Darwin Plus:
Overseas Territories Environment and Climate Fund
Annual Report

Submission Deadline: 30th April 2018

Darwin Plus Project Information

Project reference	DPLUS056
Project title	Assessment of current and future Invasive Alien Species in Cyprus
Territory(ies)	SBAs of Cyprus – Akrotiri and Dhekelia, with possible surveys of Episkopi and Troodos
Contract holder institution	Centre for Ecology and Hydrology
Partner institutions	Joint Services Heath Unit, University of Cyprus
Grant value	£274,966
Start/end date of project	April 2017 – March 2019
Reporting period (e.g., Apr 2017-Mar 2018) and number (e.g., AR 1,2)	April 2017 – March 2018 AR1
Project leader name(s)	Helen Roy and Jodey Peyton
Project website/blog/Twitter	www.ris-ky.eu Researching Invasive Species of Kýpros @RisKyAliens https://www.facebook.com/groups/riskycyprus
Report author(s) and date	Jodey Peyton , Helen Roy, Kelly Martinou, Oli Pescott, Ian Winfield, Owen Mountford, Yianna Samuel-Rhoads 30/04/18

1. Project overview

Our project aims to monitor the potential future threat from invasive alien species on the Sovereign Base Areas (SBAs) of Cyprus. The main areas we have been surveying are Akrotiri and Dhekelia (see Figure 1 below):

Figure 1. Location of the Sovereign Base Areas of Cyprus; 1 indicates the location of Akrotiri and 2, Dhekelia (© Google maps)

The spread of Invasive Alien Species (IAS) represents a major threat to native species and human health around the world. The UKOT biodiversity strategy prioritises: *(i) obtaining data on the location and status of biodiversity interests and the human activities affecting biodiversity to inform the preparation of policies and management plans (including baseline survey and subsequent monitoring); (ii) preventing the establishment of IAS, and eradicating or controlling species … already … established*. These are also priorities for the OT Government in Cyprus and, through surveillance and improved biosecurity, this project addresses both. Horizon scanning will predict future IAS threats; while survey work will investigate the establishment and spread of IAS within OTs in Cyprus. The project is divided into three work packages:

WP1: Horizon Scanning

We used a consensus method to evaluate likelihood of species arrivals and impacts based on that of Roy *et al.* (2014), involving experts from Cyprus and Europe (see Annex 3.1 for list of invitees for the Horizon Scanning workshop), and taking into account work at European and local scales (Roy *et al.* 2015; Martinou 2014). The outcome is a prioritised list of species with the potential to arrive, establish and threaten biodiversity within the next ten years and will be submitted to a peer-reviewed journal for publication in May 2018 (see Annex 3.1.1).

WP2: Surveillance and modelling of species distributions

Surveillance is being achieved through field surveys of IAS in aquatic and terrestrial environments selected following a scoping study (Peyton & Mountford 2015) and WP1 in consultation with the JSHU, Akrotiri Environmental Education and Information Centre, the University of Cyprus and other stakeholders. The distribution of the selected IAS will be mapped using:

1. Presence-only surveys aimed at stakeholders who submit occurrence data through an on-line citizen science survey to map the large-scale distribution of selected IAS rapidly.
2. Systematic surveys have been, and will continue to be, undertaken by the project team to map abundance and distribution of native and IAS. Surveys have been undertaken, for the following species in Akrotiri and Dhekelia (see HY1 for a full list of methods):

- Port Jackson Willow *Acacia saligna*
- *Casuarina* spp.
- *Eucalyptus* spp.
- Eastern Mosquitofish *Gambusia holbrooki*
- Mediterranean Killifish *Aphanius fasciatus* (native)
- Mosquitoes with particular attention on the arrival of any non-native species or species of concern *Aedes albopictus* and *Aedes aegypti*
- Lionfish *Pterois miles*
- Toadfish *Lagocephalus* spp.
- Rabbitfish *Siganus* spp.
- Cornetfish *Fistularia commersonii*.

The data provide baseline information to inform early warning systems and management of IAS. The systematic, geo-referenced mapping of IAS plants will enable management to be undertaken as necessary. In the final quarter of 2017-18, a Code of Practice for the management of native and non-native mosquitoes in wetlands was developed (JSHU, CEH) in collaboration with experts and relevant stakeholders (including representatives from the Cypriot Ministry of the Environment) from Cyprus and other European countries. The aim of the Code of Practice is to minimise the risk of introduction or re-emergence of vector borne diseases, prevent the introduction of non-native mosquitoes, help towards minimising mosquito nuisance while proposing control approaches with no adverse impacts on the environment. The purpose of this Code of Practice is to provide organisations, local authorities, commercial enterprises and individuals involved in mosquito control with a means of demonstrating that measures are being taken to minimise environmental harm from selected mosquito control activities within SBA sites, in adjacent areas and beyond. The Code of Practice will be published in 2018-2019 in a peer-reviewed journal alongside a summary document written for a general audience.

