Short Form Contract

Provision of Goods / Services (Natural England)

ECM 63622 Spatial Modelling and Sensitivity Mapping of Seabirds and Marine Mammals in UK Waters.

February 2022

THIS CONTRACT is dated 1st February 2022

BETWEEN

NATURAL ENGLAND of 4th Floor, Foss House, Kings Pool, 1-2 Peasholme Green, York, YO1 7PX (the “Authority”); and

BANGOR UNIVERSITY of College Road, Bangor, Gwynedd, LL57 2DG (the “Supplier”)

(each a “Party” and together the “Parties”).

BACKGROUND

a) The Authority requires the services set out in Schedule 1 (the “Services”).

b) The Authority has awarded this contract for the Services to the Supplier and the Supplier agrees to provide the Services in accordance with the terms of the contract.

AGREED TERMS

1. Definitions and Interpretation

1.1 In the Contract, unless the context requires otherwise, the following terms shall have the meanings given to them below:

‘Approval’: the prior written consent of the Authority.

‘Authority Website’: www.naturalengland.org.uk

‘Contract Term’: the period from the Commencement Date to the Expiry Date.

‘Contracting Authority’: an organisation defined as a contracting authority in Regulation 2 of the Public Contracts Regulations 2015.

‘Controller’: has the meaning given in the GDPR.

‘Data Loss Event’: any event that results, or may result, in unauthorised access to Personal Data held by the Supplier under this Contract, and/or actual or potential loss and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach.

‘Data Protection Impact Assessment’: an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data.

‘Data Protection Legislation’: (i) the GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the DPA 2018 to the extent that it relates to processing of personal data and privacy; and (iii) all applicable Law about the processing of personal data and privacy.

‘Data Protection Officer’: has the meaning given in the GDPR.

‘Data Subject’: has the meaning given in the GDPR.

‘Data Subject Request’: a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data.

‘Default’: a breach by the Supplier or Staff of its obligations under the Contract or any other default, negligence or negligent statement in connection with the Contract.

‘Dispute Resolution Procedure’: the dispute resolution procedure set out in Clause 20.

‘DPA 2018’: the Data Protection Act 2018.

‘Force Majeure’: any cause affecting the performance by a Party of its obligations under the Contract arising from acts, events, omissions or non-events beyond its reasonable control, including acts of God, riots, war, acts of terrorism, fire, flood, storm or earthquake and any disaster, but excluding any industrial dispute relating to the Supplier, its Staff or any other failure in the Supplier’s supply chain.

‘Fraud’: any offence under laws creating offences in respect of fraudulent acts or at common law in respect of fraudulent acts in relation to the Contract or defrauding or attempting to defraud or conspiring to defraud the Authority or any other Contracting Authority.

‘GDPR’: the General Data Protection Regulation (Regulation (EU) 2016/679).

‘Good Industry Practice’: standards, practices, methods and procedures conforming to the law and the degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person or body engaged in a similar type of undertaking under similar circumstances.

‘Goods’: all products, documents, and materials developed by the Supplier or its agents, Sub-contractors, consultants, suppliers and Staff in relation to the Services in any form, including computer programs, data, reports and specifications (including drafts).

‘Intellectual Property Rights’: any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, utility models, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names, goodwill, copyright and rights in the nature of copyright, design rights, rights in databases, moral rights, know-how and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the “look and feel” of any websites.

‘IP Materials’: all Intellectual Property Rights which are:

a) furnished to or made available to the Supplier by or on behalf of the Authority; or

b) created by the Supplier or Staff in the course of providing the Services or exclusively for the purpose of providing the Services.

‘Law’: any law, statute, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements of any regulatory body with which the relevant Party is bound to comply.

‘LED’: Law Enforcement Directive (Directive (EU) 2016/680).

‘Personal Data’: has the meaning given in the GDPR.

‘Personal Data Breach’: has the meaning given in the GDPR.

‘Price’: the price for the Services set out in Schedule 2.

‘Processor’: has the meaning given in the GDPR.

‘Protective Measures’: appropriate technical and organisational measures which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it.

‘Replacement Supplier’: any third party supplier of services appointed by the Authority to replace the Supplier.

‘Staff’: all employees, staff, other workers, agents and consultants of the Supplier and of any Sub-contractors who are engaged in providing the Services from time to time.

‘Sub-contract’: any contract between the Supplier and a third party pursuant to which the Supplier agrees to source the provision of any of the Services from that third party.

‘Sub-contractor’: third parties which enter into a Sub-contract with the Supplier.

‘Sub-processor’: any third party appointed to process Personal Data on behalf of the Supplier related to this Contract.

‘Valid Invoice’: an invoice containing the information set out in Clause 3.3.

‘VAT’: Value Added Tax.

‘Working Day’: Monday to Friday excluding any public holidays in England and Wales.

1.2 The interpretation and construction of the Contract is subject to the following provisions:

a) words importing the singular meaning include where the context so admits the plural meaning and vice versa;

b) words importing the masculine include the feminine and the neuter;

c) reference to any statutory provision, enactment, order, regulation or other similar instrument are construed as a reference to the statutory provision enactment, order regulation or instrument (including any instrument of the European Union) as amended, replaced, consolidated or re-enacted from time to time, and include any orders, regulations, codes of practice, instruments or other subordinate legislation made under it;

d) reference to any person includes natural persons and partnerships, firms and other incorporated bodies and all other legal persons of whatever kind and however constituted and their successors and permitted assigns or transferees;

e) the headings are inserted for ease of reference only and do not affect the interpretation or construction of the Contract;

f) references to the Services include references to the Goods;

g) references to Clauses and Schedules are to clauses and schedules of the Contract; and

h) the Schedules form part of the Contract and have affect as if set out in full in the body of the Contract and any reference to the Contract includes the Schedules.

2. Contract and Contract Term

2.1 The Supplier shall provide the Authority with the services set out in Schedule 1 (the "Services") in accordance with the terms and conditions of the Contract.

2.2 The Contract is effective on 1 February 2022 (the "Commencement Date") and ends on 30 September 2025 (the "Expiry Date") unless terminated early or extended in accordance with the Contract.

3. Price and Payment

3.1 In consideration of the Supplier providing the Services in accordance with the Contract, the Authority shall pay the Price to the Supplier.

3.2 The Authority shall:

a) provide the Supplier with a purchase order number ("PO Number"); and

b) pay all undisputed sums due to the Supplier within 30 days of receipt of a Valid Invoice.

3.3 A Valid Invoice shall:

a) contain the correct PO Number;

b) express the sum invoiced in sterling; and

c) include VAT at the prevailing rate as a separate sum or a statement that the Supplier is not registered for VAT.

3.4 The Supplier shall submit invoices quarterly (1 January, 1 April, 1 July and 1 October) for progress against detailed work plan agreed between Natural England and Bangor University for each phase of the project to the Authority at the following addresses:
APInvoices-NEG-U@gov.sscl.com
or SSCL AP, Natural England, PO Box 793, Newport Gwent, NP10 8FZ

3.5 The Supplier acknowledges that:

a) if the Supplier does not include VAT on an invoice or does not include VAT at the correct rate, the Authority will not be liable to pay the Supplier any additional VAT;

b) invoices which do not include the information set out in Clause 3.3 will be rejected.

3.6 Any late payment of an undisputed amount is not made by the Authority by the due date, then the Authority shall pay the Supplier interest at the interest rate specified in the Late Payment of Commercial Debts (Interest) Act 1998.

3.7 The Supplier shall not suspend provision of the Services if any payment is overdue.

3.8 The Supplier indemnifies the Authority on a continuing basis against any liability, including any interest, penalties or costs incurred, which is levied, demanded or assessed on the Authority at any time in respect of the Supplier's failure to account for or to pay any VAT relating to payments made to the Supplier under the Contract.

4. Extension of the Contract

4.1 The Authority may, by written notice to the Supplier, extend the Contract for a further period up to six months.

5. Warranties and Representations

5.1 The Supplier warrants and represents for the Contract Term that:

a) it has full capacity and authority and all necessary consents and regulatory approvals to enter into the Contract and to provide the Services;

b) the Contract is executed by a duly authorised representative of the Supplier;

c) in entering the Contract it has not committed any Fraud;

d) as at the Commencement Date, all information contained in its tender or other offer made by the Supplier to the Authority remains true, accurate and not misleading, save as may have been specifically disclosed in writing to the Authority prior to execution of the Contract and that it will advise the Authority of any fact, matter or circumstance of which it may become aware which would render such information false or misleading;

e) no claim is being asserted and no litigation, arbitration or administrative proceeding is presently in progress or, to the best of its knowledge and belief, pending or threatened against it or any of its assets which will or might have a material adverse effect on its ability to perform its obligations under the Contract;

f) it is not subject to any contractual obligation, compliance with which is likely to have a material adverse effect on its ability to provide the Services;

g) no proceedings or other steps have been taken and not discharged (or, to the best of its knowledge, are threatened) for the winding up of the Supplier or for its dissolution or for the appointment of a receiver, administrative receiver, liquidator, manager, administrator or similar in relation to any of the Supplier's assets or revenue;

h) it owns, or has obtained or is able to obtain valid licences for, all Intellectual Property Rights that are necessary to provide the Services; and

i) Staff shall be engaged on terms which do not entitle them to any Intellectual Property Right in any IP Materials;

j) it will comply with its obligations under the Immigration, Asylum and Nationality Act 2006.

5.2 The Supplier warrants and represents that in the 3 years prior to the date of the Contract:

a) it has conducted all financial accounting and reporting activities in compliance with generally accepted accounting principles and has complied with relevant securities;

b) it has not done or omitted to do anything which could have a material adverse effect on its assets, financial condition or position as a going concern or its ability to provide the Services; and

c) it has complied with all relevant tax laws and regulations and no tax return submitted to a relevant tax authority has been found to be incorrect under any anti-abuse rules.

6. Service Standards

6.1 The Supplier shall provide the Services or procure that they are provided with reasonable skill and care, in accordance with Good Industry Practice prevailing from time to time and with Staff who are appropriately trained and qualified.

6.2 If the Services do not meet the Specification, the Supplier shall at its own expense re-schedule and carry out the Services in accordance with the Specification within such reasonable time as may be specified by the Authority.

6.3 The Authority may by written notice to the Supplier reject any of the Goods which fail to conform to the approved sample or fail to meet the Specification. Such notice shall be given within a reasonable time after delivery to the Authority of the Goods. If the Authority rejects any of the Goods it may (without prejudice to its other rights and remedies) either:

a) have the Goods promptly either repaired by the Supplier or replaced by the Supplier with Goods which conform in all respects with the approved sample or with the Specification and due delivery shall not be deemed to have taken place until the repair or replacement has occurred; or

b) treat the Contract as discharged by the Supplier’s breach and obtain a refund (if the Goods have already been paid for) from the Supplier in respect of the Goods concerned together with payment of any additional expenditure reasonably incurred by the Authority in obtaining replacements.

