

The Scottish Association for Marine Science



SCOTTISH
ASSOCIATION
for MARINE
SCIENCE

Response to the Marine Bill Consultation Process

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CHAPTER 1 - SETTING THE SCENE

Q1 Do you agree that change is needed to the management and legislative framework for managing Scotland's seas?

Yes. As the interest and use of Scotland's seas continues to grow, there is a need for frameworks that promote integrated and sustainable management of the marine estate. Traditional existing sectors such as fisheries, aquaculture, ports, and coastal development are important to the national economy and are all undergoing a variety of changes, contractions and growth. New important sectors such as energy development and tourism are emerging as potential knowledge and innovative growth sectors. Underpinning the development of ocean space is the need for a rationalisation of conservation and protection policy that protects a comprehensive, adequate and representative system of genetic, species, and ecosystem biodiversity – the foundation that all Scottish marine development is based upon. It is the services from Scottish marine ecosystems that provide the economic growth, social cohesion and inspiration for ongoing development and well being. We must move from a highly regulated, segregated sectoral approach to an integrated, forward looking, strategic system that balances existing and future use and wealth creation with conservation, science, and innovation. This will position Scotland as a leader in marine policy and development and should be underpinned by an excellent science base.

Q2 For each of the following areas, do you agree that Scottish Ministers/Scottish Parliament should put in place a new legislative and management framework to deliver:

a) a new system of marine planning for the sustainable use of Scotland's seas;

Yes. This will be the basis of future plan making, conservation planning and appropriate development. The system should not shy away from spatial and temporal zoning where appropriate, and integrate with WFD and Framework Marine Strategy Directive (MSD) commitments, terrestrial planning, and ICZM.

b) improvements to marine nature conservation to safeguard and protect Scotland's marine assets;

Yes. This is particularly relevant after the failure of the CMNP process, there is a clear need for comprehensive protection of Scottish marine biodiversity. In addition there must be an ecosystem based approach including the rationalisation of powers for protection including out to 200 nm.

c) a streamlined and modernised marine licensing and consents system;

Yes. This must be streamlined and provide a 'one stop shop' approach for marine planning and consents. It must link to marine spatial planning – therefore MSP must be completed as a priority in Scotland. Important not to add this as another layer of bureaucracy- this will be a significant challenge.

d) better stewardship backed up by robust science and data; and

Yes. A national and regional system of objectives, indicators, and performance measures must underpin the bill. This should be backed by a transparent, comprehensive, funded and public science base that backs up future planning and conservation decisions. The science base must be responsive to policy needs, and policy must be developed with science as its core. One issue of importance is the establishment of experimental marine reserves that explore the outcomes to biodiversity, fisheries production and social and economic impacts. Marine reserves should not only be seen as a means to protecting the 'crown jewels' of biodiversity but also as a way of setting aside damaged areas in order for them to recover before subsequent sustainable use.

e) a new structure, Marine Scotland, to deliver sustainable seas for all?

Yes. The MMO needs to be well resourced, democratic and accountable to the public and to parliament, transparent and open, and link the existing expertise in the marine estate. It will need to be seen as an independent organisation and must be developed in full consultation with stakeholders and with ongoing consultation throughout.

There must be a parallel scientific evidence base which is not managed by Marine Scotland. The scientific base must be independent from the regulator. This requires sufficient provision of funds (see Q44).

A new layer of administration will not work – we support the model of a facilitator and linking various departments and experts through the 'shop front' model for consents. The MMO should drive all MSP and set the marine scientific agenda.

Q3 What difference would these changes make to your area of interest?

These changes would make a significant difference to SAMS in terms of science provision, policy research, and engagement with stakeholders. SAMS is a major Scottish marine science organisation with a 125 year track record and is responsive to changes in the policy environment and delivery of policy relevant science to support the development of all aspects of the Marine Bill.

Q4 Scottish Ministers believe there are strong practical reasons for further discussion with the UK Government on the allocation of responsibilities around the seas of Scotland. Do you agree with this approach?

Yes. There is some credence in the argument that not enough effort has been given to cross jurisdictional issues within the UK and Scotland over marine planning. This is in terms of rationalisation of jurisdictional boundaries (12nm & 200nm) and in terms of adjacent Scottish and English boundaries. Both marine bills should have in place a commitment to negotiation of a national UK policy statement and resolution of boundary issues within an ecosystem approach. We would support the rationalisation of conservation planning out to 200nm to link with other sectors such as fisheries.

It should also be noted that the MSD will create important joint planning obligations between the UK and its neighbours in order to define and, by 2020, attain 'Good Environmental Status'. Scotland should play a major part in defining the strategic goals for the two MSD North Atlantic sub-regions that affect its waters, namely the North Sea and the Celtic Seas. The current draft of the UK Marine Bill does not provide clear avenues for such engagement. This must be clarified urgently, given the bearing it has on future economic and social development in Scotland.

CHAPTER 2 - CREATING STABILITY: MARINE PLANNING AND INTEGRATED COASTAL ZONE MANAGEMENT

Q5 Do you agree with the overall 3-tier approach to marine planning in Scotland?

Yes, a scaled approach to spatial planning is appropriate for the aims contained within the Scottish Marine Bill.

