Darwin Plus: Overseas Territories Environment and Climate Fund
Project Application Form

Submit by **2359 GMT Monday 29 August 2016**

Please read the Guidance before completing this form.
Information to be extracted to the database is highlighted blue. Blank cells may render your application ineligible

Basic Data

1. Project Title (max 10 words)	Assessment of current and future Invasive Alien Species in Cyprus		
2. UK OT(s) involved	Akrotiri, Episkopi and Dhekelia (Cyprus)	**Letter of support from OT government attached?**	Yes
3. Start Date:	1st April 2017		
4. End Date:	31st March 2019		
5. Duration of project (no longer than 36 months)	24 months		

Summary of Costs	**2017/18**	**2018/19**	**2019/20**	**Total**
6. Budget requested from Darwin	£123,915	£93,490		£217,405
7. Total value of matched funding	£28,797	£28,764		£57,561
8. Total Project Budget (all funders)	£157,712	£122,254		£274,966
9. Names of Co-funders	Joint Health Service Unit, Cyprus Centre for Ecology and Hydrology, Wallingford, UK			

10. Name, address and contact details of lead applicant organisation (responsible for delivering outputs, reporting and managing funds)*	Professor Helen Roy NERC Centre for Ecology and Hydrology, Maclean Building Benson Lane, Crowmarsh Gifford, Wallingford, OX10 8BB

* Notification of results will be by email to the Project Leader named in Question 12

11. Type of organisation of Lead applicant. Place an x in the relevant box.																			
OT GOVT		UK GOVT		UK NGO		Local NGO		International NGO		Commercial Company		Other (e.g. Academic)		X (UK Government Research Organisation)					

12. Partners in project. Please provide details of the partners in this project and provide a CV for the individuals listed. You may copy and paste this table if necessary

Details	**Project Leader**	**Project Partner 1**	**Project Partner 2**
Surname	Roy	Peyton	Bullivant
Forename(s)	Helen	Jodey	Glen
Post held	Population Ecology Group lead	Ecologist	Captain
Institution (if different to above)			Joint Services Health Unit
Department	Sustainable Land Management	Sustainable Land Management	SO3 Medical Force Protection and Officer Commanding Joint Services Health Unit (Cyprus)
Telephone/Skype			
Email			

Details	**Project Partner 2**	**Project Partner 3**
Surname	Martinou	Demetriou
Forename(s)	Angeliki	Monica
Post held	Entomologist	Marine Ecologist
Institution (if different to above)	Joint Services Health Unit (Cyprus)	University of Cyprus
Department	British Forces Cyprus	Department of Biological Services
Telephone/Skype		
Email		

13. Has your organisation been awarded Darwin Initiative funding before (for the purposes of this question, being a partner does not count**)? If yes, please provide details of the most recent awards (up to 6 examples).**

Reference No	**Project Leader**	**Title**
EIDPR11	Dr Alan Gray	St Helen's Millennium Forest: conservation, evolution and a changing climate
15031	Dr Jan Dick	Novel and Practical Conservation Strategies Following Mining in Sierra Leone
EIDPJ010	Dr Jan Dick	Selection, propagation, multiplication and distribution of indigenous tree species
11006	Dr Richard Wadsworth	Habitat audit and change detection in Sierra Leone
5043	Professor Steve Albon	Recovery of Serengeti Wildlife Research Institute

14. If your answer to Q13 was No, provide details of 3 contracts previously held by your institution that demonstrate your credibility as an implementing organisation. These contracts should have been held in the last 5 years and be of a similar size to the grant requested in this application. (If your answer to Q13 was Yes, you may delete these boxes, but please leave Q14)

15. Key Project personnel

Please identify the key project personnel on this project, their role and what % of their time they will be working on the project. Please provide 1 page CVs for these staff, or a 1 page job description or Terms of Reference for roles yet to be filled. Please include more rows where necessary.

Name (First name, surname)	Role	Organisation	% time on project	1 page CV or job description attached?
Helen Roy	Project Leader	CEH	4	**Yes**
Jodey Peyton	Project Manager	CEH	30	**Yes**
Hannah Dean	Technical expert	CEH	10	**Yes**
Biren Rathod	Technical expert	CEH	5	**Yes**
Ian Winfield	Technical expert	CEH	2	**Yes**
Oliver Pescott	Technical expert	CEH	15	**Yes**
Owen Mountford	Technical expert	Consultant	5	**Yes**
Angeliki Martinou	Project Manager (Cyprus)/partner	JSHU	20	**Yes**
Glen Bullivant	Partner	JSHU	10	**Yes**
Kevin Shawcross	Partner	JSHU	10	**Yes**
Neofytos Andreou	Technical expert	JSHU	20	**Yes**
Christos Christou	Technical expert	JSHU	20	**Yes**
Monica Demetriou	Partner / Technical expert	OC-UCY	15	**Yes**
Georgios Fyttis	Technical expert	OC-UCY	15	**Yes**
Pantelis Savvidis	Technical expert	OC-UCY	10	**Yes**
Yianna Samouel-Rhoads	Technical expert	OC-UCY	10	**Yes**
Andreas Dimitriou	Technical expert	OC-UCY	10	**Yes**

Project Details

16. Project Outcome Statement: Describe what the project aims to achieve and what will change as a result. (30 words max). You can copy and paste from Q26.

