

Living with the Seas

Developing an ecosystem approach for marine planning in Scotland

Summary

The underlying foundations of Scotland's National Marine Plan (NMP) and subsequent Regional Marine Plans (RMPs) promote sustainable development principles. An ecosystem approach will help ensure that marine public goods and services are sustainably and equitably benefited from in a way that meets these principles by respecting environmental limits. Sustainable development within Scotland's marine environment can be achieved through effective environmental protection and enhancement underpinning well-located sustainable economic activities, but it requires comprehensive understanding and agreement amongst stakeholders, planning practitioners and relevant groups as to the objectives of the plan.

Within this document we demonstrate how, by adopting an ecosystems approach to marine management, RMPs can work in combination to safeguard Scotland's seas and be a driving force in contributing to the NMP objectives, the Marine (Scotland) Act 2010 and Marine Strategy Framework Directive objectives. Regional marine plans should look to 'lessons learned' documents of those that are currently underway, such as the Shetland Islands Marine Spatial Plan, for examples of an ecosystem approach to marine planning. Marine Planning Partnerships (MPPs) should look to map opportunities for marine ecosystem enhancement to continue advancing on these example. LINK members anticipate that through an ecosystem approach to marine planning, the Scottish RMPs will encourage sea users and developers to view enhancement as an opportunity.

Key Recommendations:

1. Plans must clearly prioritise the natural environment as the basis upon which goods and services rely;
2. Plan policies need to be tailored to suit the needs of the plan area;
3. Management targets for the RMP should aim to fill knowledge gaps;
4. Plans should identify opportunities (both spatial and temporal) for marine ecosystem enhancement as well as development constraints;
5. Plans should be developed in a transparent manner with regular stakeholder engagement;
6. Plans should integrate local knowledge and expertise;
7. Plans should be informed by evidence-based environmental baselines and decisions must use the precautionary approach where confidence is low and/or risk is high.

Members of the LINK Marine Taskforce look forward to discussing the views, guidance and recommendations within this paper with all interested parties.

1. Introduction

Scotland is at a crucial stage in the development of a strategic, progressive marine planning system for its seas and it is essential that management approaches and priorities are clearly defined and the required resources for achieving them are in place. Under the adoption of the EU Marine Strategy Framework Directive (MSFD) in 2008, Scotland is committed to meeting its obligations of

contributing to Good Environmental Status (GES), which is reinforced by the provision of the Marine (Scotland) Act 2010, in part through the development of ecosystem-based marine plans.

This paper has been compiled by the member bodies of Scottish Environment LINK's Marine¹ and Planning² Taskforces (hereafter 'LINK'), who support the Scottish Government's vision of "Clean, healthy, safe, productive and diverse seas; managed to meet the long-term needs of nature and people".³ The purpose of this report is to set out those principles that are, in LINK's view, fundamental to achieving this vision and delivering a functioning and successful marine planning system in Scotland. Our objectives for this paper include:

1. To summarise LINK's expectations for Regional Marine Plans in delivering the objectives of the National Marine Plan⁴, the Scottish biodiversity strategy⁵, the Scottish Government's Strategy for Marine Nature Conservation⁶, and their contribution to achieving GES for the UK;
2. To highlight the role of LINK throughout the plan development process;
3. To offer support to marine planning practitioners, including reference to case studies; and
4. To promote key principles that LINK considers fundamental to achieving our obligation to the MSFD (including specifically the ecosystem approach).

2. Background

Marine spatial planning is a vital tool required for achieving sustainable management of Scotland's seas. In 2011, Scotland's Marine Atlas⁷ portrayed various declines in marine biodiversity and environmental condition as a clear result of anthropogenic activities, and highlighted the urgent need to embed environmental protection and enhancement as part of a robust system of statutory planning to address these declines.

The challenge for marine planners is delivering a comprehensive planning framework that fulfils obligations to conserve and enhance the health, diversity, and functioning of marine ecosystems whilst also enabling and facilitating social and economic activity. Historically, safeguarding human socio-economic interests has taken precedence when it comes to management priorities, which has proven to be unsustainable in the long-term. Failing to acknowledge the natural systems that form the basis of a healthy marine environment also ignores the many benefits that it provides, which are essential for the long-term well-being of society⁸ and the economy.

In Scotland the recently published National Marine Plan (NMP) and the forthcoming Regional Marine Plans (RMPs) aim to provide this much needed planning framework by setting the foundations for coordinating all marine sectors and activities (including non-licensable activities) with an overarching duty to deliver sustainable development. The National Marine Plan places the marine environment at the 'heart of the planning process to promote ecosystem health, resilience to human enforced change and the ability to support sustainable development and use'. If implemented correctly the NMP and RMPs could contribute greatly to meeting Scotland's biodiversity and sustainable development commitments, as well as act as a tool to inform licensing decisions. The additional development of an 'Action Programme' for each region (see Figure 5) will assist with the management of non-licensable activities.

¹ <http://www.scotlink.org/workareas/marine/>

² <http://www.scotlink.org/workareas/planning/>

³ <http://www.gov.scot/Resource/0046/00465865.pdf>

⁴ <http://www.gov.scot/Publications/2015/03/6517>

⁵ <http://www.gov.scot/Publications/2004/05/19366/37239>

⁶ <http://www.gov.scot/Topics/marine/marine-environment/Conservationstrategy/marineconstrategy>

⁷ <http://77.68.107.10/MarineAtlas-Complete.pdf>

⁸ Papathanasopoulou, E., White, M. P., Hattam, C., Lannin, A., Harvey, A., & Spencer, A. (2016). Valuing the health benefits of physical activities in the marine environment and their importance for marine spatial planning. *Marine Policy*, 63, 144-152.