6.4 The Authority will be deemed to have accepted the Goods if it expressly states the same in writing or fails to reject the Goods in accordance with Clause 6.3.

6.5 If the Authority issues a receipt note for delivery of the Goods it shall not constitute any acknowledgement of the condition, quantity or nature of those Goods or the Authority's acceptance of them.

6.6 The Supplier hereby guarantees the Goods against faulty materials or workmanship for such period as may be specified in the Specification or, if no period is so specified, for 3 years from the date of acceptance. If the Authority shall within such guarantee period or within 30 Working Days thereafter give notice in writing to the Supplier of any defect in any of the Goods as may have arisen during such guarantee period under proper and normal use, the Supplier shall (without prejudice to any other rights and remedies which the Authority may have) promptly remedy such defects (whether by repair or replacement as the Authority shall choose) free of charge.

6.7 Any Goods rejected or returned by the Authority pursuant to this Clause 6 shall be returned to the Supplier at the Supplier's risk and expense.

7. Termination

7.1 The Authority may terminate the Contract at any time by giving 30 days written notice to the Supplier.

7.2 The Authority may terminate the Contract in whole or in part by notice to the Supplier with immediate effect and without compensation to the Supplier if:

a) being an individual, the Supplier is the subject of a bankruptcy order; has made a composition or arrangement with his creditors; dies or is adjudged incapable of managing his affairs within the meaning of Part VII of the Mental Health Act 1983;

b) being a company, the Supplier goes into compulsory winding up, or passes a resolution for voluntary winding up, or suffers an administrator, administrative receiver or receiver and manager to be appointed or to take possession over the whole or any part of its assets, is dissolved; or has entered into a voluntary arrangement with its creditors under the Insolvency Act 1986, or has proposed or entered into any scheme of arrangement or composition with its creditors under section 425 of the Companies Act 1985; or has been dissolved;

c) being a partnership, limited liability partnership or unregistered company, the Supplier or an individual member of it goes into compulsory winding up; is dissolved; suffers an administrator or receiver or manager to be appointed over the whole or any part of its assets; or has entered into a composition or voluntary arrangement with its creditors;

d) the Supplier is in any case affected by any similar occurrence to any of the above in any jurisdiction;

e) subject to Clause 7.3, the Supplier commits a Default;

f) there is a change of control of the Supplier; or

g) the Supplier or Staff commits Fraud in relation to the Contract or any other contract with the Crown (including the Authority).

7.3 If the Supplier commits a Default which is capable of being remedied, the Authority may terminate the Contract pursuant to Clause 7.2(e) only if the Supplier has failed to remedy the Default within 20 Working Days of being notified of the Default by the Authority.

8. Consequences of Expiry or Termination

8.1 If the Authority terminates the Contract under Clause 7.2:

a) and then makes other arrangements for the supply of the Services, the Authority may recover from the Supplier the cost reasonably incurred of making those other arrangements and any additional expenditure incurred by the Authority throughout the remainder of the Contract Term; and

b) no further payments shall be payable by the Authority to the Supplier (for the Services supplied by the Supplier prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority), until the Authority has established the final cost of making the other arrangements envisaged under Clause 8.1(a).

8.2 On expiry or termination of the Contract the Supplier shall:

a) co-operate fully with the Authority to ensure an orderly migration of the Services to the Authority or, at the Authority's request, a Replacement Supplier; and

b) procure that all data and other material belonging to the Authority (and all media of any nature containing information and data belonging to the Authority or relating to the Services) shall be delivered promptly to the Authority.

8.3 Save as otherwise expressly provided in the Contract:

a) termination or expiry of the Contract shall be without prejudice to any rights, remedies or obligations accrued under the Contract prior to termination or expiration and nothing in the Contract shall prejudice the right of either Party to recover any amount outstanding at such termination or expiry; and

b) termination of the Contract shall not affect the continuing rights, remedies or obligations of the Authority or the Supplier under Clauses 3, 8 to 13, 17, 26 and 28.

9. Liability, Indemnity and Insurance

9.1 Notwithstanding any other provision in the Contract, neither Party excludes or limits liability to the other Party for:

a) death or personal injury caused by its negligence;

b) Fraud or fraudulent misrepresentation; or

c) any breach of any obligations implied by section 12 of the Sale of Goods Act 1979 or Parts I and II of the Supply of Goods and Services Act 1982.

9.2 The Supplier shall indemnify and keep indemnified the Authority against all claims, proceedings, demands, actions, damages, costs, breach of statutory duty, expenses and any other liabilities which arise in tort (including negligence) default or breach of the Contract to the extent that any such loss or claim is due to the breach of contract, negligence, wilful default or Fraud of itself or of Staff or Sub-contractors save to the extent that the same is directly caused by the negligence, breach of the Contract or applicable law by the Authority.

9.3 The Supplier shall not exclude liability for additional operational, administrative costs and/or expenses or wasted expenditure resulting from the direct Default of the Supplier.

9.4 Subject to Clause 9.1:

a) neither Party is liable to the other for any:

(i) loss of profits, business, revenue or goodwill;

(ii) loss of savings (whether anticipated or otherwise); and/or

(iii) indirect or consequential loss or damage

b) each Party's total aggregate liability in respect of all claims, losses damages, whether arising from tort (including negligence), breach of contract or otherwise under or in connection with the Contract, shall not exceed £1,000,000 (one million pounds) or 2x the value of the Contract whichever is the lower amount.

9.5 The Supplier shall, with effect from the Commencement Date and for such period as necessary to enable the Supplier to comply with its obligations under the Contract, take out and maintain with a reputable insurance company a policy or policies of insurance providing an adequate level of cover in respect of all risks which may be incurred by the Supplier, arising out of the Supplier's performance of its obligations under the Contract, including employer's liability, death or personal injury, loss of or damage to property or any other loss, including financial loss arising from any advice given or omitted to be given by the Supplier. Such insurance shall be maintained for the Contract Term and for a minimum of 6 years following the end of the Contract.

9.6 The Supplier shall give the Authority, on request, copies of all insurance policies referred to in this Clause or a broker's verification of insurance to demonstrate that the appropriate cover is in place, together with receipts or other evidence of payment of the latest premiums due under those policies.

9.7 If the Supplier fails to comply with Clauses 9.5 and 9.6 the Authority may make alternative arrangements to protect its interests and may recover the costs of such arrangements from the Supplier.

9.8 The provisions of any insurance or the amount of cover shall not relieve the Supplier of any liabilities under the Contract.

9.9 The Supplier shall not take any action or fail to take any reasonable action, or (to the extent that it is reasonably within its power) permit anything to occur in relation to the Supplier, which would entitle any insurer to refuse to pay any claim under any insurance policy in which the Supplier is an insured, a co-insured or additional insured person.

10. Confidentiality and Data Protection

10.1. Subject to Clause 10.2, unless agreed otherwise in writing, the Supplier shall, and shall procure that Staff shall, keep confidential all matters relating to the Contract.

10.2. Clause 10.1 shall not apply to any disclosure of information:

a) required by any applicable law;

b) that is reasonably required by persons engaged by the Supplier in performing the Supplier's obligations under the Contract;

c) where the Supplier can demonstrate that such information is already generally available and in the public domain other than as a result of a breach of Clause 10.1; or

d) which is already lawfully in the Supplier's possession prior to its disclosure by the Authority.

10.3. The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Supplier is the Processor unless otherwise specified in Schedule 3. The only processing that the Supplier is authorised to do is listed in Schedule 3 by the Authority and may not be determined by the Supplier.

10.4. The Supplier shall notify the Authority immediately if it considers that any of the Authority's instructions infringe the Data Protection Legislation.

10.5. The Supplier shall provide all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Authority, include:

a. a systematic description of the envisaged processing operations and the purpose of the processing;

b. an assessment of the necessity and proportionality of the processing operations in relation to the Services;

c. an assessment of the risks to the rights and freedoms of Data Subjects; and

d. the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

10.6. The Supplier shall, in relation to any Personal Data processed in connection with its obligations under this Contract:

a. process that Personal Data only in accordance with Schedule 3 unless the Supplier is required to do otherwise by Law. If it is so required the Supplier shall promptly notify the Authority before processing the Personal Data unless prohibited by Law;

b. ensure that it has in place Protective Measures which are appropriate to protect against a Data Loss Event, which the Authority may reasonably reject (but failure to reject shall not amount to approval by the Authority of the adequacy of the Protective Measures), having taken account of the:

(i) nature of the data to be protected;

(ii) harm that might result from a Data Loss Event;

(iii) state of technological development; and

(iv) cost of implementing any measures;

c. ensure that:

(i) the Staff do not process Personal Data except in accordance with this Contract (and in particular Schedule 3);

(ii) it takes all reasonable steps to ensure the reliability and integrity of any Staff who have access to the Personal Data and ensure that they:

A. are aware of and comply with the Supplier's duties under this clause;

B. are subject to appropriate confidentiality undertakings with the Supplier or any Sub-processor;

C. are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by the Authority or as otherwise permitted by this Contract; and

D. have undergone adequate training in the use, care, protection and handling of Personal Data; and

d. not transfer Personal Data outside of the European Union unless the prior written consent of the Authority has been obtained and the following conditions are fulfilled:

(i) the Authority or the Supplier has provided appropriate safeguards in relation to the transfer (whether in accordance with the GDPR Article 46 or LED Article 37) as determined by the Authority;

(ii) the Data Subject has enforceable rights and effective legal remedies;

(iii) the Supplier complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Authority in meeting its obligations); and

(iv) the Supplier complies with any reasonable instructions notified to it in advance by the Authority with respect to the processing of the Personal Data;

e. at the written direction of the Authority, delete or return Personal Data (and any copies of it) to the Authority on termination of the Contract unless the Supplier is required by Law to retain the Personal Data.

10.7. Subject to clause 10.8 the Supplier shall notify the Authority immediately if, in relation to any Personal Data processed in connection with its obligations under this Contract, it:

a. receives a Data Subject Request (or purported Data Subject Request);

b. receives a request to rectify, block or erase any Personal Data;

c. receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;

d. receives any communication from the Information Commissioner or any other regulatory authority;

e. receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or

f. becomes aware of a Data Loss Event.

10.8. The Supplier’s obligation to notify under clause 10.7 shall include the provision of further information to the Authority in phases, as details become available.

