

Scotland's Marine Protected Area network: Reviewing progress towards achieving commitments for marine conservation



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ABSTRACT

Significant progress has been made towards implementing Marine Protected Area (MPA) networks in UK waters, with Scotland successfully designating 30 new Scottish MPA sites in July 2014. This paper reviews the Scottish MPA process up to the point of implementation, summarising the process that led to the designation of the MPA network. In particular, this paper investigates the extent to which the process i) effectively engaged stakeholders; ii) used ecological guiding principles; and iii) considered climate change. In doing so, this paper highlights several key issues if the Scottish MPA network is to move beyond an administrative exercise and is able to make a meaningful contribution to marine biodiversity protection for Europe: i) fully adopt best practice ecological principles ii) ensure effective protection and iii) explicitly consider climate change in the management, monitoring and future iterations of the network.

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1. Introduction

In response to international commitments and concerns regarding marine biodiversity loss, the designation of Marine Protected Areas (MPAs) within the European Union (EU), has gained impetus and Member States are increasing protection through spatially explicit tools to address conservation goals for the marine environment [47]. European MPA coverage reached 4% in 2012 with an additional 1.9% of nationally designated sites [20]. Whilst there are significant differences in coverage between inshore and offshore waters, and varying levels of protection across the different EU regions [19], this is still significant progress towards increasing marine protection. However, it is still far below the 10% targets set by the Convention on Biological Diversity [12] and the UN Sustainable Development Goals [80], and drastically below the 30% cover required for effective protection [51].

The coordination of such large scale, regional MPA networks is difficult. EU member states are implementing spatial marine protection on different timescales and under complex policy frameworks developed at both a European and national level [30,47]. The UK is developing a network of MPAs as part of EU-wide efforts to increase spatial protection and substantial progress has been made towards a network through the devolved administrations [34]. Although the final shape of the UK-wide network is yet to be determined, the English Marine Conservation Zone (MCZ) Project

resulted in the designation of 27 new MCZ sites in November 2013 and 23 new sites in January 2016. The Scottish MPA Process resulted in the designation of 30 MPAs in July 2014 (Fig. 1). The Scottish MPA process is aiming to deliver the UK vision and Scottish Government's commitment to delivering a 'clean, healthy, safe, productive and biologically diverse marine and coastal environment that meets the long term needs of people and nature' [65].

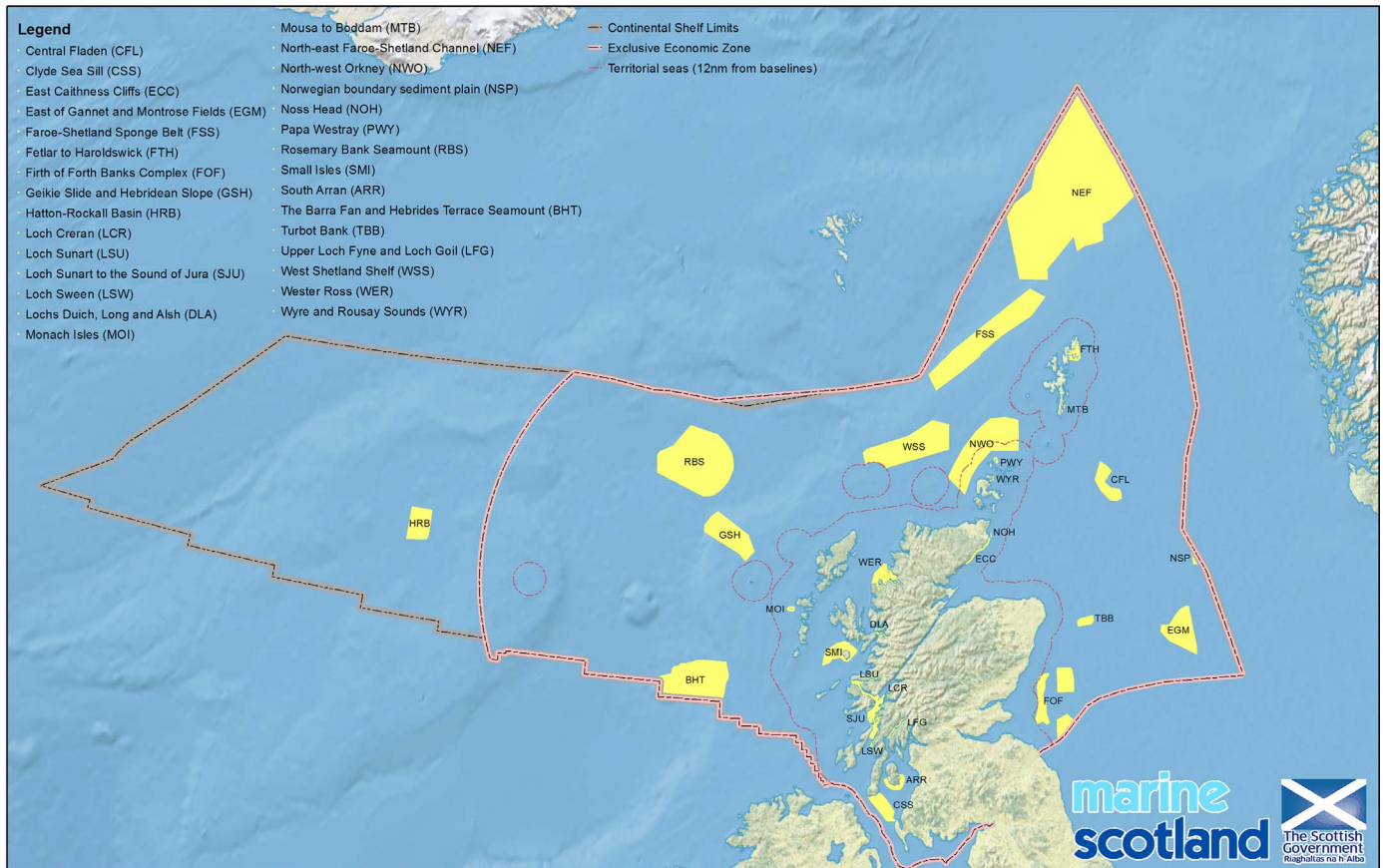
However, despite the increasing implementation of MPAs worldwide, few processes are assessed in terms of the effectiveness of stakeholder engagement (but see [81], whether they are meeting ecological principles for network design and under the increasing threat of climate change, and whether they have been designed for persistence and resilience. Consequently, this paper reviews the Scottish Nature Conservation (NC) MPA (hereafter referred to as MPA) process up to the point of implementation by i) reviewing the policy framework under which the Scottish MPA network was developed; ii) critically examining the approach used for the selection of Scottish MPA sites; iii) highlighting future challenges for the Scottish MPA network and proposals for adapting the existing network to ensure that the network fulfils its objectives as a centrepiece for marine conservation.

