

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance:
(<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report
will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2020

Darwin Plus Project Information

Project reference	DPLUS088
Project title	Addressing drivers of ecological change in Lake Akrotiri SBA, Cyprus
Territory(ies)	Akrotiri SBA, Cyprus
Lead organisation	Centre for Ecology and Hydrology
Partner institutions	Joint Services Health Unit Akrotiri Environmental Education Centre
Grant value	£238,838
Start/end dates of project	1 st April 2019 – 31 st March 2021
Reporting period (e.g. Apr 2019-Mar 2020) and number (e.g. Annual Report 1, 2)	Apr 2019-Mar 2020 - Annual Report 1
Project Leader name	Helen Roy and Jodey Peyton
Project website/blog/social media	www.ris-ky.info Researching Invasive Species of Kýpros @RiskAliens
Report author(s) and date	Jodey Peyton, Oli Pescott, Kelly Martinou, Chris Taylor, Graham Johnstone, Mike Bowes, Charles George, France Gerard, Pete Scarlett, Emily Trill and Helen Roy 30 th April 2020

1. Project summary

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);* addressed through work package 1, 2 and 3 *(ii) preventing the establishment of IAS, and eradicating or controlling species ... already ... established* addressed through work packages 1, 2, 3 and through surveillance and improved biosecurity training, work package 4) and *iv) developing tools to value ecosystem services to inform sustainable development policies and practices* addressed across all work packages. These are also priorities for the SBA Administration (SBAA) in Cyprus.

The project focuses on monitoring and understanding drivers of change in the Akrotiri wetlands, Cyprus (Figure 1).

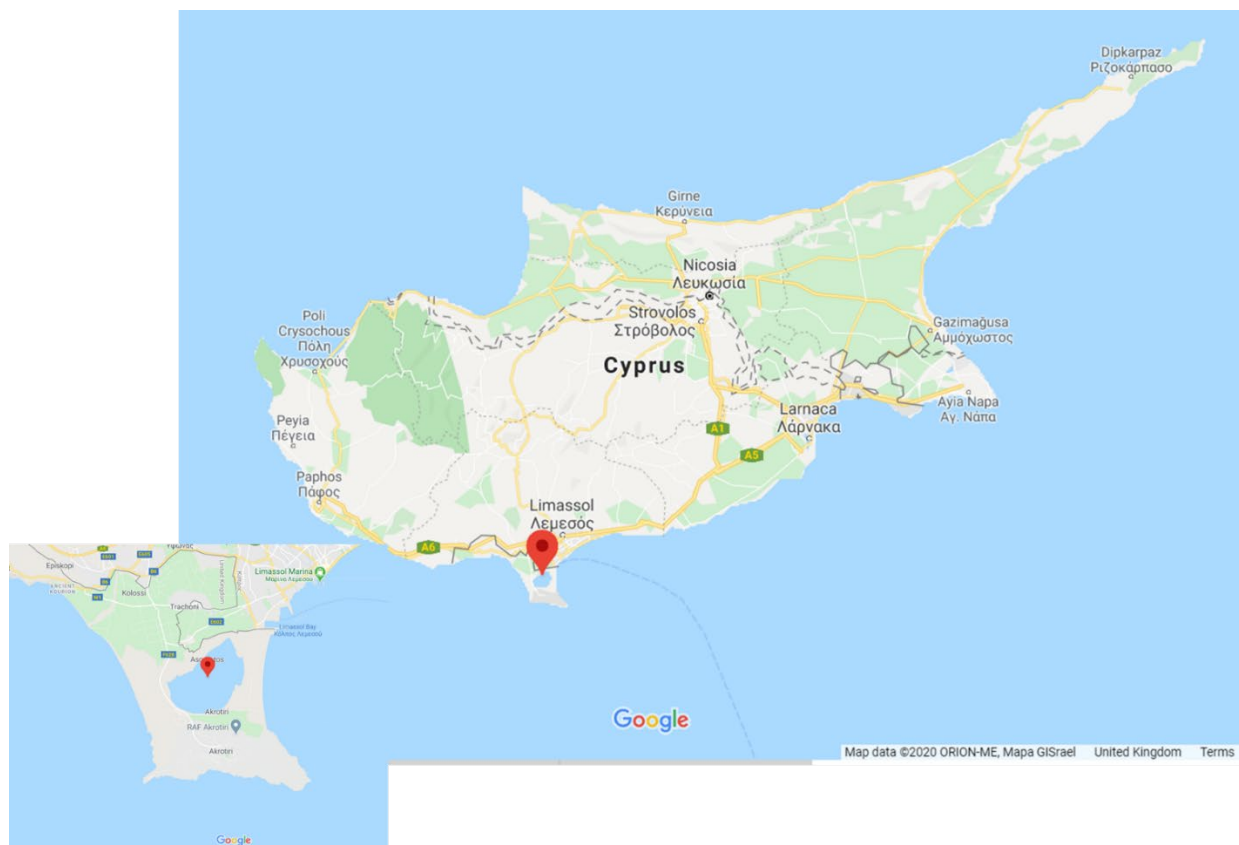


Figure 1. Location of wetlands (study site) within the Akrotiri Sovereign Base Area of Cyprus. Copyright Google, accessed 14/4/2020.

Within this project, we are using remote sensing, on-the-ground measurements of water quality and vegetation and assessing community interactions between native and non-native species, including mosquitoes. We will establish baselines and procedures for evaluating the health of this highly-valued wetland with all tasks being underpinned by capacity-building and public engagement, ultimately providing long-term species and environmental data as an evidence-base for the SBAs and wider Cyprus. The project comprises the following four work packages:

WP1: Developing online wildlife recording

An online database of INNS (CyDAS) was created through DPLUS056. WP1 will build on this to enable citizen scientists and professionals to submit records. We will contract the University of Cyprus to manage marine INNS information, whilst CEH will oversee terrestrial/ freshwater INNS. Capacity-building (WP4) will ensure that SBA/Cypriot staff will continue to manage CyDAS, alongside volunteers, after project completion.

WP2: Hydrological and vegetation sampling

We will collect baseline data for water quality, soil moisture and vegetation in the summer of the first year (dry season) and the spring of the second year (wet season) to develop indicators for saline Mediterranean wetlands. Vegetation data will be linked to remote sensing WP3 through ground-truthing. We will carry out sampling along hydrological and land-use gradients, and share methods with local staff to ensure monitoring continues post-project.

WP3: Remote sensing of vegetation. We will use high resolution (50cm-4m) multi-spectral (8 bands in the 400nm-1040nm range) WorldView imagery to establish a baseline vegetation map, suitable for future monitoring of hydro-ecological change. We will aim to separate the main distinct vegetation types for the Akrotiri peninsula (open salt pan, salt marsh, dunes, rush salt meadow, phrygana, maquis) and identify invasive tree species (acacia and casuarina), aided by a 3D surface model. Seasonal behaviour between vegetation types will be investigated.

WP4: Capacity-building, biosecurity and engagement

Capacity-building through workshops, field training and guides will underpin the delivery of WPs1-3. The three strands are:

1. Monitoring priority INNS and their interactions to inform understanding of ecosystem functioning.

We will develop technical training (building on DPLUS056) and resources to support online recording of wildlife in Cyprus, including interactions between INNS (WP1) and native species e.g. pollinators. We will produce a conceptual diagram demonstrating interlinkage between the wetland, surrounding habitats and wildlife (using field survey data from WP2 and WP3), highlighting the values of ecosystem functions for engaging people.

2. Development of methods for participatory engagement

The project will develop education packs for the AEEC to engage people in species recording, including introduction to an app, and highlighting the importance of wetland conservation and management e.g. sustainable water use and interactions of ecological communities within wetlands. We removed development of mobile recording app from the title of this work package as there are already strong links in Cyprus for iNaturalist and as such, we did not want to replicate work already undertaken.

3. Biosecurity guidance and pathway action plans for species identified from DPLUS056 Horizon Scanning exercise

We will work with civilian and military personnel to develop an accessible document advising on pathway action plans and biosecurity for SBAs in Cyprus. The document will be relevant for other UKOTs and will include a Code of Practice for Managing Mosquitoes in Wetlands. Local communities, schools, civilian and military personnel will be given training in INNS identification and biosecurity to minimise risk of establishment.

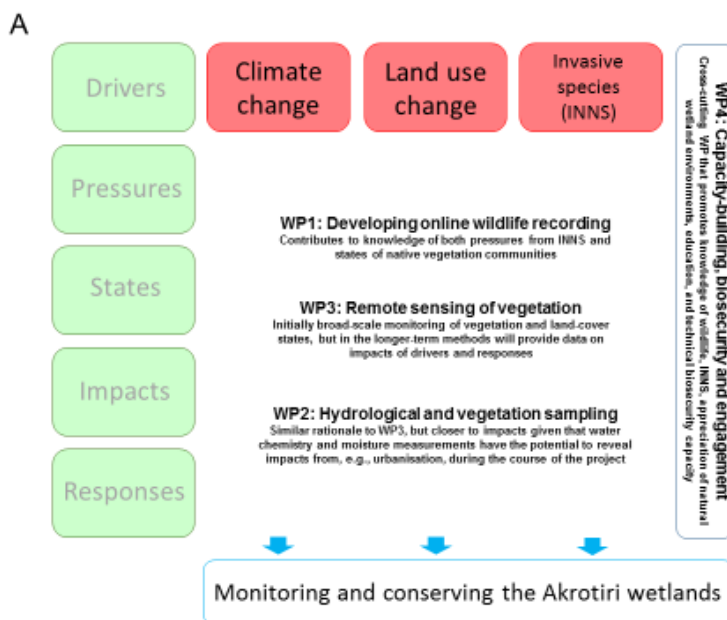


Figure 2 shows the relationships between WPs, in the DPSIR Framework (A) and Conceptually (B).

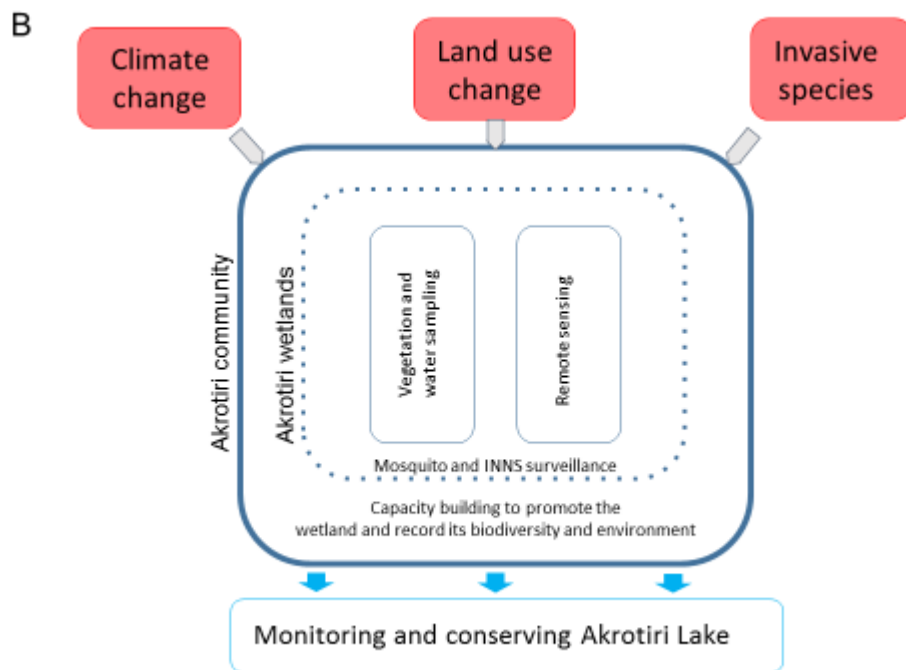


Figure 2. Infographics depicting the structure of the project. 1A depicts how the project addresses key drivers of change through the four workpackages. 1B demonstrates the activities and engagement carried out to fulfil this monitoring.