A broad international framework for marine planning is essential to ensure Scotland remains in accordance with the many EU directives and international agreements relating to marine and coastal resource use e.g. Habitats Directive, Marine Strategy Directive, OSPAR, CBD etc. It also gives the opportunity for planning to be developed incorporating the ethos behind Large Marine Ecosystem (LME) management. Scotland is bounded by three LME's; the North Sea LME to the east, the Celtic/Biscay shelf LME to the west and the Faeroes Shelf LME to the north. The impacts and needs of these LME's all vary as do their drivers. The international scale enables Scotland to contribute its vision towards sustainable management of the oceans and offers the potential to develop international (and national) networks of protected areas to maximise benefits

A national framework is a critically important scale. It allows decision making structures to be developed in accordance with national policies and goals. This over-arching scale will consider cumulative planning considerations on a national level. This level needs to be engaged with parallel marine planning process in the UK and not resort to politics over boundary delimitation. It is critical the ecosystem basis be at the heart of the approach and that a rational science based process, with the principal of subsidiarity be the focus of boundary issues. A situation of alternative management

principles for marine environments in the same region is not what MSP aims to achieve. Consistency across habitats, users and boundaries is essential.

A regional level approach gives the opportunity to manage Scotland's coastal and maritime regions on an ecosystem approach and in at an appropriate scale, for example potentially allowing specific estuary management plans to be developed and implemented by single group with regional autonomy. It also offers specific protection for certain areas/species of special interest. The need for clear estuarine management is highlighted by figures released from SEPA in 2007 which show that 53% of Scotland's estuaries are at risk of failing good status according to the WFD¹.

Q6 Do you have any comments on the proposals for a National Marine Plan and the role of Marine Scotland in relation to planning at the Scotland level?

The formulation of marine objectives within the National Marine Plan and their attendant Marine Ecosystem Objectives must be developed on an equitable footing for all marine and coastal resource users. To aid this process the combination of ecosystem valuation and marine and coastal industry revenues resulting from resource use may help to aid the resolution of conflicts arising from the different needs of stakeholders involved and upon whom the attainment of these objectives will have most impact. The selection of regional units and management bodies is not clearly spelled out in the framework document.

Q7 Do you have any comments on the approach to setting out national objectives for marine planning?

The process should be science based to determine ecosystem objectives, and supported by social science research to determine the socio-economic structure and future planning requirements. National objectives for marine planning must take into consideration the main drivers of the marine and coastal habitats that they will be applied to. As mentioned in Q5 the three LME's surrounding Scotland all have varying drivers: the North Sea LME is driven by intensive fishing, with climate as a secondary factor and both offshore and land-based activities have a significant effect on this LME. Eutrophication is a major environmental issue for this LME; the Faeroe Plateau is primarily driven by climate with intensive fishing as a secondary force, climatic variability has a major impact on this LME; the Celtic-Biscay shelf LME is primarily driven by climate and tides and the very complex of natural variability adds a high degree of uncertainty to the management of marine resources within this LME. As such, the effects of climate change must be reflected within the objectives and considering this and the parallel changes in sea level rise and resultant coastal erosion these objectives must be dynamic and able to change to reflect the changing environment and needs of the coastal and marine users.

National objects must harmonise with planning for the UK Marine bill and the MSD.

Q8 Do you agree with the overall approach to planning at the international level beyond Scotland? Do you have any further suggestions or comments to add to the proposed approach, in particular on the UK high level objectives?

¹ http://www.sepa.org.uk/consultation/closed/2008/swmi_scotland/3.html

Yes, the sea cannot be managed on a sectoral basis. International co-operation is paramount for successful management of the oceans. An ecosystem based approach to management is recommended by many international conventions, (e.g. CBD), and considering marine environments, the LME approach seems pertinent. As such a dialogue could be opened with the countries who border the three LME's surrounding Scotland (Ireland, France, Spain Faeroe Islands & Denmark, Norway, Sweden, Germany, the Netherlands and Belgium) to develop an ecosystem based approach to this international level to achieve the UK's high objectives. Such an approach is embodied in the MSD and agreements such as OSPAR and the North Sea Ministerial Declaration process

Q9 Should Scottish Ministers use the Marine Planning system to deliver Scotland's obligations under the Marine Strategy Framework Directive?

Yes. This framework and the associated National Marine Plan should identify good environmental status under the EU directive and fulfil our planning requirements. In addition, Scotland should use its expertise in marine planning to influence and assist the marine planning process in Europe.

Yes as long as it is consistent in the event of a change in government

Q10 Do you agree with the overall approach and functions for Scottish Marine Regions? Do you have any further comments on the proposed approach to planning at a regional level?

This has not been made clear or explicit in the document. Following the publication of the bill, a process of identifying a model approach for regional determination, scale, objectives and governance should be pursued. The regional approach should not be too large (an example would be the planning regions in the Australian ocean policy) and be appropriate to capture ecosystem and economic activity.

Determining the governance arrangements for regional plans is a critical step. The determination of lead authority, the make up of the board, and the community and expert representation must be finely balanced. There must be a flexible process for regional determination, guided by a consistent set of spatial units and principles. Clear regulatory links are required between the Regional bodies and the MMO.

There is a suggestion of local authorities being designated lead authority for marine regions based on regional scales. This suggestion needs to be explored in terms of ability, resources and expertise. Separation of regional marine planning from consent making is an importance point to consider. In certain cases other bodies such as the groups set up under SSMEI initiative or the Local Coastal Partnerships may be appropriate. What the role and function of the lead authority is still unclear. The make up of the board should be by ballot or appropriate democratic and transparent processes, and the board will require real decision making procedures and structures. It is critical that the board is independent, impartial, and well resourced and a chairperson is selected on these grounds.