Marine planning partnerships (MPPs) will be responsible for developing RMPs which need to follow the National Marine Objectives as set out in the NMP, based on the five guiding principles of sustainable development (see Figure 1). For policy to be sustainable, it must respect all five principles according to the hierarchy in Figure 1, whereby a sustainable economy, good governance and sound science are the means to achieving our goals of living within environmental limits and a just society.⁹ Sustainable development aims to ensure current ‘development meets the needs of the present without compromising the ability of future generations to meet their own needs’.¹⁰ The principles of Sustainable Development should be clearly evident in the process of developing RMPs.

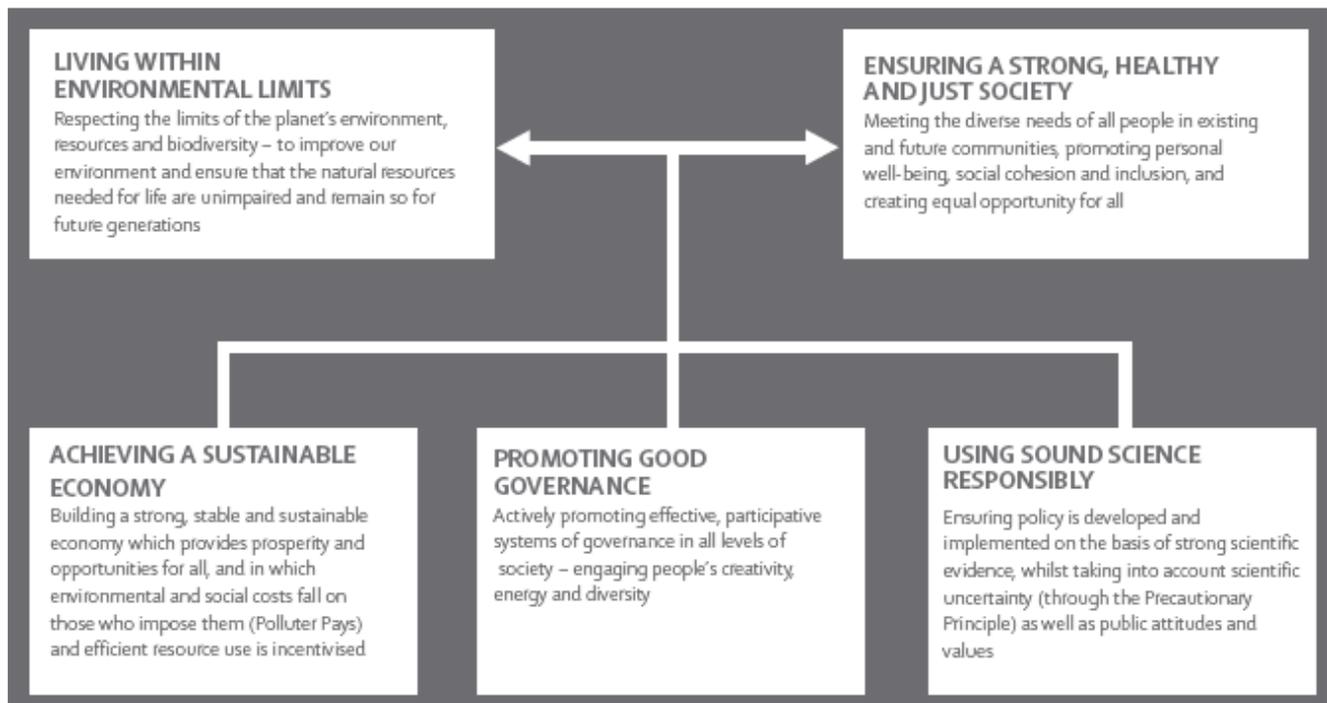


Figure 1: Five principles of the UK shared framework for sustainable development.¹¹

3. Management approach

Until now, a sectoral approach has formed the basis of managing marine developments in Scotland, which has likely been a contributory factor in the degradation of its natural environment. However, LINK members agree that the ecosystem approach should supersede sectoral approaches, and should be implemented as robustly as possible through development decisions, particularly where ecosystem service approaches can be incorporated. Sectoral approaches are generally driven by development and focus on assessing and mitigating impacts on the marine environment and other marine users – *environmental management from a sectoral perspective*. Although this approach can be valuable for identifying direct impacts and potential conflicts of sector-specific practices, it also risks neglecting the cumulative and in-combination impacts of all maritime activities on ecosystem health. By focusing on specific sectors/projects and performing environmental assessments in isolation, management quickly becomes fragmented and overly cumbersome, often with conflicting management approaches and marine uses.

⁹ Defra. 2005. One future – different paths. The UK's shared framework for sustainable development.

¹⁰ 'Our Common Future (The Brundtland Report)' – Report of the 1987 World Commission on Environment and Development.

