



Cool Seas Topic 6: Marine Reserves

Contents

- Curriculum Links p1
- Learning Objectives p1
- Background Information p1
- Activities p3

Curriculum Links (Key Stages 1 and 2)

Science

Sc1 Scientific enquiry

KS1 2a

KS2 1a, 2a, 2b

Sc2 Life Processes and living things

KS1 2a, 5c

KS2 5a, 5b

Geography

Knowledge and understanding of environmental change and sustainable development

5a, 5b

Citizenship

Unit 08: How do rules and laws affect me?

Unit 03: Animals and Us

Learning Objectives

- Pupils will be able to describe pressures on the marine environment and the need for protection.
- Pupils will be able to outline what marine reserves are and potential benefits they could have for the environment and people.



Background Information (for teachers)

What are marine reserves?

Also known as **Marine Protected Areas**, **No-Take Zones** or **Marine Conservation Areas**, **Marine Reserves** are defined areas of the sea where natural populations are protected from harmful human activities. Protection can range from the exclusion of just one activity to the complete removal of all exploitative activities.

At present there is only one marine area, in the entire UK, where all extractive activities are restricted - off the Southwest coast of Lundy Island (off North Devon), but this site is tiny, at only 3.3 square kilometres – less than 0.001% of UK seas. Protection on land is much greater.

Benefits of marine reserves:

There is growing evidence, from around the world, about the potential benefits of marine reserves:

- Reserves produce more fish - not only total in terms of numbers of fish but in the range of species.
- Reserves produce bigger fish - reducing or eliminating fishing activities in a certain area allows the fish to grow larger than they were previously able to.
- Reserves benefit waters outside the reserve - the 'spillover effect' where fish move from within the reserve to outside. There is evidence that fishing activities outside of the reserve have shown an increase in catch compared to before the reserve was in place.
- The Government is currently working on a new Marine Bill, which could bring in new laws to protect marine habitats and wildlife. Hopefully this will include highly protected marine reserves, but public awareness of the need and benefit of these reserves is needed to ensure that this happens.



Activities

KS1 Activity 1

You will need:

- Paper
- Colouring pens

What to do:

1. Undertake one of the Biodiversity activities (Topic 3) to illustrate the wide range of marine animals in UK waters.
2. Ask pupils to think about the different activities that people do in the sea (think about recreational activities and resources that we get from the sea).
3. Discuss that peoples activities can cause pressure on the marine environment, and that it needs to be protected. Ask pupils to think about how we could protect the marine environment.
4. Discuss that marine reserves are areas of the sea where activities are controlled to protect the environment and outline how they could be of benefit our marine wildlife.
5. Ask pupils to design posters to show others how marine reserves can protect and improve the marine environment.



KS2 Activity 1: Design your own marine reserve

You will need:

- Internet access to view the Marine Reserves Now video (ideally via interactive whiteboard)
- Paper, pens and pencils etc.

What to do:

1. Discuss the different activities that people do in the sea: fishing, industry, recreation etc.
2. Watch the short marine reserves video, at:
www.mcsuk.org/mcsaction/marinereserves/marine+reserves+now
3. Outline what marine reserves are. Ask the pupils to think about what the advantages and disadvantages could be (think about marine animals, the environment in general, people who work in jobs associated with the sea). Give the class an idea of the potential benefits of marine reserves.
4. Reserves may have different zones within them, where a range of man's activities are allowed, controlled or banned altogether. For example:
 - Zone A: recreational activities (e.g. diving and boating), plus angling and static fishing gear (i.e. crab and lobster pots) allowed here, but no commercial fishing with nets.
 - Zone B: recreational activities allowed here, but no fishing whatsoever.
 - Conservation zone: no fishing or recreational activities here.
 - Scientific zone: protects areas of scientific value – you would need a permit to study here.
5. Ask pupils to design their own marine reserve (it can be an imaginary area or somewhere close to school). Ask them to discuss what criteria they believe an area should have to make it suitable for a reserve (e.g. they could think in terms of animals or activities that are happening there).
6. To start, pupils should mark out an area on paper that will represent their reserve. Ask them to draw a map of their marine reserve showing some of the animals that live there, where the different zones are and what activities are allowed or not allowed in the zones.
7. Discuss how they would make sure the zones were enforced (e.g. patrols, education etc).



KS2 Activity 2: Marine reserves in the news

You will need:

- Pen and Paper
- Internet research (this can be done by pupils themselves or printed beforehand)
- Examples of a range of newspaper articles highlighting environmental issues

What to do:

1. Ask the pupils to write an article about marine reserves. They could focus on raising awareness of the potential benefits and think about questions other people may have that they could answer in the article.
2. Pupils could also highlight the lack of marine reserves in the UK and the need for greater protection of the marine environment.

KS2 Activity 3: Making a difference

1. Discuss with the class that marine reserves require regulations to ensure that they are of most benefit.
2. Discuss that laws and regulations are decided by governments, but people have the power to influence them and have their voices heard.
3. Get pupils to write a letter to their local MP, telling him/her what they have learnt about marine reserves, and why they are important.