10.9. Taking into account the nature of the processing, the Supplier shall provide the Authority with full assistance in relation to either Party's obligations under Data Protection Legislation in relation to any Personal Data processed in connection with its obligations under this Contract and any complaint, communication or request made under Clause 10.7 (and insofar as possible within the timescales reasonably required by the Authority) including by promptly providing:

a. the Authority with full details and copies of the complaint, communication or request;

b. such assistance as is reasonably requested by the Authority to enable the Authority to comply with a Data Subject Request within the relevant timescales set out in the Data Protection Legislation;

c. the Authority, at its request, with any Personal Data it holds in relation to a Data Subject;

d. assistance as requested by the Authority following any Data Loss Event;

e. assistance as requested by the Authority with respect to any request from the Information Commissioner's Office, or any consultation by the Authority with the Information Commissioner's Office.

10.10. The Supplier shall maintain complete and accurate records and information to demonstrate its compliance with this clause 10. This requirement does not apply where the Supplier employs fewer than 250 staff, unless:

a. the Authority determines that the processing is not occasional;

b. the Authority determines the processing includes special categories of data as referred to in Article 9(1) of the GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the GDPR; or

c. the Authority determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.

10.11. The Supplier shall allow for audits of its Personal Data processing activity by the Authority or the Authority's designated auditor.

10.12. Each Party shall designate its own Data Protection Officer if required by the Data Protection Legislation.

10.13. Before allowing any Sub-processor to process any Personal Data related to this Contract, the Supplier must:

a. notify the Authority in writing of the intended Sub-processor and processing;

b. obtain the written consent of the Authority; and

c. enter into a written agreement with the Sub-processor which give effect to the terms set out in this clause 10 such that they apply to the Sub-processor; and.

d. provide the Authority with such information regarding the Sub-processor as the Authority may reasonably require.

10.14. The Supplier shall remain fully liable for all acts or omissions of any of its Sub-processors.

10.15. The Authority may, at any time on not less than 30 Working Days' notice, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Contract).

10.16. The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office. The Authority may on not less than 30 Working Days' notice to the Supplier amend this Contract to ensure that it complies with any guidance issued by the Information Commissioner's Officer.

10.17. This clause 10 shall apply during the Contract Term and indefinitely after its expiry.

11. Freedom of Information

11.1. The Supplier acknowledges that the Authority is subject to the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (the "Information Acts") and may be required to disclose certain information to third parties including information relating to this Contract pursuant to the Information Acts.

11.2. If the Authority receives a request for information relating to the Contract pursuant to either of the Information Acts, the Authority may disclose such information as necessary in order to comply with its duties under the Information Acts.

12. Intellectual Property Rights

12.1 The IP Materials shall vest in the Authority and the Supplier shall not, and shall procure that Staff shall not, use or disclose any IP Materials without Approval save to the extent necessary for the Supplier to provide the Services.

12.2 The Supplier shall indemnify and keep indemnified the Authority and the Crown against all actions, claims, demands, losses, damages, costs and expenses and other liabilities which the Authority or the Crown may suffer or incur arising from any infringement or alleged infringement of any Intellectual Property Rights by the availability of the Services except to the extent that they have been caused by or contributed to by the Authority's acts or omissions.

13. Prevention of Corruption and Fraud

13.1. The Supplier shall act within the provisions of the Bribery Act 2010.

13.2. The Supplier shall take all reasonable steps, in accordance with Good Industry Practice, to prevent Fraud by Staff and the Supplier (including its shareholders, members and directors) in connection with the receipt of money from the Authority.

13.3. The Supplier shall notify the Authority immediately if it has reason to suspect that Fraud has occurred, is occurring or is likely to occur.

14. Discrimination

14.1 The Supplier shall not unlawfully discriminate within the meaning and scope of any law, enactment, order or regulation relating to discrimination in employment.

14.2 The Supplier shall notify the Authority immediately in writing as soon as it becomes aware of any legal proceedings threatened or issued against it by Staff on the grounds of discrimination arising in connection with the Services.

15. Environmental and Ethical Policies

15.1 The Supplier shall provide the Services in accordance with the Authority's policies on the environment, sustainable and ethical procurement and timber and wood derived products, details of which are available on the Authority Website.

16. Health and Safety

16.1 Each Party will promptly notify the other Party of any health and safety hazards which may arise in connection with the Services.

16.2 While on the Authority's premises, the Supplier shall comply with the Authority's health and safety policies.

16.3 The Supplier shall notify the Authority immediately if any incident occurs in providing the Services on the Authority's premises which causes or may cause personal injury.

16.4 The Supplier shall comply with the requirements of the Health and Safety at Work etc Act 1974, and with any other acts, orders, regulations and codes of practice relating to health and safety, which may apply to Staff and other persons working on the Authority's premises when providing the Services.

16.5 The Supplier's health and safety policy statement (as required by the Health and Safety at Work etc. Act 1974) shall be made available to the Authority on request.

17. Monitoring and Audit

17.1 The Authority may monitor the provision of the Services and the Supplier shall co-operate, and shall procure that Staff and any Sub-contractors co-operate, with the Authority in carrying out the monitoring at no additional charge to the Authority.

17.2 The Supplier shall keep and maintain until 6 years after the end of the Contract Term full and accurate records of the Contract including the Services supplied under it and all payments made by the Authority. The Supplier shall allow the Authority, the National Audit Office and the Comptroller and Auditor General reasonable access to those records and on such terms as they may request.

17.3 The Supplier agrees to provide, free of charge, whenever requested, copies of audit reports obtained by the Supplier in relation to the Services.

18. Transfer and Sub-Contracting

18.1 The Supplier shall not transfer, charge, assign, sub-contract or in any other way dispose of the Contract or any part of it without Approval.

18.2 If the Supplier enters into any Sub-contract in connection with the Contract it shall:

a) remain responsible to the Authority for the performance of its obligations under the Contract;

b) be responsible for the acts and/or omissions of its Sub-contractors as though they are its own;

c) impose obligations on its Sub-contractors in the same terms as those imposed on it pursuant to the Contract and shall procure that the Sub-Supplier complies with such terms;

d) pay its Sub-contractors' undisputed invoices within 30 days of receipt.

18.3 The Authority may assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof to:

a) any Contracting Authority or any other body established by the Crown or under statute in order substantially to perform any of the functions that had previously been performed by the Authority; or

b) any private sector body which performs substantially any of the functions of the Authority.

18.4 Any change in the legal status of the Authority such that it ceases to be a Contracting Authority shall not affect the validity of the Contract. In such circumstances the Contract shall bind and inure to the benefit of any successor body to the Authority.

19. Variation

19.1 Subject to the provisions of this Clause 19, the Authority may change the Specification provided that such change is not a material change to the Specification (a "Variation").

19.2 The Authority may request a Variation by notifying the Supplier with sufficient information to assess the extent of the Variation and consider whether any change to the Price is required in order to implement it. Variations agreed by the Parties shall be made in writing.

19.3 If the Supplier is unable to accept the Variation or where the Parties are unable to agree a change to the Price, the Authority may:

a) allow the Supplier to fulfil its obligations under the Contract without the Variation; or

b) refer the request to be dealt with under the Dispute Resolution Procedure.

20. Dispute Resolution

20.1 The Parties shall attempt in good faith to resolve any dispute between them arising out of the Contract within 10 Working Days of either Party notifying the other of the dispute and such efforts shall include the escalation of the dispute to the Supplier's representative and the Authority's commercial director or equivalent.

20.2 Nothing in this dispute resolution procedure shall prevent the Parties from seeking from any court of competent jurisdiction an interim order restraining the other Party from doing any act or compelling the other Party to do any act.

20.3 If the dispute cannot be resolved by the Parties pursuant to Clause 20.1 the Parties shall refer it to mediation pursuant to the procedure set out in Clauses 20.5 to 20.10.

20.4 The obligations of the Parties under the Contract shall not cease, or be suspended or delayed by the reference of a dispute to mediation and the Supplier and Staff shall comply fully with the requirements of the Contract at all times.

20.5 A neutral adviser or mediator (the “Mediator”) shall be chosen by agreement between the Parties or, if they are unable to agree a Mediator within 10 Working Days after a request by one Party or if the chosen Mediator is unable to act, either Party shall within 10 Working Days from the date of the proposal to appoint a Mediator or within 10 Working Days of notice to either Party that he is unable or unwilling to act, apply to the Centre for Effective Dispute Resolution to appoint a Mediator.

20.6 The Parties shall, within 10 Working Days of the appointment of the Mediator, meet the Mediator to agree a programme for the disclosure of information and the structure to be adopted for negotiations. The Parties may at any stage seek assistance from the Centre for Effective Dispute Resolution to provide guidance on a suitable procedure.

20.7 Unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the Parties in any future proceedings.

20.8 If the Parties reach agreement on the resolution of the dispute, the agreement shall be recorded in writing and shall be binding on the Parties once it is signed by their duly authorised representatives.

20.9 Failing agreement, either of the Parties may invite the Mediator to provide a non-binding but informative written opinion. Such opinion shall be provided on a without prejudice basis and shall not be used in evidence in any proceedings relating to the Contract without the prior written consent of both Parties.

20.10 If the Parties fail to reach agreement within 60 Working Days of the Mediator being appointed, or such longer period as may be agreed by the Parties, then the dispute may be referred to the Courts.

20.11 Subject to Clause 20.2, the Parties shall not institute court proceedings until the procedures set out in Clauses 20.1 and 20.5 to 20.10 have been completed.

21. Supplier’s Status

21.1 Nothing in the Contract shall be construed as constituting a partnership between the Parties or as constituting either Party as the agent for the other for any purposes except as specified by the terms of the Contract.

21.2 The Supplier shall not (and shall ensure that Staff shall not) say or do anything that might lead any person to believe that the Supplier is acting as the agent, partner or employee of the Authority.

22. Notices

22.1 Notices shall be in writing and in English and shall be deemed given if signed by or on behalf of a duly authorised officer of the Party giving the notice and if left at or sent by first class mail to the address of the receiving Party as specified in the Contract (or as amended from time to time by notice in writing to the other Party).

23. Entire Agreement

23.1 The Contract constitutes the entire agreement between the Parties relating to the subject matter of the Contract. The Contract supersedes all prior negotiations, representations, arrangements and undertakings.

24. Third Party Rights

24.1 No term of the Contract is intended to confer a benefit on, or be enforceable by, any person who is not a Party other than the Crown.

25. Waiver

25.1 The failure of either Party to insist upon strict performance of any provision of the Contract, or the failure of either Party to exercise, or any delay in exercising, any right or remedy shall not constitute a waiver of that right or remedy and shall not cause a diminution of the obligations established by the Contract.

