How deregulation in the 1980s under the Thatcher Government had catastrophic consequences for the marine environment, for fisheries and for the coastal economy.

Awareness of the environment has come a long way since the 1980s. But the damage done to the seas during this era of rapid change, especially to our inshore waters, is still not widely recognised by society.

All of us are affected by this issue. As the marine biologist Sylvia Earle put it, 'With every drop of water you drink, every breath you take, you're connected to the sea. No matter where on Earth you live. Most of the oxygen in the atmosphere is generated by the sea.'

As a diver, I have had a close-up view of changes to our marine environment which have remained largely invisible to the general public. Recent alarm about the problem of plastic and biodiversity loss has brought the health of our seas to the forefront of environmental discussion, but we must look beneath the waves to see what's really been going on.

Marine life in the Clyde

My first job at the age of 15 in 1969 was hiring out rowing boats to anglers and tourists in Whiting Bay on Arran, where I live to this day. I was working for just one of hundreds of such businesses around the Firth of Clyde, the UK's largest inland sea. Even then the novice angler would return after an hour or so with plenty of fish for dinner. A few years later I learnt to dive in those same waters seeing dozens of plaice, flounders, rays, angler fish and shoals of pollock and saithe. In my twenties I spent a couple of years as a commercial scallop diver, spending hundreds of hours gathering scallops, but also seeing and learning about the many sessile seabed species still present in the Clyde in the 1970s. I often imagine what diving around Scotland would have been like 100 years before I started diving. There must have been a huge variety of marine species present, and of sizes that would amaze us nowadays. So what would our seas have looked like in the 1870s ?

Change over the centuries

Well, we have a rough idea, built from fishing records and anecdotal evidence. Ruth Thurston's excellent research on historical fisheries of the Clyde turned up fascinating eyewitness accounts, including this one from an Ayrshire minister P Wilson in the 1870's describing the Ballantrae banks.

'Fishers were not the only ones to take advantage of the multitudes of herring. The banks are at times the scene of lively interest when visited by a shoal of whales. On a recent occasion, as the sun was setting, a shoal of at least forty whales in pairs and a number of porpoises began to play, and went circling round the margin of the bank displaying their huge fins and arched backs, gracefully plunging and again reappearing a short distance off. The porpoises, in wild leaps went several feet sheer out of the water, and then dived apparently in search of their prey. In this manner the flock of whales and porpoises went circling round for at least a distance of ten miles.'

"It is hard to understand how much we have lost, and perhaps how low our expectations of sea life around our coasts have become",

Some records show that, for the same amount of effort, fish landings were 17 times higher in 1889

than they are today. It is hard to understand how much we have lost, and perhaps how low our expectations of sea life around our coasts have become, a phenomenon known as shifting baselines. But we also know that concern about marine health in the face of technological advances in fishing gear is nothing new. As far back as 1837 the fisherman of Youghal, Ireland spoke of the 'havoc and mischief occasioned by trawling'.

The 1980s brought about an even more rapid, decline compared to the 1970s, in the health and commercial productivity of the Clyde. The government encouraged the fishing industry with cheap loans and grants to build more and more effective fishing boats rather than on research involving fishermen and scientists to ascertain what could be sustainably caught. The introduction of the Newhaven spring-tined scallop dredge (invented in the 1970s) was now able to dredge much larger areas of rougher ground in what had been pristine sea beds.

When one fish stock collapsed they just moved onto the next lucrative species.

It was out of sight and out of mind for most people, but it destroyed important habitat for many commercial juvenile fish at a time when stocks were already overfished. When one fish stock collapsed they just moved onto the next lucrative species. With over-capacity and commercial catches dropping, pressure was put on the government to repeal the three-mile exclusion limit on bottom trawlers, which had been in place since 1962. However for the century before there had been a complete ban on bottom towed trawls throughout the whole Clyde. So in 1984 the last major spatial protection of our seas was lost; protection that more enlightened fishermen had demanded a century before.

Argyll and Arran press cuttings from 1984-5

The Argyllshire Advertiser
Friday 1 June, 1984

Upset over new fishery bill

The Government were accused this week of kicking their heels over the planned abolition of the three mile fishing limit, with local fishermen claiming that abolition is essential to safeguard the future of the highly important prawn fishing.

At present the use of otterboard trawling within three miles of the shore is banned – preventing prawn fishermen from reaping a potentially fruitful harvest – but the Inshore Fishing Bill, currently going through parliament, allows for abolition of this limit.