¹¹ <http://www.gov.scot/Resource/Doc/47121/0020703.pdf>

3.1 The Ecosystem Approach

In contrast to the sectoral approach, the ecosystem approach (EA) focuses primarily on the requirements of the natural environment by conserving and enhancing its condition and the services it provides. The EA adopts a more holistic approach to management by considering all human activities in combination, rather than individual uses, as a component of a larger system that includes marine ecosystems – *sectoral management from an environmental perspective*. This broader approach to management can incorporate varying spatial and temporal scales (by managing a place or region rather than a specific activity), provide options for adaptive management strategies, and create a platform for stakeholder engagement from multiple sectors (Table 1). The value of the EA is that, when implemented strongly, it provides a transparent and flexible process that is continuously reassessed and the priorities re-appraised with input from multiple stakeholders. This process of re-evaluation allows management plans to evolve as the status and demands of the marine environment change with time. It is important that as part of this process measurable targets are well-defined and relate directly to Scotland’s legislative commitments.

Table 1: Key characteristics of an ecosystem approach and a sectoral approach to marine environmental management

Ecosystem Approach	Sectoral Approach
Place orientated (multiple scales)	Activity orientated (scale limited to activity)
Incorporates multiple sectors/activities	Focuses on a single sector/activity
Considers direct impacts and impacts on the wider ecosystem functioning	Focuses on direct impact of development/activity on environment
Considers value of all ecosystem services	Considers specific resource of interest
Driven by environmental protection	Driven by development
Adaptable	Fixed
Long term focus	Short term focus

For the purpose of this report, LINK defines the Ecosystem Approach to marine planning as:

A holistic and adaptive management approach for conserving and enhancing the integrity and diversity of marine ecosystems, and their services, by integrating multiple marine uses into a coherent and inclusive plan.

With the five core elements* of the approach being:

- recognizing connections between ecosystems and human societies;
- valuing ecosystems for the basic goods they generate as well as for the important services they provide and their intrinsic importance;
- addressing the cumulative impacts of various activities affecting an ecosystem;
- managing and balancing multiple and sometimes conflicting objectives;
- embracing change, learning from experience, and adapting policies throughout the management process.

*adapted here from Cormier et al. 2013¹²

¹² Cormier, R., et al.2013. Marine and coastal ecosystem-based risk management handbook. ICES Cooperative Research Report No. 317. 60pp.

3.2 Implementing the ecosystem approach

The National Marine Plan promotes the EA, but the challenge comes in implementing it effectively within the RMPs. To adopt the ecosystem approach RMPs must employ a strategy that prioritises the overall environmental objectives of the MSFD (i.e. GES) and adheres to Marine Scotland's 'clean, healthy, safe, productive, and diverse' vision for the marine environment. In Scotland's Marine Atlas, the environmental assessment has been divided into three distinct categories of evaluation: 'Clean and Safe' (controlling and monitoring the input of natural and man-made contaminants), 'Healthy and Biologically Diverse' (habitat and species monitoring and protection) and 'Productive' (human economic activity). The broad scope of these three categories incorporates multiple marine uses, avoids a sector-specific focus, and recognises the connectivity between human activity, marine ecosystems and environmental health. This is what LINK understands to be the original purpose of Marine Ecosystem Objectives, espoused by SNH¹³, which are subsequently complemented by the Marine Scotland commissioned Report on Social and Economic Objectives for a Scottish Marine Plan.¹⁴

Recommendation 1. Plans must clearly prioritise the natural environment as the basis upon which goods and services rely.

Although not acknowledged in the general policies of the NMP, the precautionary principle – a higher level of environmental protection through preventative decision-taking in the case of risk¹⁵ – forms a key component of sustainable development and environmental protection. In these initial stages of marine planning where environmental baseline data will not be comprehensive, the precautionary principle must play a more prominent role in decision-making to safeguard against potential adverse impacts. With the development and implementation of RMPs, decision-makers will be better informed on the environmental limitations and development potential of a specific region and be more adequately positioned to implement sustainable development principles in the future.

3.3. The Mitigation Hierarchy

The National Planning Policy Framework¹⁶ (England and Wales) provides guidance on an additional environmental safeguard known as the Mitigation Hierarchy (see Figure 2). Although not used in Scottish policy, LINK members consider the hierarchy complementary to the EA and suggest its adoption as part of the RMP framework. The hierarchy enables a layer of protection for those habitats and species that lie outside protected areas, in keeping with a three pillar approach to marine nature conservation¹⁷, and prevents development scenarios where compensation for environmental damage is proposed as a means to gain consent. To avoid ineffective compensation and risk a net loss of biodiversity, the hierarchy prevents immediate application of the 'last resort' option (i.e. compensation) and ensures other measures are considered first.

¹³ Saunders G., Scott M.M. (2010). Scottish marine ecosystem objectives: Scoping study. Scottish Natural Heritage Commissioned Report No. 341.

¹⁴ <http://www.gov.scot/Resource/Doc/308369/0097119.pdf>

¹⁵ The Precautionary Principle - <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:l32042>

¹⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

¹⁷ <http://www.gov.scot/Topics/marine/marine-environment/Conservationstrategy/marineconstrategy>

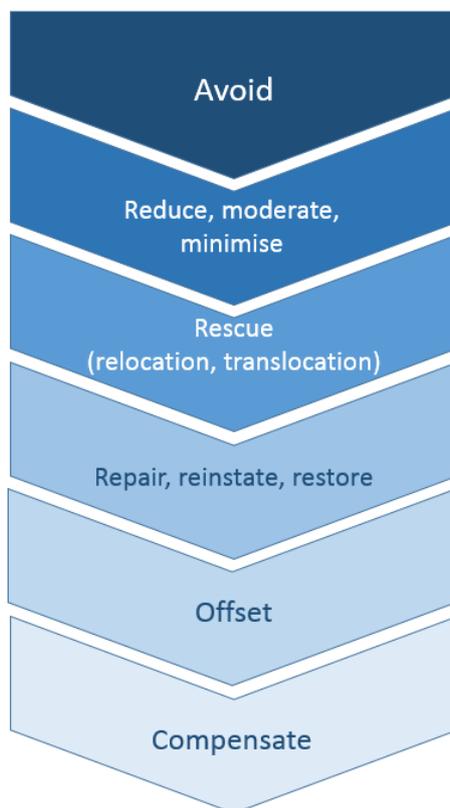


Figure 2: The Mitigation Hierarchy (National Planning Policy Framework)