2. Project stakeholders/partners

From the outset the UKCEH project team has worked closely with the project partners from the Joint Services Health Unit (JSHU), Sovereign Base Area Administration (SBAA) and the managers and education staff at the Akrotiri Environmental Education Centre (AEEC), to develop the proposal and work towards completing the project activities. Annex 3.2 gives a summary of the stakeholders within the project. This is an active document and will be updated throughout the project duration.

In November 2019, the project team hosted a workshop at the AEEC to predict and prioritise Invasive Non-Native Species (INNS) which could arrive on the island of Cyprus within the next ten years and negatively impact either human health or the economy. An additional session was included within the workshop to outline various approaches to assessing socio-economic impacts of INNS. Forty-two experts, from twelve countries and from another UKOT (Gibraltar), in the fields of ecology and human, animal and plant health attended or fed into the process remotely. Delegates and participants included the following Republic of Cyprus (RoC) Government Departments: Department of Environment, Marine and Fisheries Department, Water Development Department and the Department of Agriculture. The workshop report (submitted in conjunction with the annual report) includes a list of attendees and their affiliations and demonstrates the wider stakeholder network with which we are working within. This workshop report will be added to the website once the paper is published in a *Frontiers in Ecology and Evolution* special issue on horizon scanning, which is expected to be end of 2020.

The project team has collaboratively developed communication and training materials (annex 3.1 and the [“outreach materials”](#) section of the website). The education staff at the AEEC have been critical to refining educational materials for lessons on the importance of pollinators.

UKCEH have been liaising with [MedWet](#) about the project outputs and will invite representatives to join the proposed project wetland monitoring workshop due to be hosted later in 2020. Medwet was established in 1991. The Mediterranean Wetlands Initiative brings together 27 Mediterranean and peri-Mediterranean countries that are Parties to the Convention on Wetlands (Ramsar, Iran, 1971). The MedWet mission is to ensure and support the effective conservation of the functions and values of Mediterranean wetlands and the sustainable use of their resources and services and so engaging with them for our project is highly relevant.

3. Project progress

3.1 Progress in carrying out project Activities

<p>Output 1: Development and maintenance of up-to-date database of INNS in Cyprus (CyDAS) across taxa and environments, with innovative tools, potentially including mobile applications, for recording native and non-native species.</p>	
<p>Activity 1.1 CyDAS continues to be updated (with information such as habitat information, date of introduction, impacts etc.) on INNS in Cyprus (e.g. taxonomy, pathways etc.) (www.ris-ky.info/cydas)</p>	<p>Marine records updated through small project with the University of Cyprus. Additional plant data will be added in FY20/21.</p> <p>The GBNNSS have shared the innovations and structure of CyDAS with other UKOTs through their mailing biosecurity mailing list, CyDAS is an online database of INNS that links to existing platforms such as GBIF and the Catalogue of Life taxon list.</p> <p>UKCEH and the developers of the Global Register of Introduced and Invasive Species are in frequent contact and we are currently supporting GRIIS in their request for compiling data for the UKOTs.</p>
<p>Activity 1.2, New and updated checklists of INNS maintained and published through RIS-Ký and GRIIS websites</p>	<p>Updated list published through GRIIS (Martinou et al. 2020a).</p>
<p>Activity 1.3. INNS distributions are well-characterised at a fine scale (at least 1 x 1 km) over the two year duration of project. At least 500 new record of INNS added over the two year duration of project</p>	<p>Vegetation surveys were due to be carried out in February 2020 and new INNS occurrence records would have contributed to the project outputs. These surveys have been postponed due to COVID-19 restrictions to later in 2020. Existing plant data from earlier surveys are currently being prepared for publishing to GBIF; these should be available by July 2020.</p>
<p>Activity 1.4. Engagement of at least 5 local stakeholders in curation of records and records curated by local or regional experts</p>	<p>Informal meetings and talks (e.g. moth event held at AEEC in July 2019) on biological recording with five JSHU and AEEC staff throughout the year and development of platform for online recording and capacity building through provision of tablets and laptops for further recording on SBAs. These tablets will have iNaturalist added to enable recording by AEEC students in the field. Local SBAA and JSHU staff are contributing species observations using iNaturalist, which pending review by the iNaturalist community, will become available on GBIF. AEEC staff have incorporated PoMS-Ký surveys into the 2019/20 lesson plan and reported very productive lessons. Records of pollinators made through PoMS-Ký development surveys over summer 2019 as part of an MSc Thesis studying interactions. The abstract of this thesis can be found in annex 3.1.6. The results are being written up for publication.</p>
<p>1.5 Development of RIS-Ký project website with inclusion of additional online recording pages for other relevant initiatives such as monitoring mosquitoes and pollinating insects</p>	<p>Website now able to facilitate online recording and hosts a page informing website visitors how to get involved in biological recording in Cyprus (https://www.ris-ky.info/biodiversity-recording-cyprus); this points potential recorders to a new iNaturalist “umbrella” project bringing together all existing data for the whole island of Cyprus on that platform. UKCEH will be uploading moth records in 2020/21 from surveys undertaken in addition to PoMS-Ký</p>

	<p>surveys in 2019. These records undertaken as part of the project, will be published directly on GBIF. This direct import will be enabled by development work for bulk data uploads through the project. These records will be openly available to download from GBIF.</p>
<p>Output 2: Hydrological and vegetation sampling to generate baseline measures of Lake Akrotiri for water quality, and vegetation data for two seasons and work with local key stakeholders to understand and discuss results</p>	
<p>Activity 2.1. Wetland quality characterised by newly available water chemistry data</p>	<p>Three water quality surveys have been completed across Lake Akrotiri wetland system (in July, September and November 2019) and all samples fully analysed. Water chemistry data from year 1 sampling from fixed sampling locations shared with RoC, JSHU and SBAA. Analytical methods found in annex 3.4.</p>
<p>Activity 2.2. Key stakeholders at stakeholder meet with SBA, local Government, NGO etc. Demonstration of increased appreciation and understanding of the status, and key threats to, the Akrotiri wetlands</p>	<p>SBAA, AEEC, JSHU and RoC Water Development Department staff met in July 2019 for project kick off meeting to discuss project and feed into developing methods of delivery</p>
<p>Activity 2.3. Detailed assessment of native and non-native wetland plant communities around lake, with links to hydrology, characterised</p>	<p>Plant community assessments resulting from Output 3 (remote sensing) will ultimately be linked to hydrological data and other plant surveys undertaken in the final report and in academic papers.</p>
<p>Activity 2.4. Standardised wetland monitoring methods suitable for the Akrotiri environment available and shared with key stakeholder groups and other UKOTs to facilitate replication of methods elsewhere</p>	<p>Samples taken from eight fixed locations around the lake, chosen to capture inputs from surrounding land features. There is ongoing work to modify the locations to ensure sites are suitable for locating throughout the year, and therefore more likely to be taken up. Project team are also considering inclusion of macroinvertebrate sampling to help understand baseline water conditions. Annex 3.4 gives water chemistry sampling methods and all water and habitat monitoring using drones methods are already or will be shortly, available through project website. In addition a review of Good Ecological Status of wetlands is now published on the project website under the “Reports” section.</p>
<p>Output 3: Employ remote sensing of Lake Akrotiri Lake and environs to give baseline assessment of plant communities and land cover, linking to ground-truthing data collected in DPLUS056 and Output 2. This work will also generate methods for others to interpret satellite data for ongoing analysis of saline Mediterranean wetland site quality</p>	
<p>Activity 3.1. Digital plant community and land cover map of Lake Akrotiri, underpinned by baseline vegetation monitoring data, available on website</p>	<p>Satellite imagery was purchased and pre-processed, ready for classification. A reconnaissance of the Lake Akrotiri landscape and habitats was carried out by the Remote Sensing team and a first set of vegetation reference polygons gathered during a field trip in 2019/20. The imagery is currently undergoing processing for a preliminary vegetation / land cover classification. A second field trip to increase the vegetation reference polygons was planned in March 2020, but was cancelled due to COVID-19.</p>

Activity 3.2. Production of published open access dataset on extent (current and future) of Lake Akrotiri water levels	Will be undertaken and published online in the 2020/21 reporting year
Activity 3.3. Production of published open access dataset on current and future vegetation changes around Lake Akrotiri. Datasets on Lake Akrotiri vegetation available and used by local stakeholders	Will be published online and shared with SBAA and other stakeholders for reporting in 2020/21
3.4 Generation of standardised methods of analysing remote sensing data that can be used on other UKOTs, such as British Indian Ocean Territory, where changing water levels will be a critical aspect to the ongoing activities on island Methods of analysing remotely sensed data shared with at least one other UKOT	Project team will share methods, through the UKOTs Conservation Forum (UKOTSCF), through either the quarterly meetings and / or an article for the UKOTSCF Newsletter
Output 4: Generation of outreach and engagement material around species network interactions and further recording of species network data	
Activity 4.1. New teaching and education teaching packs available to, and incorporated into, AEEC education programme, including activities relevant to monitoring biodiversity (including INNS), water quality and hydrology	<p>The AEEC staff education staff are creating a wetland guide (annex 3.1.1 gives a draft of the guide which we hope to publish for when the schools can return following COVID-19 closures in Cyprus). This task supports delivery of Output 4 and will be published through the Field Studies Council (FSC).</p> <p>AEEC and UKCEH developed educational materials including lesson plans for understanding pollinators. UKCEH and JSHU designed a mini-guide to Cyprus pollinators (Annex 3.1.2) which are available in the AEEC. The AEEC education staff were due to host a public PoMS-Ký day in spring 2020, but due to COVID-19 restrictions, this has been postponed.</p> <p>UKCEH developed an educational tool for students to learn about invertebrates. Specimens of invertebrates found in Cyprus, from a number of different orders were set in resin (annex 3.1.3), as a way of allowing children to see the invertebrates up close and specifically focus on identification characteristics.</p> <p>The AEEC team have also brought field kit (eg wellingtons) and lab equipment (eg microscopes) to enable the students. This kit will enable the students to undertake field sampling and to be able to examine the samples when they return to the centre. It will help them develop a broader understanding of the biodiversity in the local environment.</p> <p>The project has also developed an infographic that will be available early May 2020 (annex 3.1.4), to help visitors in understanding drivers of change in wetlands for use in educational material and for visitors to the website. This has been shared through the project Facebook site.</p>

