students will gain an appreciation of the differing views of different user groups through the first task. It involves them looking at the different 'users' of Southampton Water, and considering how their views and priorities are likely to be different from one another by ranking the 'diamonds'. This can be done by splitting the class into groups and each group taking a different user, although all students could complete the activity for each different user group. In either case, some good discussion is necessary for students to fully appreciate the likely issues caused by the differing opinions and needs of different user groups, how this can lead to conflict and present problems for management of the area. For more able students, the concept of 'sustainability' could be introduced, i.e. that sustainable management is not only

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are vast amounts of information available. Students need to focus on a particular section and not get too 'lost' in the rest of it. With most groups, especially lower ability students, it would be worth demonstrating the GIS maps and layers to the class before they go off to complete the task. The task itself involves looking into the different conservation designations that are in place around the shores of Southampton Water and finding out what these are, and how they are helping to protect the environment.

### Ability Levels

This resource is aimed at students at KS4. There are differentiated variations available for higher and lower ability levels.

Teachers should view all resources and select the most appropriate level for their students.

### Relationship to Curriculum

Below are the relevant links to the current GCSE Geography specifications:

- AQA Geography A: The Coastal Zone
- AQA Geography B: The Coastal Environment
- Pearson Education Ltd (Edexcel) Geography A, Unit 2, section A, Topic 1: Coastal landscapes
- Pearson Education Ltd (Edexcel) Geography B, Unit 1, section B, Topic 5: Coastal change and conflict
- OCR Geography B: Theme 1: Rivers and coasts
- WJEC Geography A: Unit 2; Our changing coasts
- WJEC Geography B: Theme 2; Coastal processes and coastal management.

### Key skills practised in this unit:

- ▶ Understanding key processes in human and physical geography, and how these interact with one another
- ▶ Conducting fieldwork by making observations and applying their observations to specific tasks
- ▶ Carrying out independent research
- ▶ Using an EQA to assess environmental quality
- ▶ Using GIS (post-visit activity).



## Learning Opportunities

### At all stages

- ▶ Students will use the resources provided to carry out the activities and tasks as specified on the worksheet:

Resource ID: **107241** (KS4 low-mid ability)

**107242** (KS4 mid-high ability)

### Pre-Visit

- ▶ Students will learn what mudflats and saltmarshes are, how they develop, and their key characteristics.
- ▶ They will conduct independent research to find out why these ecosystems are important.

### During the Visit

- ▶ Students complete five tasks while on board the ferry to reinforce their understanding of the key characteristics of saltmarshes, and make observations about potential threats to them, and to also investigate how the environmental quality varies along Southampton Water

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## Enrichment Opportunities

- ▶ Students will be seeing first-hand the natural environments along Southampton Water. This will give them a real 'feel' for what the area is like, and it will significantly help them to appreciate what the different coastal ecosystems are like.
- ▶ Students will learn a new fieldwork technique (or reinforce if they have done it before), and more able students have the opportunity to stretch their understanding by evaluating the method; a key part of a geographical investigation.
- ▶ Students will have the opportunity to make use of GIS mapping; this is a modern tool in Geography and a growing component of GCSE syllabuses.
- ▶ Extension tasks and differentiated activities enable more able students to stretch and extend their geographical understanding, whilst less able students are supported through the tasks in a variety of ways.

## Learning Outcomes

- ✓ Students will be able to describe and explain what mudflats and saltmarshes are, how they develop over time, and what their key characteristics are.
- ✓ Students will also be able to explain why these ecosystems are important (and therefore why it is important to conserve them).
- ✓ Students will make observations and make judgements about the likely threats to these ecosystems, and will consider the difficulties of balancing the needs of different user groups.
- ✓ Students will complete an EQA and think about how and why environmental quality varies along Southampton Water.
- ✓ Students will learn to use / practise using GIS mapping and conducting internet research, and will be able to describe and explain the ways in which the natural ecosystems along Southampton Water are being managed.

