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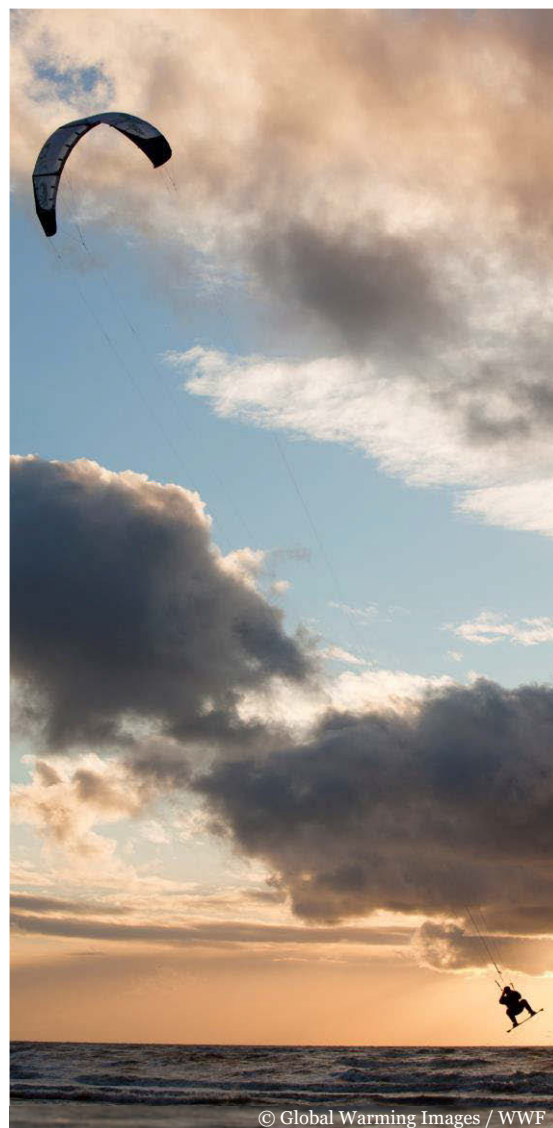
UK MARINE PROTECTED AREAS: WHY MANAGEMENT MATTERS





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INTRODUCTION

In the UK, our seas and coasts are amazing. They give a home to wildlife, provide us with food and even generate some of our energy. But our seas are under threat from a variety of human activities and need protecting. A key tool in delivering this is the establishment and good management of Marine Protected Areas (MPAs). The UK has many national and international commitments to deliver an effective network of MPAs^{1,2,3}, but up until now, the focus has been on calculating the percentage of UK seas that have been designated, rather than ensuring MPAs are effective.

Despite the UK having 25% of its waters designated as MPAs, to date⁴, less than half of all English Marine Conservation Zones (MCZs), are achieving their objectives⁵.

A 2019 assessment of the health of UK seas concluded that only four out of 15 targets (to achieve Good Ecological Status) have been achieved⁶ and our seas are still in desperate need of recovery to ensure we can continue to benefit from them for years to come.

Designating an MPA is only the start of the story; MPAs need the right resources, processes and tools to achieve their objectives and deliver environmental, social and economic benefits. To help deliver effective management, WWF, funded by Sky Ocean Rescue, developed the 'Compass'⁷ as part of Defra's North Devon

Marine Pioneer⁸. This tool is designed to assess effectiveness and guide the management of MPAs.

This publication sets out the importance of the Compass criteria, providing evidence and worldwide case study examples of how the criteria have contributed to the success of an MPA, or equally how their absence has had negative impacts.

WWF and Sky Ocean Rescue call on the UK's governments to invest in and improve the effectiveness of our MPA network in order to catalyse ocean recovery and show global leadership.





THE COMPASS TOOL

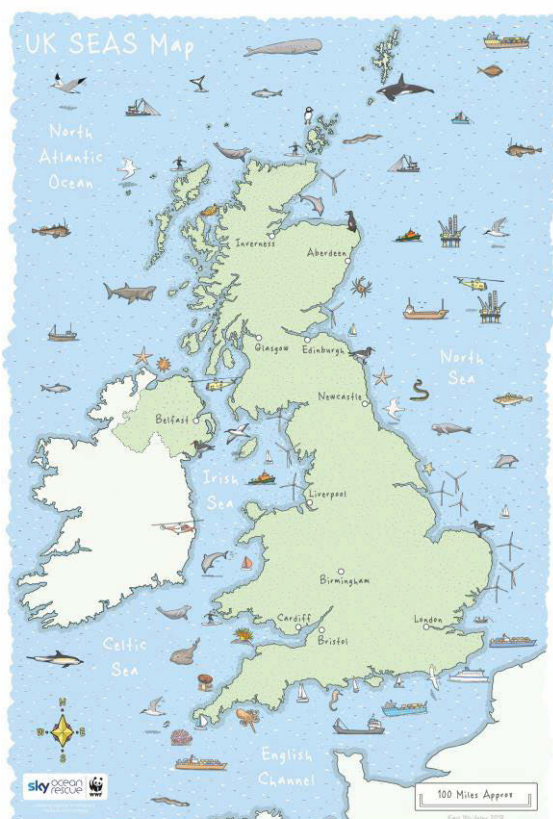
The Compass tool was originally developed and used by the French Global Environment Facility⁹, but has since been adapted by WWF specifically for the UK⁷. The Compass tool measures the effectiveness of and provides a framework for the design of MPA management. It is made up of criteria based on global best practice and experience – some of which would require changes to current policy to be fully achieved in the UK.

The Compass divides the process of establishing an MPA into three stages:

1. **The Creation Phase:** In the UK we would call this the ‘designation process’. It involves gathering all the data needed and working with stakeholders to develop management rules.
2. **The Pioneer Phase:** The pioneer phase is where management becomes operational and the management team starts monitoring and building programmes to support delivery of the objectives.
3. **The Self-Sufficiency Phase:** By this point the MPA is well on the way to technical, organisational and financial self-sufficiency and the environmental and social benefits of the MPA are being felt.

Progress is measured using 38 criteria that cover a range of management issues. Each criterion is scored out of 3, from 0 = it is not being done, to 3 = it is being done really well. The criteria are arranged around the outside of the compass. The stages and criteria may vary somewhat from one MPA to the next, however to achieve effective MPA management all of them need to be considered at some point. A quick look at the results will tell you what stage the MPA is at (creation, pioneer or self-sufficiency) and what the MPA is doing well on and what it needs to improve.

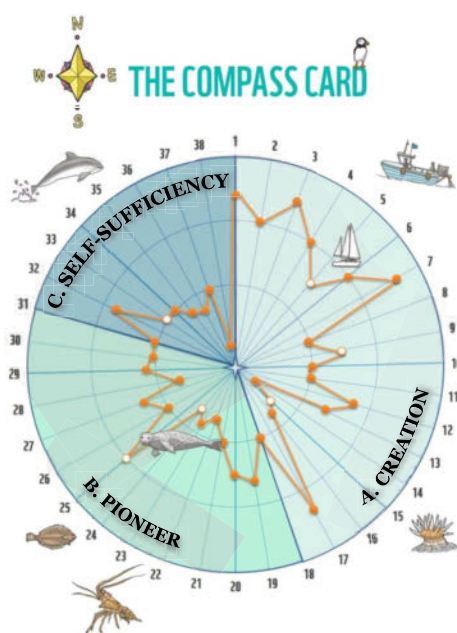
The Compass Pilot Report details how this assessment was carried out in North Devon, along with the results of the 5 MPAs assessed⁷.





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THE COMPASS CRITERIA



B. PIONEER

18. PUBLICLY COMMUNICATE ABOUT THE MPA
19. SUPPORT AN ACTIVE & INCLUSIVE STAKEHOLDER ENGAGEMENT PROCESS
20. DEVELOP A MANAGEMENT PLAN
21. ENSURE ADEQUATE MPA STAFF
22. ENSURE ADEQUATE INFRASTRUCTURES AND EQUIPMENT
23. ENFORCE MANAGEMENT RULES
24. CREATE A BUSINESS PLAN TO FUND LONG-TERM MPA MANAGEMENT
25. CAPACITY BUILD SKILLS NEEDED TO RUN THE MPA
26. CREATE EDUCATION PROGRAMME LINKED TO MPA OBJECTIVES
27. MONITOR BIOLOGICAL, SOCIAL AND ECONOMIC FACTORS
28. MONITOR MANAGEMENT ACTIVITIES AGAINST PERFORMANCE
29. BUILD A SENSE OF RESPONSIBILITY FOR THE MPA BY STAKEHOLDERS
30. DEMONSTRATE THE AUTHORITIES TAKE RESPONSIBILITY FOR THE MPA
31. EFFECTIVELY IMPLEMENT THE MANAGEMENT PLAN