	<p>The AEEC educational staff have developed a QR code game with educational material on the wetland at the centre for students and visitors. This was due to be completed and used in March 2020 but due to COVID-19 restrictions, has been delayed into June.</p> <p>The PoMS FIT Counts, with PoMS-Ký adaptations, has been adopted for trial by a research team in Chile working on Pollinators and engagement through a UKRI funded grant, SURPASS2.</p>
Activity 4.2. Creation of interactive web-based tool for use in engagement material showing complexities of wetland habitat and interlinkages between hydrology, ecology and society utilised by AEEC in teaching and outreach	See development of infographic in activity 4.1
Activity 4.3. Structured Citizen Science (and associated QA) surveys looking at interactions between native pollinators and plant INNS become available [by Mar 2021]	<p>The PoMS-Ký and Mini-PoMS-Ký pages are now up and running with survey forms and both video and written guidance available. Additional links to other biodiversity recording methods eg iNaturalist promoted through website and social media (activity 1.5). PoMS-Ký and Mini- PoMS-Ký written (English) and video guidance (English and Greek) completed and available through project website. Written guidance to be translated into Greek by the end of the project. Meeting took place with Head of Pedagogical Institute in Cyprus 9th September 2019 where it was agreed that three of the seven Environmental Education Centres in Cyprus would adopt Mini- PoMS-Ký, to inclusion in their Pollinator Education Plan. Additionally we have created mini-Pollinator guides in English and Greek for increasing engagement around pollinators (annex 3.1.2). All information on webpages (e.g. annex 3.1.5) and resources created through the project can be found here under “outreach material”. https://www.ris-ky.info/resources</p>
Activity 4.4. Publication of Code of Practice for Mosquito Management including rapid response for INNS available and used by site managers and policy makers at Akrotiri	<p>Peer-review open access publication available through the Journal of Applied Ecology (Martinou et al. 2020b)</p> <p>This publication concerns a Code of Practice for mosquito management in wetlands. It is looking at the drivers of change that can influence mosquito populations and decision makers and highlights how the Code of Practice should be applicable and relevant under any environmental change scenario for driver of change (the drivers of change being climate change, invasive species, agricultural intensification and urbanisation that are all major drivers around the Akrotiri saltlake</p>
Output 5: Training and capacity building provided for OT government and military staff on biosecurity and continued biological recording of INNS	
Activity 5.1. Project start-up meeting and scoping survey and plan for subsequent workshops and surveys	Project start up meeting completed July 2019 (delay due to partner staff availability) with stakeholders from NGOs, SBAA, Cypriot Government, military and academia present. Plans

	<p>drafted for autumn horizon scanning and impacts of INNS workshop. Project plans are regularly addressed but were specifically re-visited in both September and November and progress agreed as per the revised log frame</p>
<p>Activity 5.2. Engagement workshop and training event occurs. Event leads to increased knowledge about Akrotiri, its biodiversity, and biological recording as a means of monitoring change</p>	<p>Horizon scanning and impacts of INNS workshop held in November 2019 which gave an overview of the project and the local area.</p> <p>Two aims:</p> <ol style="list-style-type: none"> 1) Horizon scan - This workshop builds on the work of DPLUS056 (Peyton et al. 2019a, Peyton et al. 2019b) in which the same horizon scanning approach was used to predict and prioritise INNS that could arrive and adversely impact biodiversity and ecosystems in Cyprus (also incorporating a preliminary human health assessment for INNS included within the priority list). Please see the project website here for a list of the talks, with PDFs, given during the three day workshop. 2) Approaches to assessing socio-economic impacts of INNS <p>The key theme of impacts of INNS which ran through the workshop, aligns with the overall project aim of addressing drivers of ecological change in Lake Akrotiri. INNS are listed as one of the top five threats to biodiversity globally (Díaz et al. 2019) and through this workshop and the outputs of DPLUS056, we have created a list of INNS which can be used for decision-making and specifically informing biosecurity.</p> <p>Throughout the year, field visits and meetings, events and workshops have promoted biological recording through AEEC school programme and partner working and social media (links to activity 1.5).</p>
<p>Activity 5.3. Capacity building, through Bioblitzes and volunteer engagement days at JSHU and the AEEC, webinars on INNS, information leaflets etc</p>	<p>In order to increase capacity building, in addition to activity 5.2 above the team have undertaken the following activities:</p> <ol style="list-style-type: none"> 1) Team members from JSHU were involved in hosting an EU COST Short Term Scientific Mission to raise awareness on the invasive crop pest, the brown marmorated stink bug – through “Bug Alert Cyprus” fliers. 2) AEEC education staff and an MSc student visited CEH in July 2019 as part of a COST STSM, with support from the Darwin Grant to undertake analysis on PoMS-Ký data and to build links with UK environmental education staff and CEH researchers as part of a Knowledge Exchange activity. 3) Moth night held at AEEC in July 2019 as part of National Moth week

	<p>4) PoMS-Ký surveys undertaken by project staff (activity 4.3) and educational resources created e.g. annex 3.1.2. PoMS-Ký surveys have been encouraged in gardens through Facebook posts, as part of COVID-19 lock down.</p>
<p>Activity 5.4. Year 2 training and engagement workshop hosted which builds on survey and biosecurity issues highlighted in Year 1. Workshop leads to increased knowledge and understanding of the themes by staff</p>	<p>The Horizon scanning and impacts of INNS workshop held in November 2019 addressed this activity in the following ways:</p> <ol style="list-style-type: none"> 1) Workshop brought together experts across Europe and held talks on INNS Risk assessments at European and national levels e.g. on the invasive Lionfish in Cyprus. In addition workshop participants attended a RELIONMED project event held during the workshop. 2) Workshop included a session on biosecurity with the GBNNSS expert providing a presentation and separate Q&A session. Dr Jill Key from the GB Non-Native Species Secretariat attended the workshop and gave a presentation on biosecurity and pathway action plans to the delegates. 3) The workshop, through bringing leading scientists from Cabi and European and Mediterranean Plant Protection Organization (EPPO), enabled discussions with the SBAA on management of the invasive shrub Port Jackson Wattle <i>Acacia saligna</i>. <p>Throughout the workshop there was opportunity for the expert team to discuss and share information around impacts and management of INNS.</p> <p>The workshop report will be submitted separately with the current report for the AR1. The list created through this workshop (annex 3.2) was shared with the RoC to help support their Risk Assessment processes. Feedback from the report is given in section 6.</p>
<p>Activity 5.5 Biosecurity guidance becomes available, linked to DPLUS056 and informed by priority species identified through UK OTs horizon scanning currently led by CEH. This guidance will be applicable for terrestrial habitats and will be applicable to all UKOTs</p>	<p>Within the workshop described in 5.4, GBNNSS expert providing a presentation and separate Q&A session. Dr Key from the GBNNSS has subsequently discussed biosecurity with the SBA Environment Policy Officer, Graham Johnstone. GBNNSS and SBAA have developed pathway actions plan for species from the horizon scanning lists of DPLU056 and the November 2019 workshop, for use by the SBAA.</p> <p>UKCEH and SBAA have had two follow on meetings and email on this topic with the aim of supporting communication within the SBAs on biosecurity.</p> <p>A biosecurity page has been set up on the project website, drawing on existing resources from the GBNNSS with their permission.</p>

UKCEH and AEEC education staff are discussing use of the educational resources being tailored to the SBAs for use in lessons.

3.2 Progress towards project Outputs

Output 1: *Development and maintenance of up-to-date database of INNS in Cyprus (CyDAS) across taxa and environments, with innovative tools, potentially including mobile applications, for recording native and non-native species.*

The project has made considerable progress towards achieving this this output (evidence provided in section 3.1). The CyDAS website has been updated by UKCEH and the University of Cyprus (**indicator 1.1**) and a revision uploaded by GRIIS (**indicator 1.2**) (Martinou et al. 2020a). UKCEH and the developers of GRIIS are in frequent contact and are currently supporting GRIIS in their request for compiling data for the UKOTs. The project team are promoting online recording (**indicator 1.4**) Online recording is available through the project website for taxon monitoring (**indicator 1.5**) ([PoMS-Ký](#) and [Mini-PoMS-Ký](#) and links provided to iNaturalist, an established online survey platform, through the biodiversity monitoring [page](#) of the project website. This page also gives information on the brief history of biodiversity monitoring and highlights activities undertaken in Cyprus (**indicator 1.5**). Existing plant records and new plant records will be added to GBIF in the current reporting year.

Output 2: *Hydrological and vegetation sampling to generate baseline measures of Lake Akrotiri for water quality, and vegetation data for two seasons and work with local key stakeholders to understand and discuss results*

Water samples were collected on visits to Cyprus in July and September 2019. Samples taken were analysed and data on water chemistry shared with project partners via email. Further sampling may be undertaken by JSHU staff as part of their mosquito monitoring work, but the COVID-19 and summarised in annex 3.4 (**indicator 2.1**). Face to face and virtual meetings and email exchanges between project staff with RoC, JSHU and AEEC staff led to the design and ongoing development of project methods (available on project [website](#)) and literature available for reporting purposes, annex 2.1 and 2.2 give further details (**indicators 2.2, 2.3 and 2.4**).

Output 3: *Employ remote sensing of Lake Akrotiri lake and environs to give baseline assessment of plant communities and land cover, linking to ground-truthing data collected in DPLUS056 and Output 2. This work will also generate methods for others to interpret satellite data for ongoing analysis of saline Mediterranean wetland site quality*

The project team visited Cyprus in July 2019 to gather an initial set of reference polygons (ground truthing) required for the satellite image classification. A further more extensive set of reference polygons still need to be collected and it is hoped that fieldwork will continue in late 2020. If fieldwork cannot be undertaken, the team plan to revert to using (desk based) visual image interpretation to identify the additional reference polygons. A document summarising methods for mapping using drone technology is being finalised and will be available [here](#).

Output 4: *Generation of outreach and engagement material around species network interactions and further recording of species network data*

The project team have developed several resources within the project (annex 3.1, **indicators 1.5, 4.1, 4.2. and 4.3**). The AEEC staff with a Cypriot web developer have created an interactive educational game for use in the AEEC with tablets, with the aim of teaching students about the wetlands. This was due to be launched March 2020 but has had to be delayed due to COVID-19 The project team have developed an [infographic](#) (annex 3.1.4), available early May, for use by the AEEC education staff and visitors on the importance of wetlands which will help with lessons and explaining the importance of wetlands to students (**indicator 4.2**).