25.2 No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party in writing.

25.3 A waiver of any right or remedy arising from a breach of the Contract shall not constitute a waiver of any right or remedy arising from any other or subsequent breach of the Contract.

26. Publicity

26.1 The Supplier shall not without Approval:

a) make any press announcements or publicise the Contract or its contents in any way; or

b) use the Authority's name or logo in any promotion or marketing or announcement.

26.2 The Authority may publish the Contract on the Authority Website or another website at its discretion.

27. Force Majeure

27.1 Except to the extent that the Supplier has not complied with any business continuity plan agreed with the Authority, neither Party shall be liable for any failure to perform its obligations under the Contract if, and to the extent, that the failure is caused by act of God, war, riots, acts of terrorism, fire, flood, storm or earthquake and any disaster but excluding any industrial dispute relating to the Supplier, Staff or Sub-contractors.

27.2 If there is an event of Force Majeure, the affected Party shall use all reasonable endeavours to mitigate the effect of the event of Force Majeure on the performance of its obligations.

28. Governing Law and Jurisdiction

28.1 The Contract shall be governed by and interpreted in accordance with English law and shall be subject to the jurisdiction of the Courts of England and Wales.

28.2 The submission to such jurisdiction shall not limit the right of the Authority to take proceedings against the Supplier in any other court of competent jurisdiction and the taking of proceedings in any other court of competent jurisdiction shall not preclude the taking of proceedings in any other jurisdiction whether concurrently or not.

29. Electronic Signature

29.1 Acceptance of the award of this contract will be made by electronic signature carried out in accordance with the 1999 EU Directive 99/93 (Community framework for electronic signatures) and the UK Electronic Communications Act 2000.

29.2 The Contract is formed on the date on which the Supplier communicates acceptance on the Authority's electronic contract management system.

29.3 No other form of acknowledgement will be accepted.

30. Precedence

In the event of and only to the extent of any conflict between the terms and conditions or the special terms below, the conflict shall be resolved in accordance with the following order of precedence:

a) the special terms (see Schedule One) below;

b) the main terms of the Contract (pages 1 to 15);

c) any other document referred to in the Agreement

Unless expressly agreed, a document varied pursuant to clause 19 shall not take higher precedence than specified here.

SCHEDULE 1 - SPECIFICATION OF SERVICES

SPATIAL MODELLING AND SENSITIVITY MAPPING OF SEABIRDS AND MARINE MAMMALS IN UK WATERS.

Background to Natural England

Natural England are government's adviser for the natural environment in England, helping to protect England's nature and landscapes for people to enjoy and for the services they provide. A list of its responsibilities can be found at: https://www.gov.uk/government/organisations/natural-england/about.

1. Introduction

Natural England is the lead organisation for the POSEIDON project. POSEIDON (Planning Offshore Wind Strategic Environmental Impact Decisions) is a multi-partner, multi-year initiative funded by the Crown Estate through the Offshore Wind Evidence & Change (OWEC) Programme.

The ultimate aims of POSEIDON are to:

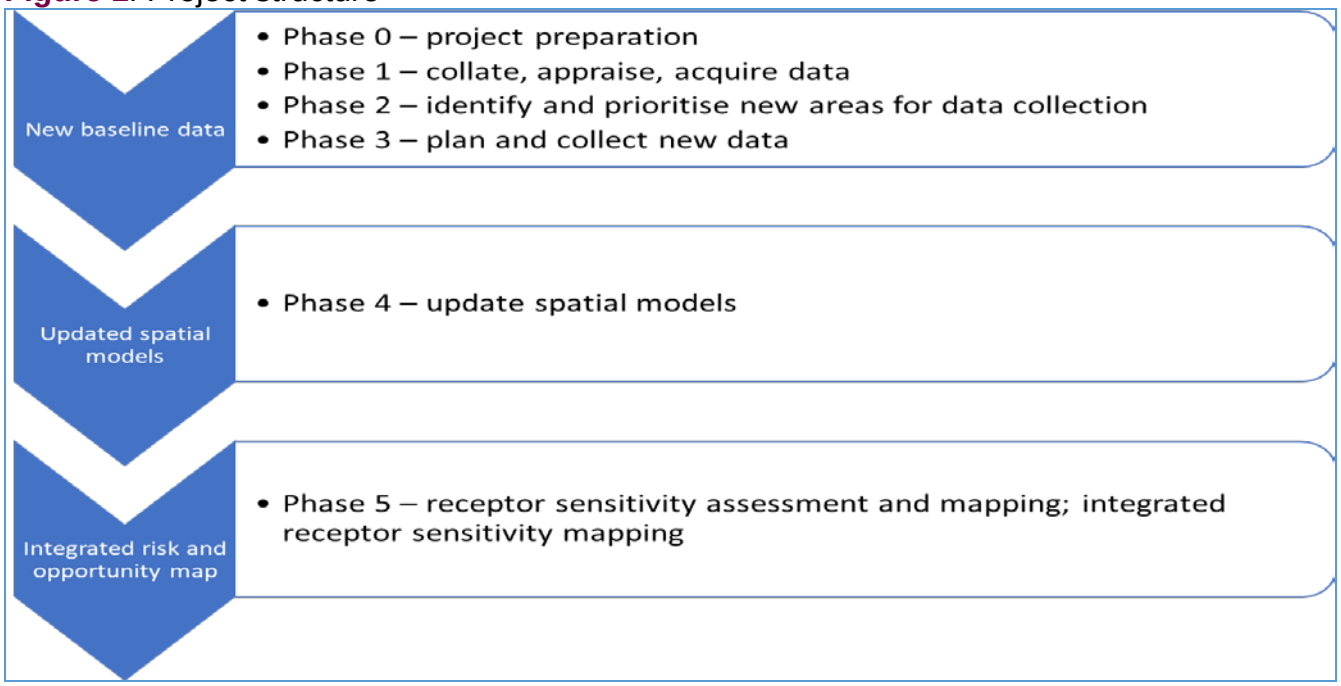
1. Develop a clear understanding of the environmental risks and opportunities for future offshore wind developments (embedded into wider marine planning);

2. Provide information to support developers, advisors and decision-makers for current and imminent development rounds; and

3. Develop a comprehensive environmental baseline platform that maximises existing knowledge and allows targeted, efficient design of future baseline evidence requirements at plan and project scale.

The project is structured into six phases (0-5) which are linked to the three key project outputs: 1) new baseline data; 2) updated habitat and species models; and 3) integrated risk and opportunity map (Figure 1).

Figure 1: Project structure



2. Aims

Supplier to deliver all elements of Phases 1, 2, 4 and 5 relating to seabirds and marine mammals, as directed by a Project Advisory Group (PAG) comprised of representatives from Natural England, The Crown Estate, Defra, Offshore Wind Industry Council, MMO, Marine Scotland Science, Cefas and Natural Resources Wales (NRW). This is supported by a Technical Advisory Group (TAG) comprised of experts from JNCC, MMO, NRW, Nature Scot, Bangor University and Natural England specialists.

The POSEIDON Project Manager will be the first point of contact for the Supplier, although as the project develops it is expected that the Supplier will develop close working relationships with the TAG and with counterparts in Cefas who are developing models and maps for benthic habitats. The Supplier should expect attendance at an inception meeting and a minimum of seven TAG meetings by MS Teams or similar, each meeting scheduled for the majority of a working day.

The relevant phases for this contract are briefly summarised below. Phases 1, 2, 4 and 5 will apply at the scale of all UK waters within the Exclusive Economic Zone (EEZ). (Data collection in Phase 3 will be limited to target areas in English and Welsh waters).

- Phase 1: Produce register of available datasets and data mapping products; work with TAG to appraise data in order to determine which datasets / products POSEIDON will build upon; acquire relevant data / products; prepare data for later analysis.

- Phase 2: Using outputs of Phase 1, work with TAG to develop and apply decision rules to selected datasets / data products (e.g. relating to survey coverage or confidence in data or predictions); produce long list of survey target areas, based on strategic evidence gaps for key species.

- Phase 4: Prepare data for modelling, including new data from Phase 3; determine best modelling approach to describe seabird and marine mammal abundance and distribution, including temporal variation in these parameters; include estimates of uncertainty; produce, test and refine spatial models of distribution of key species across UK waters; provide associated GIS layers of distribution, abundance and modelled uncertainty.

- Phase 5: Review (where necessary, develop) and refine sensitivity indices for key seabird and marine mammal species; devise a method of mapping sensitivity using the outputs of Phase 4; working with the PAG, TAGs and benthic habitats Supplier, produce methods that integrate sensitivity of receptors (using models of abundance and distribution of seabirds, marine mammals and benthic habitats, and, where possible, available spatial information on sensitivity of other elements (fish; seascapes), likely to be as broad polygon areas; assist in producing and promoting the final outputs of POSEIDON.

Key species will be determined by the TAG, but, as an indicative guide, a Supplier might expect approx. 10 marine mammal species and 15 seabird species to be included.

3. Objectives

Phase 1

Phase 1 of the project is to establish the platform for the seabird and marine mammal modelling and mapping. We intend POSEIDON to represent an evolution of existing initiatives rather than a complete reinvention, building particularly on recent work such as mapping within the Marine Ecosystems Research Programme (Waggitt *et al*. 2020) and seabird mapping tools like that developed within the Offshore Renewables Joint Industry Programme (ORJIP 2). To this end, it is expected that the project will use the R package for all data analyses to ensure compatibility where appropriate and possible.

1.1 Data collation
Draw up a register of existing available relevant datasets and data products[1] taking account of work being undertaken (or planned) by other UK projects. This will include summarising data that is known to exist but has not been previously included in existing models (for example any data from offshore wind licensing Round 3 not available through the Marine Data Exchange). Other initiatives summarising project work will be useful to inform this.

1.2 Data appraisal
Consider the strengths and weaknesses of different datasets and products. Work with the TAG to make decisions about suitability and compatibility where more than one dataset or product is available for key receptors. Ensure data intended for inclusion meets agreed QA standards. With the TAG, determine which datasets / data products to use as the starting point for updated POSEIDON models of species distribution and abundance.

1.3 Data acquisition
Organise necessary permissions and incorporate relevant target datasets into suitable database / GI system. Clarify any issues, clean data where necessary, and make ready for analysis.(Phase 2).

Phase 2

Phase 2 will use decision rules defined by the PAG / TAG and the results from Phase 1 of the project to identify target areas for new data collection.

2.1 Data analysis

Spatially analyse the datasets from Phase 1, applying decision rules set by the PAG.