A. CREATION

1. IDENTIFY IMPORTANT AREAS FOR SPECIES & HABITATS
2. IDENTIFY STAKEHOLDERS & THEIR INTERESTS
3. SET UP STAKEHOLDER PARTICIPATION PROCESS
4. ASSESS CONDITION OF IMPORTANT AREAS FOR SPECIES & HABITATS
5. CREATE SOCIO-ECONOMIC BASELINE
6. IDENTIFY PRESSURES IMPACTING SPECIES & HABITATS
7. SET MPA BOUNDARY BASED ON AREAS OF ECOLOGICAL IMPORTANCE
8. ESTABLISH ZONING FOR ACTIVITIES
9. ESTABLISH MANAGEMENT RULES FOR ZONED AREAS
10. CREATE A MANAGEMENT GROUP TO SET AND MONITOR STRATEGY
11. CREATE A MANAGEMENT COMMITTEE TO IMPLEMENT THE STRATEGY
12. ESTABLISH ENVIRONMENTAL MPA OBJECTIVES
13. ESTABLISHED SOCIO-ECONOMIC MPA OBJECTIVES
14. IDENTIFY BENEFIT SHARING RULES
15. DEVELOP ALTERNATIVES FOR DISPLACED ACTIVITIES
16. CREATE CLEAR LINES OF RESPONSIBILITY FOR GOVERNANCE
17. ENSURE THE MPA HAS LEGAL STATUS

C. SELF-SUFFICIENCY

32. SUSTAIN & BUILD ON COMMUNITY INVOLVEMENT
33. DEMONSTRATE THAT MPA IS ACHIEVING OBJECTIVES
34. DEMONSTRATE THAT MPA IS IMPROVING ECOLOGICAL CONDITION
35. DEMONSTRATE THAT MPA IS PROVIDING SOCIO-ECONOMIC BENEFITS
36. REPORT PROGRESS TO THE COMMUNITY
37. UPDATE MANAGEMENT PLAN/RULES BASED ON MONITORING DATA
38. CREATE SUSTAINABLE INCOME STREAM TO COVER MANAGEMENT COST



REPORT STRUCTURE

The remainder of this report sets out the importance of the Compass criteria, providing evidence and global case study examples of how the criteria have contributed to the success of an MPA, or equally how their absence has had negative impacts. Case studies cover a range of MPA types ranging in size, level of enforcement, whether they are Government or community led, and level of activities.

The purpose of this report is to illustrate the importance of the Compass criteria, not to provide a comprehensive evaluation of the effectiveness of the UK MPA network.

The 38 Compass criteria are grouped into seven cross cutting themes shown (to the right). The themes are explained and discussed in this report.

The end of the report provides a list of acronyms and references.

MPA MANAGEMENT THEMES:

SET-UP

DECISION MAKING

RESOURCES

PLANS AND MANAGEMENT

INVOLVING PEOPLE

MONITORING

IMPLEMENTATION & RESULTS



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SET-UP

IDENTIFY IMPORTANT AREAS FOR SPECIES & HABITATS
IDENTIFY STAKEHOLDERS & THEIR INTERESTS
ASSESS CONDITION OF IMPORTANT AREAS FOR SPECIES & HABITATS
CREATE SOCIO-ECONOMIC BASELINE
IDENTIFY PRESSURES IMPACTING SPECIES & HABITATS
SET MPA BOUNDARY BASED ON AREAS OF ECOLOGICAL IMPORTANCE
ENSURE THE MPA HAS LEGAL STATUS

DEFINITION

During the set-up of a Marine Protected Area (MPA), baseline data on ecological condition, socio-economics and human pressures should be collected, as well as identifying people who have an interest or may be impacted by the MPA, finally culminating in the area's legal designation.



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ECOLOGICAL CRITERIA

“Robust and credible evidence”

Crucial to this stage is the collection and assessment of a scientific, robust and credible evidence base. Such data carry a confidence high enough to allow appropriate management of the MPA to be established. It ensures the areas defined as MPAs are in the right place and are the right size in order to properly contribute to an ecologically coherent network, providing appropriate protection for its species and habitats.

“The site’s major values for conservation of nature with associated ecosystem services and cultural values [should be] identified and understood.”¹⁰

A clear and accepted baseline of ecological conservation features and condition allows for repeat monitoring over time to assess success in the MPA. Key to this process is incorporation of scientific data, collected from various data banks and through stakeholder consultation at the start of the process.

The Importance of Local knowledge

Rathlin Island, Northern Ireland, is protected as a SAC, SPA and MCZ. The RSPB have an on-site presence and were able to provide data to justify the extension of the MCZ boundary to include foraging grounds of the Black guillemot.



Retrospective Data Collection

Whilst there are good examples of data collection prior to MPA designation, there have been some cases, e.g. in the Marine Conservation Zone (MCZ) process in England, where data have been collected retrospectively. This has required drawing on a greater pool of resources to carry out repeat assessments, revision to features protected and MPA boundaries, as well as the whole site designation itself.



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SOCIO-ECONOMIC CRITERIA

An equally important aspect of MPA set-up is consideration of users in the area, those affected by the MPA, their baseline activity and how such human activities impact habitats and species. A baseline of socio-economic information, (e.g. demographics, infrastructure and business activities) also allows for quantification of the potential impact of the MPA on the local area.

Whilst not necessitated by the Habitat and Bird Directives, a socio-economic baseline has been established for new designations resulting from

the Marine and Coastal Access Act in the UK, e.g. Nature Conservation MPAs in Scotland, as it is recognised that there is a need to fully understand how businesses and local communities might be impacted (both positively and negatively), in order to inform future management activities.

Knowledge of how human activities impact a site allows for detailed management to be put in place where activities, which do not adversely impact the site, are allowed to continue, for example through careful zoning of areas. The more local and site based the data collection (e.g. from survey), the more reliable and dependable this is to the MPA management process.

Reference Areas

The regional MCZ projects in England proposed over 60 Reference Areas (RAs) to meet requirements for the Ecological Network Guidance. As these areas would be closed to certain extractive or depositional activities (unless impacts mitigated), this posed a significant level of conflict with stakeholders. As conflicts could not be resolved at the time, RAs were not designated and England's marine habitats and species are not receiving the full range of protection recommended. However there were strong grounds for reconsideration in the future.

DESIGNATION TOOLS

MPAs may be protected through a raft of legislative tools in the UK. At the European level this includes the Habitats Directive (1992) and Wild Birds Directive (2009); and at the national level, the Marine and Coastal Access Act (2009) and Wildlife and Countryside Act



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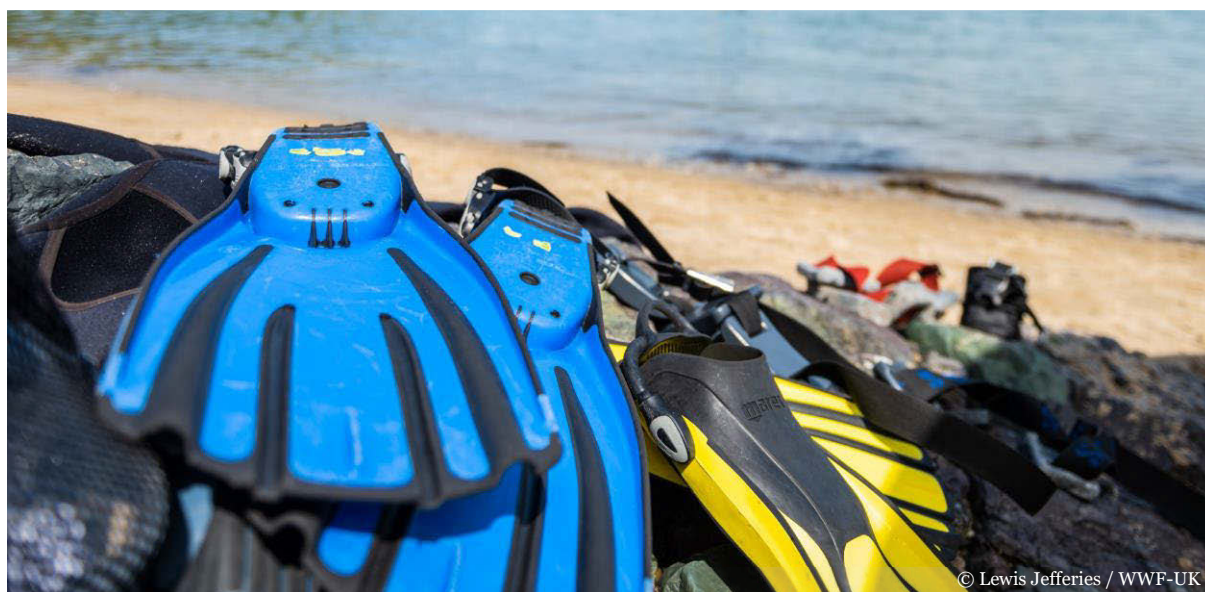
(1981). The most common designations resulting from these legislations include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in Europe; and Marine Conservation Zones (MCZs) in England, Wales and Northern Ireland, or Nature Conservation MPAs (NCMPAs) in Scotland. However these laws also allow for other types of designations such as Reference Areas (RAs). These may also be used to respond to e.g. scientific or community led proposals, whilst meeting multiple objectives.