Encouragement of submission of online recording of records from pollinators undertaken via several posts on Facebook to the wider stakeholder community. 194 surveys have been completed since the start of the project in April 2019 and will be added the datasets for the project outputs as a publication (**indicator 4.3**). AEEC education staff were, prior to the COVID-19, planning to host PoMS-Ký events but these plans have been postponed for the time being. It is hoped that once the AEEC is operational, this day can be held (**indicator 4.3**).

Indicator 4.4 is complete; the Code of Practice was accepted for publication in April 2020 and will be made open access through the project funding.

Output 5. Training and capacity building provided for OT government and military staff on biosecurity and continued biological recording of INNS

The initial project workshop brought stakeholders together to discuss the project and share ideas for input and monitoring strategies (**indicator 5.1**). The project undertook a workshop on approaches to assessing socio-economic impacts of INNS and an additional session on enhancing biosecurity in November 2019 (annex 3.3 and **indicators 5.2 and 5.4**). The project has developed a biodiversity recording [webpage](#) that highlights well established, existing online tools for biodiversity monitoring in Cyprus.

Various public engagement events and development of materials have occurred in the first year such (**indicators 4.3 and 5.3**)

The project has also developed a [webpage](#) on biosecurity that informs people about biosecurity on the SBA and who to contact if an INNS is found. In addition, UKCEH and the AEEC staff have shared information on the online educational [materials](#) developed by the GBNNSS and will work to tailor materials for use in the AEEC education programme (**indicator 5.5**)

3.3 Progress towards the project Outcome

Outcome: Sustainable surveillance of current and potential future threats to Lake Akrotiri, supported by local organisations and stakeholders, founded on a robust and open evidence base.

0.1 Government, NGO, tourist and other local stakeholders demonstrate and report greater engagement in the environmental surveillance of Lake Akrotiri [by Mar 2021]

A list of project stakeholders (annex 3.2) can be found on the project home page. AEEC education staff are running co-designed and tailored to a young audience [Mini-PoMS-Ký](#) surveys as part of their education programme, with data uploaded via the project [online](#) platform. JSHU are undertaking [PoMS-Ký](#) FIT count surveys, with results being uploaded via the project [online](#) platform. These surveys undertaken by AEEC and JSHU staff, along with schoolchildren are the three stakeholder groups outlined in the means of verification.

0.2 Previously unavailable parameters for baseline assessment of quality of the wetland of Akrotiri become available [by Mar 2021]

All water chemistry data to date has been shared with the SBAA, JSHU and the Water Development Department in Cyprus. UKCEH Chemists will interpret the data and assess how the nutrient concentrations may interact with lake / wetland ecology. When all the field samples have been collected, the results will be uploaded to the EIDC. The literature review on Good Ecological Status is available [here](#).

0.3 AEEC and JSHU staff, and additional local stakeholders attend current and future threats workshop, exchanging knowledge and learning from regional and global wetland experts, ensuring continued engagement and focus on wetland surveillance [by Mar 2021]

This workshop is due to be held in late 2020 either in person or remotely. We intend to have the following key themes that will address both current and future threats to wetlands:

- Methods for monitoring including technologies and citizen science, for instance we will present on the Bloomin Algae app developed by UKCEH to detect algal blooms through citizen science recording and remote sensing.
- Engagement – show case the Field Studies Centre freshwater identification guide, infographic and the AEEC developed QR code game
- Management of wetlands (inc INNS and mosquitoes)
- Biosecurity – highlight work of GBNNSS and within SBA
- Policy and legislation around Water Framework Directive
- Challenges in wetland monitoring, including work from Medwet
- Successes including restoration of severely fragmented habitats - creating a template for best practice to develop attainable restoration goals as an output.

0.4 The AEEC forms a pivotal location for meetings and workshops. The knowledge exchange and expertise of the staff is a constant benefit to the running of the project.

From the project start in April 2019 and at the project inception meeting in July 2019, we have been liaising with key stakeholders from the military, SBAA and RoC to develop the methods for monitoring (details of monitoring available through [website](#)). The project team have developed a wetlands [page](#) and an online [infographic](#) (ready early May) and are in the process of designing a wetland aquatic community indicator guide for the salt lake with support from the FSC (annex 3.1.1). In terms of pollinator monitoring, the education staff at the AEEC have co-designed the resources for the mini-PoMS-Ký survey with UKCEH. The project team have also developed a training video for the surveys in both English and Greek. These videos are designed for both the PoMS-Ký and Mini-PoMS-Ký surveys and are available, with the other project outputs through the “Resources” section of the project [website](#).

The website now has the facility to add PoMS-Ký records [online](#) and these records, blurred to a 1km resolution, will be available on the website [here](#).

Contribution towards Long-term strategic outcome(s)

The strategic priorities for the UK Government’s support in relation to biodiversity conservation in the UK Overseas Territories have been a focus through the design and implementation of the project. Specifically three of the five priorities outlined in the United Kingdom Overseas Territories Biodiversity Strategy (Defra 2009) are already being addressed following completion of the first year of the project:

- 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) (indicators **0.2, 1.1, 2.1, 2.2, 4.3, 4.4, 5.2, 5.3**)
- ii. preventing the establishment of invasive alien species, and eradicating or controlling species that have already become established (indicators **0.2, 1.1, 2.1, 2.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 5.5**)
- iv. developing tools to value ecosystem services to inform sustainable development policies and practices (indicators **0.1, 1.5, 2.4, 4.1 4.2, 4.3, 4.4**)

As evidenced in section 3.1, the project is well underway to delivering the activities and outputs to enable the outcome to be completed by the end of the project.

3.4 Monitoring of assumptions

- 0.1 *Interest from relevant stakeholders and time available to commit to surveillance:* Working with stakeholders is an essential and rewarding aspect of the project and ensuring time and commitment for ongoing surveys will continue to be an ongoing risk. The project team hold regular meetings in order to keep in contact and understand opportunities and mitigate any potential challenges. This assumption is still valid.
- 0.2 *Data are collected according to scientific standards, and are therefore worthy of publication and fit for purpose:* The project staff are well established researcher in their fields and the methods they are using pertinent to the collection of data for the outputs and outcome. The assumption is still valid.
- 0.3 *Interest from relevant stakeholders and time available to commit to workshops and produce verification outputs:* as with assumption 0.1, this aspect plays a key role in the delivery of the project and as such, regular meetings and communications across all stakeholder groups is undertaken as needed for the delivery of different outputs. The assumption is still valid.
- 0.4 *AEEC project team have capacity to expand their work in this area, particularly around the developing of new resources for schools and visitors. Also assumes that all stakeholders produce enough evidence and data of interest to engage and interest staff, public and other stakeholders alike:* the AEEC team are exceptionally dedicated and enthusiastic in increasing their portfolio of resources and education materials. The education staff have designed an educational game for the AEEC and are discussing ways to incorporate biosecurity into their lessons. The project start up meeting was well attended from across the stakeholder groups invited, as was the horizon scanning workshop which was held in November. Ongoing commitment and interest is essential and as such, the assumption is still valid.

- 1.1 *Sufficient new information available to update the inventory*: this assumption is valid as throughout the project, the addition of new material may not be able to be undertaken. To date, CyDAS has continued to be maintained through the project team and through a small project undertaken by the University of Cyprus
 - 1.2 *Our website manager is able to continue to interface with global datasets and standards (e.g. Catalogue of Life)*: Still true. No issues to date.
 - 1.3 *Predicted effort sufficient to complete survey. Survey strategy approved by stakeholders*: the first part of the assumption remains valid, the project team needs to be vigilant throughout the second year that data is still collected and or processed at the rate needed to deliver the outputs and outcome by 31st March 2021. The attendance of stakeholders at the kick off meeting and approval of methods means that this part of the assumption will not be relevant for the second year as it is already accepted.
 - 1.4 *Involvement of local experts sufficient to oversee curation and verification*: through the existing expertise of the project stakeholders, plus the training provided through the project, local expertise is sufficient to oversee the curation of iNaturalist and PoMS-Ký records. This assumption is however still valid given the huge diversity of taxa with the SBA.
 - 1.5 *Stakeholders view webpages and find them useful*: this is a very important assumption and still valid. UKCEH makes the wider stakeholder group aware of additions to the website through email and Facebook and seeks feedback throughout the project on items to be added or removed.
-
- 2.1 *All samples able to be collected within timeframe and resource limits*: this assumption, as with assumption 1.3 is still valid, as it underpins delivery of the fieldwork components of the project. The project team are regularly assessing the COVID-19 situation and reviewing data collected in year 1 of the project to ensure that project delivery is complete on 31st March 2021.
 - 2.2 *Key stakeholders are willing and able to attend the workshop and to contribute to outputs*: the attendance of the key stakeholders from the RoC and project team demonstrated interest in the project. This assumption is still valid as the project aims to hold a workshop later in the second year on wetland monitoring and seeks to request further attendance from these stakeholder groups.
 - 2.3 *Data are collected according to scientific standards and within resource limits, and are therefore useful and publishable*: this assumption, as with assumption 1.3 and 2.1 is still valid, as it underpins delivery of the fieldwork components of the project. The project team are regularly assessing the COVID-19 situation and reviewing data collected in year 1 of the project to ensure that project delivery is complete on 31st March 2021.
 - 2.4 *Methods are carefully documented throughout the project and can be clearly summarised and made available*: monitoring methods available through project website [here](#). As methods are developed, they will also be made available, as such, this assumption is still valid.
-
- 3.1 *Data collected allow useful separation of plant communities, meaning that outputs are meaningful and useful*: this assumption is still valid as this work is ongoing through the two year project. The botanist within the team is working closely with the remote sensing team to deliver this aspect of the work.
 - 3.2 *Data on EIDC is of interest to users*: changing patterns in the lake levels are interesting in terms of assessing changes in environmental conditions. This assumption is still valid as it is hoped that this data will be of interest to the wider stakeholder group, not just the project team in delivering this aspect of the output.
 - 3.3 *Data are collected according to scientific standards, and are therefore worthy of publication*: this assumption, as with assumption 1.3 and 2.1 and 2.3 around delivery of data is still valid, as it underpins delivery of the fieldwork components of the project. The project team are regularly assessing the COVID-19 situation and reviewing data collected in year 1 of the project to ensure that project delivery is complete on 31st March 2021.
 - 3.4 *Stakeholders from other UKOTs engage with the methods and find them useful*: The project team has shared the project scope within the UKOTsCF 2019 Autumn [newsletter](#) and will request to share the outputs of the project through a future newsletter. This assumption will continue to be valid throughout the project.

