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**PURCHASE ORDER**

**Contract** **No:** DIOCB1/256

**Contract Name:** Provision of Wildlife Monitoring Programme in Belize

**Dated:** 26 October 2021

Supply the Deliverables described in the Schedule to this Purchase Order, subject to the attached MOD Terms and Conditions for Less Complex Requirements.

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| **Contractor** | **Quality Assurance Requirement (Clause 8)** |
| Name: Panthera Corporation  Registered Address: 8 West 40th Street, 18th Floor, New York 10018, US | The Contractor shall supply Contractor deliverables and Quality Assurance as per clause 8 of the MOD Terms and Condition for Less Complex Requirements. |

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| **Consignor (if different from Contractor’s registered address)** | **Transport Instructions (Clause 10)** |
| Name: Panthera Corporation  Address: c/o Forest Department, Forest Drive, Belmopan, Belize | Select method of transport of Deliverables  To be Delivered by the Contactor  [Special Instructions]  To be Collected by the Authority  [Special Instructions]  Each consignment of the Deliverablesshall be accompanied by a delivery note. |

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| **Progress Meetings (Clause 13)** | **Progress Reports (Clause 13)** |
| The Contractor shall be required to attend the following meetings:  Subject: Progress Meeting  Frequency: Quarterly and when the Authority Project Manager is visiting Belize.  Location: Price Barracks or MS Teams, whichever is most suitable | The Contractor is required to submit the following Reports:  Subject: Annual Report (with a draft that is fully consulted and agreed with the Authority Project Manager)  Frequency: Annually  Method of Delivery: Email delivery  Delivery Address: [richard.snow439@mod.gov.uk](mailto:richard.snow439@mod.gov.uk) and oliver.howells417@mod.gov.uk |

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| **Payment (Clause 14)** |
| Payment is to be enabled as stated at Clause 14 of the Contract Terms and Conditions. |

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| **Forms and Documentation** | **Supply of Hazardous Deliverables (Clause 9)** |
| Forms can be obtained from the following websites:  <https://www.aof.mod.uk/aofcontent/tactical/toolkit>  (Registration is required).  <https://www.gov.uk/government/organisations/ministry-of-defence/about/procurement#invoice-processing>  <https://www.dstan.mod.uk/>  (Registration is required).  The MOD Forms and Documentation referred to in the Conditions are available free of charge from:  Ministry of Defence, Forms and Pubs Commodity Management  PO Box 2, Building C16, C Site  Lower Arncott  Bicester, OX25 1LP  (Tel. 01869 256197 Fax: 01869 256824)  Applications via email:  [DESLCSLS-OpsFormsandPubs@mod.uk](mailto:DESLCSLS-OpsFormsandPubs@mod.uk)  If you require this document in a different format (i.e. in a larger font) please contact the Authority’s Representative (Commercial Officer), detailed below. | A completed DEFFORM 68 and, if applicable, Safety Data Sheet(s) are to be provided by email with attachment(s) in Adobe PDF or MS WORD format to:  a. The Commercial Officer detailed in the Purchase Order, and  b. [DSA-DLSR-MovTpt-DGHSIS@mod.uk](mailto:DSA-DLSR-MovTpt-DGHSIS@mod.uk)  by the following date: Contract Start Date  or if only hardcopy is available to the addresses below:  Hazardous Stores Information System (HSIS)  Defence Safety Authority (DSA)  Movement Transport Safety Regulator (MTSR)  Hazel Building Level 1, #H019  MOD Abbey Wood (North)  Bristol BS34 8QW |

