

Department for Environment, Food and Rural Affairs

Marine Licensing: Navigational dredging and other exemptions consultation

Navigational Dredging: Cost Benefit Analysis of Possible Exemptions from Marine Licensing

Date: September 2012

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Contents

1.0	Introduction	4
2.0	Methodology.....	4
2.1	Quantifying the Administrative Impacts.....	4
3.0	Current Dredging Activities.....	5
4.0	The Proposed Marine Licensing System.....	6
5.0	Common Assumptions for all Policy Options.....	7
5.1	Length of Licences.....	7
5.2	Applications for Licences and Compliance	7
5.3	Distribution of Maintenance and Capital Dredging Activities.....	7
6.0	The Policy Options	8
6.1	Policy Option 0.....	8
6.1.1	Which Dredging Activities Will Require Which Licence Type?	8
6.2	Policy Option 1.....	11
6.3	Policy Option 2.....	13
6.4	Policy Option 3.....	15
6.5	Policy Option 4.....	17
6.6	Policy Option 5.....	17
7.0	Costs Associated with the Licensing System	20
7.1	Costs Incurred in Preparing the Licensing System	20
7.2	Licence Application Costs and Benefits	20
7.2.1	Pre-application	20
7.2.2	Application Preparation and Submission.....	24
7.2.3	Application Consideration and Determination.....	25
7.2.4	On-going Monitoring and Enforcement.....	29
7.3	Summary of the Costs for Options	30
7.4	Summary of the Costs – Policy Option 1	31
7.5	Summary of the Costs – Policy Option 2	32
7.6	Summary of the Costs – Policy Option 3	33
7.7	Summary of the Costs – Policy Option 4	34
7.8	Summary of the Costs – Policy Option 5	35
8.0	Comparison of Options.....	38
	Appendix 1: Wage Rates	40

1.0 Introduction

1. The Marine and Coastal Access Act 2009 (MCAA) places a requirement on all dredging activities to be licenced by the Marine Management Organisation (MMO) and the Welsh Government (WG). This requirement came into force on 6th April 2012 and covered all dredging activities with the exception of dredging carried out by a Harbour Authority (HA); which is subject to an exemption under Section 75 of the MCAA.
2. This summary aims to provide a brief analysis of both the costs and benefits associated with incorporating dredging activities within the Marine Licence framework in England. These costs and benefits have been assessed primarily for the affected industry¹ and the MMO, although impacts on other stakeholders, e.g. those parties consulted on applications have also been accounted for.
3. The proposals aim to reduce the burden on Government and industry whilst maintaining protection for the environment and navigation.
4. This analysis supports the consultation document on the proposals.

2.0 Methodology

5. The costs and benefits described in this document have been modelled using a bespoke Excel spreadsheet developed by Eunomia Research & Consulting. The model considers a variety of impacts associated with licensing dredging activities and include:
 - a. *'administrative impacts'*, which are the impacts associated with applying for and determining Marine Licences and apply to Industry, the Regulators and consultees to the process; and
 - b. *'environmental and social impacts'*, which are the impacts on the environment and society associated with the licensing regime. These impacts have not been quantified, although where identified have been discussed qualitatively.
6. This assessment has focussed on the direct impacts of implementing the licensing system. Indirect impacts, although considered, have not been identified.
7. The costs and benefits modelled are measured over a 10 year period starting in 2013/14 and are calculated as the Net Present Values (NPVs) for the period.² A discount rate of 3.5% has been used to calculate the NPV in line with the HM Treasury Green Book.³ Costs and benefits are expressed in 2012 real terms.
8. The costs and benefits associated with the licensing regime have been separately calculated for the following key actors involved in the licensing process:
 - Industry⁴;
 - the Regulator (mainly the Marine Management Organisation (MMO), but also the HAs in some options); and
 - Consultees and Scientific Advisors used in the application determination process.

2.1 Quantifying the Administrative Impacts

9. Administrative impacts have been assessed using the Standard Cost Model (SCM) methodology⁵ which is an approved way of breaking down the costs and benefits of regulation into manageable and measurable components.

¹ Within this assessment, the term 'industry' is used to include all sectors who are required to obtain a licence. It therefore includes some recreational and voluntary groups.

² NPVs show the value of a series of costs and benefits over a fixed period of time in 'today's terms' reflecting the time value of money

³ http://www.hm-treasury.gov.uk/data_greenbook_index.htm

⁴ The term 'industry' refers to applicants for Marine Licences. Whilst it is accepted that some voluntary groups will be required to obtain Marine Licences for the first time, for the purpose of this assessment applications are made on a commercial basis.

10. For this assessment, administrative impacts are expected to be experienced by the various actors complying with the steps required to obtain a Marine Licence. Generally, the impacts have been calculated using the following formula:

$$\text{Activity Impact} = \text{Price} \times \text{Quantity}$$

Where:

$$\text{Price} = \text{Wage Rate}^6 \times \text{Time}^7 \text{ and};$$

$$\text{Quantity} = \text{Population}^8 \times \text{Frequency}^9$$

11. This methodology is used to assess both costs and benefits in this assessment. Costs are measured against the baseline and are expected to be experienced where:
- New activities are required to be licenced other than what otherwise have been the case; or
 - The price or quantity of existing activities increases.
12. Benefits are also measured against the baseline and expected to be experienced where:
- Existing licensable activities are no longer required to obtain a licence; or
 - The price or quantity of existing activities decreases.
13. Please note that fees and charges to industry in obtaining a licence have **not** been included in this assessment. This is because the fees and charges are intended to cover the costs to the MMO of administering the licensing process and to include them would effectively result in double counting of these costs. This approach is in line with best practice on such assessments.

3.0 Current Dredging Activities

14. In order to assess the costs and benefits of the proposals, it is essential to understand, in as far as possible, the current level of activity in the sectors affected. In this case, that is the number, type and scale dredging activities currently being undertaken. From this one can then consider how this level of activity might change over time under the proposals being considered.
15. In reality the information surrounding the overall numbers of both navigational and capital dredging activities in England is incomplete. Although some activities are already licensed by the MMO, Harbour Authorities, and other regulators (including for example DECC in relation to large scale renewables), there are also a number of activities which are currently unregulated, for example, the use of hydrodynamic dredging techniques outside of Harbour Authority jurisdiction. Given this lack of certainty, an estimate of the overall number of dredging activities that are subject to the licensing regime has had to be made. These estimated figures (shown in Table 1) have been based on detailed discussions with industry experts¹⁰, alongside an informal survey submitted to the British Marine Federation and Royal Yachting Association members.¹¹
16. It is important to note that where the tables in this document refer to 'disposal at sea', it is the dredging elements of these operations that are licensable and not the disposal operations themselves which already require a licence. Therefore, where an exemption from licensing is discussed for these operations, the exemption *only* applies for the dredging operations and not the disposal activities.

⁵ BRE (2005) *Measuring Administrative Costs: UK Standard Cost Model Manual*, Better Regulation Executive, September 2005, <http://www.berr.gov.uk/files/file44503.pdf>

⁶ The costs associated with the person undertaking the activity. The Wage rates for the various key actors are detailed in Appendix 1

⁷ The period of time associated with undertaking the activity.

⁸ The number of persons undertaking the activity.

⁹ The amount of times the activity is undertaken.

¹⁰ These include Cefas and members of the Central Dredging Association (CEDA)

¹¹ During November 2011, readers of both the RYA and BMF websites were invited to undertake a survey on their current dredging activities. A total of over 200 responses were received.

Table 1: Estimated Number of Dredging Activities in English Waters (2010/11)

Location / Operator	Type of Dredging Activity	Estimated Number of Activities
Harbour Authorities within Harbour Areas	WID/Dispersive	75
	Disposal at Sea	75
	Other ¹	100
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350
	Disposal at Sea	450
	Other	150
Operators outside of Harbour Authority Areas	WID/Dispersive	10
	Disposal at Sea	150
	Other	200
TOTAL		1,560
<i>Notes:</i>		
1) 'Other' refers to alternative dredging activities such as plough dredging or dredging with subsequent disposal to land.		

17. Based on the advice given, it has been assumed that this level of activity remains broadly consistent year on year for both maintenance and capital dredging over the 10 year period covered in this assessment.