Provision should be made for an independent reference group made up of industry, environmental, scientific, and community groups. Local policy makers, government

representatives, and agency staff should be involved in a policy consistency and strategy reference group. We advocate a process of 'joint fact finding' where stakeholder representatives work with scientists to develop a knowledge base for subsequent policy development. This process ensures that science (and scientists) are not alienated from stakeholders and that there is a full understanding of the evidence base at every step. The approach contrasts from the traditional one of appointing a team of scientists to assemble the information base and then presenting (or sometimes challenging) local stakeholders with it. This traditional approach is confrontational and may well not lead to policies that local people are willing to buy in to (e.g. triggering conflicts between fishermen and conservationists). Social science should have a major role in this process because most of the policies will affect human communities and their economies.

As the Scottish Marine Regions will be the primary locus for ICZM delivery, they will also be the main arena for conflicts arising between stakeholders. The methodology for conflict resolution is unclear, and what is needed is a decision making framework and timeline for issues to be resolved.

The composition of the board will be pivotal to its success and acceptance by stakeholders. The board should be led by a neutral body, knowledgeable in marine matters, contain at least 2 salaried officers knowledgeable in coastal management and the application of GIS and spatial planning, and the rest made up from members representing the various stakeholders.

Underlying these structures is the provision of resources, training and expertise to undertake these functions, particularly in marine planning and objective setting. Do we have the necessary skill base in place for work of this magnitude?

Q11 Do you agree that Scottish Marine Regions should be responsible for integrated coastal zone management?

Yes. ICZM should be a regulatory requirement, but should be a flexible and consensus driven process supporting regional planning. The SMRs would be a focussed and regulatory driver for ensuring consistent and coordinated ICZM across Scotland. The relationship between existing local planning at terrestrial and coastal scales and the new instruments proposed by the bill is unclear.

However these regions should not be managed in isolation from each other, there must be consensual planning integrating all regions at a strategic level.

There are concerns that the SMR's may be under-resourced. There should be centralised resources to help with this as not all the regions will have the same expertise and funding to do a good job.

Q12 Do you agree that Scottish Ministers should place a duty on Scottish Marine Regions to adopt the eight principles defining integrated coastal zone management?

Yes, but this needs to be implemented on a national as well as regional level. For ICZM to achieve its aims it must be an iterative process, driven from the bottom-up.

Entry into the participatory process will only be assured if stakeholders can direct and define the actual and relevant issues that need to be managed and planned. A clear methodology needs to be defined to show how this process can be driven from the bottom up rather than traditional top-down approaches.

Again adequate funding must be available for this.

Q13 Do you have any other comments on the delivery of integrated coastal zone management alongside marine planning?

See above. Marine planning, as stated, can be the driver for consistent ICZM planning. The Marine Bill will formalise ICZM initiatives to a certain extent and give existing plans increased statutory and planning powers. It is important that the effort of past and present initiatives through the Local Coastal Partnerships and SSMEIs is incorporated into reforming ICZM efforts. A great deal has been achieved in existing programs and this must inform the development of marine regional planning.

The coastal zone is increasingly complex with existing and new sectors and stakeholders increasingly competing for space. It is anticipated that planning in the coastal zone to 3 nm will be a source of competition, conflict and complexity for marine planning. The links between the ocean, inshore and coastal, estuarine and terrestrial systems should be clarified in marine planning with the aim that marine plans encompass and coordinate all relevant activity in the coastal zone.

An essential first step in delivering ICZM is in defining the coastal zone – the area where management is to occur. A suggested definition of the coastal zone is (a) coastal waters; and (b) all areas to the landward side of the coastal waters in which there are physical features, ecological or natural processes or human activities that affect, or potentially affect, the coast or coastal resources. The Water Framework Directive provides a good definition of coastal and estuarine waters in Articles 2(6) and 2(7), but what constitutes coastal land needs to be addressed.

There are some concerns over the hierarchical system that may be established by the Marine Bill between coastal managers and coastal planners. Who will be responsible for the strategic (either geographic focussed or sector based) planning and operational (on the ground) planning initiatives, and who will carry out the plan. Will the coastal managers develop the coastal plan or is this developed remotely and given to the coastal managers to implement?

As ICZM is by its nature a voluntary participative process, mechanisms need to be put in place to overcome either apathy in stakeholders or the over-dominance of some stakeholders over others.

CHAPTER 3 - REDUCING THE BURDEN: LICENSING AND ENFORCEMENT

Q14 Does licensing remain an effective method of delivering both certainty for investment purposes and protection for the marine environment?

Yes, licensing is an effective method for delivering decision certainty and conservation outcomes. It should be incentive based (i.e. encourage best practice) and not offer any kind of ‘perverse subsidy/benefits’ to activities that are damaging to the marine environment. Licensing should be proportionate to the activity, status in planning, and impacts and be adequately monitored, reviewed, and carried out in an independent manner.

However, licensing is one of several core policy instruments that can deliver marine planning and management outcomes. For example, market based instruments, such as environmental taxation, trade, and certification are effective instruments to achieve marine conservation outcomes. Sustainability indicators and reporting mechanisms are another form of effective instrument for achieving marine sustainability goals. As is broader regulation and policy development. A portfolio of instruments, relevant to the activity and its scale, should guide investment, planning and conservation.

