

SOLWAY SHORE ACTION



Beach Survey Report

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2025



INTRODUCTION

In the previous Beach Survey Report (More Positive Action for a Cleaner Solway, 2024) five locations were selected for assessment. The case studies were identified with assistance of volunteers from beach clean groups and included beaches rated as requiring High priority action by the SCRAPbook Project or those targeted for frequent cleans. This report revisits each beach to assess changes over the last year.

South-west Scotland has an attractive coast with a particularly wild and rugged shoreline in the west of the region. During 2018, the SCRAPbook Project mapped and monitored litter on Scotland's coast using light aircraft to take aerial photographs. These images allowed us to find concentrations of large items of litter on our rugged coasts and produced a 'snapshot' of macro litter distribution. It also highlighted the problem of historic litter sinks consisting of dense accumulations of debris collecting in remote locations. These litter sinks are the buildup of buoyant marine plastics driven by winds, tides and currents into south-west facing gullies, bays and beaches.

Groups of beach clean volunteers, with support from Solway Firth Partnership, have targeted many of the beaches where marine litter accumulates. Debris removed by volunteers is usually taken by the Local Authority, Dumfries and Galloway Council; large items are separated for recycling and the rest of the debris is repurposed at the Ecodeco facility as fuel used in specialist energy-from-waste power stations.

Each beach is assessed to:

- compare the quantity and type of debris with the 2024 survey result,
- record volunteer effort to clean the beach,
- consider the problems encountered in the quest to remove plastic, and
- propose future action.

The case study beaches were divided into 3 types:

Historic accumulations of debris not removed by volunteers

Case Study 1 - Slouchnamorroch Bay south of Port Logan

Historic accumulations of debris removed by volunteers

Case Study 2 - Clanghie Bay north of Port Logan

Case Study 3 - Cairndoon to Claymodie south of Monreith

Case Study 4 - Barlocco Bay near Auchencairn

Low density debris regularly removed by volunteers

Case Study 5 - Rascarrel Bay near Auchencairn

Case Study 1 - Slouchnamorroch Bay south of Port Logan

A broad south-west facing bay backed by vertical cliffs and scree contained a large quantity of marine debris and was identified as High Priority by SCRAPbook in 2018.

Comparison

The SCRAPbook survey showed large items such as fish boxes had gathered over many years. The quantity of debris is similar to last year and a visit to the beach showed that smaller items such as drinks bottles were also washed up in the bay.



Slouchnamorroch Bay, 2024

Effort

Volunteers from beach clean groups have been unable to reach this bay from the land, due to cliffs which offer challenging access. A visit with Scottish Coastal Clean Up concluded that removal of debris by boat was feasible but the planned clean was cancelled due to poor weather conditions.

Problems encountered

This site is too difficult to access from the land and the plans to remove marine litter by boat have been hampered by weather and restricted by the availability of local vessels offered by beach clean volunteers and Dumfries and Galloway Council.

Future action

- Attempt to access bay from the water to remove debris in 2025/6.

Case Study 2 - Clanghie Bay north of Port Logan

A narrow south-west facing gully within Clanghie Bay is accessible by foot and identified as High Priority in the SCRAPbook assessment.

Comparison

The gully contained a large amount of large and small marine debris in 2018 that has been removed by repeated beach cleans. Marine litter continues to wash into the bay but with continued cleans it has not accumulated to the level recorded in the initial survey.

Effort

The gully and adjacent bays were visited by beach clean volunteers as part of the Port Logan World Oceans Day event in June 2024.



Clanghie Bay, 2024

Problems encountered

Although it was arduous to drag debris to the collection point a local farmer assisted with cleans by providing a trailer in the field above the gully to help transport collected material to the skip.

Future action

- With cooperation of the local farmer a further clean is planned for 2025/6.

Case Study 3 - Cairndoon to Claymodie south of Monreith

A 5km long south-west facing shingle shoreline between Cairndoon and Claymodie where many sections were identified as High Priority in the SCRAPbook assessment.