4.0 The Proposed Marine Licensing System

18. This section discusses the main elements of the proposals and sets the framework for what has been assessed in relation to this assessment. The detail of each option is set out in more detail in the consultation document.
19. Table 2 provides a summary of the policy options considered within this assessment.

Table 2: Summary of the Policy Options

Option	Description
0	Activities are licensed as per the MCAA, with no additional exemptions.
1	Exempt minor dredging activities from the requirement for a marine licence, subject to a "carve-out" to ensure EU compliance.
2	Exempt dredging activities if they are included in a Maintenance Dredging Protocol approved by the licensing authority, subject to "carve-out" to ensure compliance with other EU legislation. It is assumed that 30% of HAs have a Maintenance Dredging Protocol in place.
3	The licensing system is more efficient, whereby: <ul style="list-style-type: none"> • Longer licences are given for certain on-going maintenance dredging activities; and • Minor dredging operations are fast tracked
4	5 Harbour Authorities carry out the function of issuing marine licences within Harbour Authority areas (which would cover 20% of maintenance dredging activities) on behalf of the MMO.
5	Options 1, 2, 3 and 4 combined.

20. The consultation document sets out proposals to on relative impact/risk with the lowest impact risk being Tier 1. These Tiers do not fully correlate to the charging structure that is used by the MMO. Further details are in the consultation document.

5.0 Common Assumptions for all Policy Options

21. Throughout this assessment there are a number of common assumptions associated with the implementation of the marine licensing system. These common assumptions apply to each of the options being considered (unless otherwise stated). This section of the document sets out these common assumptions.

5.1 Length of Licences

22. It is expected that the duration of the licence will vary depending on whether the licence is for a Tier 1, Tier 2 or Tier 3 activity.
23. For this assessment, an average length of licence has been assumed for each Tier. In line with the risk based approach, it is expected that low risk activities will be licenced for a longer period, whilst those activities with the greatest potential risk (or which are most complex) will be licenced for much shorter periods. Table 3 illustrates the average length of licence assumed in this assessment.

Table 3: Average Length of Licences

Licence Tier	Average Length of Licence
Tier 1	3 years
Tier 2	3 years
Tier 3	2 years

Notes:

- Maintenance dredging activities will require renewals of licences and therefore subject to a 3 year renewal cycle for Tier 1 and Tier 2 activities, and a 2 year renewal cycle for Tier 3 activities.*
- Capital dredging activities are one off activities and therefore not subjective to renewal.*

5.2 Applications for Licences and Compliance

24. Throughout this assessment it is assumed that there is a 100% compliance with the requirement to obtain a licence and to adhere to the conditions of the licence. Since some maintenance dredging activity is not required annually, a small proportion of applicants will not require a licence in the first year that the licensing system is in operation. Therefore it is assumed that for maintenance dredging activities, 80% of all activities will apply for a licence in 2013, and the remaining 20% will apply for a licence in 2014.
25. It is also assumed capital dredging activities will obtain a licence when required – there is no fixed schedule of capital dredging activity, so unlike maintenance dredging activities, no split in applications is applicable. For the purpose of this assessment it is assumed (from discussion with industry experts) that 240 capital projects apply each year for a Marine Licence.

5.3 Distribution of Maintenance and Capital Dredging Activities

26. As stated, some dredging activities will be maintenance, others capital. It is important that this difference is recognised. The split between the two assumed for this assessment is shown in Table 4. This has been based on detailed discussions with industry experts, alongside an informal survey submitted to the British Marine Federation and Royal Yachting Association members.¹²

¹² During November 2011, readers of both the RYA and BMF websites were invited to undertake a survey on their current dredging activities. A total of over 200 responses were received.

Table 4: Distribution of Maintenance and Capital Dredging Activities

Licence Tier	% of Maintenance Dredging Applications	% of Capital Dredging Applications
Tier 1	100%	0%
Tier 2	75%	25%
Tier 3	75%	25%

6.0 The Policy Options

27. A summary of the policy options considered and number of licence applications that fall under each option (per year) is included in the following sub-sections.

6.1 Policy Option 0

28. Where an activity is considered low risk (Tier 1), it is expected that only limited information will be required to be provided by the applicant and the licence that is subsequently issued will contain standard conditions. This approach will minimise the effort required by both the applicant and the regulator.

29. In order to reduce the administrative burden associated with Tier 1 activities, it is expected that a common risk assessment for all Tier 1 activities will be carried out by the regulator and agreed with the licence consultees. It is expected that all Tier 1 applicants will then be judged against this common risk assessment, with no individual consultation with other agencies being required (provided they are not considered to pose any significant risk to the environment, in which case a Tier 1 application would not apply).

30. For Policy Option 0 it is assumed that maintenance dredging activities which meet all of the following criteria will be considered a low risk Tier 1 activity:

- Small scale volume (i.e. <3,000 m³ per campaign, and < 10,000m³ per annum);
- Small scale geographic area (i.e. less than 1% of the water body size);
- Not located within or adjacent to a designated conservation site (SPA, SAC, SSSI and MCZ) or MDP in place or HRA been carried out; and
- No known contamination issues or reason to suspect contaminants present.

No Capital Dredging projects are assumed to fall under a Tier 1 activity.

31. For Tier 2 and Tier 3 activities under Policy Option 0, it is proposed that a more bespoke approach will be introduced. Each licence application will be more detailed requiring additional information to be supplied together with an individual risk assessment.

6.1.1 Which Dredging Activities Will Require Which Licence Type?

32. One of the critical aspects associated with understanding the impacts of the new licensing system is to develop an understanding of the type of licence each of the current activities (as set out in Table 1) are likely to require.

33. Dredging activities undertaken by Harbour Authorities are likely to fall under Section 75 of the MCAA, and therefore exempt from the requirements of Marine Licensing. However, for the remaining activities, the extent to which a Tier 1, 2 or 3 licence will be required, will be dependent on the individual characteristics of the activity.

34. In the absence of any definitive research on this aspect, assumptions have been made which divide each type of dredging activity into Tier 1, Tier 2 and Tier 3 activities. These assumptions are based on consultation with technical experts¹³ and are shown in Table 6 which summarises

¹³ These include the MMO, Cefas and members of CEDA

the estimated breakdown of licence type for each activity. The numbers presented in Table 6 are derived from those presented in Table 1.

35. By applying the average licence period (shown in Table 3) to the breakdown of licences (shown in Table 6) alongside the distribution of maintenance and capital dredging activities (shown in Table 4), an annual average number of licence applications can be estimated over a 10 year period. This is shown in Table 5.
36. Please note that the profile of licences over time assumes that 80% of maintenance activities will apply for a licence in 2013, and the remaining 20% will be licenced in 2014. Therefore the number of Tier 1 licences (of which 100% are assumed to be maintenance activities) is expected to be 280 in the first year of the licensing regime as $350 \times 80\% = 280$.

Table 5: Average Annual Number of Licence Applications – Policy Option 0

Licence Tier	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Tier 1	280	70	0	280	70	0	280	70	0	280
Tier 2	407	192	120	407	192	120	407	192	120	407
Tier 3	409	193	409	193	409	193	409	193	409	193
TOTAL	1,096	454	529	879	671	312	1,096	454	529	879

Table 6: Marine Licence Requirements - Policy Option 0

Location / Operator	Type of Dredging Activity	Total Estimated Number of Activities	Marine Licence Outcome			
			Exemption	Tier 1 Licence Required	Tier 2 Licence Required	Tier 3 Licence Required
Harbour Authorities within Harbour Areas	WID/Dispersive	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Disposal at Sea	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Other ¹	100	100 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350	0 (0%)	70 (20%)	70 (20%)	210 (60%)
	Disposal at Sea	450	0 (0%)	143 (32%)	143 (32%)	163 (36%)
	Other	150	0 (0%)	38 (25%)	75 (50%)	38 (25%)
Operators outside of Harbour Authority Areas	WID/Dispersive	10	0 (0%)	1 (10%)	8 (80%)	1 (10%)
	Disposal at Sea	150	0 (0%)	8 (5%)	83 (55%)	60 (40%)
	Other	200	0 (0%)	90 (45%)	100 (50%)	10 (5%)
TOTAL		1560	250	350	479	482