The investigation of current and future threats from terrestrial and aquatic invasive species using historic data, field surveys, horizon scanning and modelling, resulting in cost-effective, prioritised surveillance and control strategies.

17. Background: (What is the current situation and the problem that the project will address? How will it address this problem? What key OT Government priorities and themes will it address? (200 words max)

Akrotiri includes the largest aquatic system in Cyprus, internationally important habitat within the Mediterranean (***Ramsar Convention***) and ***Important Bird Area***. The spread of Invasive Alien Species (IAS) represents a major threat to native species and human health. Habitats dominated by IAS favour pathogen vectors (mosquitoes, rats), rendering large areas of saltmarsh inhospitable. Invasive *Gambusia* fish introduced to control mosquitoes have also spread. The biodiversity of the Mediterranean Sea is changing dramatically through biological invasions with increased introduction rates of IAS. Many IAS have been introduced through the Suez Canal, whose recent enlargement may facilitate the spread of Red Sea species, affecting biodiversity and ecosystem services. The UKOT biodiversity strategy prioritises: *(i) obtaining data on the location and status of biodiversity interests and the human activities affecting biodiversity to inform the preparation of policies and management plans (including baseline survey and subsequent monitoring); (ii) preventing the establishment of IAS, and eradicating or controlling species … already … established*. These are also priorities for the OT government in Cyprus and, through surveillance and improved biosecurity, this project will address both. Horizon scanning will predict future IAS threats; while survey and modelling will investigate establishment and spread of IAS within OTs in Cyprus.

18. Methodology: Describe the methods and approach you will use to achieve your intended outcomes and impact. Provide information on how you will undertake the work (materials and methods) and how you will manage the work (roles and responsibilities, project management tools etc). Give details of any innovative techniques or methods. (500 words max)

Three work packages (WPs) contribute to achieving sustainable surveillance of current and potential future IAS:

WP1: Horizon scanning

We will use consensus methods to evaluate likelihood of species arrivals and impacts (Roy *et al.* 2012), involving experts from Cyprus and Europe (including stakeholders in section 20), and taking into account work at European and local scales (Roy *et al.* 2015; Martinou 2014). The outcome will be a prioritised list of species with the potential to arrive, establish and threaten biodiversity within the next ten years.

WP2: Surveillance and modelling of species distributions

Field surveys will include IAS in aquatic and terrestrial environments selected following a scoping study (Peyton & Mountford 2015) and WP1 in consultation with the JSHU, Akrotiri Environment and Educational Centre, the University of Cyprus and other stakeholders. The distribution of the selected IAS will be mapped using:

1. Presence-only surveys aimed at stakeholders who submit occurrence data through an on-line citizen science survey to rapidly map the large-scale distribution of selected IAS.
2. Systematic surveys will be undertaken by the project team to map abundance and distribution of IAS, as resources allow. For plants, methods will integrate broad-scale habitat mapping approaches with those used by the Environment Centre (adapted to Cyprus habitats and

consistent with EU Habitats Directive and CORINE). For invasive mosquitoes, a surveillance system will be established modelled on the trapping system adopted by JSHU. Aquatic surveys will apply Underwater Visual Census in Akrotiri and Dhekelia.

This will provide baseline information to inform the prevention and management of IAS. The database of IAS will be made available via a project website (the data capture element of which is an important project legacy). Data will be used in modelling approaches to define ecological niches of established IAS where possible; resulting habitat and abiotic information will be used to investigate landscape sensitivity to specific IAS and support a review of the benefits of investment in monitoring established IAS versus efforts to detect potential IAS through horizon scanning.

WP3: Biosecurity and capacity building

Capacity building through training and outreach will enable ongoing monitoring of habitats (*e.g.* permanent sampling points or plots) that are deemed sensitive to the selected IAS from WP2 and WP3. Additionally biosecurity training will be provided.

Civilian and military personnel (JSHU) and local stakeholders will be trained in identification and management of IAS through training workshops run in parallel with the field surveys and provision of online resources (ID guides, photo galleries, blogs). On-line support and engagement will widen communication and support project sustainability contributing to effective prioritisation of conservation funds. The survey methods and database structures will be comprehensively documented to facilitate knowledge transfer to other OTs and/or military bases.

CEH will be responsible for the overall project management and coordination of activities according to PRINCE2 protocols. CEH uses a software tool to manage project tasks and milestones and maintain clear audit trails. Regular video conference meetings will take place between the project team for progress updates and future planning.

19. How does this project:
a) Deliver against the priority issues identified in the assessment criteria
b) Demonstrate technical excellence in its delivery
c) Demonstrate a clear pathway to impact in the OT(s)
(500 words max)

a) The project aligns with the strategic priorities in "*The UK Overseas Territories Biodiversity Strategy- UK Government Activity April 2014* (www.gov.uk)", especially priority (ii) but also priority (i). Action toward improving the conservation of the Akrotiri wetland is the key deliverable for SBA Akrotiri, Cyprus, whilst the MoD are committed to biodiversity protection on their estates (Joint Service Publication 362; Anon. 2007). Dealing with IAS and taking steps for prevention and control is imperative for biodiversity conservation. Our proposed evidence-based approach to IAS management and surveillance prioritisation will result in improved decision making and will embed data systems and sustainable management locally. Such action is also a prerequisite for the successful implementation of the pathogen vector management programme run by JSHU, since project sites are breeding and resting habitats for mosquito species and other IAS vectors of pathogens *e.g*. rats. Discussion with stakeholders concerning pathogens will also nurture environmental thinking through increased appreciation of the issues surrounding mosquito control.