Comparison

Beach cleans have led to a noticeable reduction of both large and small marine litter in the northern and southern sections over the last year, however a significant quantity of debris remains on parts of Carleton and Glasserton shore.

Effort

Farmers at Cairndoon and Carleton have assisted the volunteers by providing tractors and trailers to remove debris. Volunteers have begun to gather piles of debris on the south Carleton shore. Debris previously gathered at Glasserton has been removed by a visiting beach clean group, People Against Plastic Pollution, assisted by Dumfries & Galloway Council's Streetwise Services.

Problems encountered

With no access to the shore, it is rarely visited by the public. However, with the collaboration between beach clean volunteers and landowners / farmers this long beach is slowly being cleared of debris.



Glasserton north shore, 2024



Glasserton south shore, 2022 above 2024 below



Future action

- Continue annual cleans in 2025/6.

Case Study 4 - Barlocco Bay near Auchencairn

A broad south-west facing bay, known locally as “Plastic Bay” had a large quantity of marine debris and was identified as High Priority in the SCRAPbook assessment.

Comparison

Past volunteer beach cleans removed a significant volume of debris, but the bay continues to gather buoyant plastics both large and small. The eastern end of the bay collects vast quantities of micro plastics.

Effort

No volunteer beach cleans have taken place in the last year.

Problems encountered

Reluctance by local farmers to allow vehicular access continues to make this bay difficult to tackle by volunteer groups.



Barlocco Bay, 2023

Future action

Discussions are underway by local volunteers with the farmer to

- organise another beach clean and
- establish a way to transport the debris across fields to skips in 2025/6.

Case Study 5 - Rascarrel Bay near Auchencairn

A broad south-west facing bay where plastics are often washed up is adjacent to a popular coastal path. The SCRAPbook assessment did not identify it as High priority.

Comparison

Visitors to the bay raise concerns about the buildup of plastic debris. The bay continues to gather buoyant plastics both large and small much of which has been removed over the last year.

Effort

Vehicular access is controlled by the local farmer who has allowed volunteers to access the shore. Two beach cleans within the last year have helped reduce the quantity of marine litter in the bay.



Rascarrel Bay beach clean, 2025

Problems encountered

The local farmer has allowed vehicular access to make this bay easier to tackle by volunteer beach cleaners.

Future action

- With consent from the local farmer for access volunteer beach cleans will continue.

SUMMARY

The 2018 SCRAPbook Project confirmed that southwest facing bays are most susceptible to buoyant marine litter gathered by the Irish Sea and blown onto the Dumfries and Galloway coast. The data provides a useful baseline to monitor change over the last six years.

Many of the historic litter sinks have now been successfully tackled by volunteer beach clean groups. The assessment of beaches shows that litter sinks take many years to build-up and regular beach cleans help keep the shore litter free by removing items faster than they arrive.

Some historic litter sinks remain too difficult to access from the land due to both logistical and physical obstructions, usually small bays surrounded by high cliffs. These beaches may be accessible from the sea, but the combination of weather, tides and volunteer resources make many beaches difficult to reach. Access to other locations is limited because of the difficulty of crossing farmland and requires the cooperation of land managers.

The SCRAPbook Project aerial photographs enabled large, often brightly coloured commercial fishing debris to be identified but often overlooked smaller items, usually from other sources. More detailed surveys of marine litter will help establish the source and age of buoyant plastics that arrives on the Scottish coastline.

RECOMMENDATIONS

- Continue to assist beach clean groups by providing advice, resources and training.
- Work in partnership with beach clean groups, Local Authority and land managers to look for solutions to access difficult to reach beaches.
- Encourage beach clean volunteers to regularly visit beaches that gather buoyant debris.
- Continue to work with the Local Authority to divert debris for reuse and recycling as an alternative to the current repurposing to fuel used in specialist energy-from-waste power stations.
- Set up detailed beach litter 'deep dive' surveys to improve understanding of sources and human behaviour that result in marine litter on the Dumfries and Galloway shoreline.
- Develop a protocol for monitoring hotspots using drones.