We are mobilising the *Cyprus Invasive Alien Species (CY.I.A.S.) inventory* (Martinou 2014) through our website. This database of IAS on Cyprus is being made available via our project website and will be an important legacy of the project.

WP3: Biosecurity and capacity building

Capacity building through training and outreach enables ongoing monitoring of habitats (*e.g.* via permanent sampling points or plots) that are deemed sensitive to the selected IAS from WP2 and WP3. Additionally, the project provides biosecurity training that focuses on the management of areas where mosquito breeding habitats need to be reduced. Civilian and military personnel (JSHU), as well as local stakeholders, are being trained in identification and management of IAS through workshops that are run in parallel with both the field surveys and provision of online resources (photo galleries). On-line support and engagement will widen communication and support project sustainability, contributing to effective prioritisation of conservation funds. The survey methods and database structures will be comprehensively documented to facilitate knowledge transfer to other OTs and/or military bases.

One aim of the present project is to promote and encourage biological recording on the SBAs, therefore we ran a capacity-building workshop "Capacity Building in Monitoring and Surveillance of native and non-native species" on 31stAugust 2017 at the Akrotiri Environmental Education and Information Centre (AEEIC). The workshop focused on recording (both paid and voluntary) on the SBAs and in the Republic of Cyprus. Representatives of the biological recording community both in the UK and in Cyprus gave presentations on the monitoring currently being undertaken in Cyprus, including on SBAs. These presentations are available on the project website http://www.ris-ky.eu/resources. As part of this activity, we created bilingual mini-guides (in English and Greek) to increase public awareness around IAS in Cyprus, as shown in the HY1 Report. We have distributed these within the AEEIC, the Department of Environment (Cyprus), and local schools.

Biosecurity training on mosquito control and management is provided through questionnaires and leaflets, and will in turn feed into the Code of Practice. This Code of Practice is being prepared in collaboration with participants in the workshop "Native and non-native vector management in the Eastern Mediterranean and the Middle East (EMME)" held in April 2018 (project year 2).We are also working with AEEIC education staff to incorporate mosquito awareness and management into their education programme. Annex 3.1.2 shows leaflet that the team designed and will distribute through the military and the AEEIC.

We are also developing a pollinator monitoring recording scheme with the AEEIC, the Cyprus Butterfly Study Group and a PhD student from the University of Cyprus (UCY); the methodology for this work is based on the established UK Pollinator Monitoring Scheme and we have developed an associated online recording system see Figure 2 below. This will provide an opportunity to develop further research on the impacts of non-native species on ecosystem function.

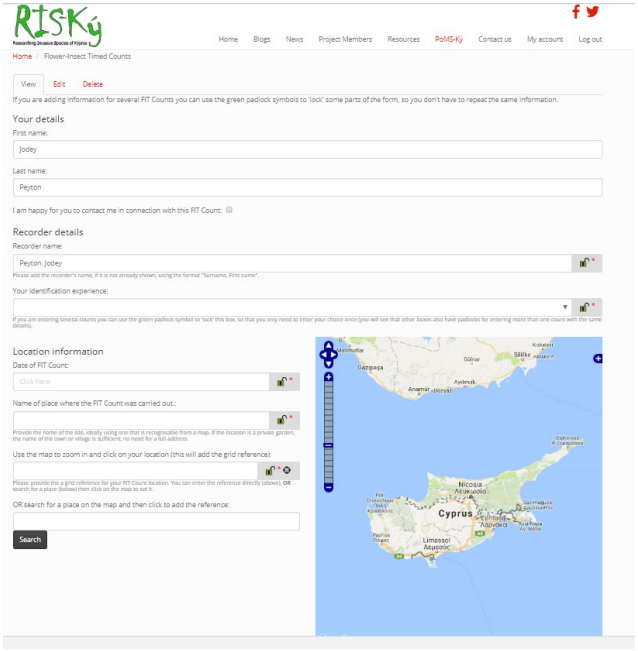

Figure 2. Screen shot of PoMS-Ký online recording form

We started to develop this Pollinator Monitoring Scheme Kýpros (PoMS-Ký) in March 2018 and it will be described in more detail in the final project report in 2019. We will record pollinators and begin investigations of the interactions between alien plants and pollinating insects. We are also working with AEEIC to incorporate "Flower-Insect Timed Counts" (FIT counts – part of the PoMS methodology) into the AEEIC education programme.