Notes

- 1) Other' refers to alternative dredging activities such as such as plough dredging or dredging with subsequent disposal to land
- 2) The percentages included within the table relate to the distribution of licence types (and exemptions) within each type of dredging activity in each location.
- 3) Numbers may not add due to rounding

6.2 Policy Option 1

37. Policy Option 1 is assumed to be identical to Policy Option 0 with the exception that minor dredging activities (i.e. 'de minimis' dredging activities) will be exempt from the requirement for a marine licence, unless a marine licence is needed to ensure compliance with other (largely EU) legislation.
38. This means that the 70% of activities that would have required a Tier 1 licence under Policy Option 0 would be exempt from the requirement of a Marine Licence under Policy Option 1. This figure has been estimated from expert assessment.
39. Tier 2 and Tier 3 activities would still require a Marine Licence as per Policy Option 0.
40. Table 8 summarises the estimated licence requirements for each activity. This table is based on applying the assumption that 70% of Tier 1 activities outlined in Table 6 (relating to Policy 0) would be exempted under this option (i.e. 350 Tier 1 activities x 70% = 245 exempt activities).
41. By applying the average licence period, as shown in Table 3, to the breakdown of licences (shown in Table 8) alongside the distribution of maintenance and capital dredging activities shown in Table 4, an annual average number of licence applications can be estimated over a 10 year period. This is shown in Table 7. Please note that the profile of licences over time assumes that 80% of maintenance activities (80% of tier 1 licences (105) as shown in Table 8) will apply for a licence in 2013 (giving 84 activities), and the remaining 20% will be licenced in 2014 (21 activities).

Table 7: Average Annual Number of Licence Applications – Policy Option 1

Licence Tier	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Tier 1	84	21	0	84	21	0	84	21	0	84
Tier 2	407	192	120	407	192	120	407	192	120	407
Tier 3	409	193	409	193	409	193	409	193	409	193
TOTAL	900	405	529	684	622	312	900	405	529	684

Table 8: Marine Licence Requirements – Policy Option 1

Location / Operator	Type of Dredging Activity	Total Estimated Number of Activities	Marine Licence Outcome			
			Exemption	Tier 1 Licence Required	Tier 2 Licence Required	Tier 3 Licence Required
Harbour Authorities within Harbour Areas	WID/Dispersive	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Disposal at Sea	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Other ¹	100	100 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350	49 (14%)	21 (6%)	70 (20%)	210 (60%)
	Disposal at Sea	450	100 (22%)	43 (10%)	143 (32%)	163 (36%)
	Other	150	26 (17%)	11 (8%)	75 (50%)	38 (25%)
Operators outside of Harbour Authority Areas	WID/Dispersive	10	1 (10%)	0 (0%)	8 (80%)	1 (10%)
	Disposal at Sea	150	6 (4%)	2 (1%)	83 (55%)	60 (40%)
	Other	200	63 (32%)	27 (14%)	100 (50%)	10 (5%)
TOTAL		1560	495	105	479	482

Notes

- 1) Other¹ refers to alternative dredging activities such as such as plough dredging or dredging with subsequent disposal to land
- 2) The percentages included within the table relate to the distribution of licence types (and exemptions) within each type of dredging activity in each location.
- 3) Numbers may not add due to rounding

6.3 Policy Option 2

42. Policy Option 2 assumes that dredging activities will be exempt from the requirement for a licence if the activity is located within an area covered by a Maintenance Dredging Protocol (MDP) approved by the licensing authority, and the MDP covers those dredging activities within it. Where an MDP is in place and covers relevant dredging activities, only those activities where compliance with other EU legislation is required will need to be licenced.
43. This option assumes that only 10 Harbour Authorities have a MDP in place and that these cover 30% of maintenance dredging activities in Harbour Authority areas.
44. Table 10 summarises the estimated breakdown of licence type for each activity. This table is based on applying the assumption that 30% of Tier 2 and Tier 3 maintenance activities outlined in Table 6 (relating to Policy 0) within Harbour Authority areas would be exempted under this option. This gives 70 Tier 2 WID/Dispersive activities within Harbour Authority Areas in total (as shown in Table 6), 75% of which are maintenance activities (52). Of these 52 activities 30% would fall within Harbour Authorities with a MDP in place (16). Therefore the remaining maintenance (37) and capital (18) activities would require a licence giving a total of 54 activities.
45. By applying the average licence period, as shown in Table 3, to the breakdown of licences (shown in Table 10) alongside the distribution of maintenance and capital dredging activities shown in Table 4, an annual average number of licence applications can be estimated over a 10 year period. This is shown in Table 9. Please note that the profile of licences over time assumes that 80% of maintenance activities will apply for a licence in 2013, and the remaining 20% will be licenced in 2014.

Table 9: Average Annual Number of Licence Applications – Policy Option 2

Licence Tier	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Tier 1	280	70	0	280	70	0	280	70	0	280
Tier 2	355	179	120	355	179	120	355	179	120	355
Tier 3	335	174	335	174	335	174	335	174	335	174
TOTAL	970	423	455	809	584	294	970	423	455	809

Table 10: Marine Licence Requirements – Policy Option 2

Location / Operator	Type of Dredging Activity	Total Estimated Number of Activities	Marine Licence Outcome			
			Exemption	Tier 1 Licence Required	Tier 2 Licence Required	Tier 3 Licence Required
Harbour Authorities within Harbour Areas	WID/Dispersive	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Disposal at Sea	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Other ¹	100	100 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350	63 (18%)	70 (20%)	54 (15%)	163 (46%)
	Disposal at Sea	450	69 (15%)	143 (32%)	111 (25%)	126 (28%)
	Other	150	25 (17%)	38 (25%)	58 (39%)	29 (19%)
Operators outside of Harbour Authority Areas	WID/Dispersive	10	0 (0%)	1 (10%)	8 (80%)	1 (10%)
	Disposal at Sea	150	0 (0%)	8 (5%)	83 (55%)	60 (40%)
	Other	200	0 (0%)	90 (45%)	100 (50%)	10 (5%)
TOTAL		1560	407	350	414	389

Notes

- 1) Other' refers to alternative dredging activities such as such as plough dredging or dredging with subsequent disposal to land
- 2) The percentages included within the table relate to the distribution of licence types (and exemptions) within each type of dredging activity in each location.
- 3) Numbers may not add due to rounding

6.4 Policy Option 3

46. Policy Option 3 assumes that the overall licensing process becomes more efficient. The main features of this options are:
- Minor dredging operations are fast tracked; and
 - The average length of the licence for all licence type is 5 years except even longer licences (10 years) are provided for some ongoing maintenance activities.
47. For Policy Option 3, it is assumed that all activities are able to obtain a 5 year licence as opposed to the 2/3 year licence in other options.
48. It is also assumed that that 70% of activities that would have required a Tier 1 licence under Policy Option 0 would be classified as minor dredging operations and therefore subject to fast-tracking (note that these same activities are subject to an exemption in Option 1). Under a fast tracked application there will be no pre-application discussions between industry and the MMO, and the MMO will determine the licence application quicker than would otherwise be the case.
49. For dredging activities where material is disposed at sea and where these activities are in an area covered by an MDP approved by the licensing authority (assumed to be 30% of the Tier 2 and Tier 3 maintenance activities outlined in Table 11), the applicants would be able to obtain a 10 year licence, rather than a 5 year licence (which is assumed for other licences), thus reducing the burden of re-application. In order to provide the appropriate checks and balances to ensure that the activity is not causing environmental damage, the licence would be subject to breakpoints to check that there had been no change in the environmental status of the dredging area.
50. The number of activities requiring a Marine Licence is shown in Table 11. This is the same as under Policy Option 0, as no exemptions are available under this option. The number of minor activities subject to fast-tracking is assumed to be 245 applications (i.e. 350 Tier 1 activities x 70% = 245 fast tracked activities).
51. The number of 10 year maintenance dredging licences which are disposing at sea within a HA area is expected to total 69. This equates to:
- 143 Tier 2 disposal at sea within HA areas x 75% of which are maintenance activities = 107
 - 163 Tier 3 disposal at sea within HA areas x 75% of which are maintenance activities = 122

Therefore:

- $122 + 107 = 229$ activities x 30% covered by an MDP = 69 activities.