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| **DEFFORM 111**  **(Edn 12/17)**  **Appendix - Addresses and Other Information** | | | | |
|  | **1. Commercial Officer**  Name: Gillian Wallis  Address: Kentigern House, 65 Brown Street, Glasgow G2 8EX  Email: gillian.wallis128@mod.gov.uk  🕿 +44 (0) 7970 150497 |  | **8. Public Accounting Authority**  1. Returns under DEFCON 694 (or SC equivalent) should be sent to DBS Finance ADMT – Assets In Industry 1, Level 4 Piccadilly Gate, Store Street,  Manchester, M1 2WD  🕿 44 (0) 161 233 5397  2. For all other enquiries contact DES Fin FA-AMET Policy, Level 4 Piccadilly Gate, Store Street, Manchester, M1 2WD  🕿 44 (0) 161 233 5394 |  |
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|  | **2. Project Manager, Equipment Support Manager or PT Leader** (from whom technical information is available)  Name: Richard Snow  Address: Environmental Management and Assessment Technical Services, Defence Infrastructure Organisation, Building 88, Westdown Camp Tilshead, Salisbury, SP3 4RS  Email: richard.snow439@mod.gov.uk  🕿 |  | **9. Consignment Instructions**  The items are to be consigned as follows:  N/A |  |
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|  | **3. Packaging Design Authority**  Organisation & point of contact:  N/A  (Where no address is shown please contact the Project Team in Box 2)  🕿 |  | **10. Transport.** The appropriate Ministry of Defence Transport Offices are:  **N/A** |  |
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|  | **4. (a) Supply / Support Management Branch or Order Manager:**  **Branch/Name:**  **N/A** |  |  |  |
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|  | **5. Drawings/Specifications are available from**  Mr Richard Snow  Senior Environmental Advisor  Overseas and Training Estates |  | **11. The Invoice Paying Authority**  Ministry of Defence 🕿 0151-242-2000  DBS Finance  Walker House, Exchange Flags Fax: 0151-242-2809  Liverpool, L2 3YL **Website is:** <https://www.gov.uk/government/organisations/ministry-of-defence/about/procurement#invoice-processing> |  |
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|  | **6. Intentionally Blank** |  | **12. Forms and Documentation are available through \*:**  Ministry of Defence, Forms and Pubs Commodity Management  PO Box 2, Building C16, C Site  Lower Arncott  Bicester, OX25 1LP (Tel. 01869 256197 Fax: 01869 256824)  **Applications via fax or email:** [DESLCSLS-OpsFormsandPubs@mod.uk](mailto:DESLCSLS-OpsFormsandPubs@mod.uk) |  |
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|  | 1. **Quality Assurance Representative:**   Name:  DIO Technical Services Mr Richard Snow and Mr Oliver Howells      Commercial staff are reminded that all Quality Assurance requirements should be listed under the General Contract Conditions.  **AQAPS** and **DEF STANs** are available from UK Defence Standardization, for access to the documents and details of the helpdesk visit <http://dstan.uwh.diif.r.mil.uk>[/](http://www.dstan.dii.r.mil.uk/) [intranet] or <https://www.dstan.mod.uk/> [extranet, registration needed]. |  | **\* NOTE**  **1. Many DEFCONs and DEFFORMs can be obtained from the MOD Internet Site:** <https://www.aof.mod.uk/aofcontent/tactical/toolkit/index.htm>  **2. If the required forms or documentation are not available on the MOD Internet site requests should be submitted through the Commercial Officer named in Section 1.** |  |
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| **Contractor Commercially Sensitive Information (Clause 5). Not to be published.** |
| Description of Contractor’s Commercially Sensitive Information: |
| Cross reference to location of sensitive information: |
| Explanation of Sensitivity: |
| Details of potential harm resulting from disclosure: |
| Period of Confidence (if Applicable): |
| Contact Details for Transparency / Freedom of Information matters:  Name:  Position:  Address:  Telephone Number:  E-mail Address: |
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| **Offer and Acceptance** | |
| A) The Purchase Order constitutes an offer by the Contractor to supply the Deliverables. This is open for acceptance by the Authority for 14 days from the date of signature. By signing the Purchase Order the Contractor agrees to be bound by the attached Terms and Conditions for Less Complex Requirements. | B) Acceptance |
| Name (Block Capitals):  Position:  For and on behalf of the Contractor  Authorised Signatory ……………………………..  Date: | Name (Block Capitals):  Position:  For and on behalf of the Authority  Authorised Signatory …………………………….  Date: |
| C) **Effective Date of Contract:** Date of Authority acceptance | |

**SCHEDULE OF REQUIREMENTS**

**Background**

The Belize environmental legislation mandates that an Environmental Impact Assessment (EIA) be undertaken prior to the renewal of military training by British Forces in Belize. This was completed and authorised in January 2018 by the Belize Department of Environment, with a series of conditions set out within an Environmental Compliance Plan.