In the marine environment we have been implementing structured surveys with volunteer divers from the SBA. The surveys involve photographing at metre intervals along a 25 metre transect and counting selected IAS on the return swim along the transect. The UCY are working with SBA divers to establish these monitoring transects. These surveys will be carried out alongside professional UCY surveys. The marine surveys have been promoted through 2017-2018 and we are recruiting additional volunteer recorders during 2018-2019 through meetings with the SBA Dive Club.

2. Project stakeholders/partners

We have been working closely and fruitfully with all our key stakeholders listed in our bid proposal: the RoC Fisheries and Marine Research; Forests; Water Development; Ministry of Interior (Game Fund), universities and institutes in the RoC, local communities, district Development Agencies, individual experts drawn from education, NGOs and private practice, school children and senior citizens

We ran two workshops during the period April 2017 to March 2018. The participants in the workshop on Horizon Scanning in April 2017 are listed in Annex 3.1 and those or the Capacity Building workshop in Annex 3.2. Annex 3.2.1 highlights the feedback from these workshops. Resources from the workshops (including presentations), book chapter, outreach materials and reports for the project to date, are listed here.

Throughout the year, we have worked closely with the AEEIC (part of the SBA) and their education staff to ensure our work is communicated effectively. Over 10,000 English and Cypriot children a year visit the centre, as well as a large number of tourists. AEEIC has proven an ideal venue for communicating our work. We have developed an excellent working relationship with the Republic of Cyprus Departments for the Environment and Water, both through our workshops and monitoring activities. Additionally we have had two meetings at the Department for Environment to discuss the details of our work programme. We are working closely with officials from both departments to ensure that we undertake valuable and relevant research. A meeting was held at the Akrotiri SBA on November 30th 2017 with the divers of the West SBA Subaqua club. The field survey method was described to the divers, and equipment and species guides were handed out so that they could carry out the Underwater Visual Census. It is important we

ensure that we continue to work and engage with volunteers as motivation and communication are key to stakeholder engagement.

3. Project Progress

3.1 Progress in carrying out project Activities

WP1: Horizon Scanning

The horizon scanning workshop was conducted in April 2017, with the participation of local, regional and international experts. This workshop produced and assessed a list of IAS that were then prioritised for monitoring. See Annex 3.1.1 for the abstract for this paper.

WP2: Surveillance and modelling of species distributions

Aquatic surveys: In the autumn of 2017 and the early winter of 2018, we established contacts with a range of freshwater fish ecologists from around the world, through personal contacts, literature searches and internet searches. Through this network we explored sampling options for a fish monitoring programme addressing killifish and mosquitofish which would meet the objectives of the present project, bearing in mind the complex and changing physico-chemical conditions of the study site. The sampling has also been designed to ensure it can be feasibly continued after the project close in March 2019, with the minimum of resources.

The use of non-destructive baited traps was determined to be the most appropriate technique for use in the small low salinity water bodies of the Akrotiri Peninsula. We have developed a specific methodology modified from a protocol used by the Environment Agency in the UK, to monitor small invasive fish species. From Monday 26 February to Friday 2 March 2018, collaborative experimental trapping by CEH, JSHU and AEEIC staff, supported by the use of underwater cameras, was performed at a total of nine water bodies to determine appropriate set durations and optimum within-habitat locations of traps. These investigations were necessary because previous trapping by colleagues at Akrotiri using simple unbaited traps had readily caught killifish but very rarely caught mosquitofish. This work suggested that the successful trapping of mosquitofish required that the trap mouth be set so that it operated right at the water surface. During this week of primarily overnight trapping, totals of 1,138 killifish and four mosquitofish were captured and measured before being returned alive to the water. In addition, an Akrotiri colleague was trained in the field operation of a probe which allowed water temperature, dissolved oxygen and conductivity to be measured at the start of all trapping events. The results so far confirm that the developed trapping technique was suitable for monitoring this previously elusive *Gambusia* species. Further trapping at a range of sites (to be undertaken by JSHU staff) is planned for spring and autumn 2018 when there will be sufficient water in the pools to allow sampling. This sampling programme will achieve the monitoring for these species.