The decision rules for determining the geographic scope for the surveys will be based on factors relating to offshore wind development areas, as well as data-driven factors such as temporal and spatial resolution of existing datasets, confidence in model predictions, and planned data collection schemes that could complement POSEIDON.

Prioritisation will also consider the balance of needs both within and between receptor groups, based on risks to the receptors and to achieving consent.

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[1] Relevant datasets are those which describe distribution and (where relevant) abundance of habitats and species. For mobile species, these models will usually have both a temporal and spatial component. Often these datasets will be the result of predictive spatial models, which ideally will have associated measures of confidence. Other relevant datasets might include information on survey effort informing such spatial models. Examples might include spatial maps produced through projects like Seabird Mapping & Sensitivity Tool (SeaMasT), ORJIP 2, Marine Ecosystems Research Project, RSPB FAME tracking project, SCANS, etc.

2.2 Identify target data collection areas

Develop a long list of receptor-specific target areas based on Step 2.1. This will also highlight key evidence gaps across the key receptors.

2.3 Prioritise target data collection areas

Work with TAG to prioritise target areas considering the need to balance budgets, spatial and temporal requirements of different receptors, geographic requirements and competing priorities.

Phase 4

Phase 4 will update spatial models of key receptors. Models will cover habitat and species extent, distribution and abundance to feed into future planning / assessment.

4.1 Data preparation

It is expected all new data will be in a usable format (such as ArcGIS files) collected to pre-agreed standards and with minimal requirement for data cleaning. However, time has been allocated to allow for data preparation and management, such as adding data to appropriate archives / databases, dealing with observations identifiable only to group level, correcting any data for distance (e.g. if boat-based seabird and mammal data are collected), correcting data for 'availability bias', etc.

It will be necessary to make decisions with the TAG about which species/habitats must be included in step 4.2, which are desirable, and which are not required. These decisions will be informed by data availability as well as by factors such as conservation importance, risk to offshore wind consent, and likely sensitivity to impact. They may not include all the species identified in Phase 1, due to data coverage and the suitability for modelling.

4.2a Preparation of spatial models

In advance of all data being fully available, prepare spatial models for running once new data become available. This might involve compiling, checking and testing R code using existing datasets, for example. The intention is to have modelling techniques decided, coded and tested on partial datasets before new data are added at Step 4.2b.

4.2b Spatial modelling

Following final data collection, QA and supply, run spatial models for key species as agreed with the TAG.

As data flows from Phase 3, and is prepared in step 4.1, it will be added to the database for modelling. It may be necessary to refresh certain open-source predictor data to ensure synchronicity between animal observations and measurements of environmental conditions. Any necessary changes to coding will be made – the models are expected to be run using the R package or similar.

The resulting models should be checked (including analysing model diagnostics), internally validated, refined and QA-ed.

Maps of species abundance and distribution by month (or temporal unit as agreed with the TAG) should be produced as GIS layers based on the model predictions, incorporating uncertainty (e.g. upper and lower confidence limits around density / abundance estimates as data fields in the GIS layer). Associated maps of confidence in model predictions should also be produced, as well as maps of underlying survey coverage.

Phase 5

The objective of Phase 5 is to map sensitivity of receptors, receptor groups, and combined receptors, based on the outputs of Phase 4 and pre-existing spatial datasets.

5.1 Develop receptor sensitivity

This step should determine the sensitivity of receptors to pressures resulting from offshore wind activity. It will start from existing conceptual frameworks as advised by the PAG / TAG (e.g. Certain et al. 2015) and by using, where possible, existing feature / pressure interaction information (for example, that from Marine Protected Area conservation advice packages).

The PAG and TAGs will decide which species and habitats to include in Phase 5, informed by step 4.1. The various factors determining vulnerability and sensitivity to relevant pressures (including, where appropriate, behavioural characteristics and conservation importance) will be agreed and quantified / categorised to produce species and group indices of sensitivity (groups to be determined, but e.g. ‘auks’; ‘seabirds’; ‘cetaceans’; ‘marine mammals’ – ideally these would be user defined so that e.g. it is possible to select species from a list to form groups of interest). Wherever possible, this will build upon existing assessments (e.g. information from earlier sensitivity mapping e.g. SeaMaST, the Seabird Mapping & Sensitivity Tool), updated where necessary. If such information does not exist (e.g. for certain marine mammals), it will be necessary to formulate these indices.

5.2 Receptor sensitivity mapping

The sensitivity methodology developed in Step 5.1 should be applied to the modelled maps of species distribution produced in Phase 4, resulting in pressure * receptor sensitivity maps. (As an example, SeaMaST made sensitivity predictions across marine space by multiplying predicted bird density by seabird sensitivity index score. An example ‘pressure* receptor sensitivity map’ from SeaMaST could be collision sensitivity of kittiwakes, or displacement sensitivity of red-throated divers).

It will be necessary to combine pressure * receptor-specific maps so that each receptor or group of receptors has a map showing combined sensitivity to offshore wind farm activity, in addition to maps showing sensitivity to individual pressures.

It will be necessary to factor in the temporal components of abundance and distribution as well as the spatial components. Each species should have a set of sensitivity maps based on monthly predicted distribution (or temporal units agreed by the TAG); a general sensitivity map can be produced for each receptor, for instance by taking average or peak density predictions from each month. It may also be desirable to produce sensitivity maps grouped by receptor-relevant months (e.g. seabird breeding season), to be agreed by the TAG.

5.3 Integrate sensitivity maps

Using the receptor-specific / grouped sensitivity maps, methods should be devised to bring together sensitivity layers from different receptors, to illustrate total environmental sensitivity to offshore wind activity. Working with benthic specialists Cefas and the TAGs, agree the methodology (likely to be at least partly qualitative or categorical because of the differences in receptor mapping) and apply to produce sensitivity 'risk and opportunity' maps.

5.4 Produce guidance on tool usage

Work with the project team to produce guidance on using the risk and opportunity mapping products, their usage and the interpretation of the spatial models produced in Phase 4. Expected methods include short video tutorials and written text.

5.5 Help publicise outputs

Contribute to promotion of the risk and opportunity mapping products and spatial models including through e.g. webinars for targeted groups of stakeholders.

4. Requirements and timescales

4.1 Products and deliverables

Project deliverables

Phase 1

- Register of available datasets / models for abundance and distribution of seabirds (at sea) and marine mammals
- Brief report explaining intended use of data / models, and decisions about inclusion / non-inclusion
- Collated database / geodatabase with data ready for analysis

Phase 2

- Data gap analysis, with long list of target areas for seabird and marine mammal data collection
- Prioritised shortlist of target areas for further survey within POSEIDON project

Phase 4

- Updated spatial models of relevant receptor abundance / density and distribution
- Updated map layers displaying model predictions (with uncertainty) by receptor / receptor group, by month (or temporal unit agreed with the TAG)
- Accompanying map layers displaying confidence in predictions by receptor / receptor group, by month (or temporal unit agreed with the TAG)

Phase 5

- Pressure * receptor sensitivity map layers (by month / temporal unit and across all months)
- Pressure * receptor group sensitivity map layers (by month / temporal unit and across all months)
- Offshore wind sensitivity * receptor map layers (by month / temporal unit and across all months)
- Offshore wind sensitivity * receptor group map layers (by month / temporal unit and across all months)
- Integrated environmental sensitivity map layers across all receptors
- Guidance for use of mapping tools

4.2 Timeline for project delivery

Milestone	Date
Phase 1 start (approx. end)	1 February 2022 (23 March 2022)
Phase 2 start	24 March 2022 (15 May 2022)
Phase 4 start	1 December 2022* (28 Feb 2025)
Phase 5 start	7 January 2023** (30 September 2025)
Completion of project	30 September 2025

*New data collected in Phase 3 will be made available periodically, so that preparatory actions for Phase 4 can continue in parallel with data collection.

**Development of receptor sensitivity can begin before final datasets are available; final analysis is expected to begin approx. March 2025).

All timeframes are estimates and are based on dependencies (i.e. earlier project phases).

5. Other considerations

Suppliers to collect digital aerial survey data for target areas identified in Phase 2 will be appointed separately as part of Phase 3. Outputs from Phase 3 will be made available periodically to inform Phases 4 and 5

SPECIAL TERMS - RESEARCH AND DEVELOPMENT

To be included in Schedule 1 – Specification of Services

1. SUPPLIER'S OBLIGATIONS

The Supplier shall:

a) commence the performance of the Services promptly after the commencement date of the Contract Term and in accordance with the agreed timetable;
b) in providing the Services, co-operate fully, and procure that its Staff co-operate fully with the Authority's employees, agents and sub-contractors; and
c) in the event of the Supplier not being able to perform the Services, or any part thereof, immediately inform the duly authorised officer giving details of the circumstances, reasons and likely duration. Nothing in this clause 1(c) shall in any way alter, modify, relieve or in any other way vary the Supplier's obligation to provide the Services.

2. PUBLICATIONS

In accordance with clause 26.1 of the main agreement, if the Supplier wishes to use, present or publish the methods and results of the Services it shall provide the Authority with a copy of any intended publication for review and comment at least thirty days prior to its submission for publication and or release into the public domain, as the case may be, and the Authority shall have the right to approve or reject all such publications prior to their submission and/or release, such approval not to be unreasonably withheld. If such publication or release is permitted in accordance with this clause the Supplier shall acknowledge the Authority's support in any such publications or presentations containing the results or methods of the Services.

3. IP MATERIAL

Not withstanding clause 12 of the main agreement, the Supplier shall do such further acts and execute such further deeds and documents as the Authority may request from time to time as may be necessary or desirable to ensure that all such rights in IP Material fully and effectively vest in the Authority and to assist the Authority in applying for and obtaining registered protection for any such rights in the IP Material.

SUPPLIER METHODOLOGY

Phase 1

We will build upon the collation of at-sea datasets which originated during the Marine Ecosystems Research Program (MERP), and which was compiled by the project team (Bangor University, Sea Watch Foundation) over a period of five years. The original collation was considered the largest of its kind, amounting to ~ 2.68 million kilometres of search effort over 38 years. The project team has applied these data to several studies. The most notable of these studies were the Europe-scale distribution maps of 12 cetacean and 12 seabird species (Waggitt *et al* 2020). Although MERP finished in 2018, the project team (BU, SWF) have continually added to the collation with recent survey data (post-2015) and relevant additional historical surveys. These updates have contributed/are contributing to analyses investigating regional-scale distribution mapping (North and Irish Sea, INSITE, Marine Scotland and NRW projects, Astarloa *et al* 2021), community-level responses to environmental changes (Evans and Waggitt 2020, Trifonova *et al* 2021), and risk mapping (e.g., ORJIP, SEANSE, Evans *et al* 2021), with additions possible because data providers have wanted to continue the MERP initiative (e.g., Hebridean Whale and Dolphin Trust, ORCA, Sea Watch Foundation). Therefore, the data potentially available to the project is already a considerable extension on that previously published, now amounting to 5.12 million km ~ over 40 years across Europe. Details on data providers to the original MERP collation are already registered (published in Waggitt *et al* 2020), and an updated version would be provided in this project. This updated register will be accompanied with a complementary report documenting differences in approaches and methods amongst surveys, providing the information needed to combine these surveys in subsequent analyses. It is worth noting that relevant information on approaches and methods are incorporated into the MERP database, allowing a particular survey approach (ESAS, Line Transect, Strip Transect) or method (Aerial Visual, Aerial Digital, Vessel Visual) to be easily isolated.