A condition of approval of the EIA was that British Army Training and Support Unit Belize (BATSUB) should undertake a programme of wildlife monitoring to assess the impacts of military training on the wildlife within the live-firing training areas in the Private land and Government Owned Forest Reserves of Belize. This satisfies this requirement as set out within the Environment Compliance Plan as mandated by Belizean law, the MOU, which states that the Ministry of Defence will abide by Belize law, and the United Kingdom Secretary of State for Defence Policy Statement, that states that the Authority will assess the impact of its projects, programmes and plans.

**Purpose**

The purpose of this requirement is to continue the wildlife monitoring program in Belize at least two areas where live firing exercises occur commencing with Manatee Forest Reserve and 1963 Line. Data from these two sites will be analysed in conjunction with data collected by partner organizations from other sites including and excluding live firing areas, to identify the potential affects live firing may have on the abundance, activity and behaviour of priority species within Belize.

**Objectives**

* Continue monitoring programs within two BATSUB training sites (1963 Line and Manatee Forest Reserve) for a minimum duration of three years
* Establish population density estimates of individually recognisable species (jaguars, ocelots) and general abundance of terrestrial wildlife species (mammals and larger game birds) at two BATSUB training sites (1963 Line and Manatee Forest Reserve) through camera trapping surveys.
* Provide overall population assessments of jaguars and terrestrial mammals at remaining training sites through existing survey efforts.
* Investigate the potential consequences of military activity on mammalian population dynamics.
* Identify, analyse and present the occurrence of illegal activity that is in avertedly recorded through the wildlife monitoring programme.
* Use data and outcomes of analyses to design and inform a long-term management strategy.

**Data Sharing and Storage**

Camera trap data is to be held by the Authority, after analysis has taken place, and shared with the Belize Department of the Environment and the Supplier. Release and publishing rights of the data and analysis of the data is strictly with prior permission of the Authority only.

**End of Contract**

At termination of contract camera traps are to be handed over to the Supplier to support the long-term monitoring network across Belize. The data obtained remains subject to Ministry of Defence publishing rights.

