Clyde Marine Region Topic Sheet Series

Clean and Safe

Clyde Marine Planning Partnership

Water Framework Directive – transitional and coastal waters and eutrophication

CONCERNS
FEW OR NONE

TREND
IMPROVING

Hazardous substances including biological effects

Clyde estuary, Inner Firth, Holy Loch, Garroch Head

CONCERNS
MANY

TREND
STATIC

Other lochs and outer Firth

CONCERNS
SOME/LOCAL

TREND
IMPROVING

Microbiological contamination

Shellfish water protected areas

CONCERNS
SOME/LOCAL

TREND
STATIC

Bathing waters

CONCERNS
SOME/LOCAL

TREND
IMPROVING

Dissolved oxygen

Inner Clyde Estuary

CONCERNS
SOME/LOCAL

TREND
IMPROVING

Rest of CMR

CONCERNS
FEW OR NONE

TREND
STATIC

Background

The Clyde Marine Planning Partnership (CMPP) has developed this set of Topic Sheets to help communicate the findings of the Clyde Marine Region Assessment which is available on our website www.clydemarineplan.scot. The Assessment is used to inform and prioritise the development of policies for the Clyde Marine Plan. If you would like to be kept up-to-date about the development of the marine plan please visit the website and sign up to receive our e-newsletter.

Why is a clean and safe environment important?

Waters and sediments which are free from harmful amounts of bacteria and excess nutrients (eutrophication) or pollutants, such as heavy metals and chemicals, help to protect marine life and people. It also provides peace of mind that we can safely consume seafood and use the sea for recreation.

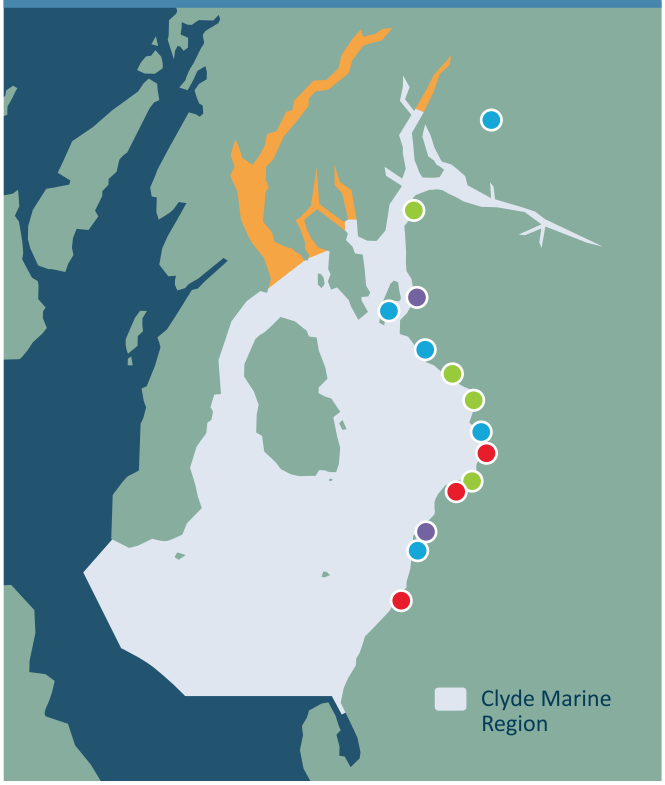
Healthy waters also mean that natural waste processing and water purification services work well, helping to improve the overall health and functioning of the ecosystem.

Pollutants get into the sea in a number of ways, for example through historic industrial inputs, run off from agricultural land or from sewage overflows. However, legislation and long term efforts to change practices have seen the state of the Clyde Marine Region (CMR) waters and seabed sediments improve in recent years.

What is being measured and what is protected?

The Scottish Environment Protection Agency (SEPA) is responsible for environmental regulation, protection and improvement of Scotland's waters. In order to do this they monitor and assess water bodies over time, identify issues and propose and implement solutions.

Designated bathing waters and shellfish waters in the Clyde Marine Region



Bathing waters classification 2014

- Excellent
- Good
- Sufficient
- Poor

Shellfish Waters Protected Areas

OYSTER FARMING © JOHN CHARITY/SNH

Bathing waters and waters where shellfish are grown and harvested have additional protection to make sure they are safe. There are 14 designated bathing waters in the CMR. These are tested regularly for certain bacteria and results are published to alert people as to whether they are safe to use or not. Protected areas, known as *Shellfish Waters Protected Areas*, have been designated and where necessary, their condition improved through specific measures implemented by SEPA. In addition, Food Standards Scotland tests shellfish from Classified Shellfish Harvesting Areas to make sure a safe product reaches the consumer market.