- 4.1 *Implementation of the teaching pack aligns with guidance and training*: this assumption will be valid throughout the project. The project team has worked closely to develop materials suitable for students at the AEEC. For legacy of the work undertaken, it is extremely important that any work undertaken is useful for the delivery of core AEEC and RoC Pedagogical Institute aims.
- 4.2 *Stakeholders view or download the material*: this is a very important assumption as with 1.5 and still valid. UKCEH makes the wider stakeholder group aware of additions to the website through email and Facebook and seeks feedback throughout the project on items to be added or removed.
- 4.3 *Predicted effort sufficient to complete survey. Survey strategy approved by stakeholder*: the survey methodology and associated guidance was co-designed within the project team and as such approved once created. This co-design will increase attractiveness of survey for uptake. This assumption is still valid.
- 4.4 *CoP will be acceptable for publication*: this assumption was valid and now, as the publication has been accepted and published Open Access through the project, will not be taken forward to the next reporting year.
- 5.1 *Stakeholders interested in attending. Scoping confirms access and practicality. Scoping inform the risk assessments*: as with assumption 1.3, this interest was important to ensure that the project established with strong links within the team and wider stakeholder group and success of the achievements generated through the project already. The assumption continues to be valid as all meetings for the project inform delivery of future outputs. This activity has been superseded as the RoC government are undertaking these. We will review this assumption later in 2020 as the project could develop a chapeau, highlighting the specific SBA relevance
- 5.2 *Stakeholders interested in attending. Trainers are adequately briefed. Relevant risk assessments conducted*: as with other assumptions outlined above, stakeholder interest is essential throughout the project. The assumption continues to be valid as we are due to host a workshop later in the year and the AEEC and JSHU continue to undertake activities towards output 5. See assumption 5.1 for update on the risk assessment element.
- 5.3 *Stakeholders interested in attending training sessions; relevant expertise available to provide Workshops*: as with other assumptions outlined above, stakeholder interest is essential throughout the project. The project team are working closely to ensure online materials are developed and that expertise is utilised despite being unable to host meetings in person. The assumption continues to be valid
- 5.4 *Stakeholders interested in attending. Stakeholders support prioritisation decisions. Year 1 surveys yield sufficient data to prioritise Year 2 efforts*: with the completion of the horizon scanning and impacts workshop, with a strong theme around biosecurity and risk assessments this assumption is now complete. The assumption does not need to be taken into year 2.
- 5.5 *Stakeholders engage with the biosecurity guidance and adequate resources are provided to ensure effective communication*: this assumption continues to be valid for the next year of the project as AEEC review their needs around this topic. The project team will develop this theme further in the next financial year through meetings and potentially a workshop.

Please see annex 3.5 for the risk register created for the project.

4. Project support to environmental and/or climate outcomes in the UKOTs

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)*; addressed through outputs 1, 2 and 3 (ii) *preventing the establishment of IAS, and eradicating or controlling species ... already ... established* addressed through work packages 1, 2, 3 and through surveillance and improved biosecurity training, outputs 4 and 5) and (iv) *developing tools to value ecosystem services to inform sustainable development policies and practices* addressed across all outputs.

The project has in the first year, collected baseline data on the condition on Lake Akrotiri and COVID-19 permitting will go on to collect further hydrological samples and assess vegetation communities present. All data collected through the project will be readily accessed openly through the Environmental Information Data Centre.

Through creating opportunities for the SBAA to talk with global leaders on *Acacia saligna* other INNS research, we have enabled the SBAA to further plan protection measures around INNS on the SBAs of Cyprus.

As evidenced in section 3, the project is supporting the SBAA and JSHU develop a picture of the lake and its environs quality that is openly accessible and by using methods that are readily repeatable.

5. OPTIONAL: Consideration of gender equality issues

Our project team is led by female staff from UKCEH, JSHU and the education staff at the AEEC. The team operates on an extremely inclusive basis and seeks to include stakeholders throughout the work.

6. Monitoring and evaluation

In order to monitor and evaluate our project progress, UKCEH work with JSHU and the SBAA including the AEEC managers and education staff to hold regular formal team meetings and stay in regular contact with our partners and wider team via email correspondence. Formal meeting actions are recorded through minutes. By keeping regular contact across the team we are able to ensure that any potential issues are picked up before they escalate into major problems. Achievements are measured against the measurable indicators in the Log Framework which we review regularly. There have been no changes to the M&E plan in this first year.

As part of the monitoring and evaluation for this project we gave participants of the horizon scanning and impacts of INNS [workshop](#) feedback forms, annex 3.3. The average score per day over the three days was 9/10. Over 85% of participants that gave feedback said they were very significantly or significantly more confident applying their knowledge and skills, that their skills had very significantly or significantly increased and that their confidence in applying skills following the workshop had increased very significantly or significantly.

Below is a quote from our SBAA partner on the workshop.

“The horizon scanning workshop has provided the Sovereign Base Area Authority with an important and significant basis for our work on alien invasive species and biosecurity. The workshop also provided an opportunity for staff to engage and network with academics, partners and colleagues from within the EU, but also within Cyprus.”

In addition to the feedback from workshops, the project undergoes internal M&E reviews every six months by the UKCEH Business Development Team.

7. Lessons learnt

In order to monitor and evaluate our project progress, UKCEH, with JSHU and the SBAA held regular formal team meetings (via Skype/phone) and recorded all the large amount of email correspondence across the team to ensure that any potential challenges are picked up before they escalate into major problems. Achievements throughout the project were assessed against stated measured indicators and associated means of verification in the logframe.

From DPLUS056, the team have developed an excellent network of stakeholders that has proved exceptionally effective in ensuring the relevance of project tasks as the project progresses. We are finding our successful collaborations extremely rewarding and insightful and will this year, continue to build on our existing networks.

We are keen to ensure that we maintain motivation and enthusiasm in all volunteer communities with which we work. We have maintained regular contact with those undertaking PoMS-Ký surveys.

During its first year, project progress and outputs have been as planned and desired excepting for the COVID-19 pandemic which has prevented the planned fieldwork for spring 2020. We are hopeful that we will be able to do this later in 2020. As such, we do not see a pressing need for major modifications to the project approach.

Our main recommendation to others working on similar projects is to stress communication within the project team and especially with stakeholders as we feel such information exchange is integral to the successful running of our project.

8. Actions taken in response to previous reviews (if applicable)

NA

9. Other comments on progress not covered elsewhere

COVID-19 has meant we had to postpone fieldwork from March 2020 and redirect some funding. A Change Request form was submitted and accepted to accommodate the change in activities and to divert a portion of funds to the 20/21 financial year. We will be undertaking a review of the project activities and outputs in May 2020 and addressing where we may need to make changes to the logframe.

10. Sustainability and legacy

The ongoing maintenance of CyDAS is an important legacy of the DPLUS056 project as it is openly available for use by multiple stakeholders and end-users and will be regularly updated and maintained by multiple partners. CyDAS draws on international standards, such as the Catalogue of Life (for its taxonomic treatment) and GBIF (for the distribution maps), which reduces the effort involved in keeping the site up-to-date; for example, species records added to GBIF through any mechanism will be shown on the maps displayed in CyDAS.

We have raised capacity within the AEEC, by the provision of educational materials such as a lesson plan guide for PoMS-Ký, a protocol, co-designed by the AEEC staff for use with school children, field and lab equipment for ecological field work. Within the broader context of the PoMS-Ký surveys, we met with the head of the Pedagogical Department for the RoC who agreed for PoMS-Ký being championed in 3/7 environment centres.

We have raised capacity with the SBAA contacts and sharing information around biosecurity and INNS management through workshops and continued meetings. UKCEH Joined UKOTs CF. The SBAA have re-joined the group which will enable sharing of resources and expertise

JSHU have increased capacity for field and lab monitoring and biological recording through co-designing protocols and purchase of equipment to help with monitoring.

11. Darwin identity

We make it clear in all our communications that Darwin Initiative funded this work. The Darwin Initiative logo is on our website www.ris-Ký.info and on all the promotional material including the project postcards, workshop programmes, leaflets and flyers. The Darwin Initiative logo is added on all the presentations we have given for the workshop and through talks given outside of the project. We regularly refer to our Darwin Initiative project when presenting other work. For example the JSHU and AEEC hosted an [event on moth recording and awareness raising](#) in summer 2019, with expertise and staff time and equipment from the DPLUS088 team. The Darwin logo featured on the presentations given.

JSHU and UKCEH staff attended an Assessing Butterflies in Europe ([ABLE](#)) workshop held in Nicosia in September 2019 where their expertise was shared with a wider range of ecologists across Cyprus. Tweets were sent from this workshop.

JSHU partners have presented all the work undertaken previously on citizen-science and invasive alien species during talks at COST Actions 17122 and 17108 annual conferences and meetings. The pollinator monitoring scheme was presented during a COST Actions 17122 Management Committee meeting where more than 100 scientists from 27 European countries were participating on the 24/10/2019 by MSc candidate Joanna Angelidou. Joanna Angelidou also presented the Darwin initiative and the Pollinator monitoring scheme of K ypros during her MSc thesis defence on the 14/11/2019.

UKCEH represented the project at a workshop on invasive species in North Macedonia in September 2019, hosted by the East and South European Network for Invasive Alien Species [ESENIAS](#) where a lot of interest was shown for the work being undertaken

The project has a designated Facebook page with 261 members. The project also has a Twitter account (@Risk Aliens). The [News](#) and [Blog](#) pages of the project website are updated as items are created and all new project related activity shared on Facebook.

The following papers, [methodologies](#), articles and reports have been published from the successful award of this project:

Publications

Martinou, A. F., *et al.* (2020b). A call to arms: Setting the framework for a code of practice for mosquito management in European wetlands. *Journal of Applied Ecology* n/a.

Newsletters and Blogs

Peyton, *et al.* (2019) [Assessment of current and future Invasive Alien Species in Cyprus SBAs and other UKOTs](#) published in the UKOTs Conservation Forum Newsletter.

Peyton *et al.* (2019) [Assessment of invasive non-native species in Cyprus – the RIS-K y project](#) published in Sanctuary Magazine.

Presentations

Pescott, O.L. (2020). Invasive alien plants: Where are we, and what’s on the horizon? 12 March 2020. University of Oxford. **Invited Speaker**

Roy, H.E. (2019) Engaging People in Recording Wildlife. Annual Research Meeting, Department of Botany and Zoology, Stellenbosch University, South Africa. 22-22 November 2019. **Invited Speaker**

Roy, H.E. (2019) Citizen science and alien species. Invasion Frameworks, Centre for Invasion Biology, Stellenbosch University, South Africa. 11-13 November 2019. **Invited Speaker**

Roy, H.E. (2019) Engaging people in recording wildlife. Southwood Lecture, University of Oxford. 28 October 2019. **Invited Speaker**

Roy, H.E. (2019) Unravelling the ecology of invasive non-native species. The Linnean Society of London. 9 October 2019. **Invited Speaker**

Roy, H.E. (2019) Global perspectives on the ecology of invasive alien species: people, policy and nature. Detection and control of forest alien species in a dynamic world. 25-28 September 2019. **Invited Speaker**

Roy, H.E. (2019) Global perspectives on the ecology of invasive alien species: people, policy and nature. Detection and control of forest alien species in a dynamic world. 25-28 September 2019. **Invited Speaker**

Roy, H.E. *et al.* (2019) Predicting and preventing the arrival of invasive non-native species on islands globally. *Island Biology*, La Reunion, 8-13 July 2019. **Invited Speaker**

12. Safeguarding

Our project works directly with military and SBAA staff, including education staff at the AEEC.