Set-up of an MPA requires careful thought about the aims and objectives and type of ecological protection. Whilst this needs to consider impacts from activities, consideration should also be given to how protection may be of greater gain to the wider community. The set up phase provides an MPA with

good foundations to progress through the rest of its lifecycle. It is therefore crucial that the right processes are put in place at this stage which can be maintained into the future. For example, local communities can help with the set-up of MPAs but also with its management, monitoring, enforcement and eventually with reporting results.

Community Led Designation

Fair Isle, Scotland, was proposed for protection by the entire local community, to ensure continued sustainable tourism, which is key to the residents' livelihoods. Considered were factors including changes patterns in seabird dynamics, extending existing terrestrial protection, as well as management measures. However as Fair Isle did not contain any habitats or species targeted in the Scotland MPA process, the Marine Scotland Act was used to designate the area as a Demonstration and Research MPA.



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DECISION MAKING

CREATE A MANAGEMENT GROUP TO SET AND MONITOR STRATEGY

CREATE A MANAGEMENT GROUP TO IMPLEMENT THE STRATEGY

CREATE CLEAR LINES OF RESPONSIBILITY FOR GOVERNANCE

DEMONSTRATE THE AUTHORITIES TAKE RESPONSIBILITY FOR THE MPA

DEFINITION

Good governance and decision making in MPA management is defined through the establishment of a management group, leadership roles and a supporting network of specialist groups – all of which are guided through local site

knowledge from stakeholders and the local community. Key to success is the clear definition of roles and responsibilities within organisations and for individuals. Organisational structure also contributes to good governance, as do the development of working relationships and the collective knowledge, interest on particular issues / responsibilities and resources.

MANAGEMENT LEADERSHIP

At the centre of MPA governance, the management group should set the strategy, objectives, approach, resources, implementation and overall direction of the MPA. Integrity of the group is ensured by



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ongoing monitoring of decision making, demonstrating transparency and ensuring productive and proactive management. However this is only truly effective when paired by a national top down and local bottom up approach. Furthermore, a flexible approach is required to adapt to a unique set of issues in each MPA.

It is important that there is a recognised lead within the group, responsible for overall coordination and promoting a direct, effective and accountable response.

Effective Leadership

Effective leadership was recognised as the pivotal path to success in rezoning the Great Barrier Reef Marine Park (GBRMP). This recognised leadership from across the board, including individuals in the community, NGOs (local, national, international), agencies and at the political level.

Whilst responsibility of governance in the UK is almost always attributed to the Government itself (often shared between multiple agencies), there are certain leadership roles which may benefit greatly from external input, e.g. Chair of the management group or specialist facilitators. Broadening roles to include external input can bring greater accountability, balance and breadth of knowledge to governance from communities and stakeholders.

When the need for neutral or specialist facilitation is not fully met it runs the risk of

alienating certain stakeholders, resulting in a breakdown of trust and compromising the ability of the MPA to achieve its potential. If relationships between key stakeholders have broken down significantly, additional conflict resolution and facilitation should be considered.

Specialist Facilitators

For Thanet Coast SAC, southeast England, environmental dialogue specialists were brought in to design and facilitate a participatory workshop and outputs generated by the management scheme. Instigated by the project officer, this ensured an equal say from all stakeholders and relevant authorities, whilst managing issues and building consensus. It is believed that this is a key reason for strong attendance at meetings, with an increase over time as benefits were realised.

This approach has been similarly adopted by others, e.g. for workshops to launch initial set up of an individual MPA. However success has also been found in self-facilitation, e.g. in the Wash and North Norfolk Coast SAC, Eastern England (advisory groups and management groups)³¹, though this is likely dependent on individual skills and capacity.

Success also depends on the fair distribution of responsibilities and resources amongst the various individuals / groups. Strength in the management group can further be sought through empowerment, i.e. gaining a legal mandate.¹⁰



Community Led Governance

Rathlin Island, Northern Ireland, is protected as a SAC, SPA and MCZ. the island inhabitants hold a unique understanding of the islands' ecology and socio-economics. There is one management scheme for all the MPAs, the management group for which is chaired by the local Community Development Association, a voluntary organisation consisting entirely of island inhabitants. This local ownership has ensured good community buy in and allows those outside of the group to be connected to ongoing discussions and decisions, share information, ensure fair representation and allow for reduced impacts on activities.

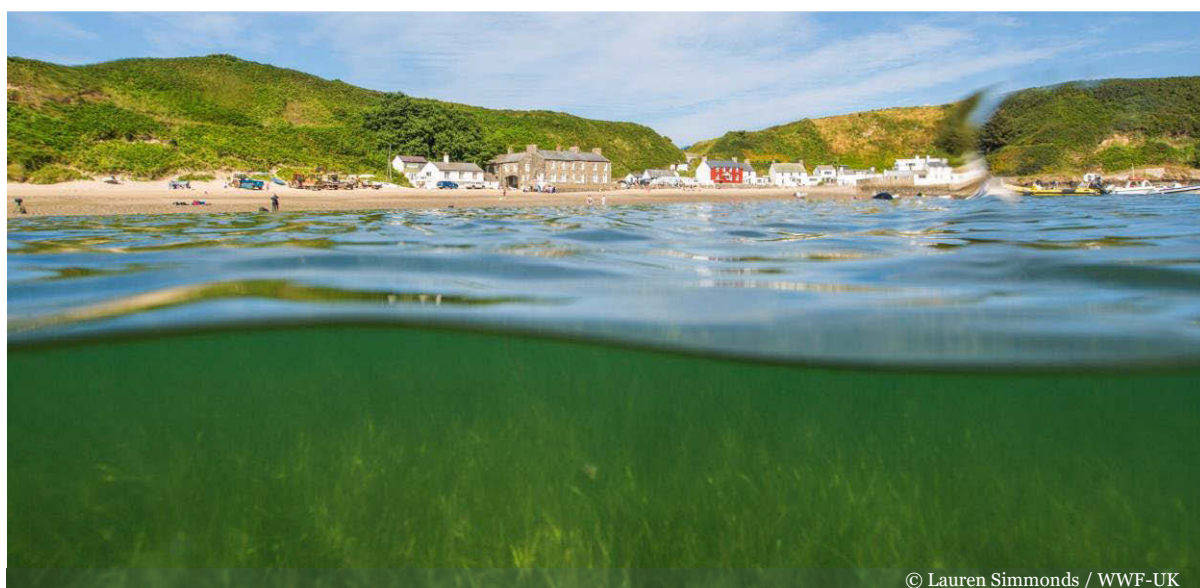
Similarly, the Wash and North Norfolk Coast EMS (England) management group is chaired by the Chief Fishery Officer of the local Sea Fisheries Authority. This has helped strengthen the partnership significantly, especially through developing constructive links with local fishermen.³¹

Advisory Panel

For Papa Stour SAC, part of the Shetland Islands (Scotland), both statutory and local groups feed into an advisory panel. Having such a wide representation of organisations, individuals and interests is believed to be one of the key reasons for success in the scheme.

Single Scheme of Management

With the Solent European Marine Sites, all relevant authorities came together to operate a single scheme of management, which has allowed a partnership approach to fulfilling their duties.



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SUPPORTING GOVERNANCE

The governing bodies of MPAs may draw on a far wider governance network beyond the management group to support their remit and ensure success in the MPA. Best practice shows the set up and integration of an advisory group and / or scientific advisory panel, as well as a management forum, have given far greater strength to the process. Without this there is a risk of not considering all important data sources and overlooking potential benefits or impacts to the MPA.

NATIONAL STRATEGY

Decision making and governance have been shown to benefit greatly from a regional or nationwide strategy, where multiple sites may be considered together, e.g. in the new suite of MPAs designated through the Marine and Coastal Access Act. Whilst this is necessary to inform an ecologically coherent network of MPAs, it also allows greater efficiencies. For example, a strategic approach allows research on the general sensitivity of a feature to activities to be used across multiple sites. However these strategic approaches still depend significantly on a combined site level approach, especially through the input of stakeholders to inform decisions.

Regional MPA Governance

During England's MCZ designation process, each regional project (comprising of multiple MCZs) had a single independent panel of well-respected scientists to provide robust assessment of site proposals, set against criteria and guidance provided.¹¹



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Nationwide MPA Governance

A national framework or strategy that sets the vision and objectives that all sites should work towards, can allow efficiencies to be made. For example in Wales, projects are identified at a national level which will add to the evidence base for issues affecting multiple sites. A national steer on priorities for management has been found to help attract funding.

A similar approach is being applied in Scotland, Northern Ireland and Ireland through the Marine Protected Area Management and Monitoring (MarPAMM) project¹². This aims to deliver regional management plans to direct actions across multiple sites.



LOCAL GOVERNANCE

Governance in the UK is generally a ‘top-down’ process but it is equally important to ensure there is also a ‘bottom-up’ mechanism for input from the ground. Local communities, interest groups and the general public need to know who to contact, which organisation has overall responsibility for the MPA and who is held accountable, as well as how to input into the decision making process (see ‘Involving people’). Communication of this information through appropriate dissemination methods is key to opening discussion with community members and ‘catching’ any stakeholders previously not identified.