Marine Surveys: The list of IAS for marine species was prioritised for monitoring, and was disseminated to stakeholders and volunteers in the Akrotiri SBA. Mapping of the marine IAS is expected to be completed by August 2018 as planned, since sampling is progressing without major problems. The IAS surveillance strategy had already been developed, by the UCY for the marine species and disseminated to volunteers and stakeholders at the Akrotiri SBA. The methodology protocol for recording marine invasive species in the Akrotiri and Dhekelia SBAs was shared with the WSBA Subaqua Club Members at the Akrotiri SBA in November 2017.

The team monitoring the marine IAS are also carrying out snorkelling and diving surveys to record the presence of the identified target species. The participation of volunteer divers for additional data collection has been secured, which will increase the spatial and temporal coverage. Sampling for 2017 took place as planned in Akrotiri and Dhekelia SBAs. Shallow sampling was carried out with snorkelling in August 2017 in the Akrotiri SBA using the Underwater Visual Census methodology protocol. Further sampling was carried out in the same SBA using diving in November 2017. The sampling scheduled for February 2018 in Akrotiri SBA was not carried out but one is planned for mid-April 2018. In Dhekelia SBA, baseline surveys were carried out in September 2017 and March 2018 with diving.

Preparation of an SBA atlas of marine IAS, occurrence maps, and lists of invaded habitats will be completed by the end of the project.

Botanical Surveys: The field survey seeks to assess the current distribution and abundance of all vascular plant IAS within the two main SBAs, the habitats within which they occur and their status (planted, naturalised, [probably] casual *etc.*) During February and March 2018, a comprehensive survey took place of the Akrotiri SBA together with a pilot survey of the Dhekelia SBA. The survey mapped around 2200 occurrences of around 500 species (non-natives and natives combined; final total dependent on completion of data cleaning), with the most widespread non-natives being *Acacia saligna, Eucalyptus* spp., *Aster squamatus* and *Conyza bonariensis*. Five species that are apparently new to the flora of Cyprus, and have the potential to become invasive, were recorded in non-cultivated situations: *Chasmanthe aethiopica, Freesia leichtlinii, Tamarix aphylla, Pennisetum purpureum* and *Polygala myrtifolia*. Since the methodology used roads and tracks, the most commonly assessed habitat was that of disturbed verges. Among the other habitats covered by the survey were shelter belts of cypress or eucalyptus, groves (citrus, olive), arable land, waste ground, annual-rich grassland, phrygana and transition to maquis, saltmarshes, reed-swamp, sand-dunes and plantations. Most urban areas are excluded from the SBAs, but some attention was paid to Akrotiri village. The main output of the survey was a GPS-based map of the occurrences of IAS, with abundance assessed at each occurrence using a "DAFOR" scale (*i.e.* Dominant, Abundant, Frequent, Occasional, Rare). The database of records collected will be cleaned, processed in *R* (e.g. see Fig. 3 below), and ultimately shared through the Global Biodiversity Information Facility (www.gbif.org); the shared dataset will also be described in a data paper in the *Biodiversity Data Journal*. The hundreds of photos taken by us in the field of species and habitats will also be used to illustrate the CYIAS (Cyprus IAS) database that we are currently making available through our website (see http://www.ris-ky.eu/news/invasive-species-database-cyprus-coming-soon).

The methodology differed from that described in the October 2017 report mainly in terms of the scale of the grid employed. A regular grid of 500 x 500 m proved too detailed for the time resources available and the survey thus adopted a "tetrad" grid *i.e.* cells of 2km x 2km, a scale commonly used for floristic mapping in the UK. In addition to the mapping of IAS occurrences, attention was paid to the native (semi-)natural vegetation. No comprehensive listing of native species was practicable, but the survey did record dominant and abundant species, as well as those of some nature conservation interest.

Taxon survey progress

Over two weeks in February and March 2018, the survey of the Akrotiri SBA (with Episkopi) covered all the land area from Avdimou ("Kyrenia") beach in the west eastward to the outskirts of Lemesos city, and south to Akrotiri airfield. The much shorter survey of the Dhekelia SBA comprised sampling of a representative range of habitats, including phrygana, shoreline and disturbed ground by the base itself, agricultural land near Xylotymvou and limestone pavement at Potamos. Thirty-eight tetrads were assessed in total *i.e.* some 152 km^2 of the two SBAs (Fig. 3).