b) Both CEH and JSHU have extensive experience in delivering projects of similar scale and complexity. This project has SMART goals and a sustainable programme of activities locally, including outputs that will be applicable elsewhere. The project utilises a clear combination of **knowledge review** (horizon scanning), **expert involvement** (consultation, meetings, *etc*), **data collection** (field survey) and **capacity building** (improving local expertise and biosecurity) to provide a practical plan that is achievable within two years and will deliver future benefits. The partners have not only identified the immediate risks in project delivery (Section 26) but also have the capacity to compensate for unforeseen events if required. The partners have professional project management systems that monitor and ensure timely delivery of projects. Additionally, the project has been designed to produce measurable outputs (tools, training, maps, web-resources *etc.*) that can be evaluated individually and as a whole. A key theme of the work for the future is for Cypriot personnel to sustain the programme, without the need for

further UK input.

c) The project is expected to benefit Cyprus OTs and other key stakeholders (see Section 20) through delivery of strategic priorities, financial support and increased capacity building and engagement with awareness and action on IAS for the OTs.

The project and its outputs will:

i) produce essential information for policy making and informed management planning;

ii) aid prevention of the spread of established IAS and the introduction of new IAS;

iii) provide information on both terrestrial and aquatic IAS, necessary for the prioritisation and/or design of management measures;

iv) provide training on IAS surveillance and management to civilian personnel who will apply this knowledge locally but also to military personnel who can then apply this knowledge globally to other OTs;

v) through the horizon scanning, identify future threats from IAS to the Akrotiri OT and the whole island of Cyprus;

vi) contribute to the modernisation of surveillance procedures at JSHU in applying online recording tools for IAS;

vii) develop and test methods and approaches (including dissemination materials) that could have applicability to other OTs.

20. Who are the **stakeholders** for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them. (250 words max)

The OT Government in Cyprus fully supports this project proposal (see letter provided). The main stakeholders for the project are the Republic of Cyprus (RoC) government departments, who will contribute expertise on IAS issues through participation in the horizon scanning exercise and during training on IAS management, delivered to them in parallel with that provided to the partners (JSHU and Oceanography Centre - UCY). Their involvement will provide policy and management insights, a route to uptake of the project outputs, including monitoring and management tools. The Department of Environment, Ministry of Agriculture, Rural Development and Environment, are responsible for the implementation of the IAS EU regulation. The department is aware of our intention to submit this project proposal and they fully support it (see letter provided), they have expressed their interest in participating in the horizon scanning and for their personnel to be trained on IAS issues. JSHU sits on stakeholder committees with representatives from the RoC and if the project is successful it will involve other stakeholders such as:

a) RoC: Fisheries and Marine Research; Forests; Water Development; Ministry of Interior (Game Fund)

b) Universities and institutes in the RoC

c) Local communities

d) District Development Agencies

e) Individual experts drawn from education, NGOs and private practice.

This project gives JSHU the opportunity to build capacity (infrastructure and personnel) and expand its knowledge in invasive insect vectors as well as create an IAS management programme, addressing biosecurity issues and facilitating training for its military and civilian personnel.

21. Institutional Capacity: Describe the implementing organisation's capacity (and that of partner organisations where relevant) to deliver the project.
(500 words max)

CEH, JSHU, British Forces Cyprus and the OC-UCY co-propose this project.

The Centre for Ecology & Hydrology (CEH) is a research centre of the Natural Environment Research Council (NERC); UK's Centre of Excellence for integrated research in terrestrial and freshwater ecosystems and their interaction with the atmosphere. CEH provides a National Capability (NC) function for the UK by delivering long-term environmental monitoring and independent, interdisciplinary science. CEH receives approximately 40% of its overall funding as NC from NERC, with the other 60% arising from a wide range of partnership projects with national, European and international customers.

For over 40 years, CEH has carried out research and capacity building on the impact of IAS and their distributional changes under climate change, and how this might affect biodiversity, human health and ecosystem services. Recent work in this area has included the maintenance and development of IAS databases at the European and GB level (DAISIE and the GB-Non-Native Species Information Portal (GB-NNSIP)), and risk assessment and horizon scanning work for the European Commission, which have informed the delivery of the EC Regulation on invasive species. CEH also leads a COST Action, ALIEN Challenge (TD1209), which has been implemented to link and analyse information on IAS across Europe, and provide capacity building. Through the Biological Records Centre (BRC), CEH is at the forefront of citizen science, working with the volunteer recording community to utilise new online tools and approaches to the monitoring of biodiversity, including IAS.

The JSHU is a military unit with environmental health, entomological and pest control expertise that runs the integrated pest and vector management programme in all OTs in Cyprus (Akrotiri, Episkopi, Dhekelia, Ayios Nikolaos and Troodos). The unit, managed by Captain Glen Bullivant, comprises military and civilian experts in environmental health, entomology, and pest management. The unit runs two field courses on insect vectors for military personnel studying for a degree in Environmental Health and is hosting military students who want to conduct their final year theses in Cyprus. JSHU is responsible for monitoring invasive mosquitoes and management of invasive freshwater fish.