Q15 The existing licensing system covers most of the impacts on the seas from existing activities. One area of activity that has potentially large impacts and is not licensed is dredging. Scottish Ministers propose to license all new forms of dredging (i.e. those forms that agitate the sea bed). Do you agree? Are there other activities that should be licensed?

Yes, dredging should be included. However, it is clear that many existing types of seabed trawling have similar negative consequences. To be consistent, Scottish Ministers should review the costs and benefits of marine trawling and take a view on how this might be regulated to protect the environment.

Licensing must attempt to address by-catch issues within the fishing industry. Some licensing/quotas/restrictions can increase by-catch by encouraging ‘high-grading’ practices.

There should be license incentives for proven sustainable industries, e.g. scallop diving rather than dredging; promotion of eco-certified industries and fisheries that actively reduce their impacts. We would also support the extension of EIA and SEA to fisheries activities whether regulatory driven EIA, 3rd party driven (e.g. certification) and assessment of changes in policy or management e.g. SEA on the reform of inshore fishery groups.

Other activities for licensing are:

- Bait collection. Certain forms of marine recreational activity e.g. recreational fishing, recreational boating, including jet-ski use and wind surfers. Licensing could form some kind of zoning system and include speed limits.
- The creation of under-water noise. Noise pollution of the seas has a direct impact on marine mammals and fish and has been linked to cetacean strandings.
- Marine discharges
- Eutrophication
- Marine dumping

Q16 Scottish Ministers intend to create powers to set out a list of licensable activities in regulations. Do you have any views on this approach?

Lists should be open to public consultation and review. Lists should assist in defining strategic planning and zoning for appropriate sectors. Support parliamentary review and amendment powers.

Q17 The proposed Marine Scotland should have general responsibility for the delivery of the marine licensing system. Do you agree?

Yes. This should be one of the core goals of the MMO. It should build a consistent approach to licensing and improve on the current approach of multiple licences. Presently the licensing regime is inefficient with licenses spread over a number of regulators. Development certainty and consistency in setting of licence conditions. Monitoring and enforcement of licensing needs to be improved and adequately resourced across all sectors.

Regarding activities currently carried out by SEPA under CAR, in particular marine discharges, it seems pointless to separate these and leave some activities with SEPA and transfer some to Marine Scotland as seems to be proposed. All marine discharges should be regulated by one body.

However, we note the current effectiveness of SFPA in monitoring and enforcement of fisheries licences and support maintenance of the existing regime. However the ecological risk assessment and strategic environmental assessment should be applied to fishery management plans under development by inshore fishing groups. However it is not clear how fishery management arrangements will relate to RMPs.

The integration of licensing arrangements across industry, community and horizontal and vertical layers of government is a complex exercise. Further debate is required on the structure of the licensing system and the role of the MMO in coordinating or centralising licensing activities.

Q18 Scottish Ministers intend to reduce the numbers of marine licences that developers require to get before an activity can take place. There are two ways to reduce the numbers of licences either by creating a single licence for all marine impacts or by creating a single licence for each activity. Which system do you prefer?

We request more debate on this topic. At this point, we would support the first option of an impacts based regime. While there are advantages to the activity based regime, binding all consents and conditions into 1 licence may result in oversight of issues, bias or inflexibility. Increased efficiency in licensing can be achieved in the impacts based approach with a reduction to a consent licence (by the appropriate authority) and an environmental impacts licence (that combines all required licence conditions).

While rationalisation of licensing should occur, including the present consent system, local representation and accountability is an important democratic lever in the planning process. Clear rules, accountability and transparency is required if the authority for consent is altered from present arrangements.

If the object is to protect the environment, the licence should reflect the potential impact whatever the activity. This then gives a level playing field between activities.

Incorporating EIA into a regulatory mechanism is welcomed. EIA is currently a snapshot study of a proposed activity with scant interaction between existing environmental monitoring and whether or not mitigation measures are employed after the development is approved. There is the opportunity here to add consistency to how EIA is carried out and evaluated.

Licenses must also take into account the cumulative impacts of all activities proposed. For example, individual activities carried out and licensed by the licensee may be deemed OK in terms of impact. However, when considered together, the total level of impact may in fact be unacceptable, e.g. by-catch, habitat degradation and destruction, biomass reduction.

Since different activities potentially have different impacts a single licence may get overall complex and more prone to errors at the submission stage. So a single licence for each activity is more attractive but there would need to be the minimum amount of delays when a new activity had to be licensed for.

Q19 Marine Scotland could undertake the licence work itself or operate as a front door coordinating the work of others. Do you have any views on these options?

Marine Scotland would take a long time to replace SEPAs competence relating to Marine discharges. SEPA is one of the most enlightened regulators in the world, who continually seek best quality science to drive regulatory improvement. Thus, Marine Scotland should act as a front door and better co-ordinate the work of other agencies.

If Marine Scotland does the licensing, then the science evidence base must be independently gathered (i.e. NOT solely by Marine Scotland)

SAMS would support the ‘front door coordination model.’ Overhauling the entire consent system into one MMO is a massive task that could potentially take years and result in major costs – politically and financially. What would the interim arrangements look like? What departments or agencies are in or out? Where is the boundary between ocean, coastal, estuarine, low water, and terrestrial licensing? Significant efficiency gains can be made through a one stop shop model reducing the number of licences.