Key to successful decision making is the set-up of robust governance structures with the clear definition of roles and responsibilities, organisational structure, good working relationships and a collective knowledge pool spanning all interests. Those living and working in the vicinity of the site on a day to basis need to feel part of this governance and enjoy an equal sense of

pride and ownership on the ground. Without good inclusive decision making processes, an MPA runs the risk of stalling due to competing and conflicting interests of different stakeholders, a lack of overall direction and priorities and incomplete understanding of the unique parameters of the site.

Effective governance is underpinned by leadership, balanced representation and strategic action.





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RESOURCES

ENSURE ADEQUATE MPA STAFF

ENSURE ADEQUATE INFRASTRUCTURES AND EQUIPMENT

CAPACITY BUILD SKILLS NEEDED TO RUN THE MPA

CREATE A BUSINESS PLAN TO FUND LONG-TERM MPA MANAGEMENT

CREATE SUSTAINABLE INCOME STREAM TO COVER MANAGEMENT COST

DEFINITION

Resourcing depends on the availability and ongoing commitment of resources to meet requirements across the full spectrum of MPA management. Resourcing of staff, infrastructure, equipment, skills and finances can often be weak in the ongoing surveillance and monitoring phases. As these stages are essential in setting appropriate management measures to achieve a site's objectives, adequate levels of resourcing at this stage is critical. Adequate resources ensure protection of the marine environment, both for the site as well as demonstrating success at a national level.

FINANCING

Whilst MPAs have traditionally received core Government funding in the UK, this has significantly reduced in recent years. A WWF led review of seven MPAs in North Devon found a total funding gap of £1.1 million per year¹³. As a result of government funding cuts, alternative

funding sources are becoming increasingly necessary for providing additional resource, including grants, NGO funding, private and business donors, charities, user fees, taxes and subsidies. However, these disparate sources pose their own issues and threats to MPA management. Therefore consistent and continuous government funding is fundamental in providing the ongoing provision of effective MPA management in the UK. This is especially relevant to the ongoing monitoring and enforcement of MPAs and update of management plans. Such aspects of management are key in developing an MPA from a 'paper park' into a fully effective long term entity.

Assorted Funding

In England there is no national framework for funding to provide sustainable finance of MPAs. Management partnerships have to seek alternate means of funding from individual organisations or large-scale external funding bodies. Often relying on small donations from multiple donors, this may be wholly used for the salary of a project officer, with specific external funds required for additional work or projects. As is the case for the Flamborough Head EMS Partnership, this has resulted in limited scope and ambition of management, coupled with uncertainty in the continued financial support and planning for the long-term, e.g. considering climate change or invasive species.

A further risk with having to rely on non-statutory funding is that these funds may shift the focus of MPA management from statutory obligations to meet the objectives of the funder.



Generating funds from the environment itself, ('ecosystem services') can be of great advantage to financing MPAs, e.g. through wildlife tourism or aquaculture. One of the most effective ways of generating ecosystem services is by stimulating the environment first through investment and improvement, e.g. fisheries restoration and water quality. Following improvements to the environment, subsequent enhancements in the industry infrastructure, (e.g. lobster hatcheries, cold storage facilities and new car parks), may then enable increased revenue (e.g. yields, licences and user fees). Whilst this approach requires greater investment initially, the financial benefits are far more substantial and long lasting.

Nutrient Trading Schemes

The US Government has set limits on nutrients and sediment pollution feeding into Chesapeake Bay from agricultural and urban runoff. Through 'water quality trading' across sites, regulated entities have been able to meet permit requirements at a reduced cost than under traditional command and control approaches. Credit generators, such as farmers, have also earned additional revenue through the sale of credits.¹⁴



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Blue Impact Fund

Together with Sky Ocean Rescue and Environmental Finance, WWF have developed plans for the UK's first Blue Impact Fund and Ocean Recovery Trust which will simultaneously boost the Blue Economy and deliver benefits for marine conservation.

The Blue Impact fund will invest in enterprises that benefit the marine and coastal environment and generate returns on investment. Surplus returns will be allocated to an Ocean Benefit Fund which will be used to fund non-revenue generating activities such as marine management and restoration. An Ocean Trust will provide a robust, aligned governance structure that will ensure effective management of the Blue Impact Fund and Ocean Benefit Fund activities.

This form of innovative finance, as well as the more robust and coordinated governance that the structure would bring, is crucial to successfully integrate decision making around fisheries and wider marine issues, as well as fund restoration programmes and good management of MPAs.

Boosting Tourism

In Croatia, Brijuni National Park operates a visitor fee of €27 per day per visitor. This includes e.g. ferries, guided tours, museum fees, boat moorings and diving fees. Such self-generated revenues of €7.91m allowed the park to be self-sufficient in 2009.¹⁵

Improving Infrastructure

In Indonesia and the Philippines, the Meloy Fund supports innovation in sustainable community fisheries by providing debt and equity investments. With an objective to help fisheries recover, US\$17.1m was raised from the Global Environment Facility, US Agency for International Development and other non-profit organisations. Of this, US\$1m was allocated to increase processing capacity, improve logistics and develop additional product lines for a sustainable seafood company. Also targeted are the improvement of 100,000 fishers' livelihoods and household members, as well as improving management for 1.2m hectares of coastal habitats.¹⁶

Citizen Stewardship

In Tanzania, Mafia Island, performance payments are provided by an NGO to individuals for reporting and agreeing not to poach sea turtle nests.¹⁷

Similarly, in Mexico, Luis Echeverria, the local community receives US\$25,000 for protecting 48.5km² of grey whale habitat, which has been used to finance small-scale development and alternative income generation.¹⁸

Fines

In Canada, Gilbert Bay MPA, an environmental protection fund was created using fines imposed on business following an oil spill.¹⁸



Offsetting is another potential financing mechanism of MPAs e.g. blue carbon offsets in salt marsh restoration / creation and sale of biodiversity offsets, e.g. through coastal housing developments.

Blue Carbon Offsets

In Kenya, Gazi Bay, the conservation of mangrove forests is paid for using a blue carbon offsets project set up by the local community and Government. The project, accredited by the Scottish charity, Plan Vivo, is forecast to sell 3,000tCO₂/year over the next 20 years.^{19,20}

Marine Biodiversity Offsets

In New South Wales, Australia, the Government manages aquatic habitat through a policy of 'no net loss' from development impacts. No net loss is achieved by developers compensating for damage by transplanting seagrass, constructing fishways or making payments that are then used for strategic conservation rehabilitation projects.²¹



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PEOPLE AND EQUIPMENT

Resourcing relies not only on the effort, skills and knowledge of staff but also the qualities of positivity, innovation and passion in their work, required to meet the wide spectrum of needs and challenges in MPA management. With appropriate resourcing, MPAs are able to provide greater benefit beyond core ecological objectives, by enhancing the local socio-economics and any associated increased revenue in the area.

Resourcing of people and equipment to inform MPA management should not be seen as an insular Government issue however and can benefit further from community input, both voluntary and contracted time spent.

Managing the MPA network is a statutory duty, and if carried out effectively, can provide a wide range of benefits across the whole of society, spanning multiple generations. Therefore, although subsidiary income streams from third parties can be used to enhance performance; adequate, long-term and dependable funding from government is essential in ensuring a well-run network of MPAs that benefits society.



Limited Hours

There are examples of European Marine Sites in the UK being managed by one core staff, one day per week, due to funding limitations²². In some cases, the employment contract is funded on an annual contract and so poses issues in undertaking any substantial long term project work, thereby compromising the success of the MPA. In other cases, individuals providing regional input to a management group have also been limited in attendance and therefore have not been able to feedback on aspects of the MPA they manage, e.g. Seasearch dives for the Rathlin Island MPAs, Northern Ireland.

Marine Observers

Wester Ross MPA, Scotland, has a very active community that shows an interest and enthusiasm for the marine environment, as well as a desire for scallop dredging to be better managed. As such, the local community set up a voluntary Sea Change group to carry out monitoring, e.g. underwater filming, and to ensure wider involvement in the MPA. The group received support from the Government with equipment and training, and have in turn contributed to monitoring as well as public dissemination / education, through their own website.



PLANS AND MANAGEMENT

ESTABLISH ZONING FOR ACTIVITIES
ESTABLISH MANAGEMENT RULES FOR ZONED AREAS
ESTABLISH ENVIRONMENTAL MPA OBJECTIVES
ESTABLISHED SOCIO-ECONOMIC MPA OBJECTIVES
IDENTIFY BENEFIT SHARING RULES
IDENTIFY BENEFIT SHARING RULES
DEVELOP ALTERNATIVES FOR DISPLACED ACTIVITIES
DEVELOP A MANAGEMENT PLAN
UPDATE MANAGEMENT PLAN/RULES BASED ON MONITORING DATA

DEFINITION

The plans and management of an MPA are the central underpinning of a site. They pass through every stage from setting out the environmental and socio-economic objectives, to management of activities by benefit sharing and zoning, through to the overall management and business plans to ensure the conservation objectives are met. Intrinsic to this cycle is setting specific objectives and goals that are addressed by strategies and actions in sufficient detail, through a prioritisation process.

