



## Cool Seas Topic 6: Other Sea Users

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### Curriculum links (Key Stages 1 and 2)

#### Science

- KS1 Sc2 5c
- KS2 Sc2 5a

#### Geography

- Geographical enquiry and skills KS2: 1d-e, 2e-g
- Knowledge and understanding of patterns and processes KS1 and KS2: 4b
- Knowledge and understanding of environmental change and sustainable development KS1 and KS2: 5a, 5b

#### Art and Design

- ICT 1c, 2c, 6d

#### Citizenship

- Choices - section 4

#### Literacy

### Learning Objectives

- Pupils will be aware of the variety of ways in which people use the sea.
- Pupils will be able to describe ways in which human activities can have an impact on the marine environment.
- Pupils will be able to communicate what they have learnt to make others more aware about resource use from the sea.



## **Background Information (for teachers)**

The coastal area is of considerable social and economic importance. Coastal communities, industries, recreational users and wildlife all compete for space. Inland activities also have an influence on coastal waters e.g. fertiliser and pesticide runoff from the surrounding land, or direct chemical discharges into rivers. This can result in large pressures on coastal resources, conflict between users making demands on the coastal environment, and impacts on wildlife habitats.

The sea is used for a wide range of activities and resources, including:

### **Aggregates**

Aggregates are materials such as sand, gravel and crushed rock that are used to build houses, make concrete and asphalt and even fill garden sand pits. Some of these aggregates come from land where they are quarried from the ground and others are removed (dredged) from the seabed. Each person in the UK is responsible for using over 4 tonnes of aggregates each year. On average, building a house uses 50 tonnes of aggregates. Aggregate extraction impacts on the environment by causing disturbance to seabed habitats; scientists are studying this impact and whether the habitats are able to recover.

### **Energy (oil and gas)**

Over 20% of the world's oil and gas supplies come from under the sea floor. Over the last 10 years, the UK economy has received about £50 billion in revenues from oil and gas production. Fossil fuels such as coal, oil and gas will eventually run out. Some scientists believe that oil could run out in the next 40 years. The impacts of the oil and gas industry include disturbance of sea floor habitats, accidental oil spills, noise pollution and increased boat traffic.

### **Renewables**

The seas, particularly around Britain with their high wind (Britain is one of the windiest parts of Europe), wave and tidal resources, can and must play a significant part in the development of sustainable and renewable energy sources for the future. However, all energy sources have advantages and disadvantages. Potential impacts include habitat destruction where the machines are placed, noise pollution from piling (when placing the machines), electromagnetic effects of cables under water and barrier effects or even direct strikes from the machines.

(See also Fisheries topic for further information about resources from the sea)



## Activities

### Key Stage 1

#### **KS1 Activity 1: What's the sea got to do with me?**

##### **You will need:**

- Display paper
- Colouring pens
- Examples of resources from the sea (could use pictures or collect bricks, sand etc)

##### **What to do:**

1. Ask the pupils to think of things they use the sea for - begin by asking what activities they do when they go to the seaside.
2. Can they think of other ways people might use the sea? Consider resources other than food - think of building materials (sand and gravel), energy etc.
3. Ask pupils to make a display entitled: *What's the sea got to do with me?*
4. There could be a mixture of poetry, stories and pictures (perhaps use photos of members of the class doing activities at the seaside or in the water). There could be examples of uses that perhaps people are not aware of, such as a house brick and sand, to show use of marine resources for building.



## Key Stage 2

### **KS2 Activity 1: Resources from the sea - will they last?**

#### **You will need:**

- Paper and colouring pens

#### **What to do:**

1. Discuss with the class what renewable and non-renewable resources are, and what the words mean.
2. Ask pupils if they can think of resources that we use from the sea and sort them into renewable versus non-renewable.
3. Consider the advantages and disadvantages of the different resources.
4. Make a poster to inform other people all about the range of resources available from the sea.

### **KS2 Activity 2: Planning for the sea**

#### **You will need:**

- Pen and Paper
- Books and internet (optional)

#### **What to do:**

1. Discuss with the class that activities in the sea can cause conflict between different users and have impacts on the marine environment.
2. Ask pupils to imagine they are a government official who has to look after a part of the sea and coastal area (this could be an imaginary area or somewhere close to school). Ask them to research a range of activities that may be taking place in that area and draw a plan showing the activities and potential impacts on the marine environment.
3. What evidence would they need to consider if they were in charge of managing the area? They could even contact a local government office and ask how they make decisions that affect the coast and sea.