Marine Scotland needs to be seen as an independent body

Q20 Do you agree with the proposed approach to consultation involving local stakeholders? Do you have any further comments?

Yes, but there have to be mechanisms in place to ensure that licensing decisions are not excessively delayed by the consultation process. A clear timeline must be in place for consultation responses to prevent delaying tactics. The process should not place undue pressure on industry and so prevent new business setting up or extensions to existing practices.

As long as it is not dominated by the larger stakeholder groups; any democratic process requires clear rules determining who are legitimate stakeholders and can participate in negotiations, how representatives are selected (and how many), who convenes and facilitates meeting and who can arbitrate in the event of failed consensus.

Q21 Do you agree that the revised licensing system should incorporate the simplified CAR model throughout, to focus scrutiny on higher risk activities/ impacts and reduce the regulatory burden?

Yes

Q22 Scottish Ministers intend to provide Marine Scotland with powers to insert conditions into licences. Do you agree with this approach? In particular Scottish Ministers intend to create a standard condition on removal of redundant kit and installations, do you agree?

Yes. A point to keep in mind is to what extent the removal of redundant kit will be. With decommissioning terrestrial based wind farms, the turbines are removed to just below the reinstated surface leaving each concrete turbine foundation behind. Will this be the case with sea bed installations or will the whole installation be excavated? It would be best if this was reviewed on a case by case basis and more research is required into specific sectors such as oil and gas installations and artificial reefs. In some cases, there may be positive and synergistic effects of marine structures but this should be determined with reference to the local conditions and based on sound monitoring and impacts analysis.

Q23 Scottish Ministers believe an appeals procedure for those directly involved in the licence application would be a beneficial development. Do you agree?

Yes. The inclusion of an appeals process is essential for the equitable management of marine resource use and is implicit in the ICZM principles (h) and (g) as listed by the EU². An appeals and grievance process is also recommended by the World Bank³ in its guidelines for ICZM to counter any threat to existing livelihoods and potentially direct any compensatory measures as appropriate. There needs to be some mechanism in place for the provision of alternative livelihoods in cases where license restrictions, such as area closures etc., may be deemed necessary but are detrimental to local stakeholders.

Q24 To provide an easy and transparent system, do you agree that a scale of charges related to cost recovery is the most appropriate way to recover the costs of assessing, issuing, monitoring and enforcing licences?

Yes.

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002H0413:EN:NOT>

³ <http://www->

wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1996/08/01/000009265_3961219091924/Rendered/PDF/multi_page.pdf

Q25 The Scottish Government proposes a review of existing licence monitoring and enforcement provisions relating to the marine environment and wishes to consolidate them into a single set of coherent powers and remedies. Marine Scotland should be tasked with ensuring compliance monitoring and enforcement activity is carried out consistently and efficiently. Do you agree?

No. SEPA should remain the licensor for aquaculture and should remain in charge of setting licence conditions including monitoring. SEPA currently sets the global standard in aquaculture regulation, SAMS have reviewed most other regulatory systems for Salmon farming, and SEPA's regulations are the most coherent and science based. It would be folly to change this and an unnecessary waste of time and labour.

Q26 Please provide any further comments you have on the licensing provisions in the consultation paper.

CHAPTER 4 - SECURING THE FUTURE: NATURE CONSERVATION

Q27 Do you agree that our system of marine nature conservation should be based on the three pillar approach?

Yes, but importance of adopting an ecosystem approach to environmental management of marine and coastal regions must be emphasised.

Q28 Please provide your views or comments on the application of Marine Ecosystem Objectives for marine nature conservation.

Habitat protection should explicitly be included. Conservation of all levels of biodiversity from genes to ecosystems is important (the UK is a signatory nation for the Convention on Biological Diversity which advocates this holistic approach). Seals, seabirds and cetaceans are not ecosystems as the wording of the MEO's suggest, they are only part of a particular ecosystem. The MEO's should be more inclusive and perhaps rephrased to e.g. benthos, coastal terrestrial ecosystems supporting marine birds and mammals, water column, nursery areas, estuaries etc. with specific species protection plans listed within each objective.

The marine ecosystem objectives should not only include charismatic megafauna as set out in this document (birds, cetaceans, seals, fisheries) but should include the whole ecosystem and the resilience of the system, for example it needs to be expanded to include corals, seaweed beds and other benthic and marine invertebrates. This again should not be dominated with what is most visible. It must be emphasised that the sustainability of any economic activity depending on renewable biological resources depends on our ability to sustain healthy, diverse and productive ecosystems. If these are not adequately protected, much of the marine-based economy will be in serious jeopardy. This is understated in the current draft.

Q29 Do you agree it would be worthwhile to have a biodiversity duty in the offshore area around Scotland?

Yes, provided that it is incentive based.

Q30 Do you have any other suggestions for making improvements to Pillar I - wider seas measures?

Data should be collected at all levels of the ecosystem including socio-economic data. It is important to make sure that the resilience of the ecosystem is included in the wider seas measurements.

Q31 Do you agree with the proposals for a science-based review of whether new marine species need to be added to the existing list of protected species?

Yes

Q32 Do you have any further comments or suggestions for making improvements to Pillar II - species conservation?

In order to conserve species the whole ecosystem needs to be taken into consideration; if their food and habitats are not protected, reducing fishing for instance alone will not work.