UKCEH has both a Code of Conduct Policy and a Safeguarding Policy/Procedure in place, which are compliant to the Darwin Initiative requirements. The Safeguarding Policy also follows the requirements of the UKCDR.

These documents are used as part of the Due Diligence process, used for ensuring our projects are compliant to all funder and project requirements at the start up stage. Safeguarding is also an integral part of risk assessment matrix, used in conjunction with the Due Diligence process.

These processes ensure that we are working with partners that meet our standards, and that of the Darwin Initiative before we undertake any work. The projects, through the steering committees then ensure that this process is ongoing throughout the task, and any significant change to the project is reported, and risks mitigated accordingly.

The above processes ensure that any UKCEH partners, sub-contractors and communities all have the same safeguarding level of protection.

13. Project expenditure – DRAFT due to waiting for receipts and updates from new project reporting system

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Project spend (indicative) in this financial year	2019/20 D+ Grant (£)	Change Request approved corrected Budget Year One	2019/20 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs					
Consultancy costs					
Overhead Costs					
Travel and subsistence					
Operating Costs					
Capital items					
Others (Please specify) Equipment for surveys High spatial resolution WorldView imagery Development of citizen science / engagement materials inc publishing and printing costs for ID guides					
TOTAL					

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020 – if applicable

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p>Impact</p> <p>We will develop robust ecological and hydrological methods alongside other tools and resources to monitor the internationally important Akrotiri wetland and inform biosecurity guidance, with relevance for other UKOTs</p>		<p>Methods for water chemistry sampling and habitat mapping using drones openly available on project website. Development of web-tools to enable bulk upload of verified data to GBIF. Biosecurity page created for guidance for visitors to Akrotiri and SBAs on best practice and</p>	
<p>Outcome: Sustainable surveillance of current and potential future threats to Lake Akrotiri, supported by local organisations and stakeholders, founded on a robust and open evidence base.</p>	<p>0.1 Government, NGO, tourist and other local stakeholders demonstrate and report greater engagement in the environmental surveillance of Lake Akrotiri [by Mar 2021]</p> <p>0.2 Previously unavailable parameters for baseline assessment of quality of the wetland of Akrotiri become available [by Mar 2021]</p> <p>0.3 AEEC and JSHU staff, and additional local stakeholders attend current and future threats workshop, exchanging knowledge and learning from regional and global wetland experts, ensuring continued engagement and focus on wetland surveillance [by Mar 2021]</p> <p>0.4 AEEC provide the platform for discussions, workshops, and act as a hub for ongoing surveillance of the Akrotiri wetlands [by Mar 2021]</p>	<p>0.1 AEEC staff are running mini-PoMS-Ký surveys as part of their education programme, JSHU are undertaking regular pollinator monitoring FIT count surveys, with results being uploaded via the project online platforms.</p> <p>0.2 Water chemistry data shared with the SBAA, JSHU and the Water Development Department in Cyprus. Methods for water chemistry surveys found in annex 3.4.</p> <p>0.4 The AEEC forms a pivotal location for meetings and workshops, with the key stakeholders working together to discuss and design methods around monitoring.</p>	<p>Increase engagement around PoMS-Ký surveys</p> <p>Undertake further water sampling</p> <p>Host wetland monitoring workshop</p> <p>Also host end of project workshop with stakeholders (January / February 2021) to AEEC and military and RoC to show results and capture thoughts for next steps</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p>Output 1: Development and maintenance of up-to-date database of INNS in Cyprus (CyDAS) across taxa and environments, with innovative tools, potentially including mobile applications, for recording native and non-native species</p>	<p>1.1 Information (such as habitat information, date of introduction, impacts etc.) on INNS in Cyprus (e.g. taxonomy, pathways etc.) continues to expand through the continued support and development of CyDAS (www.RIS-Ký.info/cydas) [by Mar 2021]</p> <p>1.2 New and updated checklists of INNS maintained and published through RIS-Ký and GRIIS websites [by Mar 2021]</p> <p>1.3 INNS distributions are increasingly well-characterised at a fine scale (at least 1 x 1 km) over the two year duration of project [by Mar 2021]</p> <p>1.4 At least 5 local stakeholders understand the value of biological records, and desire involvement in their use and curation post-project [by Mar 2021]</p> <p>1.5 RIS-Ký project website undergoes a step-change with the inclusion of additional online recording pages for other relevant initiatives such as monitoring mosquitoes and pollinating insects [by June 2019]</p>	<p>The project has already gone a long way to meet this output (evidence provided in section 3.1) working with the team and wider stakeholder network to promote online recording (activity 1.4). The CyDAS website has been updated by the University of Cyprus (activity 1.1) and a revision uploaded by GRIIS (activity 1.2) and plant data for addition to GBIF will be undertaken the next FY. Online recording is available through the project website for taxon monitoring (activity 1.5) (PoMS-Ký and Mini-PoMS-Ký and links provided to iNaturalist, an established online platform, through a biodiversity monitoring page. This page also gives information on the background of biodiversity monitoring in Cyprus (activity 1.5).</p>	
<p>Activity 1.1 CyDAS continues to be updated (with information such as habitat information, date of introduction, impacts etc.) on INNS in Cyprus (e.g. taxonomy, pathways etc.) (www.RIS-Ký.info/cydas)</p>		<p>Marine records updated through small project with the University of Cyprus</p>	<p>Plant records will be updated</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 1.2, New and updated checklists of INNS maintained and published through RIS-Ký and GRIIS websites		Updated list published through GRIIS (Martinou et al. 2020a)	Further updates to the RIS-Ký website will continue in 2020/21
Activity 1.3. INNS distributions are well-characterised at a fine scale (at least 1 x 1 km) over the two year duration of project. At least 500 new record of INNS added over the two year duration of project		Vegetation surveys were due to be carried out in February 2020 and new INNS occurrence records would have contributed to the project outputs. These surveys have been postponed due to COVID-19 restrictions to later in 2020.	Existing plant data from earlier surveys are currently being prepared for publishing to GBIF; these should be available by July 2020. Additional surveys (which are likely to be linked to Output 3 activities for efficiency) are being rescheduled.
Activity 1.4. Engagement of at least 5 local stakeholders in curation of records and records curated by local or regional experts		Informal meetings and talks (e.g. moth event held at AEEC in July 2019) on biological recording with five JSHU and AEEC staff throughout the year and development of platform for online recording and capacity building through provision of tablets and laptops for further recording on SBAs	At wetland workshop later in 2020, host talks on biological recording in wetlands and encourage further PoMS-Ký and Mini-PoMS-Ký recording with key stakeholders
1.5 Development of RIS-Ký project website with inclusion of additional online recording pages for other relevant initiatives such as monitoring mosquitoes and pollinating insects		Website now able to facilitate online recording and hosts a page informing website visitors how to get involved in biological recording in Cyprus	Maintain website functionality.
Output 2. Hydrological and vegetation sampling to generate baseline measures of Lake Akrotiri for water quality, and vegetation data for two seasons and work with local key stakeholders to understand and discuss results	2.1 Wetland quality can now be characterised by newly available water chemistry data [by June 2020] 2.2 Key stakeholders at stakeholder meeting with SBA, local Government, NGO etc., leading to better appreciation and understanding of the status, and key threats to, the Akrotiri wetlands [by September 2020] 2.3 Understanding of native and non-native wetland plant communities	Data on water chemistry shared with project partners and summarised in annex 3.4 (activity 2.1). Face to face and virtual meetings and email exchanges between project staff with RoC, JSHU and AEEC staff led to the design and ongoing development of project methods (available on project website) and literature available for reporting purposes, annex 2.1 and 2.2 give further details (Activities 2.2, 2.3 and 2.4).	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	<p>around lake placed on a firm basis, with links to hydrology [by June 2020]</p> <p>2.4 Standardised wetland monitoring methods suitable for the Akrotiri environment become available and are shared with key stakeholder groups and other UKOTs to facilitate replication of methods elsewhere [by Dec 2020]</p>		
Activity 2.1. Wetland quality characterised by newly available water chemistry data		Water chemistry data from year 1 sampling from fixed sampling locations shared with RoC, JSHU and SBAA. Methods found in appendix 3.1.	Further sampling to be carried out in 2020/21, COVID-19 permitting.
Activity 2.2. Key stakeholders at stakeholder meet with SBA, local Government, NGO etc. Demonstration of increased appreciation and understanding of the status, and key threats to, the Akrotiri wetlands		SBAA, AEEC, JSHU and RoC Water Development Department staff met in July 2019 for project kick off meeting to discuss project and feed into developing methods of delivery	Stakeholders from kick off workshop and wider community will be invited to attend workshop (either in person or a remote workshop if COVID-19 does not allow for in person).
Activity 2.3. Detailed assessment of native and non-native wetland plant communities around lake, with links to hydrology, characterised		Training and ground truthing data for Output 3 have already been collected. Hydrological data have also been collected.	Links between hydrological, vegetation mapping, and other botanical data to be linked for final reports and academic papers.
Activity 2.4. Standardised wetland monitoring methods suitable for the Akrotiri environment available and shared with key stakeholder groups and other UKOTs to facilitate replication of methods elsewhere		Water sampling and habitat monitoring using drones methods are available through project website. In addition a review of Good Ecological Status of wetlands is now published on the project website under the "Reports" section.	Methods will be shared through a wetland monitoring workshop in late 2020.
Output 3. Employ remote sensing of Lake Akrotiri lake and environs to give baseline assessment of plant communities and land cover, linking to	3.1 Digital plant community and land cover map of Lake Akrotiri become available, underpinned by baseline	Initial fieldwork for training software to analyse landcover classes was undertaken in July 2019, this was due to be continued in spring 2020 but this has had to be delayed due to COVID-19.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
ground-truthing data collected in DPLUS056 and Output 2. This work will also generate methods for others to interpret satellite data for ongoing analysis of saline Mediterranean wetland site quality	vegetation monitoring data [by June 2020] 3.2 Datasets on Lake Akrotiri water levels become available [by Mar 2021] 3.3 Datasets on Lake Akrotiri vegetation available [by Mar 2021] Data used by local stakeholders. [by Mar 2021] 3.4 Methods of analysing remotely sensed data shared with at least one other UKOT [by Mar 2021]		
Activity 3.1. Digital plant community and land cover map of Lake Akrotiri, underpinned by baseline vegetation monitoring data, available on website		Training data gathered in 2019/20 and undergoing processing	Will be published online in the 2020/21 reporting year
Activity 3.2. Production of published open access dataset on extent (current and future) of Lake Akrotiri water levels			Will be undertaken and published online in the 2020/21 reporting year
Activity 3.3. Production of published open access dataset on current and future vegetation changes around Lake Akrotiri. Datasets on Lake Akrotiri vegetation available and used by local stakeholders			Will be published online and shared with SBAA and other stakeholders for reporting in 2020/21
3.4 Generation of standardised methods of analysing remote sensing data that can be used on other UKOTs, such as British Indian Ocean Territory, where changing water levels will be a critical aspect to the ongoing activities on island	Methods of analysing remotely sensed data shared with at least one other UKOT		Project team will share methods, through the UKOTs Conservation Forum, through either the quarterly meetings and / or an article for the UKOTSCF Newsletter
Output 4. Generation of outreach and engagement material around species network interactions and further recording of species network data	4.1 New teaching and education topics available to, and incorporated into, AEEC education programme, including activities relevant to monitoring biodiversity (including INNS), water quality and hydrology [by Sep 2020]	The project team have made excellent progress towards this output with several examples of outreach materials openly available on the project website (annex 3.1 and section 3 of the report). We have been working well as a project team to design and develop the materials and plan to continue this into 2020/21 (activities 1.5, 4.1, 4.2. and 4.3). Pollinator surveys have been carried out by JSHU and AEEC staff and student visitors (activity 4.3). Activity 4.4 is complete; the Code of Practice was accepted for publication in April 2020 and will be made open access through the project funding.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	<p>4.2 Engagement material to show complexities of wetland habitat and interlinkages between hydrology, ecology and society newly utilised by AEEC in teaching and outreach [by Sep 2020]</p> <p>4.3 Citizen Science (and associated QA) surveys looking at interactions between native pollinators and plant INNS become available [by Mar 2021]</p> <p>4.4 Code of Practice for Mosquito Management including rapid response for INNS newly available and used by site managers and policy makers at Akrotiri [by Sep 2020]</p>		
<p>Activity 4.1. New teaching and education teaching packs available to, and incorporated into, AEEC education programme, including activities relevant to monitoring biodiversity (including INNS), water quality and hydrology</p>		<p>AEEC and UKCEH developed lesson material for understanding pollinators and UKCEH and JSHU designed a mini-guide to Cyprus pollinators (Annex 3.1.2) which are on display and for use in the AEEC. The project has also developed an infographic for understanding drivers of change in wetlands for use in educational material and for visitors to the website. This has been shared through the project Facebook site.</p> <p>The AEEC educational staff have developed a QR code game with educational material on the wetland at the centre for students and visitors</p>	<p>Further development of educational material with AEEC in 2020/21</p> <p>Delays with launching the QR code game because of COVID-19 which we hope to have completed later in the summer.</p>
<p>Activity 4.2. Creation of interactive web-based tool for use in engagement material showing complexities of wetland habitat and interlinkages between hydrology, ecology and society utilised by AEEC in teaching and outreach</p>		<p>See activity 4.2</p>	<p>Further work with AEEC to integrate education materials with infographic</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
Activity 4.3. Structured Citizen Science (and associated QA) surveys looking at interactions between native pollinators and plant INNS become available [by Mar 2021]		The PoMS-Ký and Mini-PoMS-Ký pages are now up and running with survey forms and both video and written guidance available. Additional links to other biodiversity recording methods eg iNaturalist promoted through website and social media (activity 1.5)	Continue to promote and encourage surveys from project partners and public
Activity 4.4. Publication of Code of Practice for Mosquito Management including rapid response for INNS available and used by site managers and policy makers at Akrotiri		Published and methods used by JSHU (Martinou et al. 2020b)	This activity is now complete
Output 5. Training and capacity building provided for OT government and military staff on biosecurity and continued biological recording of INNS	<p>5.1 Project start-up meeting and scoping survey finalise precise scope of subsequent workshops and surveys, leading to practical and sustainable changes in project planning [April 2019]</p> <p>5.2 Engagement workshop and training event occurs leading to increased knowledge about Akrotiri, its biodiversity, and biological recording as a means of monitoring change [by September 2019].</p> <p>5.3 Local capacity for recording increases, through events such as Bioblitzs and volunteer engagement days at JSHU and the AEEC, webinars on INNS, information leaflets etc. [until Mar 2021].</p> <p>5.4 Year 2 training and engagement workshops building on survey and biosecurity issues highlighted in Year 1 leading to increased knowledge and</p>	The project undertook a workshop on impacts of INNS, with a session on biosecurity in November 2019 (annex 3.3 and activity 5.2 and 5.4) with subsequent follow up meetings between SBAA, UKCEH and GBNSS. Discussions will continue with whole project team in 2020/21. Project team has run internal and external events for pollinator monitoring, along with moth identification.	