The OC-UCY is the Cyprus institution for ocean research and one of the operational marine monitoring centres in the Mediterranean. OC-UCY carries out activities including marine biology, satellite remote sensing, and modelling for ecosystem management. OC-UCY actively contributes to marine knowledge, through its participation in two research projects of the Mediterranean Science Commission (CIESM), "Tropical Signals" and "Jelly Watch". The two CIESM research projects aim to assess the effects of climate change through the study of phytobenthos, zoobenthos, fish fauna, and jellyfish, which are found in the marine area of Cyprus and through recording of IAS. The importance of IAS aquatic surveillance is reflected by the direct involvement of the OC-UCY. Some IAS that have entered or may enter Mediterranean waters cause allergies, injuries or poisoning to humans (*e.g. Rhopilema nomadica* and *Pterois miles*) and the OC-UCY contribution will strengthen the project and result in a surveillance programme for Dhekelia and Akrotiri waters.

APPLICANTS SEEKING £100,000 OR OVER CAN PROCEED TO QUESTION 26

APPLICANTS SEEKING LESS THAN £100,000 ARE NOT REQUIRED TO COMPLETE THE LOGICAL FRAMEWORK AT QUESTION 26 HOWEVER YOU MAY FIND IT A USEFUL EXERCISE TO HELP YOU STRENGTHEN YOUR PROJECT

26. LOGICAL FRAMEWORK

Darwin Plus projects will be required to report against their progress towards their expected outputs and outcome if funded. This section sets out the expected outputs and outcome of your project, how you expect to measure progress against these and how we can verify this.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Assessment of IAS and capacity building in OTs in Cyprus to facilitate sustainable monitoring and future assessment in order to minimise detrimental impacts on human health, biodiversity and ecosystems.			
Outcome: (Max 30 words) Sustainable surveillance of current and potential future IAS in OTs in Cyprus, supported by local organisations and stakeholders, founded on a robust and open evidence base.	0.1 Horizon-scan and IAS of concern for Akrotiri OT and other OTs in Cyprus completed and accepted by community of stakeholders [Dec 2018]. 0.2 Inventory of IAS for Akrotiri OT that is the result of a set of documented search strategies [Jan 2019].	0.1 Horizon scan workshop completed successfully, with attendance from local and regional experts and stakeholders. Reports produced and scan results published in journal. 0.2 Inventory published on website and in open access biodiversity journal.	0.1 Predicted effort sufficient to complete survey. Survey strategy approved by stakeholders. 0.2 Stakeholders interested in contributing.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	0.3 IAS surveillance strategy produced and accepted by community of stakeholders [May 2018].	0.3 Clear strategy produced based on outputs from horizon scan workshop and field surveys; contribution of stakeholders recognised through horizon scan collaborative process, and stakeholders are invited to co-author paper. Strategy begins to be implemented by the end of the project.	0.3 Stakeholders approve of methods, accept evidence, and implement the strategy.
	0.4 Training and capacity building workshops increase awareness of IAS, promote the evidence-based approach to surveillance and management, and change behaviours and attitudes towards IAS [Mar 2019].	0.4 Workshops and all meetings occur and are reported on; stakeholders feed-back on reports, both by co-authorship, and by comments on website. Feedback questionnaires also distributed during workshops to document satisfaction.	0.4 Stakeholders engage in project throughout its lifespan.
	0.5 Project clearly documented, providing model example for other OTs and territories developing strategies for prioritising effort in matters concerning IAS surveillance and management [Mar 2019 – papers from here onward].	0.5 Reports and meeting minutes clearly documented and available on project website. Papers published on topics detailed elsewhere in this table.	0.5 Data are collected according to scientific standards, and are therefore worthy of publication in learned journals.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Outputs: **1.Horizon-scanning and IAS of concern listed for Akrotiri OT and other OTs in Cyprus**	1.1 List of IAS developed and agreed (Horizon scanning workshop) [May 2017]. 1.2 IAS list prioritised for monitoring and remedial action (workshop and follow on discussions) [May 2017].	1.1 Workshop report and horizon scanning publication. 1.2 List of IAS prioritised for monitoring and remedial action (workshop and follow on discussions). List hosted on project website and in reports.	1.1 Stakeholders interested in attending. 1.3 Prioritisation process has support from stakeholders.
2. **Targeted mapping of IAS for Akrotiri and other OTs in Cyprus**	2.1 Mapping of at least 10 IAS [Aug 2018]. 2.2 Completed vegetation and habitat mapping of Akrotiri and other OTs in Cyprus, where resources allow, with overlay of IAS occurrence [June 2018].	2.1 Maps available hosted on project website and in reports. 2.2 Available on project website and in reports.	2.1 Surveys completed in timely fashion. Effort adequate for mapping of 10 species. 2.2 Required effort sufficient for completing task.
3. **IAS surveillance strategy developed with target audience**	3.1 On-line recording being undertaken (focused on at least 10 priority IAS) [Mar 2019]. 3.2 Design of locally implementable field-based strategy for Akrotiri and other OTs finished [May 2017].	3.1 Website operational and functions as expected. 3.2 Evidence-based field-based strategy available on website, and published if appropriate.	3.1 Stakeholders find the website useful. 3.2 Resulting strategy has support from stakeholders.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
4. Training and capacity building provided for OT government staff on the identification and management of IAS	4.1 Project start-up meeting and scoping survey finalise precise scope of subsequent workshops and surveys [April 2017].	4.1 Report on start-up meeting on website.	4.1 Stakeholders interested in attending. Scoping confirms access and practicality. Scoping inform the risk assessments.
	4.2 Pre-survey workshop and training event occurs [April - June 2017].	4.2 Workshop report and feedback forms.	4.2 Stakeholders interested in attending. Trainers are adequately briefed. Relevant risk assessments conducted.
	4.3 Capacity building, through events at JSHU and the Akrotiri Environment Centre, webinars, information leaflets etc. [until Mar 2019].	4.3 Details of events on project websites and social media announcements and through posters at JSHU and Akrotiri Environment Centre.	4.3 Stakeholders interested in attending training sessions; relevant expertise available to provide workshops.
	4.4 Year 2 training workshops building on survey and biosecurity issues highlighted in Year 1 [May 2018].	4.4 Training workshops take place; reports on website and feedback gathered.	4.4 Stakeholders interested in attending. Stakeholders support prioritisation decisions. Year 1 surveys yield sufficient data to prioritise Year 2 efforts.
5. Effective project management and reporting	5.1 Teleconference to assess year 1 and set up for year 2 [Oct 2017].	5.1 Minutes of meeting available on project website.	5 Work is high-enough quality and sufficiently novel to merit publication in peer-reviewed literature
	5.2 Progress teleconference meetings [Quarterly to Dec 2018].	5.2 Teleconferences minuted as appropriate.	
	5.3 Annual Report [Mar 2018].	5.3 Annual Report available on website.	