Despite the continual updating and expanding of the MERP collation, the project team are aware of several key developments and/or surveys which could improve coverage in space and time, particularly during recent years (2010+) which would have prominence for the analyses in Phases 4 and 5. These developments and/or surveys are:

1. The **SCANS 3** marine mammal surveys performed in July 2016 covered large parts of the UK EEZ (Hammond *et al* 2017, revised 2021). These data were not previously available for inclusion in the MERP collation because associated analysis was being performed as part of a PhD dissertation. We will re-approach the Sea Mammal Research Unit (SMRU) to discuss availability of the SCANS 3 datasets.

2. There are considerable amounts of Offshore Wind Environmental Impact Assessment (EIA) marine mammal and seabird surveys stored in the **Crown Estates Marine Data Exchange (CE-MDE)** portal. Many of these were not included within the MERP collation because of difficulties processing these data, which are generally provided in tens to hundreds of disparate and diverse formats (see Johnston *et al* 2020). These data will be revisited, with staff-time devoted to assessing their suitability for inclusion and the practicalities (i.e., whether files can be adequately cleaned and processed within the project timespan) for inclusion.
3. The recent French **SAMM 2** marine mammal and seabird surveys performed in 2021 covered parts of the UK EEZ, most notably the entire English Channel and part of the Western Approaches, despite their broader focus on French EEZ. The University of La Rochelle regularly contributes data to the MERP collation, and we would approach them to discuss availability of the SAMM 2 surveys.
4. The recent **ObSERVE 2** marine mammal and seabird surveys performed in 2021 focused on the Irish EEZ. Whilst the proposed project focuses on the UK EEZ, these data cover substantial parts of the Irish and Celtic Sea bordering the Irish EEZ, and we would encourage their inclusion in analysis. We will approach the National Parks and Wildlife Service (NPWS) of Ireland to discuss the availability of the ObSERVE 2 surveys (NPWS provided the original ObSERVE data from 2015-16).
5. The NGO **MarineLife** holds several marine mammal and seabird surveys in the UK EEZ, most of which have not been included in the MERP collation. We will approach MarineLife to discuss their availability further.
6. Several databases contributing to the original MERP collation have not been included in MERP updates because they were being prepared for inclusion in an updated **European Seabirds at Sea (ESAS)** collation, to be uploaded on the ICES data portal within the project timescales. These include the recent JNCC-led Volunteer Seabirds at Sea (VSAS) initiative, providing marine mammal and seabird surveys from recent years in the UK (2018-21). We will include the updated ESAS collation when it is released and remove previous versions of these data.

Aside from these six known data sources, we will continue to liaise with existing data providers and approach new data providers if other useful surveys are identified. On receipt of data, we will use the existing MERP approaches developed by the project team to process and screen data, removing survey-sections with unrealistic speeds and on landmasses, and sightings of animals not associated with viable sections and on landmasses. The resulting databases can then be immediately amalgamated with the existing MERP collation, allowing easy inclusion for analyses in Phases 2 and 4. Because the project team have existing relationships with all the data providers in both the original and existing MERP collation, obtaining permissions to re-use these data in the project should be straightforward and/or achieved quickly.

Phase 2

Following the planned inclusion of additional surveys described above (*SCANS 3, CE-MDE, SAMM 2, ObSERVE 2, MarineLife, ESAS),* data will be cropped to the areas and years of interest before the performance of formal gap analyses to identify months and areas where new surveys should be performed. Whilst this project focuses on the UK EEZ, we would advise including surveys in appropriate surrounding regions (Irish EEZ, northern French EEZ, Belgian EEZ, Dutch EEZ, and German EEZ) to improve the detection of environmental associations in Species Distribution Models (SDM) outputs in Phase 4. This would help in areas such as around the Dogger Bank. However, recommendations for new surveys will focus on the UK EEZ in accordance with the tender and because those are where the main gaps occur currently. Because of documented changes in the distribution of seabirds and marine mammals over recent decades (Hammond *et al* 2013, 2017, Evans and Waggitt 2020), we also advise limiting data to 2005 onwards to provide representative outputs from Phase 4.

Gap analyses would be divided into 2 components: (1) A spatio-temporal component based on inspection of monthly maps of survey coverage, identifying any obvious times or areas where additional surveys would be useful, (2) An environmental component based on investigations into habitat coverage (using key descriptors including current speed, depth, stratification potential, substrate, tidal fronts, and topography), identifying habitats where additional surveys would be useful (c.f., Mannocci *et al* 2018). Because we anticipate several times and areas where new surveys would be useful, the environmental component supplements the spatiotemporal component by identifying priority times and areas where data-gaps also coincide with under-represented habitats. Based on prior knowledge of the MERP collation, the project team anticipates that areas and seasons for new surveys should probably include the northern North Sea and winter months, particularly around the Northern Isles which have received little coverage from at-sea surveys in recent decades. We are also aware of areas and seasons in the Bristol Channel and Irish Sea with relatively low coverage.

Phase 4

Estimates of animal distribution and densities are frequently based on statistical analyses of survey data and may consist of data collected from boats and planes (visual or digital) – here we assume that only these survey types will be included. Each survey 'platform' will have its own biases which may be species dependent, for example, variation in detection probability in visual line transect surveys and variation in availability to aerial surveys: these biases need to be addressed as part of the analyses to obtain absolute density and abundance estimates. The aim would be to integrate these survey data to produce a temporal and spatial index of density (number of animals per area of sea searched); a regression-type model can then be fitted with density as the response and spatial and temporal environmental variables as the explanatory variables. This model can be used to produce predicted density surfaces for the species and spatial and temporal scale (depending on the explanatory variables selected), which are of direct relevance to the reporting requirement. There are 25 species of interest. We envisage phase 4 having the following sequential tasks:

1. Discussions with the PAG to decide which species are to be included in the modelling. This task will strongly depend on the outcomes of phases 1-3.

2. Preparatory methods development and analyses:

3. Run methods on all the survey data define in task 1.

4. Report preparation

The data within the updated MERP collation will be processed into the format required for spatial modelling. An assessment of existing adjustments for perception bias (uncertain detection, both on and away from the track-line) and availability bias (animals not available to be detected) will be undertaken and any additional adjustments required will made to the data before modelling. Any new survey data will be formatted as required and adjusted for the probability of detection and availability consistent with previous surveys of a similar type. If there are any species for which probabilities are not available, any adjustments will be based on the appropriate existing functions (e.g., same survey type). We anticipate that existing estimates of detection probabilities can be used but may need to seek advice regarding availability bias from PAG and TAG. Previous projects may also inform these biases (e.g., if detection functions have been estimated for a species and similar survey type).

This task would take the spatially and temporally index of density or counts above and their associated environmental data with the aim of creating a spatial and temporal surface of density leading to a time series of estimated density (depending on the selected explanatory variables and requirements for that species). A flexible regression approach that can accommodate serially correlated errors will be used to model these data. It is anticipated that there will be many candidate explanatory variables. If many species are identified in task 1 to be included in this phase, an automated model selection algorithm will be used to select the model for the species of interest. To determine if the selected model is adequate, a series of diagnostic tests will be performed (e.g., checking residuals). Uncertainty in the estimated density surface will be assessed using a simulation approach to provide lower and upper 95% confidence limit surfaces and a surface showing coefficient of variation to illustrate the level of uncertainty in the prediction. A draft report will be prepared detailing the data used, methods and results for each species. This will be submitted to the PAG and TAG for comment.

Note: Because of poor detection from vessels and aircraft, at-sea surveys are not ideal for producing density maps of seals. Therefore, we will use existing density maps derived from tracking data (Carter *et al* 2020) rather than producing density maps for seals.

Phase 5

Within Phase 5 we will develop a range of novel sensitivity maps, based upon the spatial maps produced by the modelling in Phase 4, upon spatial maps being produced outwith this project for other pressures and drivers, and upon a re-evaluation of species-level vulnerability scores for offshore renewable impacts. Combined sensitivities across species and drivers will be derived by using and adapting the approach of Certain et al. (2015). We will make the resulting sensitivity maps available through a user-friendly web-based tool: rather than developing a new stand-alone tool. We propose to integrate the maps being developed within this project into an extended version of the ORJIP Sensitivity Mapping Tool, which from 2022, will sit within the MS Cumulative Effects Framework (CEF). There is a high degree of overlap between the work within this project, and the functionality already developed within the ORJIP Sensitivity Mapping Tool, so integrating the new maps being developed within this project into that tool will be of benefit because (a) it will avoid duplication of effort and provide an efficient use of resources, (b) it will provide a clear single user-friendly UK-wide mechanism for users to access sensitivity mapping information, and (c) it will allow the work within this project to be made available via the CEF, which provides extensive capabilities for the storage of data and code in a documented and consistent way, and for the production of audit trails. The work within this project will extend the functionality of the ORJIP Sensitivity Mapping Tool in four main ways: (a) by incorporating marine mammals as well as seabirds, (b) by re-deriving spatial distribution maps for seabirds using more up to date at sea survey data, and (c) by including combined sensitivities across receptors and receptor groups.

5.1 Develop receptor vulnerability

Updating risk scores for seabirds. Previous reviews have assessed the vulnerability of seabirds to offshore wind farms (e.g., Garthe & Huppop 2004; Furness *et al* 2013). However, a lack of empirical data means that there was often significant uncertainty surrounding how different species behave in the offshore environment, and may react to offshore wind farms. As more offshore wind farms have become operational, post-construction monitoring means we are able to gain a better understanding of how individual species may respond to their presence (e.g., Dierschke *et al*. 2016). In addition to this, the expansion of GPS tracking means that we are better able to quantify parameters related to the risk posed to different species by offshore wind farms, for example, the proportion of birds at collision risk height (e.g., Ross-Smith *et al* 2016; Cleasby *et al* 2015). We will consider the extent to which existing assessments of species

vulnerability to offshore wind farms can be revised in light of empirical data, and indicate what uncertainties remain in these assessments.