However, the government have stated that they will not approve the final decision until all arrangements have been made, and that prompted an angry reaction from local fishermen.

Mr Patrick Stewart, a Campbeltown solicitor and secretary of the Clyde Fishermen's Association, this week condemned any delays, describing the existence of the three mile limit as an 'anachronism.'

The Bill, which is well on the way to Parliamentary approval includes provision for abolition of the limit.

Saturday 12 October 1985

Trawlers in Lamlash Bay

Campbeltown trawlers have been working in Lamlash Bay for some days. Local fisherman Joe Larter told The Banner that this was not illegal since the abolition of the three-mile limit earlier this year. 'Now they can trawl on the beaches if they want to,' he said.

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So how did we end up there?

As Professor Callum Roberts put it, ‘nobody willed it this way’. Understanding history, however, is the only way we can hope to avoid making the same mistakes. Renowned Victorian biologist Thomas Huxley, friend and supporter of Charles Darwin famously told the International Fisheries Exhibition in 1883 that, ‘Any tendency to over-fishing will meet with its natural check in the diminution of the supply ... this check will always come into operation long before anything like permanent exhaustion has occurred." This may have been true in the 1880s but advances in fishing technology meant it was evidently untrue a century later, and most likely well before that. Huxley visited Lamlash Bay in 1858 when it was renowned for its diversity of seabed species. I wonder what he would have thought of its demise and subsequent recovery since 2008 when the No Take Zone was put in place.

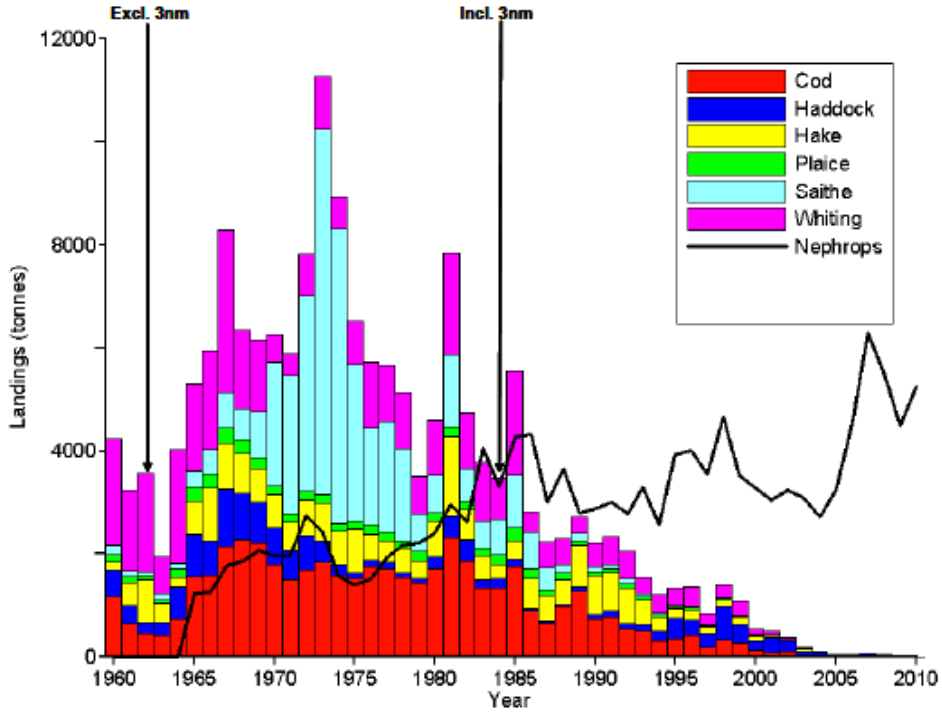
"Protecting one species without regard to the ecosystem as a whole can lead to the illusion of sustainability"

Remote as these remarks may seem to us now, the attitudes of those in power in the 1980s had hardly shifted. Lord Cameron’s report on The Regulation of Scottish Inshore Fisheries, published in 1970, eight years after the waters outwith 3 miles were opened to bottom trawlers, recommended that the same action should be taken for our inshore waters. The report's sanguine tone echoed Huxley's remarks, as if nothing had changed in the state of the seas, or fishing technology, since. He stated that: 'The only fish which currently requires protection…and which is practicable to protect, is the immature plaice.’ The understatement would be comical were its consequences less severe. Indeed, species-specific conservation efforts, though well intentioned, are often part of the problem. Protecting one species without regard to the ecosystem as a whole can lead to the illusion of sustainability.