“Planning and management draws on the best available knowledge of the social and ecological context of the site, using an adaptive management framework that anticipates, learns from and responds to

changes in its decision-making.”¹⁰

Ultimately, activities across an MPA may be limited by location, duration, frequency, scale and method, across a range of users and issues, including fishing, aquaculture, bycatch, ballast, dredging, diving, mooring and recreational pursuits. These may be addressed through both legal mechanisms of byelaws, licenses or permit conditions / restrictions, as well as zoning, Codes of Conduct, Memorandum of Understanding and other voluntary measures²³.

Management Plan

The Exe Estuary Management Plan 2016-2021 provides a framework to ensure effective management of the collective MPAs through all relevant bodies. It sets out policies for each core focus area, including climate change, natural and historic environment, users of the estuary, environmental quality, understanding and protection. The plan is periodically updated (with the previous plan for 2012-2015). The establishment of the Exe Estuary zoning scheme represents an evolution in the delivery of MPA management. Many of the recently designated MPAs in the UK do not have up to date management plans in place yet and could learn from the Exe experience.



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ADAPTIVE MANAGEMENT

“A solid foundation of adaptive governance should ensure that a site is able to monitor, measure and demonstrate that nature conservation and social goals and objectives are being achieved in the face of changing circumstances.”¹⁰

Adaptive management allows for plans to be made where there is uncertainty; and the ability to respond quickly to changing information as it becomes available. It allows for action despite uncertainty in existing conditions and trends, both current, e.g. ecological features, or future, e.g. climate change and activities affected by the MPA. This uncertainty may be reduced in interactive steps through monitoring, improved understanding and guidance.

Using this knowledge to update plans allows for reduced risk and appropriate measures to be in place. In some cases this may result in reduced control of activities; plan updates can therefore be of greater benefit to all users. As such, it is key that plan updates are demonstrated to the wider community.

“Adaptive management is made possible through governance vitality which is about taking decisions in timely, well connected, adaptable, wise, creative and empowering ways.”²⁴



ACTIVITY USAGE

It is increasingly being realised that MPAs can provide a positive opportunity for growth in certain activities through careful management. Growth may come from increased revenue in businesses that benefit from greater biodiversity, e.g. tourism and ‘spill over’ fishing to adjacent areas, or improved health and well-being of the local population and visitors, making greater use of local services. The role of local communities and stakeholders therefore carries significant weight to the equitable sharing of costs and benefits.³¹

United Nation targets aim for “coastal and marine areas [to be] conserved through effectively and equitably managed [systems]... that recognize and respect the rights of indigenous and local communities, and vulnerable populations....[Communities] should equitably share in the benefits arising from protected areas and should not bear inequitable costs.”²⁵



Where activities may have a negative impact on a site, spatial regulation is key. Management of activities within an MPA ranges from restrictive use, zoning, benefit sharing rules and displaced activity compensation.

Zoning Areas

Zoning of the marine areas around Lundy Island, southwest England, was originally carried out through its Marine Nature Reserve (MNR) status but continues now as a SAC and MCZ. Zoning includes:

1. No Take Zone: no fishing or collection of sea life anywhere and no anchors or diver shot lines within 100m of certain areas
2. Refuge Zone: no fishing except potting or angling
3. Recreational Zone: promoted for recreation but with same restrictions as for Refuge Zone
4. General Use Zone: all activities allowed apart from spearfishing
5. Archaeological Protection Zones: no diving or fishing without a license²⁶

Zoning of MPAs may also include e.g. additional scientific areas and special purpose areas, e.g. for pre-approved activities such as aquaculture²⁷, as well as recommended anchorages.



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Evolving Usage

For Thanet Coast SAC, an economic development strategy (set alongside the management plan) was developed to promote 'green growth'. This plan has successfully increased 'green tourism' with raised visitor numbers to the natural environment. By changing the type of tourism, the area experienced reduced disturbance with the recovery of little tern populations. Progression towards sustainability for the whole area continues. Economic development opportunities were a key driver of the designation and central to the successful development of the MPA, to provide new jobs for the local community and regenerate the whole area. Economic development continues with the increase of eco-tourism.

Economic Growth or Compensation

The Great Barrier Reef has demonstrated that multiple-use zoning allows for a range of sustainable fishing activities. Despite 2003 objectives and biodiversity targets, adjacent fishing grounds have undergone an increase in fish stocks. For example, coral trout increased by 31-75 % in the majority of reefs following 1.5 to 2 year closures to fishing²⁸, which has resulted in increased abundance of larvae²⁹. Whilst increases in wider catches have not offset the overall losses due to the no-take zones³⁰, the tourism industry has benefited from greater fish populations and there is now greater resilience and sustainability of reef line fishing in the longer term.³¹

As a result of zoning a structural adjustment package was developed for fishers, their employees and others significantly negatively impacted. This includes e.g. Licence Buyout Component.³²



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Disputes

The intended protection of Loch Foyle, a transboundary area in Northern Ireland (NI), has been disputed between the NI and Ireland governments due to a conflict in shipping interests. As a result, it has drawn a lot of staff time and now lacks resource to take the process further and has been impeded by a lack of stakeholders covering all interests on one management group.



Alternative Livelihoods

The creation of alternative sustainable livelihoods can be used to show that the short-term constraints on economic activities created by MPAs can be compensated for and/or overcome with opportunities and benefits in the medium or long-term.

A 2010 workshop, representing 16 Mediterranean countries found that alternative livelihood initiatives were useful tools to build social acceptance of MPAs and integrate the community into the creation and management of the site.

It was found in some cases that the MPA could benefit from the activities e.g. contributing to operating costs, management support etc. For example, in the Var department of France, in order to reduce overfishing, fishermen were encouraged to diversify by inviting paying tourists on board to observe their traditional activities. This reduced the level and intensity of fishing within the MPA while providing an additional income stream to the fishermen.³³

“Ultimately, governing the oceans in a sustainable way could see Marine Protected Areas as a driver – not a limit – for the vital economic and social benefits that we derive from the global ocean”¹

Intrinsic to the planning and management cycle is setting specific objectives and goals, prioritising these and acting on them - especially through communication on the ground. However it is only through monitoring management plans over time that MPAs may truly become effective tools to safeguard the UK’s valued marine life; MPAs undergo ever changing conditions, and increasingly so, with climate change impacts now seen on a yearly basis.



INVOLVING PEOPLE

SET UP STAKEHOLDER PARTICIPATION PROCESS
PUBLICLY COMMUNICATE ABOUT THE MPA
SUPPORT AN ACTIVE & INCLUSIVE STAKEHOLDER ENGAGEMENT PROCESS
CREATE EDUCATION PROGRAMME LINKED TO MPA OBJECTIVES
BUILD A SENSE OF RESPONSIBILITY FOR THE MPA BY STAKEHOLDERS
SUSTAIN & BUILD ON COMMUNITY INVOLVEMENT
REPORT PROGRESS TO THE COMMUNITY

DEFINITION

Inclusive, meaningful and consistent participation of stakeholders and the community throughout the MPA management cycle is a significant contributing factor of success in many MPAs and in achieving conservation goals³⁴. This is led by the systematic identification of stakeholders, with deliberate, adequate, accessible and timely opportunities provided for input.

During the various stages of participation, from set up through to long term management, people may get involved in various ways, from information sharing and consultation, to collaboration and shaping of plans through an active role on the management group ('empowerment')³⁵.

Ultimately, stakeholders and the community wish to be involved in and influence decision making. Providing such opportunities gives way to a sense of local ownership in many cases,



which provides not only pride and opportunity to the local community, but also a greater commitment to safeguarding the site and complying with management rules.

"For MPAs to achieve their biodiversity conservation goals they require community support, which is dependent on wider social, economic and political factors."³⁶

SET-UP

Good practice of MPA stakeholder participation depends on e.g. systematic identification of stakeholders, using an accessible language, having clear terms of reference for engagement and an adequate period timetabled.

Simultaneous Designations

The large number of MCZs recently designated in England, simultaneously in large groups (or 'tranches') pose a greater challenge for ongoing engagement (as well as Government resources). These may require a similar timeline for stakeholder engagement, which can be highly demanding on stakeholders' time.



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In the UK approaches vary from site consultation events, to regional approaches, with stakeholders providing key input to the evidence base at the set up stage. Proactive approaches may also extend to local communities, submitting proposals for new MPAs and getting closely involved in the management to protect nature and their own livelihoods.

Protecting Livelihoods

In Scotland, stakeholders are now able to put forward areas they would like to be protected; and have done so for >10 MPAs to date. The Scotland Sea Angling Network proposed three key hot spot areas to protect common skate on the West Coast. This is a critically threatened and declining species and the network's own tagging system showed that same skates were being caught by multiple anglers, indicating a reduced population.

The Coastal Communities Network recognised the importance of the areas and also proposed Argyle as a "Hope Spot", a place of global importance for skate and other species.