3.4 Ecosystem Approach in practice

Although the EA is a relatively new term, as a concept it has existed for some time and there are working examples of its use around the world, including the UK. There are many different methods of implementing the EA; here we have identified two examples that have robustly implemented the EA within a marine plan.

Case study 1: Shetland Islands Marine Spatial Plan

The development of the Shetland Islands Marine Spatial Plan (SIMSP) began in 2006 as part of the Scottish Sustainable Marine Environment Initiative, which aimed to develop and test new approaches to improve the sustainable management of Scotland's marine environment. In 2008 the SIMSP was voluntarily adopted by the Local Advisory Group, which included Shetland Islands Council, government agencies (SNH, SEPA) and industry representatives. In 2015, after continued funding from Marine Scotland and a period of re-evaluation, updating, and consultation, the 4th edition of the SIMSP was adopted as 'Supplementary Guidance' to the Shetland Local Development Plan, setting out policies and criteria against which consent applications (under the Town and Country Planning Act) and works licenses (under the Zetland County Council Act) in Shetland will be considered.

The development of the SIMSP took place well in advance of recent legislation or the NMP, giving it the opportunity to develop without the guidance of the NMP policy framework. In the fourth and most recent iteration of the SIMSP, a cross-sectoral approach was adopted to ensure the UK's high level objectives for the marine environment ('Clean and Safe', 'Healthy and Diverse' and 'Productive') were integrated into the policy framework. The subsequent policy structure was

developed with the assistance of the Local Advisory Group (containing stakeholders from multiple sectors) to ensure a holistic approach to policy formation.

A key difference between this framework and that of the NMP is the explicit prioritisation of ‘Clean and Safe’ and ‘Healthy and Diverse’ policies over ‘Productive’ policies – ‘proposed developments must comply with legal requirements and adhere to *all policies*’ within ‘Clean and Safe’ and ‘Healthy and Diverse’ sections before considering the ‘Productive’ section’ (Figure 3).

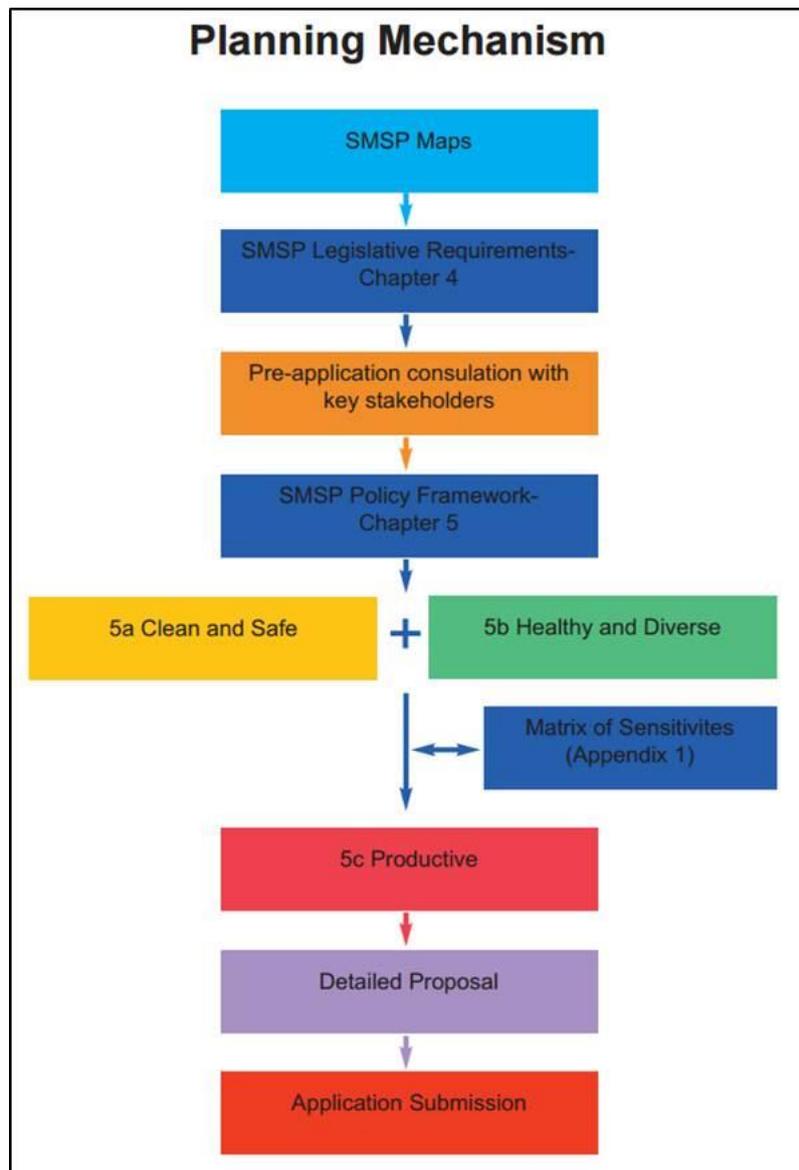


Figure 3: Policy structure of the Shetland Islands Marine Spatial Plan (4th Edition)