Table 11: Marine Licence Requirements - Policy Option 3

Location / Operator	Type of Dredging Activity	Total Estimated Number of Activities	Marine Licence Outcome			
			Exemption	Tier 1 Licence Required	Tier 2 Licence Required	Tier 3 Licence Required
Harbour Authorities within Harbour Areas	WID/Dispersive	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Disposal at Sea	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Other ¹	100	100 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350	0 (0%)	70 (20%)	70 (20%)	210 (60%)
	Disposal at Sea	450	0 (0%)	143 (32%)	143 (32%)	163 (36%)
	Other	150	0 (0%)	38 (25%)	75 (50%)	38 (25%)
Operators outside of Harbour Authority Areas	WID/Dispersive	10	0 (0%)	1 (10%)	8 (80%)	1 (10%)
	Disposal at Sea	150	0 (0%)	8 (5%)	83 (55%)	60 (40%)
	Other	200	0 (0%)	90 (45%)	100 (50%)	10 (5%)
TOTAL		1560	250	350	479	482
<i>Notes</i>						
1) <i>Other' refers to alternative dredging activities such as such as plough dredging or dredging with subsequent disposal to land</i>						
2) <i>The percentages included within the table relate to the distribution of licence types (and exemptions) within each type of dredging activity in each location.</i>						
3) <i>Numbers may not add due to rounding</i>						

52. By applying the appropriate licence period, as described above, to the breakdown of licences (shown in Table 11) alongside the distribution of maintenance and capital dredging activities shown in Table 4, an annual average number of licence applications can be estimated over a 10 year period. This is shown in Table 12. This table shows the average number of applications that would be required under Policy Option 3 if the licences issued for 5 years were extended to 10 years. Please note that the profile of licences over time assumes that 80% of maintenance activities will apply for a licence in 2013, and the remaining 20% will be licenced in 2014.

Table 12: Average Annual Number of Licence Applications – Policy Option 3

Licence Tier	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Tier 1	280	70	0	0	0	280	70	0	0	0
Tier 2	407	192	120	120	120	381	185	120	120	120
Tier 3	409	193	120	120	120	380	185	120	120	120
TOTAL	1096	454	240	240	240	1041	440	240	240	240

6.5 Policy Option 4

53. Policy Option 4 is identical to Policy Option 0, except that in a small number of cases, where an activity takes place in a Harbour Authority area, that Harbour Authority will be responsible for issuing marine licensing rather than the MMO. It is assumed that only 5 Harbour Authorities would licence activities within their areas which would cover 20% of maintenance dredging activities within Harbour Authority areas¹.
54. For the remaining activities, the MMO will remain the responsible authority. It is assumed that for all licences (including those regulated by the Harbour Authority) the MMO will remain the regulatory body and undertake enforcement work as required.
55. Given these assumptions, the same number of licences and the same profile of licences would be required under Option 4, as those illustrated in Table 5 and Table 6 for Policy Option 0.

6.6 Policy Option 5

56. Policy Option 5 is effectively a combination of policy options 1, 2 and 4, plus the 5 year licence element from option 3 meaning that all licences will be issued on a 5 year basis². Given this:
- 70% of Tier 1 activities would be exempt from the requirement for a Marine Licence;
 - Where maintenance Tier 2 and Tier 3 activities occur within a Harbour Authority area where an appropriate MDP is in place, a Marine Licence would not be required. This applies to 30% of Tier 2 and Tier 3 activities;
 - 5 Harbour Authorities will take on the responsibility of licensing in their area and will be responsible for licensing of the activities which are not exempt by virtue of an MDP being in place. This would cover 14% of the remaining maintenance dredging activities within Harbour Authority areas; and
 - All licences will be issued on a 5 year basis.
57. Table 14 summarises the breakdown of licence type for each activity. This table is based on applying the assumption that 70% of Tier 1 activities (outlined in Table 6) would be exempt (i.e. 350 Tier 1 activities x 70% = 245 exempt activities).
58. In addition 30% of Tier 2 and Tier 3 maintenance activities (outlined in Table 6) within Harbour Authority areas would be exempted. This means that of the 70 Tier 2 WID/Dispersive activities within Harbour Authority Areas, 75% (52 activities) of these are assumed to maintenance activities, and 30% of these (16 activities) would fall within Harbour Authorities with an appropriate MDP in place. Given this the remaining maintenance (37 activities) and capital (18 activities) activities would require a licence, giving a total of 54 licences.

¹⁵ Under this option the licensing of Capital dredging projects will remain under the jurisdiction of the MMO.

¹⁶ The additional elements of option 3 have not been included within option 5, since they are already covered by virtue of options 1 & 2. So the 70% of tier 1 licences that would be fast tracked under option 3 are the same licences that would be exempt from any licensing requirement under option 1; and the 10 licences that would be issued for dredging activities relating to disposal at sea would not need to be licenced at all under option 2. Given this it is assumed that exemptions take precedence over alternative options.

59. By applying a 5 years licence for all licence types, to the breakdown of licences (from Table 14) alongside the distribution of maintenance and capital dredging activities shown in Table 4, an annual average number of licence applications can be estimated over a 10 year period. This is shown in
60. Table 13. The profile of licences over time assumes that 80% of maintenance activities will apply for a licence in 2013, and the remaining 20% will be licenced in 2014.

Table 13: Average Annual Number of Licence Applications – Policy Option 5

Licence Tier	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Tier 1	84	21	0	0	0	84	21	0	0	0
Tier 2	355	179	120	120	120	355	179	120	120	120
Tier 3	335	174	120	120	120	335	174	120	120	120
TOTAL	775	374	240	240	240	775	374	240	240	240

Table 14: Marine Licence Requirements – Policy Option 5

Location / Operator	Type of Dredging Activity	Total Estimated Number of Activities	Marine Licence Outcome			
			Exemption	Tier 1 Licence Required	Tier 2 Licence Required	Tier 3 Licence Required
Harbour Authorities within Harbour Areas	WID/Dispersive	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Disposal at Sea	75	75 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
	Other ¹	100	100 (100%) (Section 75 Exemption applied)	0 (0%)	0 (0%)	0 (0%)
3rd Party Dredging in a Harbour Authority Area	WID/Dispersive	350	112 (32%)	21 (6%)	54 (15%)	163 (46%)
	Disposal at Sea	450	170 (38%)	43 (10%)	111 (25%)	126 (28%)
	Other	150	52 (35%)	11 (8%)	58 (39%)	29 (19%)
Operators outside of Harbour Authority Areas	WID/Dispersive	10	1 (10%)	0 (0%)	8 (80%)	1 (10%)
	Disposal at Sea	150	6 (4%)	2 (1%)	83 (55%)	60 (40%)
	Other	200	63 (32%)	27 (14%)	100 (50%)	10 (5%)
TOTAL		1,560	654	104	414	389
<i>Notes</i>						
1) Other' refers to alternative dredging activities such as such as plough dredging or dredging with subsequent disposal to land						
2) The percentages included within the table relate to the distribution of licence types (and exemptions) within each type of dredging activity in each location.						
3) Numbers may not add due to rounding						

7.0 Costs Associated with the Licensing System

61. The following sections outline the costs and benefits associated with licensing dredging activities. These costs apply equally Options 0, 1 and 2 outlined within Section 6.0.
62. For Policy Option 3 the costs associated with the licensing system are broadly similar to those for Options 0, 1 and 2, however, 70% of Tier 1 activities and some Tier 2 and Tier 3 activities (as described in Section 6.4) will be subject to smaller costs (which are discussed in the appropriate section below).
63. For Options 4 and 5, the regulator for the licensing system will be both Harbour Authorities and the MMO. As it is assumed that the Harbour Authorities day rates are higher than the MMO (see Appendix 1), the costs of the activities will also be higher. These differences are highlighted in the relevant sections below.
64. The costs are calculated according to the type of application (by tier), who the regulatory body is and the number of activities that require a licence. They are presented according to the effort required at each stage of the licensing process from pre-application discussions through to preparing the application, licence determination and on-going monitoring & enforcement. For each stage the key assumptions and risks relating to the analysis are presented where relevant.