Q33 Do you agree with the overall principle of the introduction of a power to select new types of site?

Yes but the decisions must be science-based. Marine Scotland should rely on independent scientific bodies to provide advice and methodologies. It should also consult with, for example, Natura. Efforts should also be made to tie sites in existing networks where appropriate to maximise the environmental, social and economic benefits. Site protection in Scotland is currently inadequate and under represented.

Q34 Do you agree with the assessment of the three main types of requirements for site protection? Do you have any further comments on this?

Yes. Bringing benefits to local communities is essential. Ownership/stewardship of chosen sites and receipt of direct benefits will act as an incentive toward protection. It may also go some way toward encouraging self-policing and best practice.

Protection should not just consider the most highly visible species but also incorporate the needs of less visible species such as kelp forests which act as nursery grounds and cold water corals.

Q35 Do you have any views on whether or not a "single approach" should be taken for marine historic and natural environment site protection?

Q36 Do you agree with the proposals on how a new flexible site protection power will be used? Do you have any other comments?

It is appropriate to protect less damaged sites where recovery is more likely but choosing sites on the basis of them being biodiversity hotspots alone should be done with caution. Such an approach can be tantamount to 'stamp collecting' in an ecological sense. The sites chosen and the species within them must be part of a viable ecological system, cover a range of habitats, take account of potentially damaging activities peripheral to the site and ensure genetic dispersal/mixing within and between other sites.

There has to be some form of environmental impact assessment done before de-selection of sites can take place so that it can be assessed that the sites can handle the new impact for which the de-selection of the site will be done.

Q37 Do you have any views or comments on whether a single integrated power should be used to deliver these proposals?

Yes it should be an independent organisation

Q38 Do you agree with the proposals for how sites will be managed, including the site by site approach and overall context of sustainable development? Do you have any additional comments?

Management must include full community involvement, be incentive-based to encourage best practice and allow for the provision of alternative livelihoods and/or compensation where necessary.

There is also a requirement for a central MS role in facilitation, moderation and skill provision to management boards/committees.

There needs to be an assessment of how the socio-economic activities will affect the ecology. The document says that sites will be managed for sustainable development, but a trade-off analysis of the pros and cons of the socio-economics and ecology need to be included.

Q39 Please provide us with your views on the role that a wider planning system should have in the identification of Marine Protected Areas?

The planning system must be independent, developed in full consultation and a transparent process.

The international and national network should be taken into account.

The wider plan should include some form of analysis to establish if a network of MPA's will actually do what it sets out to do. The size and placement of the MPA's are important and should be studied in detail. It is very difficult to get stakeholders to agree if there are already MPA's that do not do they were created to do, so making sure that the size and placement is ecologically sound should be paramount.

The notion of Fisheries Production Zones is a useful one when considering the development of flexible site protection. Closed areas can act as seeding zones for commercially important species and in some cases increase the biomass extracted

from the system. Existing practice in similar parts of the world should be documented and an experimental trials should be conducted in Scotland.

Q40 Do you have any other comments or suggestions for making improvements to Pillar III - site protection?

Before you designate a site you need to make sure that you know what is there, and try and find out how it will be affected. If you don't know what is there before you designate the site you will not know how effective the site protection was. As such the consideration of baseline information is critical. This should also include socio-economic information.

Q41 Would you agree with the principle that the offence against damage to Natura sites should apply to marine sites? What are your views on whether a similar offence should be introduced for damage to other Marine Protected Areas?

Yes, although there will be difficulties as you are dealing with a fluid environment. We are also concerned with the potential for weak enforcement for sites beyond 12nm (and even those between 6-12nm where there are historical foreign fishing rights) under the current proposals for a UK Marine Bill. As it stands, it will be very difficult to enforce any MPAs beyond 12nm.

Q42 How can we enhance the contribution which the wild marine environment makes to Scotland's economy?

By its proper management. The best way to enhance the contribution to the economy in the long term is to show the tradeoffs that will have to be made between the economy and the environment. This can and should be modelled before any development takes place, so that the long term viability of the development is not compromised by lack of ecological resilience.

Other suggestions are:

- Encourage tourism/ecotourism,
- Licensing local tour operators (with appropriate regulation)
- Encourage certification and ecolabelling of Scottish marine products to capture lucrative markets. Provision of alternative livelihoods to those currently in damaging businesses.
- Encourage the development of alternative energy schemes and bio-fuels within Scotland.

The main point is that these activities cannot be developed in silos. Offshore windfarms for example are incompatible with mobile gear fishing but may provide sites for aquaculture or marine protection. The problem is that current licensing systems make it very difficult to develop these activities jointly. The exclusion of fishing from large areas would simply concentrate effort in other areas and ultimately destroy the resource base. Wise use of Scotland's marine environment requires a

radical rethink of planning and the new Marine Bill is a vital first step in this direction. However, it also needs a new science base to support it and this has to be a broader base that can only be provided by tapping a wide range of abilities that exist in institutions across Scotland.