The structure and content of the SIMSP focuses attention strongly towards conserving and restoring the marine environment, recognising the importance of the marine environment in supporting all other activities – a clear stride towards contributing to Scotland’s (as part of the wider UK) biodiversity and sustainable development obligations – but still provides guidance that ensures any future economic growth is achieved in a sustainable manner. Despite the different policy structure, the SIMSP has generally been positively received by both planners and developers. This can largely be attributed to regular consultation and dialogue with stakeholders throughout the plan’s

development. The forward looking approach to marine development, by identifying areas of constraint within Shetland waters, has assisted greatly with streamlining the planning process and made Shetland a ‘more inviting place for potential developers’¹⁸. We welcome this forward-thinking approach to identifying areas that may be more suitable for development.

Case Study 2: Marine Planning Framework for South Australia

The South Australian coastal waters are home to a highly diverse range of marine flora and fauna, which have supported a wide range of marine industries that form an important component of the region’s economy. The *Marine Planning Framework for South Australia (MPFSA)*¹⁹ was developed in 2006 as a tool for managing the marine environment and achieving the State Governments commitment to sustainability in the marine environment, outlined in the *South Australia Strategic Plan*. The overarching strategic plan for State and local government planners and natural resource managers was based upon the core principles of ecological sustainable development, ecosystem-based management and adaptive management.

The *Living Coast Strategy for South Australia* outlines the need to identify areas of ecological significance through the development of marine plans based on bioregions that contain distinct patterns of biodiversity (see Figure 4). In South Australia there are eight defined bioregions, from which the MPFSA identified six regional planning areas. A key component of the MPFSA is the inclusion of an ecologically-based zoning model – an Ecologically Rated zoning system that consists of four zones, determined by the diversity of marine, estuarine, and coastal habitats and species that occur within the marine planning area.

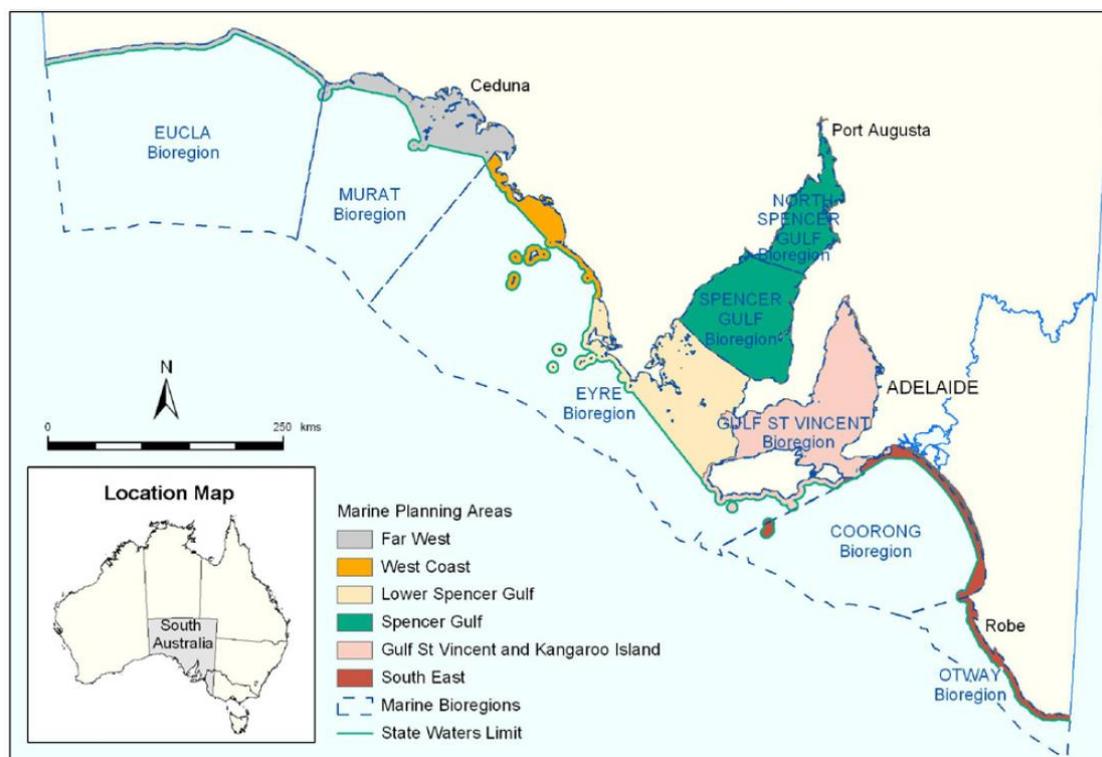


Figure 4: Map of the designated bioregions of the Marine Planning Framework for South Australia

¹⁸ Kelly, C., Gray, L., Shucksmith, R., & Tweddle, J. F. (2014). Review and evaluation of marine spatial planning in the Shetland Islands. *Marine Policy*, 46, 152-160.

¹⁹ Day, V., Paxinos, R., Emmett, J., Wright, A., & Goecker, M. (2008). The Marine Planning Framework for South Australia: A new ecosystem-based zoning policy for marine management. *Marine Policy*, 32(4), 535-543.