Declining fish stock

Even at the time, we could not have pleaded ignorance about the consequences for inshore waters. Two years before the three-mile limit was rescinded a study by independent economic consultants PEIDA recognised the need for ‘a sensible long-term strategy to replenish overfished stocks and reduce the number of vessels and fisherman to viable levels.’

Many thought that removing the 3 mile limit would be a grave mistake and this has since been empirically proven. Research from Ruth Thurston and others, including Scottish Government scientists, has shown that inshore fish catches in the Clyde plummeted in number and diversity of species as a direct consequence of this action. Apart from a spike in landings in 1985/6, landings of white-fish and herring have decreased from a high point in the 70's to almost zero today, while prawns and scallops have become the only viable fisheries.



Trends in the weight and size of fish caught reveal the same stark decline. More than 80% of demersal fin-fish (cod, haddock and whiting) caught in scientific trawls in the Clyde are smaller than minimum landing size.

The Scottish Creel Fisherman's Federation put it simply, 'the ecosystem, the fisheries and employment opportunities in the inshore waters within 3 miles of land have deteriorated considerably since the opening of those waters to trawling'.

First the plaice disappeared, then the rays, and so on until there was virtually nothing left for divers to see but wrasse.

These findings tally with my own experience and those of the divers I knew at the time. Around 1986 we started to notice a rapid decline in biodiversity, though I wouldn't have used this term at the time. There were simply fewer and fewer species of fish alongside more and more barren seabeds. Every summer I would go on diving trips up the West Coast mainland and round the islands of Mull, Coll, Rum and Eigg, where I witnessed similar levels of damage up close, following the pattern in the firth of Clyde. First the plaice disappeared, then the rays, and so on until there was virtually nothing left for divers to see but wrasse.

By then I had married, built my own house and started a Garden Centre business that would eventually employ a dozen people between two sites on Arran. This was partly funded by the same Highlands and Islands Development Board loans and grants that were spawning new fishing boats in the Clyde and west coast, money which should have been more wisely spent on research to determine fish stocks and manage surplus capacity. Diving, however, remained an important part of my life, and as the most experienced diver based on the island I was often called out to help fishing boats whose nets had got tied up in their propellers, sometimes in the middle of the night. Or removing huge boulders out of their gear. On one occasion I even helped a fishing

boat remove an 6 metre practice torpedo from its nets. As you can imagine, these tasks were not without risk. But when you live in small communities, you don't hesitate to help someone in need.

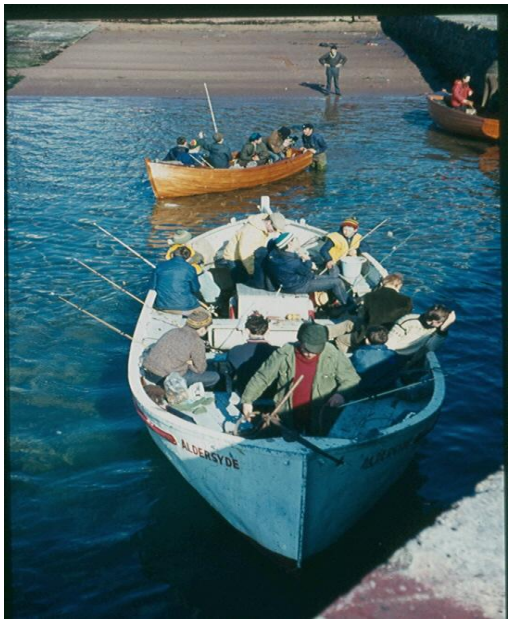
The Community of Arran Seabed Trust

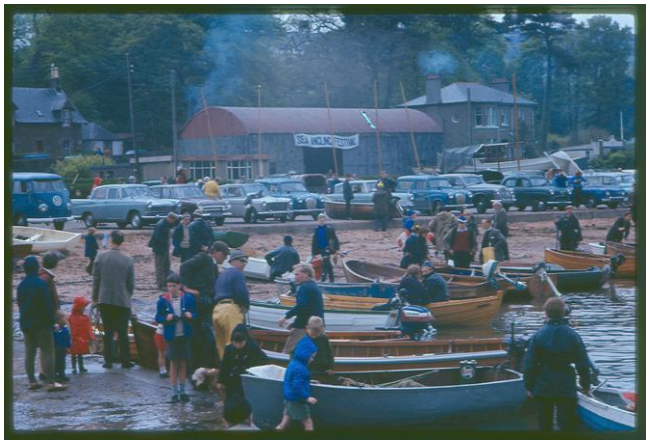
Don MacNeish, one of my diving companions, travelled to New Zealand, and was inspired by the new Marine Reserve set up at Leigh by Auckland University. I remember the morning Don returned to Arran in 1989, walking through the door of the Garden Centre, saying 'Put the kettle on, we need to talk.' In time we would form COAST, the Community of Arran Seabed Trust, which after a 13 year campaign would lead to the establishment of a small No Take Zone in Lamlash Bay on the island's east coast.