**Deliverables**

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| **Deliverable** | **Description** | **Dates** | **Outputs** | **Acceptance Criteria** |
| Work Package 1 | Field Work | Year 1  6 Dec 21 - 31 Mar 22  Year 2  1 Apr 22 – 30 Sep 22  1 Jan 23 – 31 Mar 23  Year 3  1 Apr 23 – 30 Sep 23  1 Jan 24 – 31 Mar 24  Year 4  1 Apr 24 – 30 Sep 24  Optional Year 5\*  1 Jan 25 – 30 Sep 25  Optional Year 6\*  1 Jan 26 – 30 Sep 26  \* only applicable if contract extended | The duration of the survey is dependent upon capture probabilities of individuals within the area. Low capture probabilities necessitate either a longer survey duration or larger camera grid. For areas with lower capture probabilities sampling occasions should be within the range of 90 – 120 days, this can be reduced to 60 days if capture probabilities are high.  As this program aims to estimate the effects of live-firing military activity, a design of pre-during-post assessment would provide the most direct evidence of the effects of the presence of training. Such a design can be incorporated within the general survey of 3 months, if the exercise period is confined to a month and this training period falls in middle month of the survey.  In this manner the supplier will have one month of pre and post training abundance and distribution data which can be compared with the live firing period. As such, it is possible to assess the speed of normalisation of wildlife distribution. If such a design is not feasible due to lengthy training periods, the supplier would need to leave cameras out longer to assure a design of cameras being present within the training area for an extended period that includes at least > 1 month before and after. | It is proposed to conduct the monitoring survey with a camera grid covering a minimum area of 219 square kilometres (based on 2020-21 data) with cameras spaced at 2 – 3km intervals, with a minimum sampling occasion of 90 days for year 1, which may be adjusted accordingly for years 2 and 3 based on data of capture probabilities from the first survey. The proposed survey will permit comparison studies for population densities, capture probabilities, activity patterns and species distributions for species of conservation concern such as jaguars, tapirs and white lipped peccaries between sites which include live firing ranges and areas with no military activity.  For safety reasons, the Supplier is required to notify BATSUB at least 24hrs prior to occupying training areas. The camera traps will be seen during the bi-annual audits and progress meetings with the Supplier will take place then. When initial pictures become available, the Supplier will send a selection to the Authority.  The Authority reserves the right to change the sites for monitoring or change would be required where access to train is denied. Where it is the Authority’s choice to change location, six months' notice prior to deploying cameras would be provided.  Media story opportunities arising from the contract will be raised through to the Authority Project Manger in the first instance and jointly managed through MOD and Panthera Media teams and their formal processes.  Publishing scientific data arising from this contract and the former contract data will be raised to the Authority Project Manager and Quality Assurance representative and collaboratively published observing the MOD and Panthera formal procedures. |
| Work Package 2 | Reports | **Year 1**  n/a  **Year 2**  1 Apr 22 **–** 31 Dec 22  Year 3  1 Apr 23 **–** 31 Dec 23  Year 4  1 Apr 24 **–** 31 Dec 24  Optional Year 5\*  1 Apr 25 **–** 31 Dec 25  Optional Year 6\*  1 Apr 26 **–** 31 Dec 26  \* only applicable if contract extended | **Report 1** - The reports will explain the methodology and provide a description of the general areas covered by the camera survey. The Report will refer back to the initial three years of monitoring and build on this body of data and analysis, indicating to what extend the reserves are potential wildlife strongholds, the levels of human interference outside of BATSUB use, and an assessment of the impact of BATSUB activities based on the analyses and interpretation.  Reports will describe any changes and adaptations regarding camera deployment and the survey area, or observed changes in terms of outside human pressures on the habitat or wildlife. The reports will show any dynamism within the study areas and indicate to what extend recognizable individuals (jaguars, ocelots, opportunistically recognisable individuals of any species) have survived to the next year and seem to behave in the same manner (same general home range area). The supplier will equally report on variability in training activity and relate this to assessment of the previous year (e.g. does an increase or decrease in training activity in space and time seem to have an impact).  **The Final Report** The last report will pull all assessments together (including data from the former contract) in terms of variation in results, human impact and training effort in space and time which will include analyses between years within the study sites, and comparisons with data gathered from comparison sites which include and exclude military training areas. The supplier will provide an overall assessment view of the impact of military training on wildlife. | The Supplier will report to the BATSUB Training Safety Officer and the Authority Project Manager. Reports will be submitted in draft via e-mail and the final version will be agreed by all parties. They will be submitted to the Belize Department of Environment in December with the BATSUB annual report.  The Reports are to be written in English and include: -   * Summary data, in a form acceptable for scientific publications * A minimum of 12 high-resolution images. Images must be 300dpi or higher and include descriptive information   The Reports are also to include the following analyses: -   * SECR population density estimates for each site for individually recognizable species (jaguar, ocelot) * Home ranges (minimum convex polygon and kernel analyses) of individually recognisable species (jaguars, ocelots) and individuals of other species with opportunistic recognisable marks (scars or imperfections) * Occupancy modelling for each site for species which are not individually recognizable (e.g. pumas, tapirs, white lipped peccaries, brocket deer and collared peccary) * Comparison of capture rates of mammalian species between areas of live firing and areas with no military activity * Comparison of activity patterns of mammalian species between areas of live firing and areas with no military activity. * Investigate species distributions in relation to firing ranges; do capture probabilities increase with distance from firing ranges. * Survival analyses for target species over the three-year period. |

**PRICING**

**1. Pricing Schedule**

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| **Works Package** | **Description** | **Year 1**  **6 Dec 21 – 31 Mar 22** | **Year 2**  **1 Apr 22 – 31 Mar 23** | **Year 3**  **1 Apr 23 – 31 Mar 24** | **Year 4**  **1 Apr 24 – 31 Dec 24** | **Optional Year 5\***  **1 Jan 25 – 31 Dec 25** | **Optional Year 6\***  **1 Jan 26 – 31 Dec 26** |
|  |  | B$ | B$ | B$ | B$ | B$ | B$ |
| 1. | Field Work |  |  |  |  |  |  |
| 2. | Reports |  |  |  |  |  |  |
|  | **Total** |  |  |  |  |  |  |

\* only applicable if contract extended

Notes

1. Prices are firm and to be inclusive of all resources required to carry out the tasks.

2. Prices are to be inclusive of profit and overhead

**2. Milestone Payment Schedule**

The Authority will pay upon satisfactory completion of predetermined milestones. Milestones must be objectively ascertainable events that can be readily defined and assessed by the Project Manager at the appropriate time as having been completed.

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| **Serial** | **Milestone Description** | **Date Expected to Achieve Milestone** | **Price**  **B$** |
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