Hazardous substances and the legacy of industrial growth

The area around the CMR is home to a large portion of Scotland's population and has historically supported large manufacturing industries, such as shipbuilding, chemical and textile works. These industries historically discharged their effluent, which included things like heavy metals, petrochemicals and other pollutants, into the Clyde. The type of fine mud found in much of the CMR and the lower water flow, compared to the open coast, contributes to contaminants accumulating more readily here.

The most heavily contaminated areas in the CMR are all located in the inner firth and include: Garroch Head, a former sewage sludge dump site; Cloch point, a dredge spoil dump site; and Holy Loch at the site of the former US naval base. Levels of certain types of pollutants are significantly higher in the Clyde than in other Scottish marine regions. Unfortunately many of the contaminants cannot be physically removed, they can only degrade or be dispersed over time.

What's being done to fix the problem?

The impact of SEPA's work, and other legislation controlling what we put into the sea, has led to improvements since around the 1980's. Under the European Water Framework Directive, water bodies are classified from 'Bad' to 'High'; the CMR has gone from 15 'Moderate' water bodies in 2008 to 3 in 2015 with no 'Bad' designations. This has been done through a combination of improved land-use practices which reduces agricultural run-off and further regulation of activities, such as treatment of industrial waste and aquaculture.

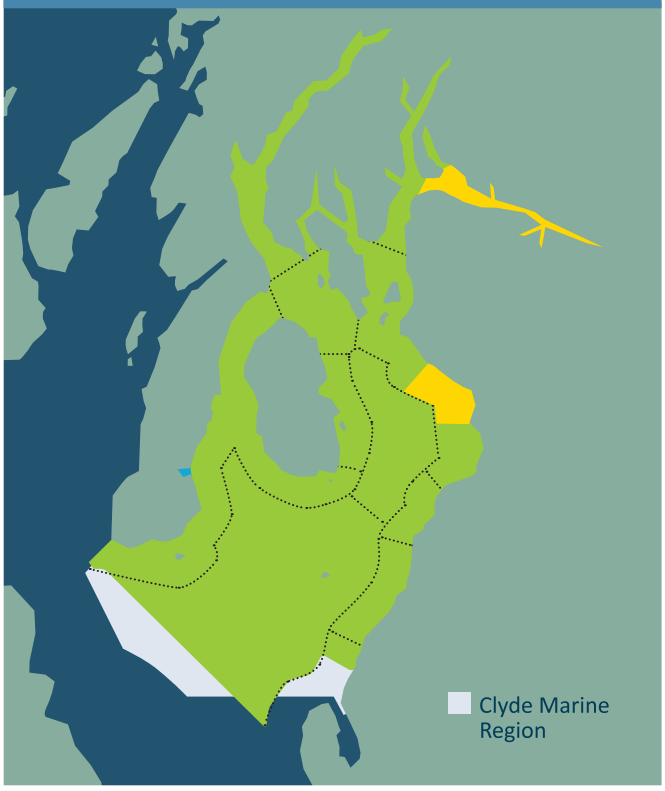
A reduction in excess nutrients in the system has had a positive impact on bathing water results and the *Classified Shellfish Harvesting Areas*. Regular monitoring by Marine Scotland Science is generally showing a reduction of hazardous substances in sediments and fish/shellfish, although a legacy of hazardous substances in some areas is taking longer to improve.

Monitoring of the Clyde estuary in the 1970s showed that the inner estuary was completely devoid of oxygen and no migratory fish, such as salmon and sea trout, were using the estuary. Steady improvements in water quality and treatment of waste resulted in oxygen levels increasing and migratory fish returning to the River Clyde in the 1980s.

Where can I find out more?

If you would like to know more on this topic, visit SEPA's data tool Water Environment Hub www.sepa.org.uk/data-visualisation/water-environment-hub
In addition Scotland Environment Web www.environment.scotland.gov.uk has information on all aspects discussed in this topic sheet. The National Marine Plan interactive marinescotland.atkinsgeospatial.com/nmpi displays data on hazardous substances. The chapters relating to this topic sheet can be found in the Clyde Marine Region Assessment www.clydemarineplan.scot

Classification of water bodies in the Clyde Marine Region, based on 2015 results



WFD classification 2015

- High
- Good
- Moderate