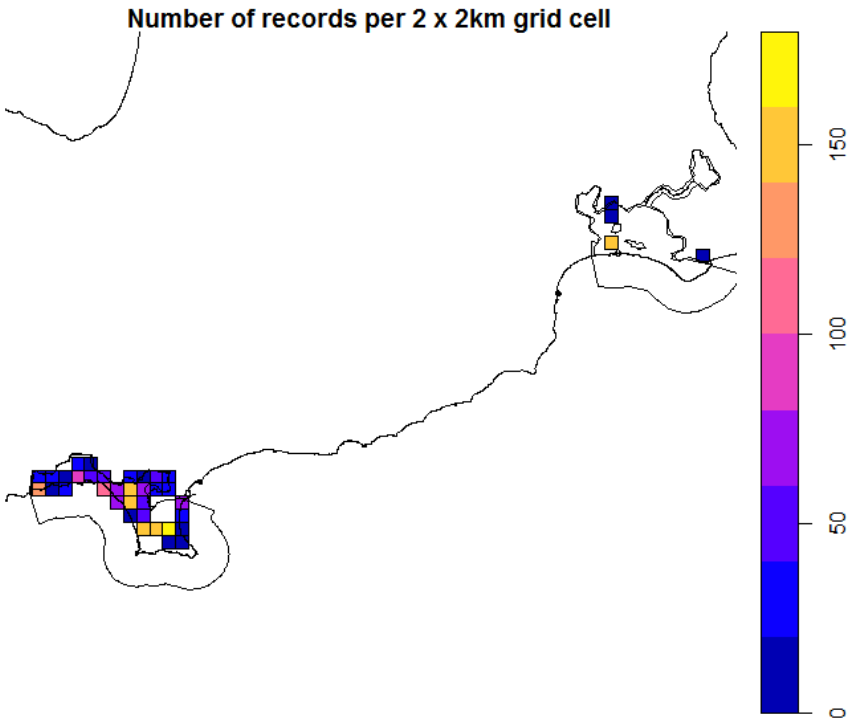

Figure 3. The number of records (*i.e.* species occurrences) per 2 x 2 km UTM grid cell. The territory to the left of the map is the Western Sovereign Base Area (Akrotiri); that to the right the Eastern Sovereign Base Area (Dhekelia).

The February/March survey in the SBAs achieved the planned targeted mapping of IAS for Akrotiri and began the process for Dhekelia, as well as augmenting this mapping with information on contextual habitats and native plant species. It was originally intended that at least 10 IASs be mapped in this exercise - the spring 2018 survey actually identified and mapped around 20 such IAS, with additional records of numerous other non-native and native species. The supplementary data gathered allow provisional vegetation and habitat mapping of Akrotiri, although completion of this work will require a further survey in 2019, especially with regard to Dhekelia.

Discussion of strategies for surveillance and field-based monitoring of IAS, not only in the SBAs but also more widely in Cyprus, began both within the project team and in discussion with local stakeholders as described above during the spring survey of 2018 (see Annex 3.1 and 3.2).

Mosquito Surveys: Mosquito surveys have taken place every two weeks, using active surveillance methods as a component of an early warning rapid response system, since the start of the RIS-Ký project. Biogent BG Sentinel traps with Biogent BG lure, which are considered ideal for the monitoring of non-native *Aedes* mosquitoes, are placed at points of entry such as the RAF Airport and the SBA entry point within the Limassol port and neighbouring spots. Collected specimens are identified to species level at the Laboratory of Vector Ecology and Applied Entomology, JSHU. To date there have been no occurrences of non-native mosquitoes entering Cyprus but a number of native species are being captured regularly, records are kept in a database at JSHU and will be made available through the project reporting. In parallel to the surveys we are raising awareness regarding invasive alien mosquitoes through posters and leaflets and 1-2 hour events addressed to either schools or citizens who wish to find more about mosquitoes and vector borne disease. For these raising awareness events we use the facilities of the AEEIC.

WP3: Biosecurity and capacity building

Capacity building is an ongoing commitment within our project. We held a capacity building workshop in August 2017 (see above) and will hold another, small stakeholder event in 2018-19, alongside continued engagement with AEEIC, JSHU, military staff and civilians.

3.2 Progress towards project outputs

We have completed Output 1 within WP1: Horizon scanning and IAS of concern listed for Akrotiri OT and other OTs in Cyprus. The Horizon Scanning Workshop was completed and was a success, as the methodology was revised to include both the SBA and Cyprus, thus increasing the scope of the workshop. The Department of the Environment (Cyprus), attended the workshop and were happy with the results and the ultimate species listings.

We are progressing well and on schedule with Outputs 2 (Targeted mapping of IAS for Akrotiri and other OTs in Cyprus) and 3 (IAS surveillance strategy developed with target audience). Details of these Outputs are included within WP2 and WP3 (see above).