We all bear some responsibility for setting a better course, but a close look at the management of our seas over the past 50 years shows an irresponsible attitude to the management of what is, after all, a public asset. Government ministers rubber-stamped any fishing or aquaculture initiative and turned a blind eye to sustainability and pollution issues. If they were told that it would provide a few jobs in the short-term for the ‘hard done by’ West Coast, it received the go-ahead. Short-term economic decisions by a succession of governments have seen what was once a West Coast bursting with amazing marine life, left with only prawns, scallops and salmon farms as the main commercial options.

"Around the Clyde sea anglers recall being ’up to their knees in cod’ one year but catching almost nothing the next."

Beyond the decline of the Clyde's commercial fishery, the wider culture and economy has suffered too. Through the 1970s and 80s the Clyde supported vibrant recreational fishing festivals. These events attracted big sponsors and once played an important part in coastal community, culture and economy. On Arran, Brodick had an annual fishing competition and Lamlash boasted two per year. Indeed, the first recorded fishing festival in Scotland took place on Arran in 1962. The European Boat Cod Festival was held in the Firth of Clyde on three occasions between 1979 and 2000.

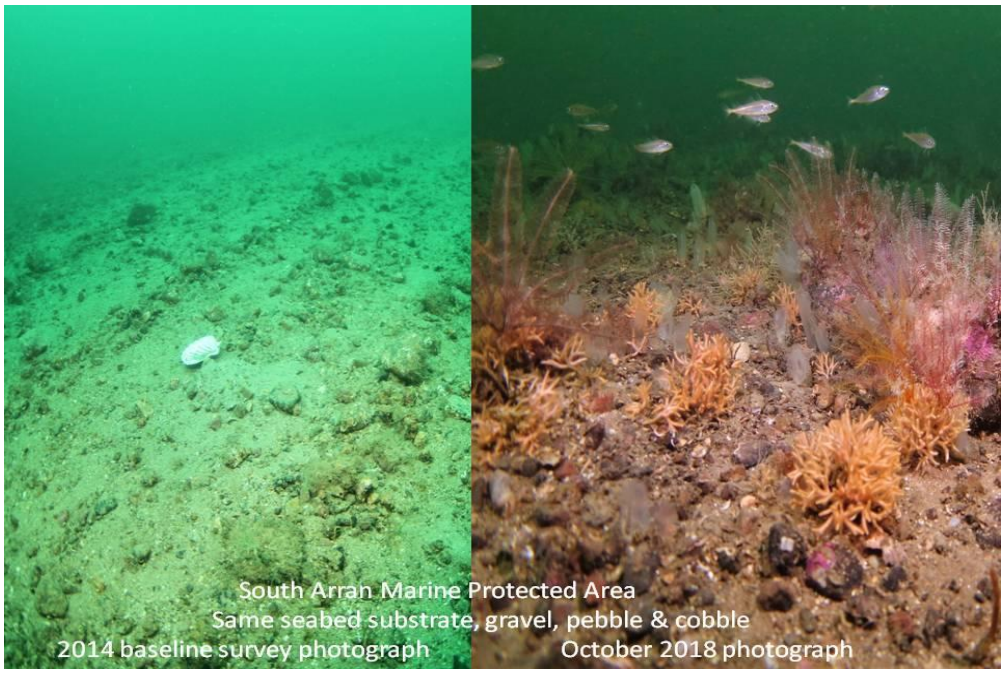




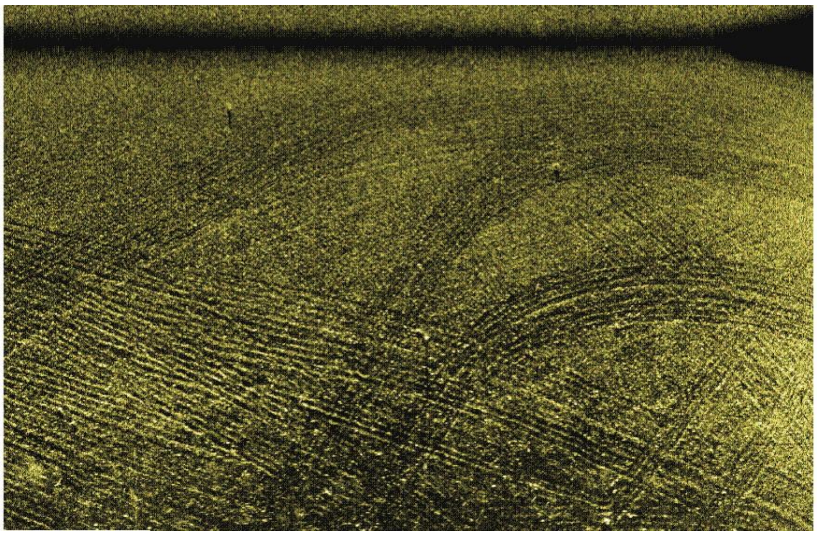
Such events no longer exist on Arran or elsewhere. A 2009 Government report showed that Sea

Angling, returned to 1982 levels, could be worth annually £10 million of tourism revenue to the local Clyde economy and £2 million to Arran alone. Around the Clyde sea anglers recall being 'up to their knees in cod' one year but catching almost nothing the next. This decline was not part of the natural, cyclical fluctuation of stocks, as some would argue, against all of the evidence. It was a direct result of overfishing and poor management. There is no reason why we should passively accept such a dramatic decline in marine abundance.

CONTRASTING PICTURES OF A DREDGED SEABED AND A PROTECTED SEABED