APPENDIX TO CHAPTER 4 - SEALS FORUM REVIEW OF THE CONSERVATION OF SEALS ACT 1970

Q43 Do you have any views or comments on the options for improving conservation measures for seals? Do you have any specific comments on:

a) equal treatment across all sectors (licensing and seal conservation orders);

There should be:

- A closed season
- restricted areas around cages
- measures in place to ensure against prophylactic killings

b) welfare issues;

Option 1 is preferable: humane killing in specified zones and at designated times.

c) the "Netsmen's defence";

Agree: very specific definitions of 'vicinity' should be devised to protect all seals in breeding season etc.

d) reporting and monitoring;

Reporting and monitoring ALL seal kills is essential. Provision may need to be made for observers/inspectors to do site inspections and check for illegal and unreported kills.

e) relationship with the EU Habitats Directive; and

It is a mistake to remove 'incidental catch or impacts'. This will have implications for the number, reporting and mitigation measures adopted for seal deaths in a range of activities, e.g. shipping, construction, fisheries.

f) any other comments?

CHAPTER 5 - UNDERSTANDING OUR SEAS: SCIENCE AND DATA

Q44 Do you agree that Scottish Ministers should develop a marine science strategy to focus marine scientific effort, integrate socio-economic considerations, and to create a framework for wider stakeholder input?

Yes. Without such a strategy our science will be lead by NERC and Defra and will not be focussed on Scottish interests and our stakeholders will not have any input into what is important for Scotland.

A marine science strategy should be developed by an independent scientific community in partnership with policy makers. The strategy should include scientists from all government domains – FRS, SNH, SEPA, SFPA, local government, Crown Estate, JNCC, Historic Scotland and independent research providers. The marine science strategy should encompass biological, physical-chemical, and socio-economic research area strategies.

There needs to be a balance between government and independent research to provide a comprehensive marine science strategy that is independent of government but links to policy objectives. This will strengthen the overall science base and role of science in the policy process.

It will be difficult for Scottish Ministers to develop a Marine Science strategy when they don't hold the purse strings to a major source of marine science research funding (NERC). There should be new pools of Scottish funds made available for Scottish marine science to address specific science priorities.

SG funded marine research is largely performed by FRS, and if FRS is subsumed into Marine Scotland then care will be needed to separate the science base from the regulator – in order that the two are independent.

Any data coming directly from industry i.e. fisheries, aquaculture and oil companies, must be ground truthed. To ensure this independent observers and inspectors will be required.

Q45 Do you have views on how to integrate scientific evidence with stakeholder and local knowledge?

Lots of work has been done on how to integrate local ecological knowledge into ecosystem models and resource management (Neis *et al.*, 1999⁴; Pitcher, 2004⁵; Ainsworth, 2006⁶). This work should be added to the large body of work done in

⁴ Neis, B., Schneider, D.C., Felt, L., Haedrich, R.L., Fischer, J. and Hutchings, J.A. 1999. Fisheries assessment: what can be learned from interviewing resource users? Canadian Journal of Fisheries and Aquatic Science 56: 1949-1963.

⁵ Pitcher, T.J. 2004. Back to the Future: Advances in Methodology for Modelling and Evaluating Past Ecosystems as Future Policy Goals. Fisheries Centre Research Reports 12(1), UBC Fisheries Centre, Vancouver, 158 p.

⁶ Ainsworth, C.H. 2006. Strategic marine ecosystem restoration in Northern British Columbia. PhD. University of British Columbia, Vancouver 422 pp.

socio-economic sciences. The combination of social and ecological network analysis might be useful to understand how stakeholders and the ecology would interact.

Again it needs to not be dominated by one particular area of science or stakeholder. It also needs to be a completely transparent process managed by an independent body. Please see our response to Q10 for further details of how we envisage a balanced engagement with stakeholder through a 'joint fact finding' process.

Q46 What do you think are the potential priorities for further work?

Potential priorities for further work, not in any order of significance are:

- Regional definitions and comparative case study analyses to determine international models that have worked/failed in marine policy
- Social science
- Stakeholder analyses
- Market analyses
- Ecolabelling and certification
- Marine Protected Area designation , design and trials.
- Environmental Impact Assessments
- Feasibility studies
- Establishing baseline data sets using both newly collected and existing data collated in a central, freely accessible, public database.
- Ecosystem modelling
- Mitigation measures and techniques, e.g. by-catch reduction, decontamination, habitat restoration
- Alternative energies and biofuels from marine algae.
- Climate change – any protected area or management plan must take account of climate change impacts on the marine environment, e.g. shifting habitat boundaries, population changes, potential sea-level rise and ocean acidification.
- Environmental impacts of the potential expansion of offshore renewables not only wind and tidal but also the potential implications of wild seaweed harvesting for biomass
- Coastal erosion and coastal defence. Climate change and attendant sea level rise may make future coastal defences futile. Research needs to be done to identify where it makes economic and environmental sense to 'hold the line' and where the sea should be allowed to reclaim the land.

Note that to deliver these priorities, there will be a requirement for capacity building through training and 'learning by doing'. We advocate the development of a clear strategy for this in order to help the HE sector to develop the necessary programmes and infrastructure. Capacity building should not be restricted to scientists; all stakeholders should have access to such support should they require it.

Q47 Scottish Ministers propose that the strategic role for the monitoring and assessment of Scotland's seas lies with Marine Scotland, do you agree?

Yes to assessment but no to marine monitoring. There are many UK-wide attempts to coordinate marine monitoring, and Scotland should remain firmly embedded within the UK network. Just as the 12nm limit to some SG powers is an arbitrary one, so are the boundaries between Scottish, UK and other national/international waters. Also, there are many non-government agencies involved in monitoring the marine environment, with a variety of funding arrangements (NERC, EU, DEFRA), Marine Scotland could not have strategic steer over these agencies and their scientific roles.