Output 4 (Training and capacity building provided for OT government staff on the identification and management of IAS) has commenced, but will be ongoing through year 2 with a training workshop for AEEIC staff on pollinator counts and increased awareness around mosquito species and reducing the impact, as well as the development of a code of practice.

Output 5 (Effective project management and reporting) is ongoing, with the completion of the half year report in October 2017. The RIS-Ký team had 13 project team meetings during the project year 2017-18 and communicate regularly by email / Skype.

3.3 Progress towards the project outcome

There indicators for measuring the achievement of the project Outcome (as listed in the Log Framework) are proving relevant and adequate. The project outcome of developing sustainable surveillance of current and potential future IAS in OTs in Cyprus, supported by local organisations and stakeholders, founded on a robust and open evidence base is progressing well and will be completed on time (March 2019) and to budget.

3.4 Monitoring of assumptions

Please see Annex 3.4 for the risk register created for the project.

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

As mentioned in section 1; The UKOT biodiversity strategy prioritises: *(i) obtaining data on the location and status of biodiversity interests and the human activities affecting biodiversity to inform the preparation of policies and management plans (including baseline survey and subsequent monitoring); (ii) preventing the establishment of IAS, and eradicating or controlling species … already … established*. This first year has allowed collaboration and capacity building between Cyprus and the Sovereign Base Area staff, and highlighted important links and gaps in monitoring the environment. Data collected in this project is generating baseline data on the biodiversity of the SBAs which links to the UKOTs biodiversity strategy i) and will feed into ii). Additionally, the mobilisation of the CYIAS database will provide baseline data for future surveys and will be maintained by Cypriot project partners after the completion of the project.

We have collected data so far on: a) the locations of populations of native (*Aphanius fasciatus*) and non-native (*Gambusia holbrooki*) low salinity fish species; b) non-native marine fish species; c) locations of populations of plant IAS within Akrotiri SBA, with an estimated abundance of IAS at each mapped location; and we also have collected information on associated native species at each occurrence of IAS. For the mosquito surveys, we have established an early warning rapid response system for *Aedes* species in collaboration with the local Cypriot authorities and the Ministry of Health. We have also drafted a Code of Practice for the management of mosquito species in Cyprus, which will have relevance across Europe.

4. Monitoring and evaluation

In order to monitor and evaluate our project progress, we hold regular formal team meetings and also record 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 are measured against the measurable indicators in the Log Framework. There have been no changes to the M&E plan in this first year.

CEH work with JSHU and the UCY to ensure that we are all working towards best practice in this. We have regular e-mail and Skype meetings during which we assess progress against the stated measured indicators and associated means of verification.

As part of the monitoring and evaluation for this project we give workshop participants feedback forms, an example of which is included as Annex 3.5. The results of the feedback for the two workshops are listed in Annex 3.6. The feedback scores for both workshops are given below with the average score, per institutional sector, out of a maximum of 10. For our first workshop (Horizon Scanning) and second workshop (Capacity Building) the average feedback scores were 8.2/10 and 8.6/10 respectively.

5. Lessons learnt

Through this first year, a network of stakeholders has been developed that has proved exceptionally effective in ensuring the relevance of project tasks. We are keen to ensure that we maintain motivation and enthusiasm in all volunteer communities with which we work and so we have adapted methods to ensure that the tasks continue to be achievable.

During its first year, project progress and outputs have been as planned and desired. Consequently 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.

We are finding our successful collaborations extremely rewarding and insightful and will this year, continue to build on our existing networks.

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

Not applicable.

7. Other comments on progress not covered elsewhere

Methods have been refined in line with comments and stakeholders (particularly volunteers) to ensure uptake and participation while meeting the overall project aims.

There have been no significant difficulties or particular risks.

8. Sustainability and legacy

We have been working with all our collaborators to promote the project across the SBA, Cyprus and Europe as a whole (as demonstrated by our workshop attendees lists). Our central theme is the development of approaches that are applicable to OTs on Cyprus (and elsewhere), and which can be applied and continued by local personnel and stakeholders. Training events throughout the project and provision of support resources, together with stakeholder involvement form an essential part of the project, ensuring the immediate knowledge gains are sustained and augmented beyond project completion.

The project has high level support from both British Forces Cyprus and the JSHU, whose personnel will be trained in techniques that will ensure consistent monitoring of IAS and assessment of their impact (*e.g.* invasive fish studies and control programmes that will be undertaken after the end of the project). These approaches are documented online through our website. Relevant Akrotiri personnel are being trained in priority biosecurity measures identified in the earlier stages of the project. Online support and engagement will widen the communication and support network on IAS and contribute to the sustainability of the project.