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	5.4 Half year report [Oct 2017, Oct 2018]. 5.5 Project closure meeting [Feb 2019]. 5.6 Final report [Mar 2019]. 5.7 Publications [from April 2019].	5.4 Half year report available on website. 5.5 Minutes of meeting available on project website. 5.6 Final report available on website. 5.7 Publications available on journal websites, preferably open access.	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Horizon scanning workshop, including identification of local and regional experts to invite

1.1 Horizon scanning workshop, including identification of local and regional experts to invite

1.2 IAS list prioritised for monitoring and remedial action – combined result of workshop and field survey evidence

2.1 Comprehensive mapping of at least 10 IAS

2.2 Vegetation and habitat mapping of Akrotiri and other OTs in Cyprus, where resources allow, with overlay of IAS occurrence from 2.1 and 2.2

3.1 On-line recording website established as part of project website (focussed on at least 10 priority IAS)

3.2 Design of locally implementable field-based monitoring strategy for Akrotiri and other OTs, based on lists and evidence from 1.1, 1.2, 2.1, 2.2 and 2.3

4.1 Project start-up meeting and scoping survey finalise precise scope of subsequent workshops and surveys [April 2017]

4.2 Pre-survey workshop and training event occurs [April - June 2017]

4.3 Capacity building [until Mar 2019]. Local staff trained in identification and management of IAS using workshops and online resources. Methods and database/resource structures comprehensively documented to facilitate knowledge transfer.

4.4 Year 2 training workshops

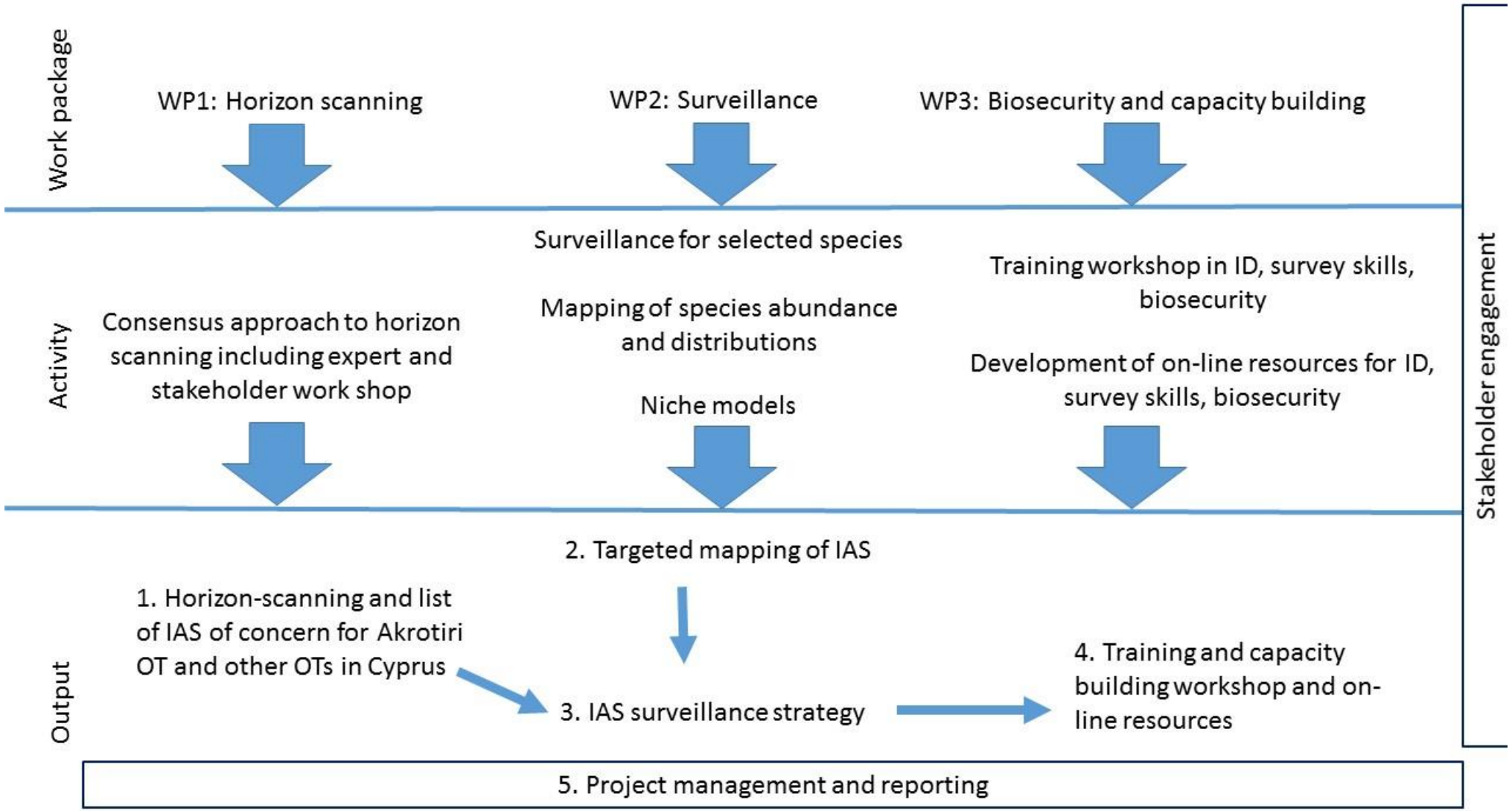
5.1 Teleconference to assess year 1 and set up for year 2