Such stakeholder activities have now resulted in designation of Loch Sunart to the Sound of Jurra Nature Conservation MPA (NCMPA), with stakeholders' own application of new technology to identify individuals through photo / features for ongoing monitoring.

Similarly, Wester Ross MPA was proposed by the Gaeloch and West Ross community to protect habitat such as Maerl.

Economic Regeneration

The area around Thanet Coast SAC was in great need of economic development and regeneration and so when the SAC was designated, local stakeholders who had engaged in the process could readily see how the designation could be of benefit to the local community. The SAC has therefore been leveraged by local businesses and industry to make improvements to the area, resulting in an increase in eco-tourism and commercial ventures, e.g. location set for films and advertising, with all financial gain retained by the local community³¹. This is a great example of taking advantage of local designations and working with them to the benefit of stakeholders.

"There are clearly defined, legitimate, equitable, and functional governance arrangements, in which the interests of civil society, rights-holders and stakeholders, are fairly represented and addressed, including those relating to the establishment or designation of the site."¹⁰



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INSPIRATION IN NATURE

In addition to the more logistical programming and facilitation of stakeholder engagement, by stimulating interest in the marine environment, a greater level of engagement can be expected. Interest may be gained not only from physically viewing the marine habitats and species (whether first hand or remotely), but also educational programmes, coastal art projects, community information walks, coastal warden schemes, training courses.



Due to cuts in government funding in the UK, the roll out of these types of schemes is becoming increasingly patchy and dependent on interested third party organisations. However there are many ways to engage a diverse population, considering age, gender, experience etc, drawing on direct survey evaluation of how the public perceive the marine environment in the UK³⁷.

Innovative Approaches

For the Wash and North Norfolk Coast SAC, eastern England, a marine campaign was carried out to increase engagement of “selling our underwater landscapes”. Underwater flight simulations experiences and posters were provided at public events, such as dive shows, alongside graphics and artworks to promote the importance of the site.

“An educated and aware user is more likely to voluntarily abide by laws governing its protection”³¹

Getting Up Close

For Loch nam Madadh SAC, Scotland, a glass bottomed boat tour was provided to 281 locals over 1.5 days, including many children and resulting in a significant increase in interest for all. It is believed that this experience has transformed negative perceptions to a more positive view of sustainability for the rural development sector³⁸. Other MPAs in Scotland have used a tank exhibition, snorkel trails, and have even engaged audiences following marine and coastal films at the Outer Hebrides Film Festival, as carried out by Creative Carbon Scotland.

[Great Barrier Reef Marine Park Authority] has always, and will continue, to view education as the most effective strategy to encourage compliance with [Great Barrier Reef Marine Park] management principles.”³¹



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Marine Parks for Communities

Since its concept several years ago by the University of Plymouth, Plymouth City Council (PCC) are developing a project in the city of Plymouth to establish the UK's first National Marine Park (NMP). Working with partners the Blue Marine Foundation as well as local businesses, communities and stakeholders, it is hoped that the Plymouth NMP will provide the opportunity to establish and promote the strong linkages that Plymouth has with the marine environment, with the principal aim of better connecting people to the sea and to release the full potential of the social, environmental and economic benefits through sustainable use of the area.³⁹

FEEDING BACK

To keep the cycle of stakeholder participation alive, feedback to participants is an essential component to demonstrate the direct impact of their involvement and progress in the site management. Without feedback, interest may dwindle.

Further to communicating the compiled baseline evidence (e.g. environment, activities, infrastructure, attitudes and perceptions), of most importance is feeding back exactly how stakeholders have had a direct impact on decisions. This allows a clear feedback loop on involvement and encourages ongoing commitment.

Interviews

During the regional MCZ projects, fishermen were able to see their input to a nationwide data gathering exercise through 'Fisherman'. Staff visited all ports and fishing harbours to carry out interviews with skippers of fishing vessels, achieving spatial data on ~70% of the fishing fleet (for the case of eastern England, 'NetGain'), therefore providing a reasonably representative evidence base.

NURTURING INVOLVEMENT

Successful engagement may be measured through a change in both the reactive and proactive responses of stakeholders. For example, reactive responses may include a greater sense of satisfaction in the MPA and its outcomes. Stakeholders may even perceive greater socio-economic benefit from the designation.

Transforming Perceptions

During the Northern Ireland MPA process, questions raised by stakeholders were framed by negative perceptions towards the MPA at site consultation events; yet these were improved on every occasion following consultation at the events.

However proactive stakeholder responses may go beyond this to include a sense of personal investment and ownership to the MPA, potentially with actions to ensure its protection. Activities may range from attending a day survey skills training course provided through the MPA management, or even extend to a



major change to industrial operations, such as creating sustainable fisheries brands. Similarly, local community members may wish to ‘champion’ programmes, particularly effective when famous celebrities are invited to take leadership.



Call for Management Measures

Non-native species such as the Slipper limpet and Pacific Oyster have resulted in some MPAs not meeting conservation objectives, as with the Plymouth Sound and Estuaries SAC. However stakeholders have been proactive in getting involved, e.g. in Thanet MCZ, England, where local stakeholders expressed a need to control the increase of non-native Pacific oysters. Since their involvement, a clean-up was set up by the management group to physically remove the species, with similar action taken in other MPAs in the southwest of England.

“An appreciation is needed of how stakeholders, whose support is required to achieve MPA conservation goals, measure success and how that varies between stakeholder groups.” ³⁶

Perceived Value

For the Thanet Coast SAC, benefits of the MPA designation have been promoted through continued collaboration with the local community, generating a sense of pride and recognition of value.

‘Championing’

During the rezoning process for the Great Barrier Reef Marine Park, Australia, ‘Champions’ (well recognised celebrities) were very effective in helping raise public awareness.³²

National Pride

Since Darwin Mounds SAC was heralded by the media as “Scotland’s Barrier Reef”, public awareness has raised significantly, resulting in a sense of national pride over the existence and protection of coral reefs in the UK.

Understanding people’s wish to get involved and building on existing input is a key process. Recognising the passion, interest and change in local people, combined with their joint efforts are just as important as recognising their future needs to stay involved.

It is important to remember, however, that involving people beyond the core MPA management and other associated site specific groups is not only about local people. Sometimes of equal importance are stakeholders from national organisations.



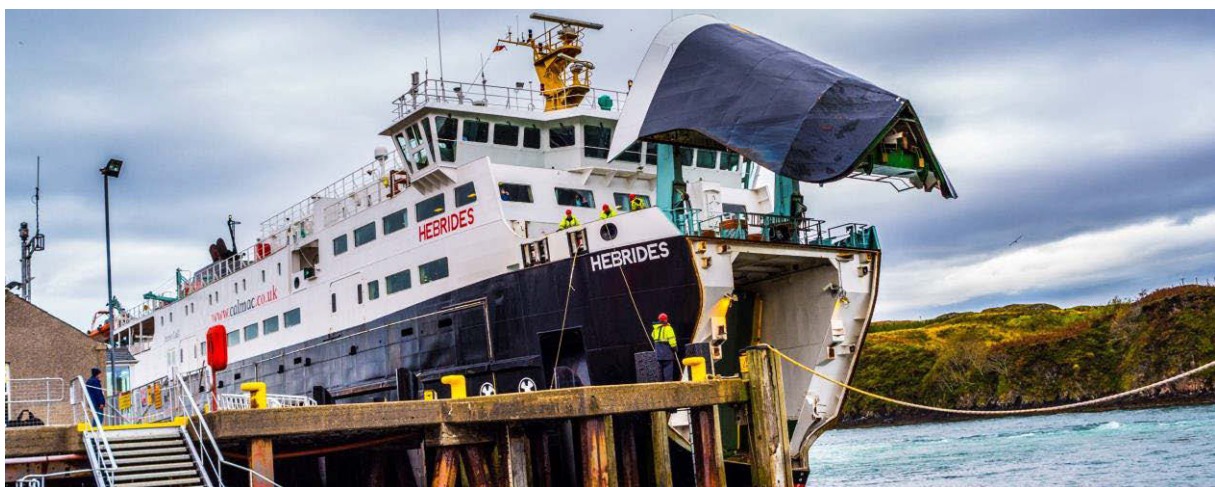
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Promoting Within Government

For the Great Barrier Reef Marine Park, the Outlook Report and other products (on-line evidence, fact sheets etc) have proven to be very effective in raising awareness with other government agencies, politicians and the public.³²

People want and need to be involved in their local area's management, whether it is their workplace, livelihood, leisure space or even people just valuing it for knowing 'it is there'. There is so much to be gained from involvement. Moving beyond the more formal statutory engagement to a beneficial involvement and seeking opportunities, is key to success. The sense of ownership of a beautiful, valued marine site need not lie only with the Government but can extend out to all involved, ensuring the long term safeguarding and success of the site.