7.1 Costs Incurred in Preparing the Licensing System

65. This assessment does not consider any of the preparation activities required for developing the licensing system as a whole.
66. Despite these costs being out of scope, it is important to highlight the activities which are necessary to complete before any revised system can come into being. The following are a non-exclusive list of the most relevant activities:
 - The development of licence application forms;
 - The creation of guidance (including changes to the regulators web pages);
 - Development of fees and charges;
 - Consultation and liaison with interested parties (by the MMO, where applicable HA's, and industry – especially industry representative bodies); and
 - The development of a common risk assessment for Tier 1 activities.

7.2 Licence Application Costs and Benefits

67. There are three broad stages to obtaining a licence, each of which have been assessed as part of this Cost Benefit Analysis. These stages are:
 - Pre-application (which includes undertaking associated assessments);
 - Application Preparation and Submission; and
 - Consideration and Determination of Applications (which includes consultation by the MMO).

7.2.1 Pre-application

68. In order to establish what tier of Marine Licence would be required (if any), it is expected that industry will undertake a pre-application exercise for each dredging activity. This may involve

reviewing the MMO's website, reading appropriate guidance, or speaking to the MMO directly.¹⁶

69. The time utilised by industry in this process will vary depending on the scale of the activity. For the simplest of activities, it may only take a small amount of time to understand the licensing requirements. Conversely, for complex activities it is likely that a great deal more time will be required to scope applications. Table 15, shown below, summarises the average costs expected for time and costs expected to be spent by industry for each application.

Table 15: Average Pre-application Time & Cost - Industry

Licence Tier	Industry	
	Time per application	Cost per application
Tier 1 Licence	0.5 days	£161
Tier 2 Licence	1 day	£322
Tier 3 Licence	2 days	£645

70. Following initial discussions with the regulator, Tier 2 and Tier 3 applicants will be required to submit assessments alongside their application. These assessments, together with the estimated cost of undertaking them, are shown in Table 16 (for Tier 2) and Table 17 (for Tier 3). For activities which are already licensed, it is expected that the majority of the surveys would not be required for subsequent applications. Additionally, the costs presented in the tables are averages and are likely to be subject to large variation.
71. It should also be noted that some applications will be made by volunteers (e.g. in the case of small recreational marinas). However, it is unclear the extent to which this is the case and so the costs of obtaining a licence are assumed to be the same as that of the commercial sector.

Table 16: Tier 2 Licences – Additional Assessments Required - Industry

Dredging Type	Desk Based Environmental Assessment ¹	Hydrodynamic assessment ²	Sediment dispersion study	Bathymetric Survey
WID/dispersive	£2,500	N/A	£7,500 ³	£3,500
Conventional	£2,500	£1,500	£7,500 ⁴	£3,500

Notes:

- 1) Environmental Assessments will only be required for the first application of an activity
- 2) Hydrodynamic assessment will only be required for Capital dredging activities
- 3) A Sediment Dispersion study will only be required for first time WID/Dispersive activities
- 4) A Sediment Dispersion study will only be required if the activity is a high overflow activity where conventional dredging activities are planned

Source: Estimates provided by Senior Technical Advisors

¹⁶ Please note that applicants may receive up to 2 hours free pre-application advice.

¹⁷ Also note that for Option 4, some applicants would need to consult the relevant HA's websites

Table 17: Tier 3 Licences – Additional Assessments Required

Dredging Type	Survey Based Environmental Assessment ¹	Hydrodynamic assessment ²	Sediment dispersion study	Bathymetric Survey
WID/dispersive	£25,000 ⁵	£6,000	£7,500 ³	£5,000
Conventional	£25,000 ⁵	£13,500	£7,500 ⁴	£5,000

Notes:

- 1) *Environmental Assessments will only be required for the first application of an activity*
- 2) *Hydrodynamic assessment will only be required for Capital dredging activities*
- 3) *A Sediment Dispersion study will only be required for first time WID/Dispersive activities*
- 4) *A Sediment Dispersion study will only be required if the activity is a high overflow activity where conventional dredging activities are planned*
- 5) *This figures represents an average, it is acknowledged that the costs of an environmental assessment can vary considerably*

Source: Estimates provided by Senior Technical Advisors

72. Alongside industry, the regulator and CEFAS will incur costs during the pre-application stage. This will include time reviewing the environmental assessments described above and also holding discussions with applicants. These costs are summarised in Table 18. It should be noted that for both Tier 2 and Tier 3 licences, the amount of effort required by the regulator and CEFAS is assumed to be the same for all applications, although it is recognised that in reality both the number and quality of assessments will vary depending on the type of application.
73. The costs are calculated using an average wage rate for each group. The wage rates are outlined in Appendix 1.

Table 18: Average Pre-application Time & Cost - Regulator

Licence Tier	MMO		Harbour Authorities ¹		CEFAS	
	Time per application	Cost per application	Time per application	Cost per application	Time per application	Cost per application
Tier 1 Licence	2 hours	£160	2 hours	£200	N/A	£N/A
Tier 2 Licence	7.3 days	£4,394	7.3 days	£5,492	8 days	£5,183
Tier 3 Licence	7.3 days	£4,394	7.3 days	£5,492	8 days	£5,183
<i>Notes</i>						
1) Costs for Harbour Authorities would only be incurred for Option 4 and 5						

Source: Estimates provided by Senior Technical Advisors and the MMO

7.2.2 Application Preparation and Submission

74. Once the requirement for a Marine Licence has been established, industry will prepare and submit the relevant application form. As with the previous stage, the effort involved in preparing an application will vary depending on the type of activity – in particular the Tier of activity the application will fall under. The assumptions outlined below relate to all of the Policy Options.
75. It is anticipated that the application form itself will be broadly standard with similar information requirements set out for all of the activity Tiers. The consultation document discusses these requirements in more detail.
76. Table 19 summarises the average cost to industry in preparing a licence application form. Costs are lower for those applicants who already have a licence in place for dredging activity, and those who will be applying for a marine dredging licence for the first time, since it is assumed that much of the information required will be readily available for second and subsequent applications.
77. There are no preparation and submission costs to the MMO or any of the consultation bodies.

Table 19: Average Licence Preparation Time and Costs - Industry

Licence Tier	Average Time per Application	Average Cost per Application
Tier 1 Licence – no current licence in place	1 day	£330
Tier 1 Licence – pre-existing licence in place	0.5 days	£165
Tier 2 Licence – no current licence in place	2 days	£660
Tier 2 Licence – pre-existing licence in place	1 day	£330
Tier 3 Licence – no current licence in place	2 days	£660
Tier 3 Licence – pre-existing licence in place	1 day	£330

Source: Estimates provided by Senior Technical Advisors

78. By using the information provided in Section 7.2.1 and Section 7.2.2, an estimate of the costs to any particular activity can be calculated for industry. This is illustrated in Box 1.

Box 1: Calculation of Costs to Industry – Policy Option 0

The costs associated with obtaining a Marine Licence to industry will vary depending on a large number of factors. These include the type of dredging (maintenance/capital) the method employed (e.g. WID), whether the activity is first time or not, the risk associated with the activity and the location of the activity.

In the example below the costs for a particular activity have been estimated for Policy Option 0 (where no exemptions apply) using the information contained within Section 7.2.1 and Section 7.2.2. As described in Section 2.1, the costs are calculated using the Standard Cost Model.

Activity Description: *Medium risk (Tier 2) first time maintenance dredging activity within a Harbour Authority Area using a WID technique where a MDP is in place.*

Pre-Application Costs (as shown in Table 18)

7.5 hours x £44 = £330

Additional Assessment Costs (as shown in Table 16)

Desk Based Environmental Assessment = £2,500

Sediment dispersion study = £7,500

Bathymetric Survey = £3,500

Application Preparation Costs (as shown in Table 19)

15 hours x £44 = £660

Total Estimated Cost

£330 + £660 + £2,500 + £7,500 + £3,500 = £14,490

7.2.3 Application Consideration and Determination

79. Once an application is received, it will be considered and determined by the appropriate regulator.
80. For Tier 1 licences, the effort involved in determining applications is expected to be minimal, as the risks will already have been assessed via the common risk assessment. For Tier 2 and Tier 3 licence applications, a more bespoke approach will be taken, and each application will be independently considered and consulted upon.
81. The effort involved in considering an application is expected to vary according to the number and complexity of assessments which are required to accompany the application. Table 20 summarises the average time and cost per type of application.
82. It is assumed that the consideration and determination costs fall entirely on the regulators and consultees to the application process - i.e. there are no consideration and determination costs for industry.
83. For Policy Option 3 it is expected that 70% of the Tier 1 applications would be subject to fast tracking. The costs associated with the fast tracked applications are also illustrated in Table 20.