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
	<p>understanding of the themes by staff [May 2020].</p> <p>5.5 Biosecurity guidance will be distributed within stakeholder network and on project website as downloadable posters and short guidance documents will be the key outputs. Available both in English and Greek. Examples of uptake of biosecurity actions will be documented through short case study statements.</p>		
<p>Activity 5.1. Project start-up meeting and scoping survey and plan for subsequent workshops and surveys</p>		<p>Workshop held in July 2019 and plans drafted for workshop. Plans were re-visited in both September and November and progress agreed as per the log frame</p>	
<p>Activity 5.2. Engagement workshop and training event occurs. Event leads to increased knowledge about Akrotiri, its biodiversity, and biological recording as a means of monitoring change</p>		<p>Horizon scanning and impacts of INNS workshop held in November 2019 which gave an overview of the project and the local area. Biological recording encouraged through social media, AEEC school programme and partners (activity 1.5)</p>	
<p>Activity 5.3. Capacity building, through Bioblitzes and volunteer engagement days at JSHU and the AEEC, webinars on INNS, information leaflets etc</p>		<p>Moth night event held at AEEC in July 2019 as part of National Moth week, PoMS-Ký surveys undertaken by project staff (activity 4.3) and educational resources created e.g. annex 3.1.2. PoMS-Ký surveys encouraged in gardens through Facebook as part of COVID-19 lock down</p>	<p>As we assess the situation with COVID-19, we will review the amount of volunteer activity promoted through the project.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p>Activity 5.4. Year 2 training and engagement workshop hosted which builds on survey and biosecurity issues highlighted in Year 1. Workshop leads to increased knowledge and understanding of the themes by staff</p>		<p>Horizon scanning and impacts of INNS workshop held in November 2019. Workshop brought together experts across Europe and held talks on INNS Risk assessments at European and national levels eg on the invasive Lionfish in Cyprus. The list created through this workshop (annex 3.2) was shared with the RoC to help support their Risk Assessment processes.</p>	<p>We will continue this work and investigate possible additional meetings/workshop on biosecurity</p>
<p>Activity 5.5 Biosecurity guidance becomes available, linked to DPLUS056 and informed by priority species identified through UK OTs horizon scanning currently led by CEH. This guidance will be applicable for terrestrial habitats and will be applicable to all UKOTs</p>		<p>Horizon scanning and impacts of INNS workshop held in November 2019 had a session on biosecurity with the GBNNSS expert providing a presentation and separate Q&A session. UKCEH and SBAA have had several follow on meetings on this topic with the aim of improving communication. GBNNSS and SBAA have developed pathway actions plan for species from the horizon scanning lists of DPLU056 and the November 2019 workshop, for use by the SBAA. A biosecurity page has been set up on the project website and UKCEH and AEEC education staff are discussing use of resources made available via GBNNSS for use in lessons.</p>	

Annex 2: Project’s full current logframe as presented in the application form (unless changes have been agreed) - if applicable

N.B. if your application’s logframe is presented in a different format in your application, please transpose into the below template. Please feel free to contact Darwin-Projects@ltsi.co.uk if you have any questions regarding this.

Changes agreed with Darwin September 2019 and revised logframe below.