5.2 Progress teleconference meetings

5.3 Reporting writing (links to outputs 5.3, 5.4 and 5.6 above)

5.5 Project closure meeting [Feb 2019]

5.7 Publications produced



Diagrammatic overview of the project organisation through overarching work packages (WP), activities and outputs.

27. Sustainability: How will the project ensure benefits are sustained after the project has come to a close? If the project requires ongoing maintenance or monitoring, who will do this? (200 words max)

Our central theme is the development of approaches that are applicable to OTs on Cyprus (and elsewhere), which can be applied and continued by local personnel and stakeholders. Training events throughout the project and provision of support resources, together with stakeholder involvement form an essential part of the project, ensuring the immediate knowledge gains are sustained and augmented beyond project completion.

The project has high level support from both British Forces Cyprus and the JSHU, whose personnel will be trained in techniques that will ensure consistent monitoring of IAS and assessment of their impact *(e.g.* invasive fish studies and control programmes will be undertaken after the end of the project). If awarded the project will establish clear methodologies and priorities for IAS surveillance and monitoring, as well as related biosecurity measures at Akrotiri. These approaches will be documented in a format that ensures ongoing evaluation of project priorities, reflecting any changing situation with IAS (*i.e.* flowchart for future resource-related decision making). Relevant Akrotiri personnel will be trained in priority biosecurity measures identified in the earlier stages of the project. Online support and engagement will widen the communication and support network on IAS and contribute to the sustainability of the project.

28. Open access: All outputs from Darwin Plus projects should be made available on-line and free to users whenever possible. Please outline how you will achieve this. (200 words max)

As part of NERC, CEH adheres the RCUK policy on OA and aims to make all its publications available via the NERC Open Research Archive, and data available through the Environmental Information Data Centre (EIDC). All useful outputs (*e.g.* photographic material, videos, simple clear descriptions of methods) resulting from the project will be uploaded to at least one major open scientific network (*e.g.* Research Gate) and the CEH website. Among the outputs and resources that will be available through OA are:

- OA online recording system (supported though CEH) for IAS with 'real time' integrated maps plotting distributions (see www.brc.ac.uk/irecord). (Output 3)
- An educational programme for military and civilian personnel dealing with IAS and biosecurity in Cyprus (Output 4)
- A short video on the IAS of the Akrotiri peninsula for British Forces TV (Output 4)
- A second fuller video on IAS of the Akrotiri Peninsula will be produced and will be available freely upon request (Output 4)
- Updates and results of the project will be communicated to the Media-Operations of British Forces Cyprus and Cyprus press (via newspapers and online press) (cross-Output)
- The results of the horizon scanning exercise will be published in a peer-reviewed open access journal (Output 1)

29. Monitoring & Evaluation:
Describe, referring to the Indicators above, how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E. Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

(Max 500 words)

A detailed M&E plan will be agreed between the project partners and confirmed by a project steering group comprising senior CEH staff and representatives of the partners at the outset of the project. The plan will include the collection of baseline data on, for example, current lists and maps of IAS and their occurrence, current knowledge of IAS amongst the target audience, current surveillance work undertaken and any IAS management activities. Monitoring will take place throughout the project using the log frame as a live tool to:

a) monitor and control all operational aspects of the work;

b) maintain an audit trail detailing all actions taken and the process of internal review of protocols, analytical procedures, data analyses and reports;

c) maintain a risk register where potential issues and contingency planning can be addressed and monitored; and

d) organise regular meetings of the steering group and of the project team to ensure effective progress and management (conducted via video-link where necessary).