“Ultimately, understanding how stakeholders perceive success should feed into the development of MPA designation plans and management strategies to maximise the potential realisation of multiple success types and thus more equitable experience of MPA success across stakeholders.” ³⁶





MONITORING

MONITOR BIOLOGICAL, SOCIAL AND ECONOMIC FACTORS

MONITOR MANAGEMENT ACTIVITIES AGAINST PERFORMANCE

DEFINITION

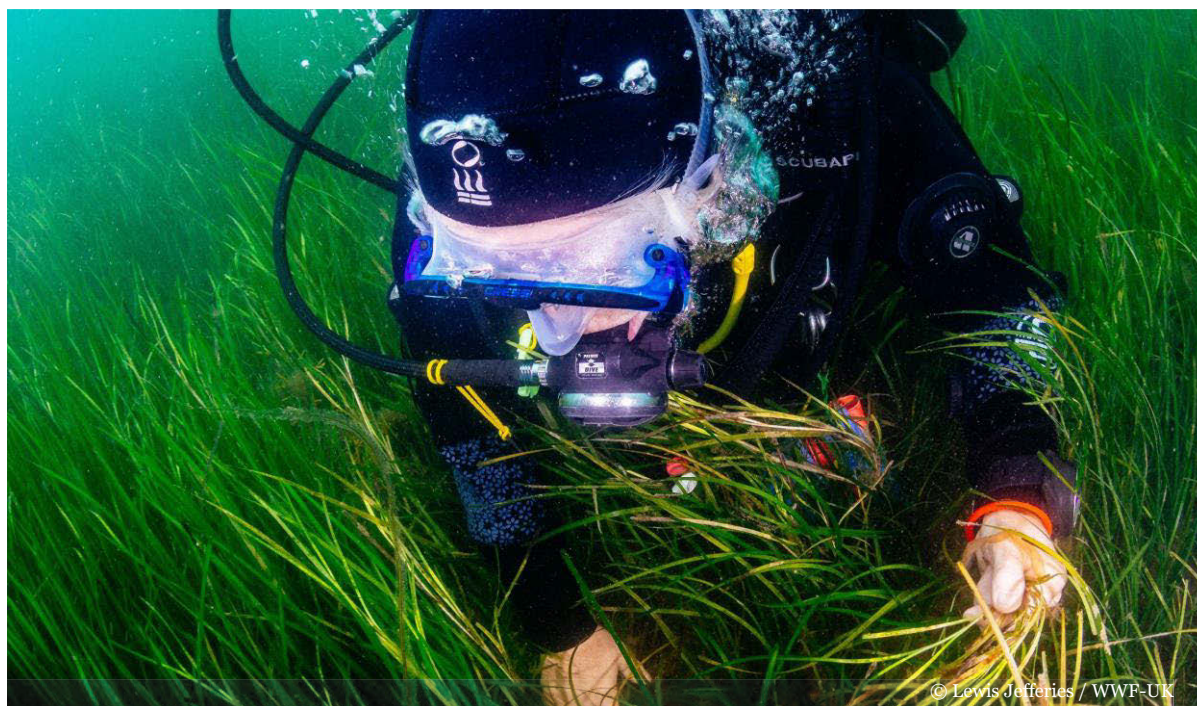
Monitoring determines whether the efforts in place to manage an MPA are necessary, adequate and successful. Ultimately, it informs whether the site is achieving its overall management goals and objectives, and whether it will continue to do so through any changing patterns in the area, e.g. climate change or increase in tourism. Therefore the key outcome of monitoring is an update to the management plan. Critically,

without monitoring, the success and impact of an MPA is unknown and thus unable to adapt to change.

“Quantifiable measures (indicators) are an essential aspect of effective monitoring programs, enabling us to assess if MPAs have achieved their objectives.”³⁶

ECOLOGICAL

To inform the monitoring of an MPA, thresholds of acceptable levels of impact and target condition need to be set for each of the site’s ecological features. These allow targeted monitoring that aims to measure change over a specified time compared to the baseline. Often



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these will be revised over time as knowledge is accrued on the environment.

Extensive Monitoring

Monitoring at Skomer MCZ has been possible due to a long history of investing in staff and infrastructure by CCW / NRW since its designation as a Marine Nature Reserve in 1990 and ongoing investment. This monitoring has provided evidence such as the positive long-term effects of fishery management on sediment seabed communities such as scallop populations, e.g. resulting from restrictions on scallop fisheries and mobile bottom-fishing techniques. Monitoring has also demonstrated long-term benefits to seagrass habitat resulting from management of recreational boat anchoring. Such evidence has informed monitoring policy and strategies in other parts of Wales and the UK.

“Quantifiable measures (indicators) are an essential aspect of effective monitoring programs, enabling us to assess if MPAs have achieved their objectives.”³⁶

Monitoring by Fishermen

In Scotland, Fishermen were invited to provide their vessels under paid commissions to monitor MPAs, resulting in increased awareness and buy in. This scheme was dependent on EU funding (EMFF) and carried out as a pilot to date, with surveys for Loch Alsh, the Inner Sound, Wester Ross, Small Isles and South Arran MPAs⁴⁰.

Lack of Monitoring

At the Antrim Coast MCZ, Northern Ireland, diving has revealed that seagrass is being damaged. However it is not known what the exact cause is. Therefore no management may be put in place and it is not possible for the site to achieve its conservation objectives without further monitoring of activities.

SOCIO-ECONOMIC

In addition to ecological features, monitoring is also required for the level and intensity of pressures e.g. resulting from human activities. However there is a far greater range of socio-economic factors to consider, that give a fuller picture of the site's dynamics and resulting benefits from its protection in the local community / businesses / tourism etc.. Therefore, key to monitoring is the collaboration between managers, scientists, industry and other stakeholders, i.e. all those impacted by and impacting on the site's designation.

“As well as providing useful information on different aspects of success about which managers may not have thought, using stakeholder suggested measures of success acknowledges stakeholders views, makes the achievement of more equitable success more likely, and encourages buy-in and future support.”³⁶



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Monitoring of socio-economic measures may be easy and relatively cheap to carry out (e.g. assess signage, funding) through to expensive (e.g. dealing with misinformation in the media). Therefore, a review of costs can allow a prioritisation of monitoring to proceed even when funds were low; and in some cases working with stakeholders who may be willing to undertake certain aspects voluntarily.

Monitoring is essential to determine whether a site is meeting its objectives and goals. Only with adequate and time sensitive monitoring can MPA management respond to site specific or wider scale changes e.g. climate change.

Thus long term monitoring is an essential ingredient in the success of an MPA.

“Monitoring, evaluation and learning provide an objective basis for determining measures of success.” ¹



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IMPLEMENTATION & RESULTS

ENFORCE MANAGEMENT RULES

EFFECTIVELY IMPLEMENT THE MANAGEMENT PLAN

DEMONSTRATE THAT MPA IS ACHIEVING OBJECTIVES

DEMONSTRATE THAT MPA IS IMPROVING ECOLOGICAL CONDITION

DEMONSTRATE THAT MPA IS PROVIDING SOCIO-ECONOMIC BENEFITS

DEFINITION

Implementation and results of an MPA are achieved through direct action taken to put in place all the measures required to achieve the MPA's objectives, as specified in the management plan. Drawing on all the previous criteria discussed in this report, implementation and results 'make it happen', bringing the MPA 'alive' and into being. Results deliver the benefits, not only to the environment, but also to the wider community and stakeholders.

TAKING ACTION

Whilst the plans and management set out the actions of how an MPA should be controlled, it is only when these plans are appropriately communicated, discussed, explained, justified and, where necessary, enforced, that they may become effective. There is no fence in the sea to delimit controlled areas, rarely any physical signpost at the exact place where rules become applicable. So whilst enforcement through

monitoring (e.g. by vessel or satellite tracking) is a key tool, a continuous watch is impossible.

Communication about the rules in place is therefore of equal, if not greater importance than enforcement. Whilst, at a minimum, communication is carried out through MPA stakeholder consultation events, a more comprehensive approach includes a range of communication sources appropriate and relevant to the stakeholder involved, e.g. issue of leaflets, zoning maps, Voluntary Codes of Conduct, in-situ noticeboards and signposts, websites and social media.

Local Stewardship

The Lyme Bay Fisheries and Conservation Reserve project is a collaboration between local fishermen, seafood businesses, Government and facilitated by the NGO Blue Marine Foundation. The group aims to protect the biodiversity of Lyme Bay, whilst developing best practice and innovation in managing fish and shellfish stocks with long-term benefits in the local communities. Achievements of the group include development of a Sustainability brand for fish and shellfish and trial of a novel inshore Vessel Monitoring System to better monitor smaller (<10m) vessels.⁴¹

More focused effort may be provided through specialist interest groups which may (or may not) form independently of the MPA, e.g. fishing groups. These groups can also usefully be stimulated through Government or NGO leadership. Such groups can help bring a sense of responsibility and promote sign up to rules,



as well as providing a mechanism for distributing the conservation messages more widely, beyond solely 'group members'.

The involvement of the local community and stakeholders, if interest is nurtured, may even extend to active, community-led monitoring of an MPA. Groups can help engage with users and explain rules in place or Codes of Conduct to individuals.