The principle aims of the ER zones were to:

- Establish boundaries defined on ecological criteria rather than jurisdictional boundaries;
- Recognise the complex interactions between ecological levels including interactions across varying scales such as habitats and regions; and
- Focus management on the maintenance of ecosystem integrity.

The final component of the MPFSA is the Performance Assessment System (PAS), which will evaluate the success of each Marine Plan by assessing and reporting on the maintenance and enhancement of ecosystem conditions. In accordance with the *Living Coast Strategy*, the PAS provides an integrated mechanism that enables all agencies to contribute to a state-wide collaborative approach to data collection, analysis and reporting on environmental conditions. It uses an agreed suite of indicators based on the goals and objectives of the marine plans in each zone and integrates existing monitoring programmes to determine outcomes for each ecological variable. These are measured against benchmarks to establish whether any change in condition is caused by natural or anthropogenic variability. The PAS forms the foundations to the adaptive approach to management and reporting.

Case Study Summary

The SIMSP and the MPFSA represent two different applications of the ecosystems approach to marine spatial planning. The SIMSP demonstrates how by prioritising and weighting certain management policies (i.e. 'Clean and Safe' and 'Healthy and Diverse') an EA can be implemented into a marine spatial plan. LINK members support the principles and precedents that this Plan sets as it demonstrates an example of the integration of the EA to marine planning in Scotland.

The MPFSA demonstrates the use of the EA from the outset of the framework development by assigning planning areas (bioregions) based on ecological criteria, rather than jurisdictional boundaries (the approach taken by the NMP). The additional Ecologically Rated zone modelling and Performance Assessment System that focus on ecological criteria and ecosystem conditions, respectively, further enforce the EA.

Although the NMP has already established marine regions within Scotland and provided an assessment of the condition of the marine environment (Scotland's Marine Atlas), the inclusion of a PAS (or equivalent) would be a valuable addition for monitoring not only the condition of the marine environment but also the performance of the NMP and subsequent RMPs. This assessment should include a *process evaluation* and an *outcome evaluation*. The process evaluation should be government-led and should aim to assess the internal workings of the plan and its ability to adapt to regional requirements. The outcome evaluation should aim to assess the performance of the plan in its ability to deliver regional requirements, for which a performance checklist should be established, for example based on the aforementioned Marine and Socio-Economic Objectives reports. This checklist should be consistent across all Marine Regions to ensure an objective assessment. The feasibility of integrating this and other progressive frameworks to support the application of an EA should be considered.

Recommendation 2. Plan policies need to be tailored to suit the needs of the plan area.

4. Region assessment – identifying gaps

The environmental assessment component of the regional marine planning process – a regional version of Scotland's Marine Atlas – is essential for identifying the regional environmental condition and pressures, which should be used to inform relevant management targets and development

priorities. All of the regional environmental assessments will provide a more accurate assessment of Scotland's marine environment that can feed back into the NMP and assist with continual re-evaluation of national objectives and targets (Figure 5). This feedback loop will ensure compatibility between the NMP and all RMPs. Where gaps exist and there is an unknown level of risk, the precautionary approach must be applied. Some efforts are already underway to address data deficiencies in Scotland to inform RMPs, such as the Marine and Recreational Tourism Scotland survey²⁰.

Recommendation 3. Management targets for the RMP should aim to fill knowledge gaps.

The regional assessment will support an evidence-based approach for identifying priorities for each region, for which methods such as constraints mapping can be effectively used, as demonstrated within the SIMSP. Cumulative impacts must be considered as part of the region assessment. As a suggested improvement on the Shetland model, we would like to see constraint-mapping allied to mapping opportunities (win:win scenarios) for marine ecosystem enhancement as part of the regional marine planning process. Given the current denuded state of Scotland's marine environment (as catalogued in Scotland's Marine Atlas), in order for the legal duty to '*where appropriate*' enhance the health of the Scottish marine area to be met, the regional marine planning process should actively highlight areas suitable for ecosystem enhancement and/or restoration. Examples could include allowing damaged seabed habitat to naturally recover by removing unsustainable pressure (particularly for Priority Marine Features where they occur outside of designated sites), actively restoring coastal and marine habitats, including carbon sinks, through managed realignment projects and biogenic reef enhancement or looking at co-location opportunities in tandem with environmentally approved developments. Current examples of projects aiming to enhance aspects of the natural environment in Scotland include the Central Scotland Green Network²¹ and Nigg Bay Coastal Realignment and habitat restoration²².

Recommendation 4. Plans should identify opportunities (both spatial and temporal) for marine ecosystem enhancement as well as development constraints.

5. Future monitoring and assessment

The adopted RMPs should initiate a continuous process of monitoring, re-evaluation, and adaptation that requires regular stakeholder engagement. This iterative process is important for adapting to changing regional priorities and pressures, whilst also identifying the most suitable areas for future environmental enhancement, development, economic activity and avoiding the most environmentally sensitive areas. The benefits of this process include greater certainty to stakeholders and streamlining of the planning application process. It is important that, as part of the RMP process, measurable targets (such as Marine Ecosystem Objectives and the Socio-Economic Objectives they underpin) are defined and clearly contribute towards GES.