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
<p>Outcome: Sustainable surveillance of current and potential future threats to Lake Akrotiri, supported by local organisations and stakeholders, founded on a robust and open evidence base.</p>	<p>0.1 Government, NGO, tourist and other local stakeholders demonstrate and report greater engagement in the environmental surveillance of Lake Akrotiri [by Mar 2021]</p> <p>0.2 Previously unavailable parameters for baseline assessment of quality of the wetland of Akrotiri become available [by Mar 2021]</p> <p>0.3 AEEC and JSHU staff, and additional local stakeholders attend current and future threats workshop, exchanging knowledge and learning from regional and global wetland experts, ensuring continued engagement and focus on wetland surveillance [by Mar 2021]</p> <p>0.4 AEEC provide the platform for discussions, workshops, and act as a hub for ongoing surveillance of the Akrotiri wetlands [by Mar 2021]</p>	<p>0.1 Database of key stakeholders developed with links to partners provided on the project website with stakeholders listed. At least three stakeholder groups engaged with active surveillance, through structured surveys coordinated by the RIS-Ký team, and with plans for promotion to the wider community by their organisations being listed on promotional material</p> <p>0.2 Open access datasets published by EIDC and outline of indicator of wetland quality published and promoted to stakeholders and disseminated to all stakeholders during the end of project workshop. Specific questions on feedback form to review engagement by stakeholders.</p> <p>0.3 Feedback from workshop questionnaires compiled and reviewed alongside collaboratively written workshop report approved by all participants. Results of M&E published on RIS-Ký website. Participants invited to reflect on previous knowledge and change as a consequence of the workshop. Additionally, participants will be asked to provide examples of the subsequent use of the knowledge</p>	<p>0.5 Interest from relevant stakeholders and time available to commit to surveillance</p> <p>0.2 Data are collected according to scientific standards, and are therefore worthy of publication and fit for purpose.</p> <p>0.3 Interest from relevant stakeholders and time available to commit to workshops and produce verification outputs</p> <p>0.4 AEEC project team have capacity to expand their work in this area, particularly around the developing of new resources for schools and visitors. Also assumes that all stakeholders produce enough evidence and data of interest to engage and interest staff, public and other stakeholders alike.</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
		<p>0.4 AEEC, SBA and RoC staff have increased capacity for and understanding of wetland of wetland surveillance, verified through formal (with minutes) and informal meetings throughout the two-year project and through end-of-project questionnaires to staff at project wash-up meeting. This project will actively seek to build upon existing links between key stakeholder groups to share information across wetland management in Cyprus. We will co-design the monitoring and thus ensure that the knowledge base is increased for all stakeholders. Additional means of verification throughout the project will include collaborative development of new information sources (leaflets, worksheets, presentations etc.) delivered to school groups and other visitors coupled with recruitment of new volunteer recorders and academic engagement around wetland surveillance at the site. Additionally published articles (>2) and the submission of volunteer-collected data will also provide means of verification.</p>	
<p>Output 1: Development and maintenance of up-to-date database of INNS in Cyprus (CyDAS) across taxa and environments, with innovative tools, potentially including mobile applications, for recording native and non-native species</p>	<p>1.1 Information (such as habitat information, date of introduction, impacts etc.) on INNS in Cyprus (e.g. taxonomy, pathways etc.) continues to expand through the continued support and development of CyDAS (www.ris-ky.info/cydas) [by Mar 2021]</p> <p>1.2 New and updated checklists of INNS maintained and published through RIS-Ký and GRIIS websites [by Mar 2021]</p>	<p>1.1 Annual summary of data provided on RIS-Ký website alongside local press release to increase awareness of non-native species and biosecurity to local communities. Data will also be shared at least annually through GRIIS and GBIF. Examples of use of the data will be collated annually.</p> <p>1.2 Checklist updated at least annually. Increase in use of the checklist in Cyprus by various stakeholders through RIS-Ký</p>	<p>1.1 Sufficient new information available to update the inventory</p> <p>1.2 Our website manager is able to continue to interface with global datasets and standards (e.g. Catalogue of Life)</p> <p>1.3 Predicted effort sufficient to complete survey. Survey strategy approved by stakeholders</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
	<p>1.3 INNS distributions are increasingly well-characterised at a fine scale (at least 1 x 1 km) over the two year duration of project [by Mar 2021]</p> <p>1.4 At least 5 local stakeholders understand the value of biological records, and desire involvement in their use and curation post-project [by Mar 2021]</p> <p>1.5 RIS-Ký project website undergoes a step-change with the inclusion of additional online recording pages for other relevant initiatives such as monitoring mosquitoes and pollinating insects [by June 2019]</p>	<p>website and links to partner websites by clear and continued promotion of this capability through social media and workshops</p> <p>1.3 At least 500 new INNS records within CyDAS; new data flows to GBIF and is subsequently displayed on the embedded GBIF maps within CyDAS.</p> <p>1.4 Commitment from stakeholders to promote and contribute to biological recording verified by evidence of new records and recorders. We will achieve this through formal (with minutes) and informal meetings. Citations of GBIF datasets will demonstrate use by scientific community. Number of users submitted INNS distribution data to CyDAS or related platforms increases over project lifetime</p> <p>1.5 Website incorporates ability to record occurrences of INNS and other project-relevant groups. This facility will be promoted through social media. Number of recorders using the recording pages will be reported and analysis will focus on most effective methods of promotion leading to increased activity.</p>	<p>1.4 Involvement of local experts sufficient to oversee curation and verification</p> <p>1.5 Stakeholders view webpages and find them useful</p>
<p>Output 2: Hydrological and vegetation sampling to generate baseline measures of Lake Akrotiri for water quality, and vegetation data for two seasons and work with local key stakeholders to understand and discuss</p>	<p>2.1 Wetland quality can now be characterised by newly available water chemistry data [by June 2020]</p> <p>2.2 Key stakeholders at stakeholder meeting with SBA, local Government, NGO etc., leading to better appreciation and understanding of the status, and</p>	<p>2.1 Water quality data published as open datasets and promoted through RIS-Ký website outputs</p> <p>2.2 Meeting report, and communication plan co-developed with participants (25 people from at least six organisations) to ensure relevant dissemination and so</p>	<p>2.1 All samples able to be collected within timeframe and resource limits</p> <p>2.2 Key stakeholders are willing and able to attend the workshop and to contribute to outputs</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
results	<p>key threats to, the Akrotiri wetlands [by September 2020]</p> <p>2.3 Understanding of native and non-native wetland plant communities around lake placed on a firm basis, with links to hydrology [by June 2020]</p> <p>2.4 Standardised wetland monitoring methods suitable for the Akrotiri environment become available and are shared with key stakeholder groups and other UKOTs to facilitate replication of methods elsewhere [by Dec 2020]</p>	<p>increased understanding across different user-groups. Agreement by participants to adopt and promote the communication plan.</p> <p>2.3 Detailed scientific reports available through website and literature, supported by open access datasets. Download statistics will be reviewed.</p> <p>2.4 Methods available through website and literature. Agreement by at least two stakeholder groups that the methods will be promoted at relevant sites. Feedback from stakeholders will be reviewed as short case study report.</p>	<p>2.4 Data are collected according to scientific standards and within resource limits, and are therefore useful and publishable</p> <p>2.4 Methods are carefully documented throughout the project and can be clearly summarised and made available</p>
<p>Output 3: Employ remote sensing of Lake Akrotiri lake and environs to give baseline assessment of plant communities and land cover, linking to ground-truthing data collected in DPLUS056 and Output 2. This work will also generate methods for others to interpret satellite data for ongoing analysis of saline Mediterranean wetland site quality</p>	<p>3.1 Digital plant community and land cover map of Lake Akrotiri become available, underpinned by baseline vegetation monitoring data [by June 2020]</p> <p>3.2 Datasets on Lake Akrotiri water levels become available [by Mar 2021]</p> <p>3.3 Datasets on Lake Akrotiri vegetation available [by Mar 2021] Data used by local stakeholders. [by Mar 2021]</p> <p>3.4 Methods of analysing remotely sensed data shared with at least one other UKOT [by Mar 2021]</p>	<p>3.1 Data and products (e.g. GIS outputs in different formats) become available through website and/or open access data portals. Report on engagement of stakeholders with the maps by explanatory talk at AEEC and report on potential use following collaborative community-led discussion. Information also shared through social media.</p> <p>3.2 DOIs of datasets available via EIDC. Data promoted to and used by local stakeholders with short report outlining examples of use and statements from stakeholders on value of the information.</p> <p>3.3 DOI of datasets available via EIDC. Local stakeholder reports with examples of use Data promoted to and used by local stakeholders with short report outlining examples of use and statements from stakeholders on value of the information.</p>	<p>3.1 Data collected allow useful separation of plant communities, meaning that outputs are meaningful and useful</p> <p>3.2 Data on EIDC is of interest to users</p> <p>3.3 Data are collected according to scientific standards, and are therefore worthy of publication</p> <p>3.4 Stakeholders from other UKOTs engage with the methods and find them useful</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
		<p>3.4 Dissemination and communication plan developed documenting planned use by stakeholders and best practice document both available for download from RIS-Ký website. Direct engagement with one other UKOT including report on feedback of value and applicability of method.</p>	
<p>Output 4: Generation of outreach and engagement material around species network interactions and further recording of species network data</p>	<p>4.1 New teaching and education topics available to, and incorporated into, AEEC education programme, including activities relevant to monitoring biodiversity (including INNS), water quality and hydrology [by Sep 2020]</p> <p>4.2 Engagement material to show complexities of wetland habitat and interlinkages between hydrology, ecology and society newly utilised by AEEC in teaching and outreach [by Sep 2020]</p> <p>4.3 Citizen Science (and associated QA) surveys looking at interactions between native pollinators and plant INNS become available [by Mar 2021]</p> <p>4.4 Code of Practice for Mosquito Management including rapid response for INNS newly available and used by site managers and policy makers at Akrotiri [by Sep 2020]</p>	<p>4.1 Increase in monitoring activity by visiting students and teachers coupled with increased awareness about the biodiversity, water quality and hydrology. This will be actioned by co-creating a teaching plan with the AEEC teaching staff. Students will be invited to produce posters to share with other visiting groups and to highlight increased understanding. AEEC staff will assist in production of podcast / video for dissemination on RIS-Ký. Teaching pack available through RIS-Ký website and feedback gathered from participating students</p> <p>4.2 Interactive web-based tool becomes available. AEEC teaching staff assist in production and script to ensure appropriate level of communication also highlighting increased capacity (documented in tool guidelines and acknowledgements). Number of downloads reported.</p> <p>Interactive web-based tool becomes available. AEEC teaching staff assist in production and script to ensure appropriate level of communication also highlighting increased capacity (documented in tool guidelines and acknowledgements). Number of downloads reported.</p>	<p>4.1 Implementation of the teaching pack aligns with guidance and training</p> <p>4.2 Stakeholder view or download the material</p> <p>4.3 Predicted effort sufficient to complete survey. Survey strategy approved by stakeholder</p> <p>4.4 CoP will be acceptable for publication.</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
		<p>4.3 Promotion materials developed by AEEC teaching staff with students in the form of key messages on postcards displayed on a designated board at the AEEC. The number of postcards disseminated will provide measure of uptake of interest in understanding across the themes of biodiversity, water quality and hydrology. Observations from 20 new sites, visited by AECC staff, students and Citizen Scientists recorded on-line and visible from the RIS-Ký website</p> <p>4.4 Dissemination plan developed collaboratively with AEEC and JSHU for communication to local communities. Local communities invited to evening event to discuss local measures of management. Plans for uptake by local communities documented. Overall increase in sustainable management approaches. CoP will be published in in Open Access Journal</p>	
<p>Output 5. Training and capacity building provided for OT government and military staff on biosecurity and continued biological recording of INNS</p>	<p>5.1 Project start-up meeting and scoping survey finalise precise scope of subsequent workshops and surveys, leading to practical and sustainable changes in project planning [April 2019]</p> <p>5.2 Engagement workshop and training event occurs leading to increased knowledge about Akrotiri, its biodiversity, and biological recording as a means of monitoring change [by September 2019].</p> <p>5.3 Local capacity for recording increases, through events such as Bioblitzes and volunteer engagement</p>	<p>5.1 Report on start-up meeting on website and circulated to all stakeholders and promoted through social media</p> <p>5.2 Workshop report and feedback forms to document and evaluate understanding of stakeholders about the project aims. At least 25 people engaged through attendance to workshop and active discussions around the key themes of the project.</p> <p>5.3 Information on numbers of participants at workshops, download statistics and links through stakeholder websites documented and reviewed to increase uptake and</p>	<p>5.1 Stakeholders interested in attending. Scoping confirms access and practicality. Scoping inform the risk assessments</p> <p>5.2 Stakeholders interested in attending. Trainers are adequately briefed. Relevant risk assessments conducted</p> <p>5.3 Stakeholders interested in attending training sessions; relevant expertise available to provide Workshops</p> <p>5.4 Stakeholders interested in attending. Stakeholders support prioritisation decisions. Year 1 surveys yield sufficient data to prioritise Year 2 efforts</p>

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
	<p>days at JSHU and the AEEC, webinars on INNS, information leaflets etc. [until Mar 2021].</p> <p>5.4 Year 2 training and engagement workshops building on survey and biosecurity issues highlighted in Year 1 leading to increased knowledge and understanding of the themes by staff [May 2020].</p> <p>5.5 Biosecurity guidance becomes available, linked to DPLUS056 and informed by priority species identified through UK OTs horizon scanning currently led by CEH. This guidance will be applicable for terrestrial habitats and will be applicable to all UKOTs</p>	<p>dissemination over the project. Details of events on project websites and social media announcements and through posters at JSHU and AEEC</p> <p>5.4 Training workshops take place engaging at least 25 people; summary of feedback used to inform follow-up material (including reference documents, posters, pathway action plans etc) circulated to all participants and available through RIS-Ký website but also as hard copies at AEEC. Participants invited to score value, relevance and extent of knowledge acquisition through feedback questionnaire.</p> <p>5.5 Biosecurity guidance will be distributed within stakeholder network and on project website as downloadable posters and short guidance documents will be the key outputs. Available both in English and Greek. Examples of uptake of biosecurity actions will be documented through short case study statements</p>	<p>5.5 Stakeholders engage with the biosecurity guidance and adequate resources are provided to ensure effective communication</p>
6. Publications	Publications [from April 2021]	Published material in peer-reviewed journals	

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	