Electronic Records Database

In California, the California Department of Fish has set up an electronic records management system to capture and share law enforcement data, including real-time identification of repeat offenders.⁴²

Community Watching

At Thanet Coast SAC, southeast England, a Coastal Warden's Scheme has conducted peer enforcement, whereby each warden in the local community regularly surveys an assigned section of coast and reports on illegal and anti-social behaviour (though is not empowered to enforce). This has resulted in a sense of responsibility and ownership among stakeholders, encouraging cooperation and trust between stakeholders.

Regulating use of MPAs using 'hard' enforcement is most effective when used as a last resort, where voluntary measures cannot be used or relied on. Of particular success has been the use of shared enforcement responsibilities between organisations and novel technology.

Technology has provided a range of methods to track vessels, including satellite tracking vessel monitoring systems (VMS) and automatic identification systems (AIS), and centralised databases (allow offences to be logged and flagged). Many opportunities continue to open up with introduction of new technology such as satellite imagery, autonomous sailboats and on-board cameras.

Vessel Tracking

For the Great barrier Reef Marine Park, considerable resources and technological advances are used in surveillance and enforcement including VMS. Without this it is considered that the management of the MPA would not be successful.³²

SUCCESS?

MPAs have the potential to improve the condition and extent of marine habitats and species across the UK, support local communities and provide sustainable livelihoods. However, many MPAs are having little impact and failing to reach their potential; WWF's Compass tool can help rectify this.



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There are examples of individual MPA successes in the UK that highlight the significant potential of the UK's network to catalyse ocean recovery, for the benefit of local and national communities as well as the economy.

Rise in Scallops

Following a ban on scallop dredging, an increase in scallops has been seen around Skomer Island. It is thought that evidence for this increase may be more readily available than other areas across Wales because of the established long term monitoring in place and project resource.

Fish Biomass Increase

One pan-Mediterranean study (including Spain, Morocco, Italy, Greece and Turkey) has presented direct evidence of increased fish biomass and predatory fish in MPAs compared to non -protected areas, but only where the MPAs were enforced.⁴³

Habitat Recovery

Strangford Loch in Northern Ireland has demonstrated recovery of horse mussels since bottom trawling and dredging were banned (activities for scallop fishing). Banning was carried out through a fishery licence, two exclusion no take zones, diving licence restrictions and induced mussel spawning from hatchery interventions.⁴⁴

Increased value

A series of MPAs in the Mediterranean have demonstrated significant local benefits to the economy and community. For example in the Spanish Medes Island MPA, over 10 million Euros is now generated per year in fishery and tourism revenues, since it was designated 20 years ago. In the Tavolara-Punta Coda Cavallo MPA in Italy, >10,000 recreational divers now visit the site with >15 million euros local annual revenue. In the Mediterranean, it is also shown that MPAs preserve the cultural heritage of fishing and maritime communities, e.g. fishing traditions, navigation, music, stories, recipes, and religious celebrations.⁴⁵



However success is measured not only in the achievement of ecological objectives but also of socio-economic objectives, such as growth in local industries and businesses, employment or improvement of health and well-being from increased recreation and enjoyment of the site. This is critical to feed into a local sense of ownership to the MPA.

FEEDING BACK

It is crucial that the benefits of MPA management are communicated and demonstrated back to all. This includes reporting to the management group and other supporting groups, to stakeholders and the community, as well as the scientific community and key national bodies, including funders. Demonstrating success ensures long-term trust and support; however there is limited feedback to stakeholders in the UK on MPA management outcomes (post-designation). As value of a site increases over time, this is an important feedback loop and may help gain more collaboration, resources and funding, maximising success into the future.

Scientific Papers

There are many examples where evidence for the success and benefits generated from MPAs are given in scientific literature. One such example is the Great Barrier Reef Marine Park, e.g. increased fish numbers in no-take zones and the reduced outbreaks of crown-of-thorns starfish outbreaks in no-take areas closed to fishing.³²

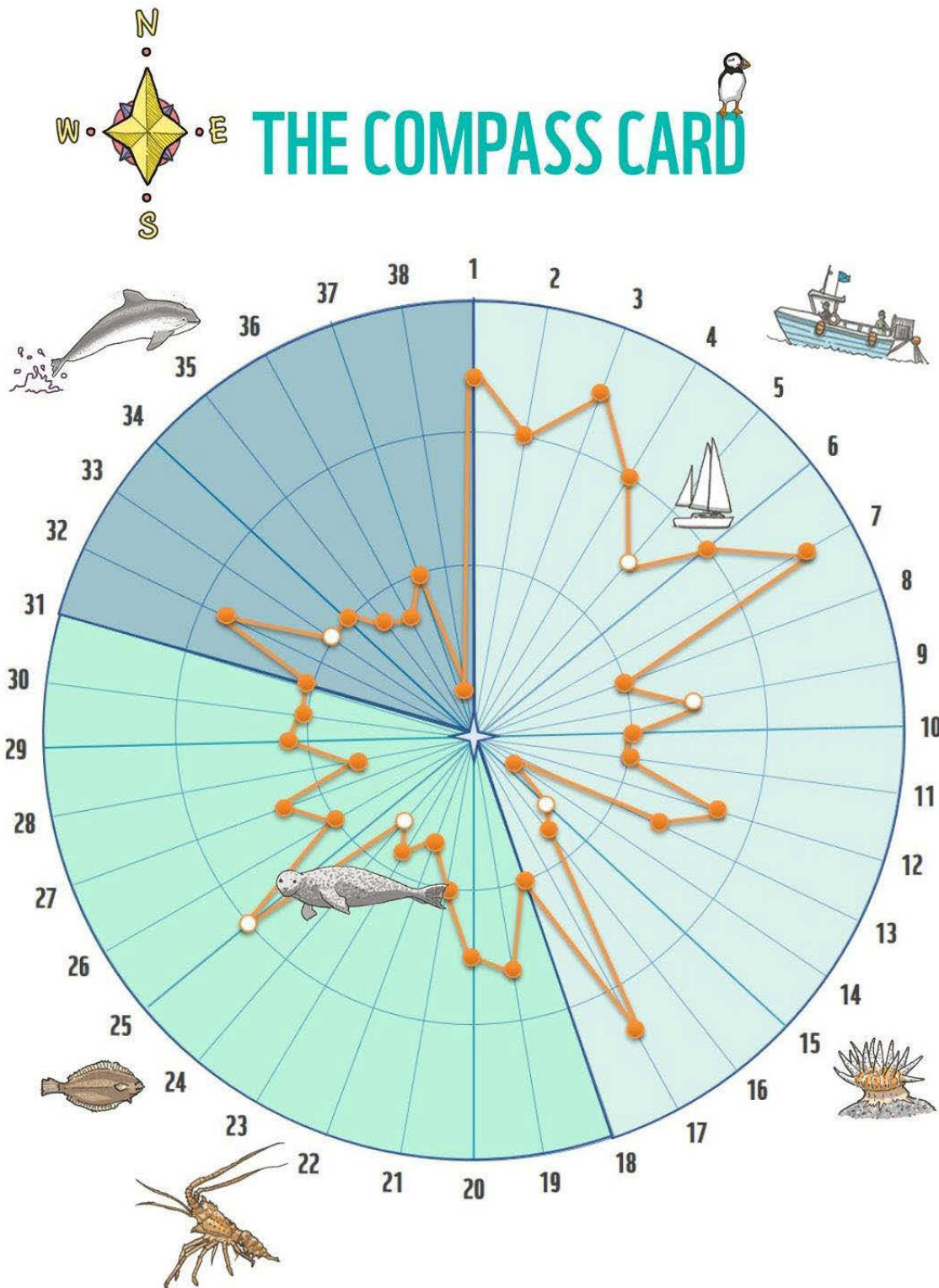
Impact on the site confirms it has moved from a ‘paper park’ through to a ‘living and breathing’ MPA where there is a visible, quantifiable, justifiable change on the ground. This is the stage where all the efforts of previous actions come to fruition. Without good decision making, adequate resources, the involvement of people, enforcement and monitoring, the tangible benefits of an MPA may never be realised.



“It is unrealistic to expect quick results from a novel and complex learning-by-doing negotiating process between stakeholders with different interests.”⁴⁶



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"Many Individuals are doing what they can. But real success can only come if there is a change in our societies and in our economics and in our politics."

— David Attenborough



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ACRONYMS

		SPA	Special Protection Area
		UK	United Kingdom
		US	United States of America
		VMS	Vessel Monitoring System
		WWF	World Wide Fund for Nature
AIS	Automatic Identification Systems		
CCW	Countryside Council for Wales		
EMFF	European Maritime and Fisheries Fund		
EMS	European Marine Site		
EU	Europe		
GBRMP	Great Barrier Reef Marine Park		
MCZ	Marine Conservation Zone		
MNR	Marine Nature Reserve		
MPA	Marine Protected Area		
NCMPA	Nature Conservation Marine Protected Area		
NGO	Non-Governmental Organisation		
NI	Northern Ireland		
NMP	National Marine Park		
NRW	Natural Resources Wales		
PCC	Plymouth Country Council		
RSPB	The Royal Society for the Protection of Birds		
SAC	Special Area of Conservation		
SOR	Sky Ocean Rescue		



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