To test the successful delivery of a plan, monitoring is required that utilises pre-determined indicators, based on the specific objectives of the Plan and these should be consistent across

²⁰http://www.marinerecreationandtourism.scot/?utm_source=Update+standard+list&utm_campaign=287737ac90-SEPA_Update_15080508_05_2015&utm_medium=email&utm_term=0_1d4b1dd6b0-287737ac90-221748709

²¹ <http://www.centralcotlandgreennetwork.org/>

²² https://www.rspb.org.uk/Images/CoastalRealignmentatRSPBNiggBaynaturereserve_tcm9-406978.pdf

regions. Indeed, according to Ehler (2014)²³ Pomeroy et al. (2004)²⁴ assessment indicators should fall into three key categories:

- Governance (inputs, process and outputs)
- Socio-economic (food security, livelihoods, non-monetary benefits, compatibility with local culture and environmental awareness)
- Ecological/environmental (population level, biodiversity, species, habitat protection and habitat restoration)

The Shetland Islands Marine Spatial Plan is well advanced and the NAFC Marine Centre has already undertaken an initial evaluation²⁵. Whilst it is still too early to measure the ecological and social impacts of the Plan, the progress and performance of the Plan itself were evaluated, which included:

- How helpful the Plan has been to users (e.g. developers, planners and licensing bodies) in terms of providing new information to guide activities;
- How the Plan has helped to guide development opportunities;
- How fisheries have used the Plan to develop sustainable management measures;
- The development of tools to address cumulative impacts.

²³ Ehler, Charles (2014) *A Guide to Evaluating Marine Spatial Plans*, Paris, UNESCO, 2014. *IOC Manuals and Guides, 70; ICAM Dossier 8*

²⁴ Pomeroy, R., J. Parks, & L. Watson. (2004). *How Is Your MPA Doing? A guidebook of natural and social indicators for evaluating marine protected area management effectiveness*. National Oceanic and Atmospheric Administration and the World Commission on Protected Areas. IUCN: Gland Switzerland.

²⁵ Kelly, C., Gray, L., Shucksmith, R., & Tweddle, J. F. (2014). Review and evaluation of marine spatial planning in the Shetland Islands. *Marine Policy*, 46, 152-160.