Deciding/updating risk scores for marine mammals. The risk scores for marine mammals are strongly dependant on the species, season (e.g., breeding, implantation period), residency status (e.g., migratory, resident) and population trend (e.g., stable, decreasing) of the populations. We propose to use existing bioenergetic and movement models to define most vulnerable time of the year for resident UK marine mammals as well as identify the effect of population trends (e.g., for seals) on risk scores. Species, for which bioenergetic models are not available, may be grouped together (e.g., dolphins) and their risk will be based on scores defined for the closest species for which such models exist. Additionally, risk scores may be supported by studying habitat preferences and estimation of risk for other populations/areas.

Development of final risk scores. We will initiate meetings with the PAG/TAG to decide on how the final risk scores are best derived from raw scores (Certain *et al.* 2015): e.g., around how vulnerabilities are used to generate final species-level risk scores.

5.2 Receptor sensitivity mapping

The species-level scores from Step 5.1 will be combined with the modelled maps of species distribution produced in Phase 4, in order to produce pressure * receptor sensitivity maps. These maps will be separated by pressures (e.g., collision, displacement, both mechanisms combined, attraction), and produced for both individual receptors and for groups of receptors. The maps will be produced at monthly, seasonal, and annual scales, with the options for users to vary the definitions on seasons used in deriving seasonal maps if desired. For seabird species all of these elements of functionality, apart from the production of combined maps for groups of receptors, are already incorporated, or due to be incorporated, into the user-friendly interface being developed within the ORJIP Sensitivity Mapping Tool, so it will be straightforward to update that tool to incorporate the novel maps being developed within this project. The extension of the tool to cover marine mammals as well as seabirds, and the incorporation of combined maps for groups of receptors, can be achieved through straightforward extensions of the user interface for the existing tool.

5.3 Integrate sensitivity maps

We will produce combined sensitivity layers for multiple receptor groups, in order to illustrate total environmental sensitivity to offshore wind activity. The exact approach taken will be agreed within the project, in consultation with CEFAS (who, as described in the ITT, are developing models and maps for benthic habitats within a separate but linked project) and the PAG/TAG but is likely to involve adapting the approach of Certain *et al.* (2015) for combining vulnerabilities across species. We anticipate that the approaches used for producing combined layers will be relatively simple (e.g. some combination of summation, addition and rescaling), as joint spatial modelling of multiple receptors will not be feasible within the constraints of this project.

The maps that we produce will be incorporated into an extension of the ORJIP Sensitivity Mapping Tool, which will, from 2022, sit within the MS Cumulative Effects Framework (CEF). The maps being produced within this project will extend the functionality of that tool by (a) adding marine mammals (the ORJIP tool only covers seabirds), (b) inclusion of assessments of combined sensitivity to multiple receptors and receptor groups and (c) inclusion of updated maps for seabirds that incorporate additional at-sea survey data. This will require extensions to the tool interface and the underpinning data, but the underlying infrastructure (Data Library, hosting, R package) will be delivered via the CEF, as for the ORJIP Sensitivity Mapping tool. Crucially, hosting of the tool will be through the hosting platform established for the CEF.

We will quality control the code using a range of different tests, building on similar testing work being undertaken for the CEF. The underlying R code will be tested using scripts that automatically run the tool using a wide range of possible inputs, and check that the code correctly returns meaningful error messages in situations where it should not run, and correctly returns plausible outputs in situations where it should run. The code for the user interface will be tested by manually running a range of case studies, and verifying that the output generated in plausible, and correctly reflects the inputs selected.

5.4 Produce guidance on tool usage

Written guidance for the tool with be produced by updating, adapting and extending the guidance for the ORJIP Sensitivity Mapping Tool, in consultation with the TAG. The guidance will cover usage and interpretation, and will highlight key caveats that users need to be aware of when using the tool. Short video tutorials will also be produced, to introduce and support the written guidance.

5.5 Help publicise outputs

The project team will undertake work to promote the products and models developed within the projects through social media, and, in consultation with the funder and TAG, through presentation of the work at conferences and other public events. An interactive webinar, or training course, could also be provided, but the cost of this would need to be additional.

References

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SUPPLIER PROJECT MANAGEMENT

Principal Investigator

The project will be managed by [redacted] at the **School of Ocean Sciences, Bangor University.** [redacted] is a lecturer at the School**.** The School of Ocean Sciences is internationally renowned for performing multi-disciplinary research into the marine environment, frequently combining biological and physical sciences to address applied and fundamental topics. **Bangor University** has very extensive experience of managing and completing projects of this nature, delivering outputs for government and regulatory bodies. Examples include the Welsh Government funded SEACAMS and SEEC projects. **Bangor University** will be responsible for the general operation of the project and provision of the deliverables, acting as the primary contact throughout the different phases (1,2, 4 and 5). Throughout the project, [redacted] will work alongside [redacted] is an honorary senior lecturer at **Bangor University**, and director of the **Sea Watch Foundation**.

[redacted] is well suited to manage this project, having 10yr experience of researching seabirds and marine mammals, in particular the environmental drivers of their distributions, and assessing the likelihood of impacts from anthropogenic and natural stressors. [redacted] frequently collaborates with oceanographers and statisticians to answer these questions. He also has considerable experience performing at-sea surveys, facilitating the analyses and interpretation of these data in research projects. His PhD research was associated with the NERC/DEFRA funded FLOWBEC and RESPONSE projects, assessing spatiotemporal overlap with Marine Renewable Energy (MRE) Installations. His post-doc research was involved in the collation of at-sea surveys for the NERC/DEFRA funded Marine Ecosystems Research Programme (MERP) collation, the production of density surfaces from these data, and development of sensitivity maps. Since becoming a lecturer in 2017, [redacted] has continued his investigation of relationships between marine mammals and seabirds, their prey, and environmental conditions across European waters at continental, regional and local scales. [redacted] currently oversees a team of 3 PhD students, 3 MRes students and has published >30 peer-reviewed papers. [redacted] has also contributed significantly to several sensitivity mapping projects (European Commission, Marine Scotland Science, ORJIP, SEANSE) and reviews of at-sea survey datasets (Crown Estate, JNCC).

Work Allocation

Each phase (1,2,4 and 5) is delegated to partners with specialist expertise to overcome challenges they provide and/or with established methods to produce deliverables.

1. **Phases 1 and 2** will be performed and led solely by Bangor University (BU) and the Sea Watch Foundation (SWF). BU and SWF manage and update the MERP collation, have intimate knowledge of historical and recent at-sea surveys in European waters, and have established close working relationships with data providers across this region. SWF also manages and maintains a large collation of surveys which have formed major contributions to previous projects and analyses (JNCC Cetacean Distribution Atlas, analyses by CREEM of Joint Cetacean Protocol (JCP) data, and distribution mapping of cetaceans in Welsh waters and the wider Irish Sea).
2. **Phase 4** will be primarily performed and led by the Centre for Research into Ecological and Environmental Modelling (CREEM). CREEM have produced density-surfaces of animals for numerous projects, including the particularly relevant Joint Cetacean Protocol. Advice on modelling approaches will be provided by BU and SWF. Advice from BU and SWF will focus on the appropriateness of environmental variables and associations used to produce density surfaces.

3. **Phase 5** will be primarily performed and led by Biomathematics & Statistics Scotland (BioSS) and the UK Centre for Ecology and Hydrology (UKCEH). BioSS and UKCEH developed the ORJIP sensitivity tool, that was used to assess possible interactions between seabird populations and windfarms in the UK EEZ. Advice on risk scores and sensitivity mapping will be provided by the Sea Mammal Research Unit Consultancy (SMRUC), the British Trust for Ornithology (BTO) and the Sea Watch Foundation (SWF). Advice from SMRUC and SWF will focus on risk scores for marine mammals, whereas that from BTO and SWF will focus on risk scores for seabirds.

Delivery Model

[redacted] at Bangor University is the Principal Investigator, responsible for monitoring and controlling operations throughout the 4 phases. [redacted] will:

1. Produce a clear and detailed work-plan for each phase at the start of the project, agreed between Natural England and Bangor University.
2. Allocate tasks and deliverables to project partners at the start of their respective phases, providing clear guidance on objectives and deliverables.
3. Organise bi-monthly meetings with phase leads (CREEM, BioSS/UKCEH) whilst their phase is active, and maintain a record of progress during each phase.
4. Liaise with the PAG/TAG as and when required, keeping those required updated with regards to the progress and completion of each phase.

Risk Assessment

[redacted] will be responsible for risk management and quality assurance. Most project partners have large and established research teams with relevant expertise and experience in skillsets needed to deliver this project; namely, processing survey data (BU, SWF), detection functions (BU, CREEM, SMRUC), density-surface modelling (BU, CREEM, SMRUC) and sensitivity mapping (BioSS, BTO, UKCEH). Therefore, in the unexpected absence of original team members, alternative team members have been identified. In the unexpected absence of [redacted] will become acting Principal Investigator. [redacted] has considerable experience of running large and multi-disciplinary projects for government and regulatory bodies, and wide knowledge of marine mammals and seabirds.

Additional Work Suggestions

In section E04 (Methodology), we have provided our baseline approaches which can be accommodated within the budget allocated for this project. Whilst the baseline approaches are sufficient enough to produce the deliverables, we have identified several additions to these baseline approaches which we believe have considerable benefits to the project. These additions improve the quality and quantity of the deliverables and exploit the vast expertise amongst project partners to tackle longstanding challenges associated with these approaches.

Crown Estate Marine Data Exchange Surveys

There are a considerable number of surveys in the Crown Estate Marine Data Exchange (*CE-MDE*) which have been omitted from the MERP collation because of issues in processing these data (reviewed by Johnson *et al* 2020[1]). These issues included large numbers of species and survey-specific shapefiles, provision of original GPS files without integration with effort files, and inconsistent/incomplete information. The processing of additional data in Phase 1 will be performed by Research Assistant (Eleanor Falch). However, based on experience, we

anticipate that a large proportion of surveys in the *CE-MDE* present severe challenges, requiring more time to process than currently allocated to Phase 1. Given the relative recentness of surveys (R2 and R3 windfarms) and, owing to the needs of the Environmental Impact Assessment (EIA) process, performance across seasons, these data could meet some important gaps in coverage. Retaining the Research Assistant for an additional 2 months provides a better likelihood of processing these data for inclusion in the MERP collation.

[1] Johnston *et al* 2020. Agreeing density data for use in plan level HRA: Review and summary of existing datasets. Report by the British Trust of Ornithology for the Crown Estate.