At the end of the project an evaluation will take place to assess the impact of the project. Activities will include but not be limited to: Use of data collected throughout the project, especially that resulting from the stakeholder workshops and use statistics of the on-line recording system; Surveys with trained staff to determine to what extent their knowledge has improved and what difference it has made to their work; Assessment of the level of surveillance for IAS along with plans for strategy implementation; and Documentation of any differences to IAS management regimes that have resulted. The results of the evaluation will be compared to the baseline data collected at the start of the project to determine the immediate and potential longer-term impact of the project.

From an organisational perspective, Quality Assurance (QA) will be delivered across the project by following the procedures outlined in the CEH QA policy (ISO9001 accredited) and according to the CEH Project Management Framework. The CEH Business Development and Engagement team, routinely review project impacts and develop impact case studies for publication on the CEH website and for other reporting purposes. This project will contribute to a planned case study on 'Surveillance and evidence-base for the control of invasive non-native species'.

Number of days planned for M&E	10 days
Total project budget for M&E	£3,500
Percentage of total project budget set aside for M&E	2%

30. Financial controls: Please demonstrate your capacity to manage the level of funds you are requesting. (Who is responsible for managing the funds? What experience do they have? What arrangements are in place for auditing expenditure?)

CEH is part of the NERC (a non-departmental body of the Department of Business, Energy and Industrial Strategy), whose annual turnover is in the region of £400m. CEH's turnover is the order of

£32m. Each project has an appointed Project Manager who is responsible for the running of the project ensuring that it is delivered on time, to budget and to the satisfaction of the customer. For financial controls, the project manager is supported by a 'Decision Support Accountant'. These are qualified accountants whose role is to support the project manager and provide financial guidance and oversight of all CEH projects. CEH projects range from thousand to multi-million pound projects with international and interdisciplinary partners. CEH, through NERC, has an external audit function that reviews the financial management of projects on a regular basis. These findings are reported back to the Audit, Risk and Assurance Committee at NERC which in turn is audited by the National Audit Office. For this particular project, the project manager will be Jodey Peyton. Ms Peyton has previous experience working as a work package leader for CEH and as a project manager for a contract with an international environmental consultancy company. She will be mentored and overseen by Helen Roy as the Project Leader. Professor Roy has considerable experience in project management including COST Action (over 50 active participants across Europe, value £490k), and DEFRA GB Non-native Species Information Portal value (£500k). They will be supported by Mr R. Butcher and Mr G. Whittaker, both qualified accountants. Mr Butcher is the Decision Support Accountant for this project. He has experience of financial management of many projects including a LIFE+ project OpenMI (£3.5m), Natural England Higher Level Re-surveying project (£500k), and Nanofase (FP7 project, £2.5m). Mr Whittaker is the Head of Finance at CEH who has overall financial management responsibility for CEH.

Please complete the separate Excel spreadsheet which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. If you are requesting over £100,000 from Darwin Plus, you must complete the full spreadsheet.

31. Value for Money

Please explain how you worked out your budget and how you will provide value for money through managing a cost effective and efficient project. You should also discuss any significant assumptions you have made when working out your budget. (200 words max)

The project will use CEH staff to develop and test approaches that can be applied by personnel from the OTs. The significant input from JSHU and Cyprus Oceanography Centre combines vital relevant expertise with economies that arise from local involvement in project implementation. The project budget is based partly on the need for consistency and comprehensiveness in the initial stages of the programme, complemented by matched funding from relevant experts drawn from Cyprus and other countries. This rigorous early effort (within the Darwin funding period), coupled with stakeholder involvement, and with collaboration between CEH and JSHU, will ensure delivery of realistic, robust and sustainable methods. The project will gain from ongoing JSHU work as well as CEH projects (COST Action, Defra funded GB Non-Native Species Information Portal) where some of the required data-collection and preliminary horizon-scanning methods testing is underway. The project approach has been designed to minimise the requirement to purchase expensive equipment while focussing on capacity building. JSHU staff are offering time in-kind, with field assistants from the local community, and as such the project feeds directly back into the local OTs economy. In this regard and with other local involvement (catering and accommodation), the proposal represents excellent value for money.

References

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Martinou AF (2014). Creating CYIAS - The Cyprus Invasive Alien Species Inventory TD 1209 STSM report. For a summary of the STSM http://www.brc.ac.uk/alien-challenge/stsm-dr-angeliki-martinou

Peyton J. and Mountford, J.O. Mapping the extent of the spread and assessing the impact of non- native plants in an important wetland ecosystem in Cyprus. Successful bid application for completion October 2015.

Roy, H.E., Adriaens, T., Aldridge, D.C., Bacher, S., Bishop, J.D.D., Blackburn, T.M., Branquart, E., Brodie, J., Carboneras, C., Cook, E.J., Copp, G.H., Dean, H.J., Eilenberg, J., Essl, F., Gallardo, B., Garcia, M., García-Berthou, E., Genovesi, P., Hulme, P.E., Kenis, M., Kerckhof, F., Kettunen, M., Minchin, D., Nentwig, W., Nieto, A., Pergl, J., Pescott, O., Peyton, J., Preda, C., Rabitsch, W., Roques, A., Rorke, S., Scalera, R., Schindler, S., Schönrogge, K., Sewell, J., Solarz, W., Stewart, A., Tricarico, E., Vanderhoeven, S., van der Velde, G., Vilà, M., Wood, C.A., Zenetos, A. (2015) Invasive Alien Species - Prioritising prevention efforts through horizon scanning ENV.B.2/ETU/2014/0016. European Commission. http://ec.europa.eu/environment/nature/invasivealien/docs/Prioritising%20prevention%20efforts%20through%20horizon%20scanning.pdf