9. Darwin identity

The project team has attended two conferences in the FY 2017-18: a) British Ecological Society (BES) conference on the macroecology of invasive alien species in Durham, UK; and b) EMAPI (International Conference on Ecology and Management of Alien Plant Invasions) in Lisbon, Portugal. The Darwin Initiative logo is on our website www.ris-ky.eu 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 and we regularly refer to our Darwin

Initiative project when presenting other work. We are also active on through the project Twitter account.

This project is a distinct project and we have made it clear in all our communications that Darwin Initiative funded this work. Darwin Plus had previously funded a project on the Akrotiri Marshes and is thus already a well-known funder of projects within the SBAs.

Please see Annex 3.6 for a copy of the poster that we have presented at several workshops.

10. Project Expenditure

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2017 – 31 March 2018)

Project spend (indicative) in this financial year	**2017/18 D+ Grant (£)**	**2017/18 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)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2017-2018 – <u>if appropriate</u>

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
Impact: Assessment of IAS and capacity building in OTs in Cyprus to facilitate sustainable monitoring and future assessment in order to minimise detrimental impacts on human health, biodiversity and ecosystems.		We have generated baseline data for invasive plants, marine and freshwater fish which can be used by SBA staff to develop management plants	Continue surveys and working with local stakeholders to share information around minimising impacts of IAS in SBAs in Cyprus
Outcome: (Max 30 words) .	0.1 Horizon-scan and IAS of concern for Akrotiri OT and other OTs in Cyprus completed and accepted by community of stakeholders [Dec 2018].	We have completed the horizon scan exercise and compiled a ranked list of over 250 species of concern to biodiversity and human health in the SBAs and Cyprus as a whole	This list is complete. Our key action is to write this into a manuscript, which is in the final stages of draft.
	0.2 Inventory of IAS for Akrotiri OT that is the result of a set of documented search strategies [Jan 2019].	We are well under way in compiling this inventory.	Continue to complete documenting the native and IAS of the OTs
	0.3 IAS surveillance strategy produced and accepted by community of stakeholders [May 2018].	We have been working with the stakeholders listed in part 2 to ensure the activities listed throughout the report are carried out.	We always seek to ensure that all stakeholders are happy with the project development and will continue to do so for 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
	0.4 Training and capacity building workshops increase awareness of IAS, promote the evidence-based approach to surveillance and management, and change behaviours and attitudes towards IAS [Mar 2019].	We held a capacity building workshop in August 2017 and have created leaflets, FSC mini-guides and logoed pens	We will be undertaking a small training and engagement in pollinator monitoring exercise in autumn 2018 and a capacity building and project close workshop in spring 2019
	0.5 Project clearly documented, providing model example for other OTs and territories developing strategies for prioritising effort in matters concerning IAS surveillance and management [Mar 2019 – papers from here onward].	We have been recording our progress within the project website www.ris-ky.eu and in close communications through a different project we are undertaking on UK OTs and are keen to share experiences of SBA work with them.	Continue to publicise the work we are undertaking through the website and manuscripts.
Outputs: **1.Horizon-scanning and IAS of concern listed for Akrotiri OT and other OTs in Cyprus**	1.1 List of IAS developed and agreed (Horizon scanning workshop) [May 2017].	Complete	
	1.2 IAS list prioritised for monitoring and remedial action (workshop and follow on discussions) [May 2017].	We have developed a list of over 200 IAS considered to be of concern for biodiversity and human health We used this list to prioritise monitoring methodologies	This work package output is complete.

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
2. **Targeted mapping of IAS for Akrotiri and other OTs in Cyprus**	2.1 Mapping of at least 10 IAS [Aug 2018].	We have mapped the distribution of over 10 IAS within the SBAs of Akrotiri and Dhekelia in Cyprus	We will continue to monitor the mosquitoes, plants and freshwater fish and marine species in Akrotiri and Dhekelia
	2.2 Completed vegetation and habitat mapping of Akrotiri and other OTs in Cyprus, where resources allow, with overlay of IAS occurrence [June 2018].	February and March 2018, we completed a comprehensive survey took place of the Akrotiri SBA together with a pilot survey of the Dhekelia SBA. The survey mapped around 2200 occurrences of around 500 non-native and native species in total	We will continue mapping plants in Dhekelia in 2018-19
3. **IAS surveillance strategy developed with target audience**	3.1 On-line recording being undertaken (focused on at least 10 priority IAS) [Mar 2019].	We are mobilising data from the CYIAS database, developed by Dr Martinou as part of a COST Action Short Term Scientific Mission	To ensure this database is able to be updated
	3.2 Design of locally implementable field-based strategy for Akrotiri and other OTs finished [May 2017].	We have completed survey methodologies (see the HY1 report for documented survey methods.	We will revise methodologies as necessary given the survey conditions.