Table 20: Average Licence Consideration and Determination Time and Costs – MMO and Harbour Authorities

Licence Tier	MMO		Harbour Authorities ¹		CEFAS ²	
	Time per application	Cost per application	Time per application	Cost per application	Time per application	Cost per application
Tier 1 Licence – WID/dispersive method	3.5 hours	£280	3.5 hours	£350	N/A	£0
Tier 1 Licence – Conventional method	3.5 hours	£280	3.5 hours	£350	N/A	£0
Tier 1 Licence – WID/dispersive method – Fast Tracked³	3 hours	£240	3 hours	£300	N/A	£0
Tier 1 Licence – Conventional method – Fast Tracked³	3 hours	£240	3 hours	£300	N/A	£0
Tier 2 Licence – WID/dispersive method	13.5 hours	£1,080	13.5 hours	£1,350	22 hours	£1,931
Tier 2 Licence – Conventional method	13.5 hours	£1,080	13.5 hours	£1,350	22 hours	£1,931
Tier 3 Licence – WID/dispersive method	13.5 hours	£1,080	13.5 hours	£1,350	30 hours	£2,582
Tier 3 Licence – Conventional method	13.5 hours	£1,080	13.5 hours	£1,350	30 hours	£2,582

Notes:

- 1) Costs for Harbour Authorities would only be incurred for Option 4 and 5
- 2) Note that during the embedding period, where the licensing system is initially implemented, it is expected that CEFAS will spend 1 hour on Tier 2 licence applications and 2 hours on Tier 3 applications where an existing licence is in place. For other consultees, no effort is expected during the embedding period.
- 3) Only applied to Option 3

Source: Estimates provided by the MMO and adapted by Senior Technical Advisors and the MMO

7.2.3.1 Environmental Assessments

84. As part of the determination process, the regulator will be required to ensure that applications are compliant with relevant environmental legislation, namely the Habitats and Birds Directive, and the Water Framework Directive.
85. In order to satisfy these requirements, an Appropriate Assessment will be required to be undertaken for all licences where there is likely to be a significant environmental effect (which for the purpose of this assessment includes all Tier 2 and Tier 3 licences).
86. In some cases, the requirement for an individual Appropriate Assessment can be replaced where a suitable MDP is in place for the area in which the activity takes place.
87. Currently, it is understood that approximately 59 marine areas are eligible for MDPs. Of these, it is estimated that between 10 and 15 have already been completed. It is expected therefore, that the licensing system will promote the development of further MDPs over time due to the costs associated with developing an MDP being lower than that of Appropriate Assessments. Given this it is estimated that the remaining MDP's will be developed within 3 years of the new licensing system going live, after which time all 59 eligible areas will be covered by a suitable MDP.
88. Although the responsibility for developing MDPs falls on Harbour Authorities, it is expected that applicants for Marine Licences will provide the information feeding in to the documents. Given this it is estimated that an average cost of £10,000 will fall on industry for each MDP with a smaller cost of £2,000 for each Harbour Authority in coordinating and producing the MDPs.
89. For Tier 2 and Tier 3 applications where a MDP is not in place, it is assumed that that an Appropriate Assessment will be required and that the average cost to industry associated with providing information will be £3,000 for a maintenance dredging activity, and £10,000 for a capital dredging project. It is expected that the MMO will spend on average 1 day (£600) collating and coordinating the information.¹⁸
90. Additionally, for applications which have not been previously licensed, the MMO will be required to undertake a Water Framework Directive Assessment. This assessment will be required for Tier 2 and Tier 3 applications only. Similarly to the MDPs, the majority of the information required for the assessment will already be provided by applicants in their licence applications. Accordingly there is expected to be a small cost on the MMO in coordinating this information, approximately £600 per application.¹⁹
91. Applying the same technique employed in Box 1, by using the information provided in Section 7.2.1 and Section 7.2.3, an estimate of the costs to any particular individual activity can be calculated for the MMO. This is illustrated in Box 2.

¹⁸ For Harbour Authorities this cost is expected to be £750

¹⁹ *Ibid*

Box 2: Calculation of Costs to the MMO – Policy Option 0

As with industry costs, the costs associated with determining a Marine Licence to the MMO (and Ports and Harbour Authorities) will vary depending on a number of factors. These include the type of dredging the method of dredging employed (e.g. WID), the risk associated with the activity and the location of the activity.

In the example below the costs for the same activity as described in Box 1 have been estimated for Policy Option 0 (where no exemptions apply) using the information contained within Section 7.2.1 and Section 7.2.3.

As described in Section 2.1, the costs are calculated using the Standard Cost Model.

Activity Description: Medium risk (Tier 2) first time maintenance dredging activity within a Harbour Authority Area using a WID technique where a MDP is in place.

Pre-Application Costs (as shown in Table 18)

7.3 days = 54.92 hours x £80/hour = £4,394

Application Consideration Costs (as shown in Table 20)

18 hours = 18 hours x £80/hour = £1,440

Environmental Assessment Costs (as shown in Section 7.2.3.1)

Water Framework Directive Assessment

7.5 hours = 7.5 hours x £80/hour = £600

Total Estimated Cost

£4,394 + £1,440 + £600 = £6,434

7.2.3.2 Application Consultations

92. The MMO (and Harbour Authorities where relevant) will consult specific bodies and groups for all Tier 2 and Tier 3 applications, during the determination process. These groups include:

- Natural England;
- Environment Agency;
- Port /Harbour authorities (where these organisations are not the licensing body);
- The MMO (where the MMO is not the licensing body);
- The Maritime and Coastguard Agency;
- Crown Estate;
- English Heritage; and
- Inshore Fisheries and Conservation Authorities.

93. The effort required by each of the organisations in the consultation process will vary upon the risk the activity currently poses to the areas to which the consultees have specific interest. Table 21 illustrates the estimated average time and cost incurred by each consultee per licence application.

Table 21: Average Time and Costs to Consultees per Licence Application

Consultee	Tier 2 Licence		Tier 3 Licence	
	Average Time	Average Cost	Average Time	Average Cost
Natural England ¹	5 hours	£313	5 days	£2,344
Environment Agency ¹	5 hours	£625	5 days	£4,688
Port/Harbour Authorities ¹	3 hours	£300	2 days	£1,500
MMO	3 hours	£240	2 days	£1,200
The Maritime and Coastguard Agency ¹	3 hours	£188	1 day	£469
Inshore Fisheries and Conservation Authorities ¹	3 hours	£188	5 days	£2,344
Crown Estate ¹	3 hours	£188	3 hours	£188
English Heritage ^{1 2}	3 hours	£188	2 days	£938

Notes:

- 1) Note that during the embedding period, where the licensing system is initially implemented, no effort is expected by these consultees.
- 2) Note that English Heritage will only be consulted on for Capital Dredging Projects only.

Source: Estimates provided by Senior Technical Advisors

7.2.4 On-going Monitoring and Enforcement

94. The Marine Licencing regime for dredging activities will be enforced in accordance with the MMO's National Enforcement Model, which ensures that the MMO undertake a risk-based approach to its enforcement activities.
95. The MMO is assumed to undertake the enforcement activities for all of the policy options considered within this assessment, including those where Harbour Authorities will have licensing duties.
96. In undertaking enforcement activities it is expected that a number of inspections will be required to be carried out per annum. In this assessment it is assumed that each licence holder will be inspected once during the lifetime of the licence, although it is noted that in reality the rate of inspections will vary according to the risks associated with the activity.
97. The time and costs associated with each activity will vary depending on its complexity and risk. Table 22 illustrates the expected time and costs for the Industry, MMO and CEFAS (who will be involved in analysing samples from inspections). It is assumed that there is 100% compliance with the conditions of the licences in place and no further sanctions are required beyond the inspections undertaken.