2. Policy context

Scotland's MPA network is set against a backdrop of policy obligations and provisions at international, EU and UK levels

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Nature Conservation Marine Protected Areas (MPAs)



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Fig. 1. A map of the 30 new Scottish Nature Conservation MPAs designated July 2014. Reproduced with permission from Marine Scotland. Available at: <http://www.scotland.gov.uk/Topics/marine/marine-environment/mpanetwork/MPAMap>.

(Table 1). The Convention on Biodiversity (CBD), the EU Habitats and Birds Directives and the OSPAR regional seas convention are the three key policy drivers for marine biodiversity conservation in Northern Europe [47]. Additionally, supporting policies at the EU, UK and national level address marine protection in Scotland.

The development of MPAs in Scotland and the UK as a whole is framed by the implementation of the EU Marine Strategy Framework Directive (MSFD) [18], the aim of which is to manage human activities in the EU marine environment and to balance maritime development and resource use with environmental protection. It is a milestone in European marine policy [60] and as evidence towards the EU fulfilling its international obligations for the protection of the marine environment [41]. Whilst the main goal of MSFD is to achieve “Good Environmental Status” (GES) of EU marine waters by 2020 [18], it gives legal force to the creation of networks of MPAs, measures for which should be in place by 2016, under such obligations as OSPAR and CBD [11,55].

Notwithstanding the uncertainty of how and to what extent MPAs will contribute to GES, MPAs are still considered a key mechanism to be used in attempting to achieve GES [21]. The approach Member States take in order to achieve GES should include protected areas under Article 13 (4) of the MSFD [18] contributing to a coherent and representative network of MPAs. Including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), designated under the Habitats Directive and the Birds Directive and jointly referred to as the Natura 2000 sites, Member States have made some progress towards establishing coherent MPA networks which are expected to contribute to the

achievement of GES [18].

Under OSPAR, the primary regional seas agreement for the NE Atlantic, the UK [1] in EU waters. The OSPAR Contracting Parties are responsible for nominating MPAs within their maritime boundaries and for providing progress reports towards designation. At a UK level the policy driver behind MPAs is the UK Marine Policy Statement (MPS) [31], the framework for preparing Marine Plans (National and Regional) and taking decisions affecting the marine environment [31]. Joint adoption of the MPS by the devolved governments (UK Government, Scottish Government, Welsh Government and Northern Ireland Executive) has resulted in a high-level policy context framing the Scottish MPA process. Importantly the MPS represents a collective UK vision for the marine environment and the activities within it. Devolved legislators within the UK (Scotland, Wales, Northern Ireland) have agreed to develop planning and principles in alignment with the MPS.

2.1. Scotland's vision

The Scottish National Marine Plan [74] outlines policies for the sustainable use of marine resources in Scotland, under the guidance of the MPS. It covers both inshore waters (out to 12 nautical miles) and offshore waters (12–200 nautical miles) as one document but under two pieces of legislation; the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act (2009). One of the general objectives of the National Marine Plan is that marine planning should comply with legal requirements for nature

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