Statistical Gap Analysis

Our baseline approach uses descriptive analysis of spatiotemporal and habitat coverage in the MERP collation. However, these descriptive analyses could be extended to statistical analyses which highlight levels of interpolation and extrapolation needed in the subsequent density surface modelling (i.e., Mannocci *et al* 2018 [2]). [redacted] (Hi-Def Aerial Surveying) would perform such a gap-analyses on the MERP collation. [redacted] day-rate is [redacted] (Ex VAT), and this additional work would require 4 days during Phase 2.

[2] Mannocci *et al* 2018. Assessing cetacean surveys throughout the Mediterranean Sea: A gap analysis in environmental space. Scientific Reports. 8: 3126

Detection Functions

Our baseline approach will use existing detection functions and availability estimates (i.e., time at sea-surface) from the MERP analyses. However, our *strong preference* is to generate detection functions for all the old and new datasets inclusive, accounting for any anomalies of detection in any novel data. In addition to the generation of new detection functions, the probability of detection on the track-line should also be estimated using the new data, whereas the availability at the surface to be detected should ideally be calculated for each individual survey based on the platform transit time. These additional analyses would be performed by CREEM [redacted]) and would require another 1.5 months of work in Phase 4.

Density Surface Modelling

Combining Surveys: One of the main challenges of combining surveys is fully accounting for biases associated with different approaches and methods, with potentially non-trivial consequences for the accuracy of density surfaces. Whilst MERP and JCP tackled these issues, we acknowledge that more can be done to fully account for these biases in analyses. [redacted] (Sea Mammal Research Unit, SMRU) have the expertise needed to further tackle these issues, although their inclusion in the project was not possible within the allocated budget. However, our *strong preference* is for further discussion on these challenges and formal involvement of SMRU in Phase 4.

Bespoke Models: As with MERP and JCP analyses, our baseline approaches would produce density surfaces using a wholly automated process for the 25 marine mammal and seabird species under consideration. Such an approach does not allow the subtleties of the individual surveys and species to be fully elucidated and so the models produced could be far from optimum. Our *strong preference* is to produce density surfaces using bespoke models tailored to each species. Producing bespoke models allows differences in behaviour and ecology to be fully considered through the inclusion of more specific environmental variables and migratory movements, and appreciation of aggregation tendencies (i.e., low group-size and sparse versus large-group size and clustered). These additional analyses would be performed by CREEM [redacted] and would require another 2.5 months of work in Phase 4.

Review: Given the afore-mentioned challenges with combining surveys using different methods and approaches, our *strong preference* is for [redacted] (Glasgow University, [redacted]) to provide an independent review of the density surface models. This independent review will include future recommendations for adapting the methods. [redacted] will keep in regular contact with the project team and PSG throughout, ensuring that recommendations are constructive and relevant to the project goals. [redacted] day-rate is [redacted]), and this additional work would require 2 days during Phase 4.

GPS Tracking Data

GPS tracking data and at sea survey data both provide valuable sources of information on the spatial distribution of seabirds but are typically analysed separately. Uncertainty could potentially be reduced, and inconsistencies avoided, by incorporating both sources of data into a single modelling framework using data integration methods. We propose a feasibility analysis of how the modelling framework developed in Phase 4 could be futureproofed to align with the structure of models for GPS tracking data. This analysis would help avoid inconstancies between the modelling approaches used for the two data types and enable future work on data integration. The task would involve considering approaches to ensure that the structure of the models being developed in Phase 4 is consistent with that which can defensibly be used for analysing GPS tracking data, focusing on the way in which distance to colony effects are aggregated across colonies within the Phase 4 models. This additional work would be split equally between [redacted] and require a total of another 12 days of work in Phase 4.

SUPPLIER PROJECT TEAM

Partner Summary

The project team combines ecologists and statisticians with substantial and relevant expertise in performing at-sea surveys, analysing at-sea surveys, density-surface modelling, sensitivity mapping, evaluating environmental drivers of marine mammal/seabird distribution, and in-depth knowledge of UK seas. This multi-disciplinary and diverse skillset is particularly important for the main challenges in this project: (1) overcoming the analytical challenges associated with combining surveys that have used different methods and approaches, and (2) developing ecologically informed species distribution models (SDM) based upon relevant environmental associations, leading to sensible predictions in time and space. However, partners also have specific expertise essential for the delivery of individual phases.

Bangor University (BU) and the ***Sea Watch Foundation*** (SWF) lead the ongoing collation and amalgamation of at-sea surveys in the Marine Ecosystems Research Programme (MERP) archive, producing density-maps for projects funded by the European Commission, Marine Science Scotland, NRW, SEANSE and ORJIP. Through their experiences in MERP and subsequent projects, and connections to advisory groups (ICES Working Groups, ASCOBANS, OSPAR), **BU** and **SWF** have up to date knowledge of at-sea surveys in and around UK's EEZ, making them well equipped to lead Phases 1 and 2. Their long experience of performing at-sea surveys themselves, research into the environmental drivers of marine mammal/seabird distributions, and assessing sensitivity to anthropogenic stressors also means that **BU** and **SWF** will also have advisory roles into Phases 4 and 5.

The ***Centre for Research into Ecological and Environmental Modelling*** (CREEM) are internationally renowned for statistical modelling of at-sea surveys, with relevant expertise in deriving detection functions accounting for imperfect detection of animals and density-surfaces based on associations between animals and environmental conditions. Most notably, **CREEM** produced density-surfaces from collations of at-sea surveys from different sources in JNCC-funded Joint Cetacean Protocol (JCP) and Scottish Natural Heritage (SNH) contracts. **CREEM** have also recently developed statistical models which better combine at-sea surveys collected using different methods, making them well equipped to lead Phase 4.

The **UK Centre for Ecology and Hydrology** (UKCEH) and **Biomathematics & Statistics Scotland** (BioSS) have led the development of the ORJIP Sensitivity Tool which combines information on seabird distributions and windfarms to identify times and locations of increased risk to seabirds with particular focus on Scottish waters. The application of those tools to this project will provide a consistent approach to sensitivity mapping encompassing all UK seas. **UKCEH** and **BioSS** have also led cumulative effects projects funded by Marine Scotland Science which consider the combined impact of other stressors alongside multiple windfarm developments and are delivering the Cumulative Effects Framework for assessing impacts of offshore renewables on seabirds and marine mammals in UK waters. As it involves the development of the ORJIP Tool, to be housed and hosted within the Cumulative Effects Framework, **UKCEH** and **BioSS** are well-equipped to lead Phase 5.

The ***British Trust for Ornithology*** (BTO) and ***Sea Mammal Research Unit Consultancy*** (SMRUC) are internationally renowned for their research on seabirds and marine mammals, respectively. The **BTO** has relevant expertise on assessing whether Marine Renewable Energy (MRE) installations could impact seabird populations, particularly the likelihood of collisions between flying seabirds and wind turbines. **SMRUC** has relevant expertise in assessing whether MRE's impact marine mammals, most notably through assessing the extent of animal avoidance of windfarm constructions and the likelihood of collisions with tidal stream turbines. **BTO and SMRUC** will have an advisory role in Phase 5.

SCHEDULE 2 – PRICES

Spatial Modelling and Sensitivity Mapping of Seabirds and Marine Mammals in uk Waters

Name & Role	Grade	Project phase	Daily Rate (exc VAT)	Number of Days
[redacted] Foundation)	N/A	1	[redacted]	[redacted]
[redacted] (Sea Watch Foundation)	N/A	2	[redacted]	[redacted]
[redacted] (Sea Watch Foundation)	N/A	4	[redacted]	[redacted]
[redacted] (Sea Watch Foundation)	N/A	5	[redacted]	[redacted]
[redacted] Lecturer (Bangor)	7	1	[redacted]	[redacted]
[redacted] Lecturer (Bangor)	7	2	[redacted]	[redacted]
[redacted] Lecturer (Bangor)	7	4	[redacted]	[redacted]
[redacted] Lecturer (Bangor)	7	5	[redacted]	[redacted]
[redacted] Research Assistant (Bangor)	6	1	[redacted]	[redacted]
[redacted] Research Assistant (Bangor)	6	2	[redacted]	[redacted]
[redacted] Research Fellow (CREEM)	6	4	[redacted]	[redacted]
[redacted] Research Fellow (CREEM)	6	4	[redacted]	[redacted]
[redacted] Research Fellow (CREEM)	6	4	[redacted]	[redacted]
[redacted] Research Fellow (CREEM)	7	4	[redacted]	[redacted]
[redacted] Senior Scientist (CREEM)	N/A	5	[redacted]	[redacted]
[redacted] (UKCEH)	4	5	[redacted]	[redacted]
[redacted] (UKCEH)	5	5	[redacted]	[redacted]
[redacted] Scientist (UKCEH)	5	5	[redacted]	[redacted]
[redacted] (BioSS)	E	5	[redacted]	[redacted]
[redacted] (BioSS)	E	5	[redacted]	[redacted]
[redacted] (BioSS)	D	5	[redacted]	[redacted]
[redacted] Ecologist (BTO)	N/A	5	[redacted]	[redacted]
[redacted] Ecologist (BTO)	N/A	5	[redacted]	[redacted]
[redacted] Ecologist (BTO)	N/A	5	[redacted]	[redacted]
[redacted] Ecologist (BTO)	N/A	5	[redacted]	[redacted]
		Totals	£122,878	[redacted]

SCHEDULE 3 - PROCESSING, PERSONAL DATA AND DATA SUBJECTS

1. This Schedule shall be completed by the Authority, who may take account of the view of the Supplier, however the final decision as to the content of this Schedule shall be with the Authority at its absolute discretion.

2. The contact details of the Authority Data Protection Officer are:

[redacted]@defra.gsi.gov.uk

3. The contact details of the Supplier Data Protection Officer are:

[redacted]@bangor.ac.uk

4. The Supplier shall comply with any further written instructions with respect to processing by the Authority.

5. Any such further instructions shall be incorporated into this Schedule.

Data Processing Descriptor	Narrative
Identity of the Controller and Processor	The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Supplier is the Processor in accordance with Clause 10.3.
Subject matter of the processing	Data relating to Seabird and Marine Mammal abundance and distribution. Data on benthic habitats.
Duration of the processing	Duration of contract.
Nature and purposes of the processing	Process register of datasets and data mapping pertaining to Seabird and Marine Mammals presence.
Type of Personal Data	No personal data processing required.
Categories of Data Subject	No personal data processing required.
Plan for return and destruction of the data once the processing is complete UNLESS requirement under union or member state law to preserve that type of data	No personal data processing required.