Roy, Helen E.; Peyton, Jodey; Aldridge, David C.; Bantock, Tristan; Blackburn, Tim M.; Britton, Robert; Clark, Paul; Cook, Elizabeth; Dehnen-Schmutz, Katharina; Dines, Trevor; Dobson, Michael; Edwards, Francois; Harrower, Colin; Harvey, Martin C.; Minchin, Dan; Noble, David G.; Parrott, Dave; Pocock, Michael J.O.; Preston, Chris D.; Roy, Sugoto; Salisbury, Andrew; Schonrogge, Karsten; Sewell, Jack ; Shaw, Richard H.; Stebbing, Paul; Stewart, Alan J.A.; Walker, Kevin J.. 2014Horizon scanning for invasive alien species with the potential to threaten biodiversity in Great Britain. *Global Change Biology*.10.1111/gcb.12603

32. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of quarters it will last, and shade only the quarters in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity	No. of months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1 Horizon-scanning and listed IAS of concern for Akrotiri OT and other OTs in Cyprus	3	x											
1.1 Horizon scanning workshop, including identification of local and regional experts to invite	2	x	x										
1.2 IAS list prioritised for monitoring and remedial action – combined result of workshop and field survey evidence	2	x	x										
Output 2 Targeted mapping of IAS for Akrotiri and other OTs in Cyprus, where resources allow	21		x	x	x	x	x	x					
2.1 Comprehensive mapping of at least 10 IAS	16			x	x	x	x	x					
2.2 Completed vegetation and habitat mapping of Akrotiri and other OTs in Cyprus, where resources allow, with overlay of IAS occurrence	8	x	x			x							
Output 3 IAS surveillance strategy	13	x	x	x	x	x							
3.1 On-line recording website established as part of project website (focussed on at least 10 priority IAS)	23	x	x	x	x	x	x	x	X				
3.2 Design of locally implementable field-based monitoring strategy for Akrotiri and other OTs, based on lists and evidence from 1.1, 1.2, 2.1, 2.2 and 2.3	2	x											
Output 4 Training and capacity building workshops	24	x	x	x	x	x	x	x	X				
4.1 Project start-up meeting and scoping survey	1	x											
4.2 Pre-survey workshop and training event occurs	4	x				x							
4.3 Capacity building	24	x	x	x	x	x	x	x	x				
4.4 Year 2 training	1					x							
Output 5 Project management and reporting	24	x	x	x	x	x	x	x	x				
5.1Teleconference to assess year 1 and set up for year 2	1			x									
5.2 Progress teleconference meetings	7	x	x	x	x	x	x	x	x				

Activity	No. of months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5.3 Annual Report	1				x								
5.4 Half year report	2							x					
5.5 Project closure meeting	1								x				
5.6 Final report	7			x				x	x	x			
5.7 Publications produced	1									x			

CERTIFICATION

On behalf of the company* of NERC Centre for Ecology & Hydrology

(*delete as appropriate)

I apply for a grant of £217,405 in respect of **all expenditure** to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (*This form should be signed by an individual authorised by the lead institution to submit applications and sign contracts on their behalf.)*

- I enclose CVs for key project personnel and letters of support.
- I enclose the most recent 2 years of signed and audited/independently verified accounts.

Name (block capitals)	Helen Roy
Position in the organisation	Group Head and Principal Scientist

Signed  **Date:** 23 August 2016

If this section is incomplete the entire application will be rejected. You must provide a real (not typed) signature. You may include a pdf of the signature page for security reasons if you wish. Please write PDF in the signature section above if you do so.

Application Checklist for submission

	Check
Have you **read the Guidance?**	✓
Have you read the current **Terms and Conditions** for this fund?	✓
Have you **checked the Darwin Plus website** immediately prior to submission to ensure there are no late updates?	✓
Have you provided **actual start and end dates** for your project?	✓
Have you provided your **budget based on UK government financial years** i.e. 1 April – 31 March and in GBP?	✓
Have you checked that your **budget is complete**, correctly adds up and that you have included the correct final total on the top page of the application?	✓
Has your application been **signed by a suitably authorised individual**? (clear electronic or scanned signatures are acceptable in the email)	✓
Have you included a **1 page CV for all the key project personnel**?	✓
Have you included a **letter of support from the applicant organisation, main partner(s) organisations and the relevant OT Government**?	✓
Have you included a **copy of the last 2 years' annual report and accounts** for the lead organisation?	✓

Once you have answered the questions above, please submit the application, not later than midnight **2359 GMT Monday 29 August 2016** to Darwin-Applications@ltsi.co.uk using the first few words of the project title **as the subject of your email**. If you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (e.g. whether the e-mail is 1 of 2, 2 of 3 etc). You are not required to send a hard copy.

DATA PROTECTION ACT 1998: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of Darwin Plus. Application form data will also be held by contractors dealing with Darwin Plus monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (i.e. name, contact details and location of project work) on the Darwin Initiative and Defra/FCO/DFID websites (details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Governor's Offices outside the UK, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.