Table 22: Estimated Average Cost per Licence Inspection

Actor	Tier 1	Tier 2	Tier 3
Industry – Time	N/A	3.5 hours	7 hours
Industry – Cost	£0	£154	£308
MMO – Time	N/A	3.5 hours	7 hours
MMO – Cost	£0	£280	£560
CEFAS – Time	N/A	1 hour	3 hours
CEFAS – Cost	£0	£63	£188

98. Under Policy Option 3, Tier 2 and Tier 3 activities which are disposing at sea and operate within an area with a Maintenance Dredging Protocol in place will be subject to a longer licence than otherwise (10 years compared to 2 or 3 years) and therefore subject to a different inspection regime. For these applications it is assumed that each activity will receive 1 day of inspection time by the MMO every 3 years. This would imply a cost of £600 to the MMO and £330 for industry per inspection.
99. Additionally, in return for a longer licence under Policy Option 3, applicants will be required to demonstrate at sufficient breakpoints in their licence (every 3 years) that their activity is not causing harm to the environment. To satisfy the regulator, industry would be required to provide sediment samples. The cost associated with providing these samples is expected to be £430 for Tier 2 activities and £1,530 for Tier 3 activities. The cost to the MMO in reviewing the samples is expected to be £640 for both Tier 2 and Tier 3 activities. For CEFAS, the costs are expected to be more substantial at £16,086 for Tier 2 activities and £36,768 for Tier 3 activities.
100. Finally for Policy Option 3, it is assumed that 70% of the Tier 1 activities outlined in Table 11 would not require any pre-application discussions, as these activities would be fast-tracked. Therefore no costs would be assumed for industry or the regulator for this proportion of applicants.

7.3 Summary of the Costs for Options

101. A summary of the average costs of licensing under Policy Option 0 and 1, per licence application and by tier of application, is shown in Table 23. The table shows that the effort required by all parties for Tier 1 applications is expected to be far lower than that for expected for Tier 2 and Tier 3 applications.

Table 23: Estimated Average Cost per Licence Application 2012/13 – Policy Option 0

	Tier 1	Tier 2	Tier 3
Industry¹	£386	£15,531	£42,351
MMO¹	£440	£6,534	£6,724
Consultees¹	£0	£9,093	£20,069
TOTAL	£826	£31,158	£69,144

Notes:

1) *The costs presented for each of the actors are the average costs for a first time applicant. These averages exclude the embedding period and also any savings associated with subsequent licence applications.*

Table 24: Estimated Total Costs over Time - Policy Option 0

Year	Industry	MMO	Consultees	TOTAL
2013/14	£23,918,000	£5,536,000	£2,528,000	£31,983,000
2014/15	£10,971,000	£2,578,000	£5,638,000	£19,188,000
2015/16	£13,217,000	£3,535,000	£9,216,000	£25,969,000
2016/17	£10,529,000	£3,719,000	£7,543,000	£21,791,000
2017/18	£10,559,000	£3,675,000	£9,831,000	£24,065,000
2018/19	£7,488,000	£1,890,000	£4,964,000	£14,342,000
2019/20	£12,840,000	£5,046,000	£11,766,000	£29,651,000
2020/21	£8,249,000	£2,347,000	£5,608,000	£16,205,000
2021/22	£9,799,000	£3,218,000	£9,186,000	£22,203,000
2022/23	£10,529,000	£3,719,000	£7,543,000	£21,791,000
10 Year NPV	£103,956,000	£30,597,000	£62,620,000	£197,173,000

7.4 Summary of the Costs – Policy Option 1

102. The average costs of obtaining a licence under Policy Option 1 are the same as per Policy Option 0 and are shown in Table 23.
103. When considering the total number of applications over a 10 year period, it is estimated that the total cost to industry will be approximately £103.6m. For the MMO the total cost is estimated to be £30.2m and for consultees £62.6m (all figures are 10 Year NPV). The annualised costs are outlined in Table 25.

Table 25: Total Costs over Time - Policy Option 1

Year	Industry	MMO	Consultees	TOTAL
2013/14	£23,843,000	£5,450,000	£2,528,000	£31,821,000
2014/15	£10,952,000	£2,556,000	£5,638,000	£19,147,000
2015/16	£13,217,000	£3,535,000	£9,216,000	£25,969,000
2016/17	£10,454,000	£3,633,000	£7,543,000	£21,629,000
2017/18	£10,540,000	£3,653,000	£9,831,000	£24,025,000
2018/19	£7,488,000	£1,890,000	£4,964,000	£14,342,000
2019/20	£12,764,000	£4,960,000	£11,766,000	£29,490,000
2020/21	£8,230,000	£2,326,000	£5,608,000	£16,164,000
2021/22	£9,799,000	£3,218,000	£9,186,000	£22,203,000
2022/23	£10,454,000	£3,633,000	£7,543,000	£21,629,000
10 Year NPV	£103,646,000	£30,244,000	£62,620,000	£196,510,000

7.5 Summary of the Costs – Policy Option 2

104. A summary of the average cost of licensing (per licence) under Policy Option 2 is shown in Table 26.

Table 26: Estimated Average Cost per Licence Application 2012/13 – Policy Option 2

	Tier 1	Tier 2	Tier 3
Industry¹	£386	£15,943	£43,500
MMO¹	£440	£6,550	£6,724
Consultees¹	£0	£9,102	£20,132
TOTAL	£826	£31,595	£70,356
<i>Notes:</i>			
1) The costs presented for each of the actors are the average costs for a first time applicant. These averages exclude the embedding period and also any savings associated with subsequent licence applications.			

105. When considering the total number of applications required to be made over the 10 year period considered in this assessment, it is estimated that the total cost to industry will be approximately £95.4m. For the MMO the total cost is estimated to be £26.8m and for consultees £54.5m (all figures 10 Year NPV). The annualised costs are outlined in Table 27.

Table 27: Estimated Total Costs over Time - Policy Option 2

Year	Industry	MMO	Consultees	TOTAL
2013/14	£20,513,000	£4,705,000	£2,224,000	£27,442,000
2014/15	£10,609,000	£2,370,000	£5,162,000	£18,141,000
2015/16	£12,236,000	£3,038,000	£7,776,000	£23,051,000
2016/17	£9,838,000	£3,303,000	£6,717,000	£19,857,000
2017/18	£9,674,000	£3,147,000	£8,275,000	£21,095,000
2018/19	£7,299,000	£1,777,000	£4,604,000	£13,679,000
2019/20	£11,578,000	£4,291,000	£9,860,000	£25,729,000
2020/21	£7,933,000	£2,159,000	£5,132,000	£15,224,000
2021/22	£9,040,000	£2,765,000	£7,746,000	£19,551,000
2022/23	£9,838,000	£3,303,000	£6,717,000	£19,857,000
10 Year NPV	£95,372,000	£26,760,000	£54,481,000	£176,612,000

7.6 Summary of the Costs – Policy Option 3

A summary of the average cost of licensing (per licence) under Policy Option 3 is shown in Table 28.

Table 28: Estimated Average Cost per Licence Application 2012/13 – Policy Option 3

	Tier 1	Tier 2	Tier 3
Industry¹	£270	£15,542	£42,353
MMO¹	£300	£6,555	£6,727
Consultees¹	£0	£9,091	£19,972
TOTAL	£570	£31,188	£69,052

Notes:

- 1) The costs presented for each of the actors are the average costs for a first time applicant. These averages exclude the embedding period and also any savings associated with subsequent licence applications.
- 2) These costs do not include costs for enforcement, inspections etc.