To someone viewing images of the Clyde sea bed for the first time, vast areas look remarkably like ploughed fields. Scallop dredgers are particularly destructive, flattening out areas of slow-growing organisms on the seafloor with 100mm teeth vibrating in a shock, dragging motion through the seabed.



Side scan sonar image of scallop dredge marks taken in 2004 in the area that became the Lamlash No Take Zone

It was becoming clear to me and many other divers and sea anglers that Scotland's seas needed areas left alone to allow natural regeneration. As Dr Bill Ballantine, who was instrumental in establishing the first Marine Reserve in New Zealand said to me in 2006: "find me a peer-reviewed scientific paper that says it's a good idea to fish every inch of our seas. You can't, there aren't any".

Marine protected areas

The recent, belated designation of a network of Marine Protected Areas (MPAs) around Scotland in 2014 is a step in the right direction. MPAs, which allow for certain types of fishing are of mixed usefulness. Those with tight controls and oversight can work, but many are little more than lines on a chart and in danger of being paper parks. MPAs on their own are not enough. Effective wider fisheries management is desperately needed alongside the MPAs, a network of fully protected Marine Reserves (sometimes known as No Take Zones)should be designated. These would become much-needed reference areas, allowing us to properly study ecosystem recovery in un-fished areas. They would become irreplaceable natural banks for marine biodiversity and improve marine resilience in the face of climate change and ocean acidification.

Attempts were made before COAST's Arran community initiative. Coming at the end of the 1980s a government-sponsored Nature Conservancy Council (later, Scottish Natural Heritage) paper proposed the introduction of a Marine Reserve in Loch Sween, Argyll. It was more ambitious in scope and regulatory framework than anything that has been implemented in the decades since. Crucially, however, this top-down initiative lacked grassroots support, allowing some Argyll fisherman and others to mount a successful opposition.

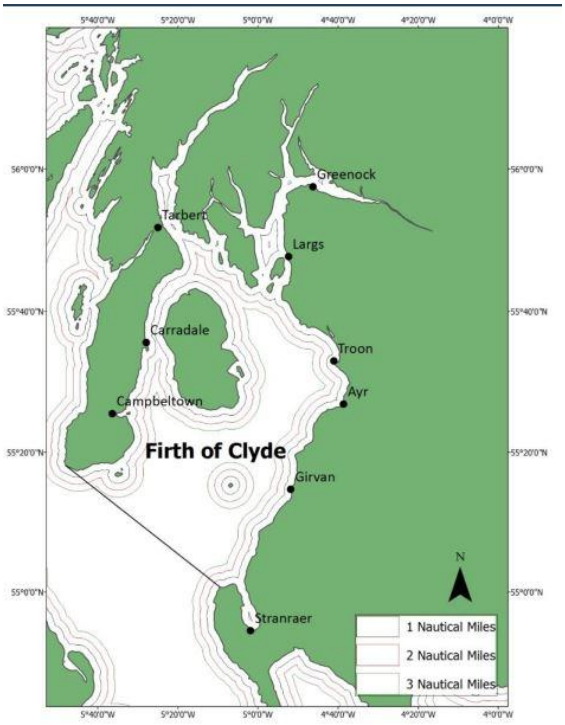
"Young marine campaigners are fighting for healthy vibrant seas as a birthright"

