General comments

1. The Marine Biological Association (MBA) is a Learned Society established in 1884 and incorporated by Royal Charter in 2013. The MBA has about 1400 members (including international members) and runs The Laboratory in Plymouth where approximately 60 scientific staff work. MBA members have been at the forefront of providing scientific information to support marine environment protection, management and education and much of the scientific information that underpins decision-making about environmental protection has come from work undertaken at the Laboratory.

2. The MBA membership is made up mainly of professional marine biologists and as such regularly invites its members to provide input on a range of issues. The MBA therefore provides a ‘clear independent voice to government’ on behalf of the marine biological community.

3. A number of MBA members and staff have been involved in contributing to the implementation of the Marine Strategy Framework Directive through membership of UKMMAS and other mechanisms. Also, Dr Matt Frost has been involved directly in the consultation.
proposal for the development of MSFD indicators and targets and associated monitoring. The following submission therefore draws on responses to the consultation sent to all MBA members in January 2014 and who may not have had a previous opportunity to contribute.

4. The following comments are provided against the appropriate descriptors

Descriptive 1 and 4

5. Question 4: Do you have any suggestions for additional or more effective monitoring programmes?

Fish (Pages 23 – 28):
The Marine Biological Association has one of the longest fish sampling monitoring programmes from non-commercial fisheries. Demersal fish assemblages off Plymouth have been sampled over a number of periods: 1913-1914 and 1919-1922, 1950-1958, 1967-1979, 1983-1986 and 2001 ongoing and this intermittent sampling now constitutes a long-term dataset spanning about 100 years. From 1976 an intermittent sampling programme has been underway in the form of the ‘Standard Haul’ time series which has now been turned into a regular time series. All of this information has been used to provide vital contextual analysis for other fish monitoring programmes (For example, MBA was a leading partner in a project within the NERC-Defra Sustainable Marine Bioresources theme, contributing to the largest analysis of fish abundance data in the world, comprising >27,000 research trawls, >100 million fish sampled over an area of 1.2 million km2 on the northern European Shelf).

Benthic habitats (pages 50 – 59):
It is good to see The Marine Environmental Change Network (MECN) is mentioned in providing information on baselines and prevailing conditions and key information in terms of context for a number of state indicators. A recent MECN workshop identified the MECN long-term benthic time series as being relevant to a number of descriptors, namely 1, 2, 3, 4 and 6 as long-term time series are needed to test the indicators. It is worth noting however that many of these time-series are currently ‘unfunded’ and a full report / funding bid will be delivered soon. Without information over wide spatial and temporal scales from monitoring programmes such as those of the MECN there will always be a difficulty in interpreting data from more localised monitoring programmes. This is important as implementing a programme of measures in response to observed changes may result in significant economic impacts. Time-series such as those run by the MECN will be able to help identify those changes that are not in fact anthropogenically driven (and need therefore to be controlled via a programme of measures) but which are occurring as a result of drivers operating over much wider spatial and temporal scales such as climate change or natural variability.

Descriptor 2

6. Question 1: Are the proposed monitoring programmes for this Descriptor sufficient to meet requirements of the Directive, bearing in mind the current limitations in our knowledge base?
The consultation document generally notes a lack of necessary information for D2, and does not describe any monitoring programmes but states the intention of framing some in the near future. As such, comment on actual proposals is not possible.

7. Question 2: Are the proposed monitoring programmes for this Descriptor sufficient to guide progress towards the achievement of GES, and the related targets, as set out in UK Marine Strategy Part 1?
   See answer to question 1.

8. Question 3: Subject to the answer to Question 2, are any additional monitoring programmes needed in order to achieve GES and the related targets for this Descriptor?
   Sections 9 and 10 of the consultation document (in the Introduction) call for notification of any information relevant to D2 that is not currently used. We have a substantial amount of distribution information plus experience enabling comparison of monitoring methodologies. This has been gathered piecemeal and is not part of a named monitoring scheme, and (our fault) it is as yet largely unpublished.

   Data has been gathered over the period 2004-2013 in 170 rapid assessment surveys at 60 marinas covering the English coast (with emphasis on the south coast), and records 28 different NIS. This is not currently available for public access however a scientific paper is in advanced preparation. In addition, data is held from a number of panel deployment projects in the SW and from a collaboration in 2009 with additional sites in Wales and Scotland. There is also jointly gathered data comparable between marinas across the English Channel from the Interreg IVA Marinexus project, which involved collaboration with Station Biologique de Roscoff on repeated rapid assessment surveys and settlement panel deployments (project report due in April).

9. Question 4: Do you have any suggestions for additional or more effective monitoring programmes?
   In the near future (05-06/03/2014) an Interreg-funded workshop is being run at the MBA entitled ‘Marine non-native species surveillance: Sharing best practice across the Channel’ which could contribute to the decision on the monitoring programme. The MBA also has a REF grant from the Welsh Government to survey Welsh marinas in summer 2014.

   The consultation seems a timely opportunity to bring this information and activity to notice on behalf of the MBA, and in this context attention could also be drawn to the MarClim surveys, which include several NIS in their target list.

Dr Matthew Frost, Deputy Director Policy and Knowledge Exchange, on behalf of the Marine Biological Association.