Q48 Scottish Ministers propose to instruct Marine Scotland to take forward the development of GIS as a matter of priority. Do you agree?

Yes, but There are challenges in developing GIS in marine environments due to the nature of temporally dynamic nature of marine systems and ecology. As such caution must be taken when adopting this approach to the water column where the dynamic nature of the marine system (tides, currents, estuarine flow rates oceanographic features, etc) render GIS useless. Any habitat or benthic mapping must be tied to land-based systems for an integrated ecosystem approach.

GIS is a tool that is not necessarily easy or cheap to use. Having all the data available in a GIS would be good if everyone could have access to it, i.e. if it was freely available. There are other tools that should be developed in parallel, e.g. indicators.

There are concerns over who will own the data and what are the IP considerations for provision of data? Government funded data should be publicly available. Currently there is no central repository for access of publicly funded data e.g. comprehensive benthic habitat maps.

CHAPTER 6 - MANAGING OUR SEAS: MARINE SCOTLAND

Q49 Scottish Ministers propose to develop Marine Scotland to champion the seas and their use and provide better integrated and streamlined delivery in the marine area. Do you agree?

Yes. More information is required about the organisations that are proposed to be 'dismantled'. Is it cost or labour effective to create a totally new approach or better to provide an umbrella organisation/authority under which existing organisations work? Marine Scotland should have an over-arching management role and provide central facilitation, monitoring, mediation, plus a skills-base that can be used by regional boards and/or other independent organisations.

Science provision must not come from FRS alone, especially if they are subsumed into MS. Any science provision must remain independent and be fully transparent.

Academic institutions around Scotland, SNH, SEPA etc. are well placed to provide independent, sound scientific input.

If Marine Scotland has its scientific agenda set by FRS without input from independent scientists within Scotland (i.e. from the Universities and national centres) the priorities for Marine Scotland will rest mainly on the economic growth of fisheries without necessarily taking into consideration the ability of the ecosystem to support this growth. The views of all stakeholders have to be included.

Q50 Scottish Ministers propose that Marine Scotland deliver marine planning proposals as set out in Chapter 2. What are your views on this proposal?

From paragraph 197 it seems that Marine Scotland will have the main aim to deliver economic growth and that protecting the environment and its ecosystems are secondary. If this is the case then economic growth will eventually be scuttled by the lack of ecological resilience. Planning has to have at its core the inclusion of sustainability and resilience of the ecosystem.

Again it needs to be seen as an independent organisation not championing one cause over another.

Q51 Do you agree with the approach set out for fisheries and aquaculture management? Do you have any further comments in connection with this approach?

The responsibilities must remain with the experts in these fields, e.g. SEPA has expertise in aquaculture regulation and environmental monitoring. It would be folly not to use this existing knowledge and skill-base. Likewise, FRS (if sufficiently independent from MS) should continue to provide fisheries advice.

This is a good idea if it is run by an independent scientific body, with a transparent process not just the top management of FRS as it stands now.

Can Crown Estates rents be reallocated to the benefit of the marine environment?

Q52 What are your views on the arguments relating to where control for aquaculture should lie?

Aquaculture should be under the control of an independent body, with input from all the relevant parties.

Q53 Do you have any views on the role that FRS should take?

There must be a clear distinction between the formulation of the science agenda and their role in its delivery.

FRS has the ability to carry out long term monitoring of fish populations and should continue to do so. However the additional science done by FRS and all scientists in

Scotland should be driven by an independent science body which should set the science agenda based on the views of all stakeholders, not just fishermen.

FRS should be integrated into Marine Scotland but should not be the dominant voice within the new agency, there is more to the marine environment than fisheries.

Q54 What are your views on the creation of Marine Scotland and the proposed range of functions it should deliver?

MS should have central role for facilitation, developing a comprehensive skills base for marine management, and a moderation role in the development of marine plans. However the current list of organisations are dominated by fisheries. It needs to be more balanced to include other areas of the marine environment.

One phrase that is missing from this proposal is the sustainable growth within the resilience capacity of the ecosystem. If we do not keep growth within the resilience capacity of the ecosystems the ecosystems will change dramatically with unknown consequences.

Q55 Do you have any views on the development of Marine Scotland's role and functions over time?

It should encompass the whole marine environment not just the high profile areas such as fisheries.

Q56 Ministers believe Marine Scotland should form part of Scottish Government with appropriate safeguards for science and the appeals process. Do you have any views?

‘Appropriate safeguards for science’: under these proposals Marine Scotland should be viewed as part of government. The science evidence base which informs Government decision making may be commissioned by the government, but must be independently gathered. There seems to be a real danger in these proposals of mixing the evidence gatherer with the regulator (jury and judge). This would be a very unhealthy situation for Scotland to find itself in, and must be avoided. Scotland has a strong tradition in independent thinking and fair arbitration, don’t let Marine Scotland go against this ethos. It should also be seen as a transparent process. We are also concerned that there should be an adequate balance between interests (and expertise) in Scotland’s two major marine sub-regions (the North Sea and the Celtic Seas). Current proposals a far too focussed on the North Sea region.

WHAT DO YOU THINK?

Q57 Are there any other aspects of the proposals in this consultation document on which you wish to add your views?

We would like to see clear public accountability, debate and transparency on the interpretations and decisions reached from the consultation.