What this shows is that meaningful change requires grass roots community support. Local people, especially the older generation, realise what has been lost within just a few decades and also what could be regained. The young generation in Scotland led by the amazing children of Sunnyside Primary in Glasgow and Ullapool Sea savers are a real breath of fresh air. These young marine campaigners are fighting for healthy vibrant seas as a birthright. We may not be able to return to a truly wild and pristine ecosystem, but there is much we can do to improve the health and productivity of our sea life. We cannot afford to wait passively for policy change. There is hope and a precedent. In Lamlash Bay NTZ digital images, video and sonar have been an invaluable asset in both exposing the scale of the problem of ecosystem degradation, as well as documenting its recovery. More individuals and a greater variety of species have been recorded within the NTZ than outwith it. The first Cuckoo Ray for 30 years was recently spotted by divers in the area. Data collected by research students shows that animals and plants that attach to the seafloor are twice as abundant within the NTZ. Nature has a remarkable ability to bounce back if humans stop impacting on it

Only by local communities organising and demanding a real voice in the management of what is legally a public asset, will we be able to convince our politicians to regulate our marine environment effectively and help it return to a healthier state. That in turn will enable these

communities to be able to use their resources in a sustainable way in the future. Since abolishing the 3 mile inshore limit 35 years ago there has been a 70% reduction in commercial fishing employment on the Clyde and similarly on the west coast and a staggering more than 95% loss of Recreational Sea Angling employment. No fish, no jobs.

The damaging policies of short term economics and a lack of understanding of ecosystems, unfortunately continues. The beautifully coloured and inquisitive wrasse, so beloved of myself and all divers, are now being captured in unprecedented and unregulated numbers merely to become cleaner fish in salmon farms. They are then slaughtered along with the salmon at the end of each production cycle.



"We must learn from our mistakes, take a step back as individuals, communities and governments and start to act responsibly"

We have witnessed what happens with virtually uncontrolled exploitation of our seas. The Clyde is an abject lesson in how not to do it. We must learn from our mistakes, take a step back as individuals, communities and governments and start to act responsibly. The 1980s marked a low point in our relationship with the seas. Society is still paying dearly for the damage done during this period and which is still ongoing. We now have the science and knowledge to know how to manage our seas to allow them to start to recover. However we must legislate to manage our seas in a way that enables a healthy vibrant marine environment. A biodiverse one that is capable of sustainable and varied mixed fisheries with all the ensuing environmental, social and economic benefits that will bring. Now is the time for decisions and action, not another decade of prevarication by Government ministers.

Further Reading and information.

Silvia Earle was the first female chief scientist of the U.S. National Oceanic and Atmospheric Administration,[2] and was named by *Time Magazine* as it's first Hero for the Planet in 1998.

Ruth Thurstan "Changers in the Firth of Clyde marine ecosystem since the 1850s"

Thomas Huxley's visit to Isle of Arran in 1858, "Marine species of Lamlash Bay in the nineteenth century"

Department of Agriculture and Fisheries for Scotland. Conclusions and recommendations of Lord Cameron's report on The Regulation of Scottish Inshore Fisheries.

Professor Callum Roberts. Unnatural History of the Sea

Fish landings 17 times higher in 1889. The effects of 118 years of industrial fishing on UK bottom trawl fisheries

The Scottish Fishing Industry 1982 G A MacKay Peida consultants

Scottish Government Clyde Ecosystem review 2012

Dr Bill Ballantine "the father of marine conservation in New Zealand and possibly worldwide"..

The economic impact of sea angling in Scotland was highlighted in a Government report in 2009.

Side-Scan sonar images of Lamlash seabed after Scallop dredging 2004

There is hope and a precedent. In the Lamlash Bay community marine reserve

Seabed comparisons, dredged V complex and bio-diverse.

Research into the importance of healthy complex seabed's for juvenile fish.

Unregulated Scottish Wrasse fishery

Scottish local communities organising and demanding a real voice in the management of their seas