Table 29: Estimated Total Costs over Time - Policy Option 3

Year	Industry	MMO	Port/Harbour Authorities	Consultees	TOTAL
2013/14	£23,891,000	£5,506,000	£160,000	£2,487,000	£31,884,000
2014/15	£10,964,000	£2,571,000	£376,000	£5,619,000	£19,154,000
2015/16	£9,270,000	£1,592,000	£247,000	£3,574,000	£14,436,000
2016/17	£6,793,000	£1,516,000	£217,000	£5,039,000	£13,348,000
2017/18	£6,737,000	£1,465,000	£217,000	£3,918,000	£12,120,000
2018/19	£12,149,000	£4,681,000	£684,000	£10,927,000	£27,757,000
2019/20	£8,150,000	£2,325,000	£334,000	£6,885,000	£17,360,000
2020/21	£6,737,000	£1,465,000	£217,000	£3,918,000	£12,120,000
2021/22	£6,718,000	£1,448,000	£217,000	£3,544,000	£11,711,000
2022/23	£6,793,000	£1,516,000	£217,000	£5,039,000	£13,348,000
10 Year NPV	£87,376,000	£21,317,000	£2,479,000	£43,482,000	£152,174,000

7.7 Summary of the Costs – Policy Option 4

106. A summary of the average cost of licensing (per licence) under Policy Option 4 is shown in Table 30.

Table 30: Estimated Average Cost per Licence Application 2012/13 – Policy Option 4

	Tier 1	Tier 2	Tier 3
Industry ¹	£386	£15,531	£42,351
MMO ¹	£440	£6,544	£6,724
Port/Harbour Authorities ¹	£550	£7,686	£7,705
Consultees ¹	£0	£9,624	£21,829
TOTAL (MMO as regulator)	£826	£31,699	£70,904
TOTAL (Harbour Authority as regulator)	£936	£32,841	£71,885
<i>Notes:</i>			
1) The costs presented for each of the actors are the average costs for a first time applicant. These averages exclude the embedding period and also any savings associated with subsequent licence applications.			

When considering the total number of applications required to be made over the 10 year period considered in this assessment, it is estimated that the total cost to industry will be approximately £104m. For the MMO the total cost is estimated to be £28.5m²⁰. For the Port and Harbour

²⁰ Note that this figure also includes costs relating to the MMO's role as a consultee when Port Authorities are the regulator of the licence.

Authorities the costs are estimated to be £6.7m²¹ and for consultees £58.6m (all figures 10 Year NPV). The annualised costs are outlined in Table 31.

Table 31: Estimated Total Costs over Time - Policy Option 4

Year	Industry	MMO	Port/Harbour Authorities	Consultees	TOTAL
2013/14	£23,918,000	£5,012,000	£815,000	£2,369,000	£32,114,000
2014/15	£10,971,000	£2,461,000	£522,000	£5,262,000	£19,217,000
2015/16	£13,217,000	£3,291,000	£986,000	£8,536,000	£26,030,000
2016/17	£10,529,000	£3,464,000	£730,000	£7,132,000	£21,855,000
2017/18	£10,559,000	£3,410,000	£1,003,000	£9,160,000	£24,131,000
2018/19	£7,488,000	£1,837,000	£392,000	£4,639,000	£14,356,000
2019/20	£12,840,000	£4,630,000	£1,257,000	£11,029,000	£29,756,000
2020/21	£8,249,000	£2,243,000	£477,000	£5,262,000	£16,231,000
2021/22	£9,799,000	£3,003,000	£919,000	£8,536,000	£22,257,000
2022/23	£10,529,000	£3,464,000	£730,000	£7,132,000	£21,855,000
10 Year NPV	£103,956,000	£28,455,000	£6,733,000	£58,566,000	£197,710,000

7.8 Summary of the Costs – Policy Option 5

107. A summary of the average cost of licensing (per licence) under Policy Option 5 is shown in Table 32.

²¹ Note that this figure also includes costs relating to the Port Authorities role as a consultee when the MMO is the regulator of the licence.

Table 32: Estimated Average Cost per Licence Application 2012/13 – Policy Option 5

	Tier 1	Tier 2	Tier 3
Industry¹	£386	£15,943	£43,500
MMO¹	£440	£6,559	£6,725
Port/Harbour Authorities¹	£550	£7,868	£7,705
Consultees¹	N/A	£9,633	£21,892
TOTAL (MMO as regulator)	£826	£32,135	£72,177
TOTAL (Harbour Authority as regulator)	£936	£33,444	£73,097
<p><u>Notes:</u></p> <p>1) <i>The costs presented for each of the actors are the average costs for a first time applicant. These averages exclude the embedding period and also any savings associated with subsequent licence applications.</i></p>			

Table 33: Estimated Total Costs over Time - Policy Option 5

Year	Industry	MMO	Port/Harbour Authorities	Consultees	TOTAL
2013/14	£20,438,000	£4,259,000	£591,000	£2,083,000	£27,370,000
2014/15	£10,590,000	£2,269,000	£445,000	£4,817,000	£18,121,000
2015/16	£9,270,000	£1,592,000	£247,000	£3,339,000	£14,448,000
2016/17	£6,718,000	£1,448,000	£217,000	£3,339,000	£11,722,000
2017/18	£6,718,000	£1,448,000	£217,000	£3,339,000	£11,722,000
2018/19	£11,503,000	£3,920,000	£965,000	£9,250,000	£25,639,000
2019/20	£7,915,000	£2,066,000	£404,000	£4,817,000	£15,201,000
2020/21	£6,718,000	£1,448,000	£217,000	£3,339,000	£11,722,000
2021/22	£6,718,000	£1,448,000	£217,000	£3,339,000	£11,722,000
2022/23	£6,718,000	£1,448,000	£217,000	£3,339,000	£11,722,000
10 Year NPV	£82,673,000	£18,787,000	£3,269,000	£35,094,000	£139,824,000

8.0 Comparison of Options

108. In order to assess the options properly it is necessary to compare the options against one another. Table 34 summarises the costs expected to fall on industry, the MMO, Ports/Harbour Authorities and consultees for each option²².
109. The cheapest overall Policy Option is expected to be Policy Option 5, some £57.3m cheaper when compared to Policy Option 0. Policy Option 5 is expected to result in the lowest cost for each group of actors – i.e. Industry, the MMO, Port/Harbour Authorities and Consultees. This is largely because this option leads to the lowest number of licences being required when compared to the other options.
110. The most expensive option is expected to be Policy Option 4. This is due to the fact that the Ports and Harbour Authorities are expected to cost more than the MMO in regulating the system.

²² Please note that for Option 4 and 5, the MMO will be a consultee in some instances. For all other options, Ports/harbour Authorities will be consultees.

Table 34: Comparison of the 10 Year NPV for all Policy Options

Option	Industry	MMO	Port/Harbour Authorities	Consultees	Total	Difference from Policy Option 0 Total
Option 0	£103,956,000	£30,597,000	£4,054,000	£58,566,000	£197,173,000	N/A
Option 1	£103,646,000	£30,244,000	£4,054,000	£58,566,000	£196,510,000	-£663,000
Option 2	£95,372,000	£26,760,000	£3,495,000	£50,985,000	£176,612,000	-£20,561,000
Option 3	£87,376,000	£21,317,000	£2,479,000	£41,003,000	£152,174,000	-£44,998,000
Option 4	£103,956,000	£28,455,000	£6,733,000	£58,566,000	£197,710,000	£537,000
Option 5	£82,673,000	£18,787,000	£3,269,000	£35,094,000	£139,824,000	-£57,349,000
<i>Notes</i>						
1) <i>Figures may not add due to rounding</i>						

Appendix 1: Wage Rates

For the purposes of this assessment, an average wage rate for each organisation involved in the licensing system is utilised. The wage rates are presented in the table below.

Table 35: Average Wage Rates

Actor	Average Cost Per Hour	Source
MMO	£80	MMO licensing Guidance 12: Fees and Charges - March 2011, http://marinemanagement.org.uk/licensing/documents/guidance/12.pdf
Industry	£44	The Marine Licensing (Licence Application Appeals) Regulations 2011 Impact Assessment, http://www.legislation.gov.uk/ukdsi/2011/9780111506660/memorandum/contents . This has been increased due to inflation from £43.
CEFAS	£86	MMO licensing Guidance 12: Fees and Charges – March 2011, http://marinemanagement.org.uk/licensing/documents/guidance/12.pdf
Natural England	£63	Project Team assumed day rate
Environment Agency	£125	Environmental Permitting Charging Scheme & Advice 2011-12, http://www.environment-agency.gov.uk/static/documents/Business/EP_scheme_and_guidance_2011-12.pdf
Port/Harbour Authorities	£100	Project Team assumed day rate
The Maritime and Coastguard Agency	£63	Project Team assumed day rate
Inshore Fisheries and Conservation Authorities	£63	Project Team assumed day rate
Crown Estate	£63	Project Team assumed day rate
<i>English Heritage</i>	£63	Project Team assumed day rate