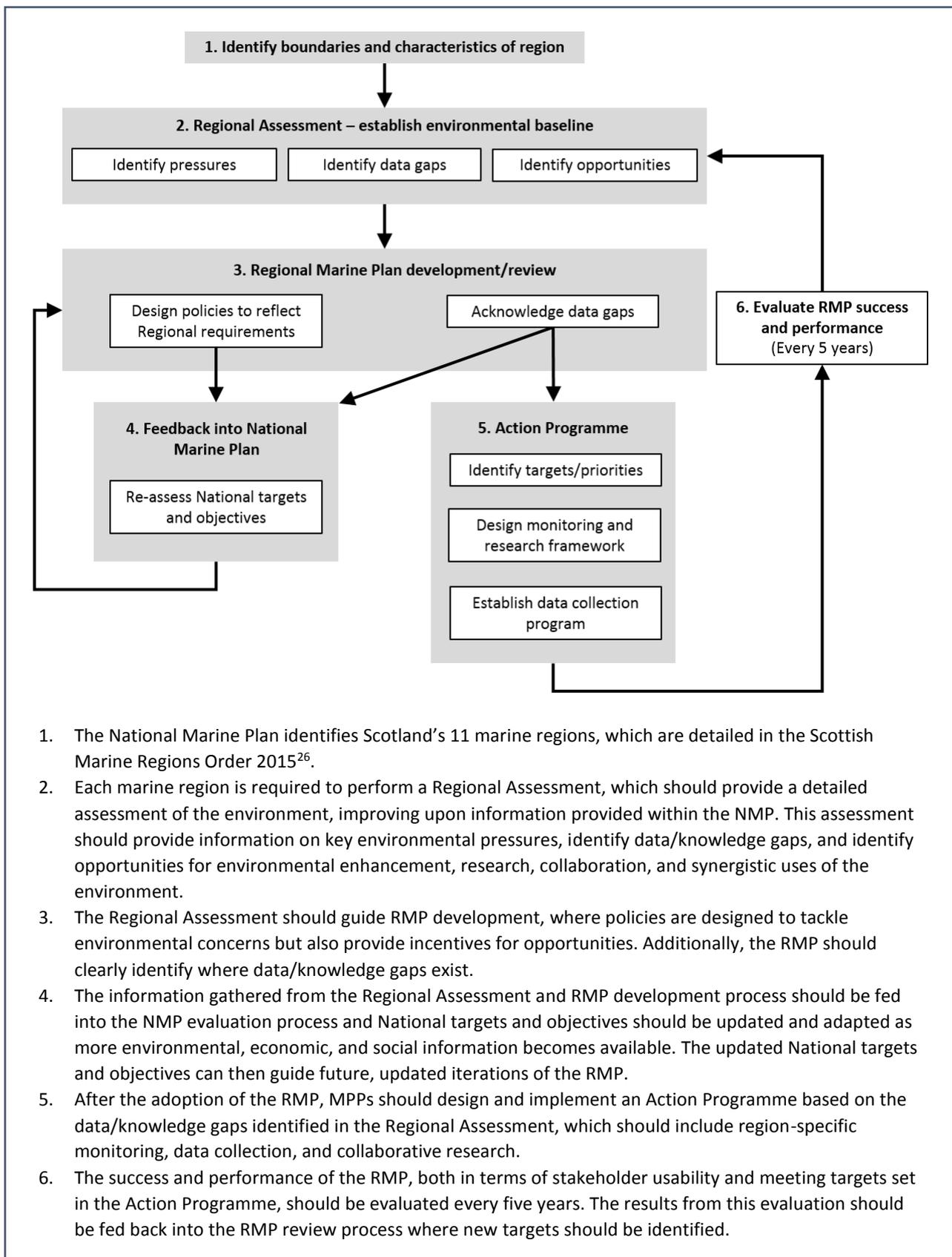


Figure 5: Regional Marine Plan development and evaluation process

²⁶ <http://www.legislation.gov.uk/sdsi/2015/9780111027004>

The SIMSP has been perceived by users as a valuable asset which makes Shetland ‘a more attractive place to come’ for developers, mitigates environmental impacts and offers economic gain through conservation measures. As marine planning continues to develop in Shetland, identifying opportunities for marine ecosystem enhancement, here and throughout future regional marine plans, would be welcomed. The importance of drawing on the experience of other RMPs cannot be emphasized enough and MPPs, once established, should look to the lessons learned and varying approaches of the Shetland and Clyde pilot plans^{27, 28} and the pilot Pentland Firth and Orkney Waters Marine Spatial Plan²⁹ as sources of guidance.

Whilst MPPs should operate independently, the holistic nature of the ecosystems approach that functions most effectively with representation from all marine users and, where necessary, multiple representatives from a single sector should be encouraged. For instance, regular consultation and engagement with the public and existing management groups, such as Inshore Fisheries Groups (IFGs) and local forums, as well as the devolved Crown Estate, is important. We support the Scottish Government’s Inshore Fisheries Strategy, which focuses on ‘*embedding inshore fisheries management into wider marine planning*’³⁰. Integrating the spatial management and monitoring component for fisheries will secure local knowledge and data input during plan development but it will also help identify potential conflicts and enable a process for addressing them. It will also be crucial for adjacent MPPs to liaise regularly and ensure cross boundary cooperation and consistency in the objectives of neighbouring RMPs. Many environmental data parameters (e.g. oceanographic information, migratory marine species) and marine industries (e.g. shipping, fisheries) will incorporate or generate data that will span more than one region making co-operation even more important.

Recommendation 5. Plans should be developed in a transparent manner with regular stakeholder engagement.

Recommendation 6. Plans should integrate local knowledge and expertise.

National level collaboration and capacity-building across MPPs and Local Authorities will be necessary to implement RMPs effectively. This approach will increase efficiencies and enable the delivery of RMPs during a time where resources are limited. One opportunity to be pursued is a mechanism for addressing the data and information gaps that exist and which have been identified during the regional assessment. Regional Marine Plans should clearly prioritise and present knowledge gaps which will inform and influence Government and academic scientific research programmes in addition to the funding priorities of research councils. The positive opportunities for research are numerous, including:

- Increased knowledge of the marine environment to better inform strategic planning and decision-making;
- Increased collaboration and transparency between academics, industries, government and NGOs;
- Increased resource of experience and expertise within Scotland; and
- Advancement of marine planning in Scotland and leading by example

²⁷ <https://www.nafc.uhi.ac.uk/research/mssp/simsp/simsp>

²⁸ <http://clydeforum.com/marine-planning>

²⁹ <http://www.gov.scot/Publications/2015/06/3393/downloads#res-1>

³⁰ <http://www.gov.scot/Topics/marine/Sea-Fisheries/InshoreFisheries/InshoreFisheriesStrategy>

The Marine Alliance for Science and Technology Scotland (MASTS) Marine Planning and Governance Forum³¹, established in 2015, offers a timely and constructive platform for such collaboration, and other such opportunities could be explored. Facilities for sharing data and information at a national level will be a necessary development to support RMPs, a valuable example being Marine Scotland's NMPi facility.

Recommendation 7. Plans should be informed by evidence-based environmental baselines and decisions must use the precautionary approach where confidence is low and/or risk is high.

6. The role of LINK in RMPs

Environmental non-government organisations (eNGOs) primary role in marine planning is to ensure the natural marine environment is protected and enhanced for the long term through means of increasing civic, political and legislative support for our natural marine heritage at local, national and international levels.

Environmental NGOs provide a voice for the environment in increasingly busy seas; mobilising public support for legislative change and public involvement in implementation; communicating current environmental issues and principles of best practice to the public and decision-makers; building institutional capacity; and providing data or information to support conservation measures (e.g. through academic research and citizen science).

Over the last 10 years, LINK has played a pivotal role in advocating for and helping secure additional marine conservation legislation in Scotland, being a principle proponent of the Marine (Scotland) Act 2010. LINK proposed, and secured, the Act's provision to *protect and, where appropriate, enhance* the health of the Scottish marine area through the delivery of a marine protected area network and marine plans, and have been key contributors to the implementation of the Act since its adoption. In its on-going commitment to the effective implementation of the Act, LINK members share a responsibility to support the development of the RMPs through early involvement in MPP establishment:

- Offering external and non-sectoral advice;
- Championing integration of the ecosystem approach;
- Providing scientific evidence and assistance where possible.

Marine Planning Partnerships will include delegated representatives with interests in the protection and enhancement of the marine environment as well as those interested in the use of their region for recreational and commercial purposes, recognising of course that these can be overlapping interests. As eNGOs, it is anticipated our expertise can be drawn upon in an advisory capacity as RMPs are developed. Environmental NGOs will also engage in the statutory public consultations for proposed RMPs. Through its membership the LINK MTF can also solicit wider civic society views and engagement in the development and delivery of RMPs, a key aspect of Scottish marine planning process, particularly for coastal communities.

³¹ <http://www.masts.ac.uk/research/research-forums/marine-planning-forum/>