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
4. Training and capacity building provided for OT government staff on the identification and management of IAS	4.1 Project start-up meeting and scoping survey finalise precise scope of subsequent workshops and surveys [April 2017].	We met with the project team whilst in Cyprus in March 2017, prior to the project start, to meet the team and discuss project development. We have had 14 formal project meetings between various group members in 2017-18	Complete
	4.2 Pre-survey workshop and training event occurs [April - June 2017].	We discussed survey methods with SBA staff and between the project team	Complete
	4.3 Capacity building, through events at JSHU and the Akrotiri Environment Centre, webinars, information leaflets etc. [until Mar 2019].	We ran a capacity building event in August 2017 and have been developing educational material with the AEEIC staff for pollinator surveys.	Run at least one more training event with the AEEIC on survey methods, continue training JSHU and military staff on fish and marine surveys and develop educational material on mosquitoes with the AEEIC for school children
	4.4 Year 2 training workshops building on survey and biosecurity issues highlighted in Year 1 [May 2018].	Workshop attendees completed feedback forms for the workshops run in 2017-18	We will use the information collected to design the 2018-19 workshop

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
5. Effective project management and reporting	5.1 Teleconference to assess year 1 and set up for year 2 [Oct 2017].	Rather than one specific teleconference for this action, we have been maintaining regular contact with the project team	
	5.2 Progress teleconference meetings [Quarterly to Dec 2018].	We have been having regular meetings	We schedule monthly meetings which all the team endeavour to attend
	5.3 Annual Report [Mar 2018].	Complete April 2018	
	5.4 Half year report [Oct 2017, Oct 2018].	Oct 2017 complete	
	5.5 Project closure meeting [Feb 2019].		We will run this Feb/Mar 2019 to coincide with fieldwork
	5.6 Final report [Mar 2019].		Revise date to 3 months after project completion
	5.7 Publications [from April 2019].	Draft manuscript on Horizon Scanning	Proposed papers on Code of Practice on mosquito surveillance and management across Europe, Capacity building and monitoring needs in Cyprus.

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed) - <u>if appropriate</u>

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.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Assessment of IAS and capacity building in OTs in Cyprus to facilitate sustainable monitoring and future assessment in order to minimise detrimental impacts on human health, biodiversity and ecosystems.			
Outcome: (Max 30 words) Sustainable surveillance of current and potential future IAS in OTs in Cyprus, supported by local organisations and stakeholders, founded on a robust and open evidence base.	0.6 Horizon-scan and IAS of concern for Akrotiri OT and other OTs in Cyprus completed and accepted by community of stakeholders [Dec 2018]. 0.7 Inventory of IAS for Akrotiri OT that is the result of a set of documented search strategies [Jan 2019].	0.1 Horizon scan workshop completed successfully, with attendance from local and regional experts and stakeholders. Reports produced and scan results to be published in peer-reviewed journal. 0.2 Inventory published on website and in open access biodiversity journal.	0.1 Predicted effort sufficient to complete survey. Survey strategy approved by stakeholders. 0.2 Stakeholders interested in contributing.

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Outputs: **1.Horizon-scanning and IAS of concern listed for Akrotiri OT and other OTs in Cyprus**	1.3 List of IAS developed and agreed (Horizon scanning workshop) [May 2017]. 1.4 IAS list prioritised for monitoring and remedial action (workshop and follow on discussions) [May 2017].	1.1 Workshop report and horizon scanning publication. 1.2 List of IAS prioritised for monitoring and remedial action (workshop and follow on discussions). List hosted on project website and in reports.	1.1 Stakeholders interested in attending. 1.3 Prioritisation process has support from stakeholders.
2. **Targeted mapping of IAS for Akrotiri and other OTs in Cyprus**	2.3 Mapping of at least 10 IAS [Aug 2018]. 2.4 Completed vegetation and habitat mapping of Akrotiri and other OTs in Cyprus, where resources allow, with overlay of IAS occurrence [June 2018].	2.1 Maps available hosted on project website and in reports. 2.2 Available on project website and in reports.	2.1 Surveys completed in timely fashion. Effort adequate for mapping of 10 species. 2.2 Required effort sufficient for completing task.
3. **IAS surveillance strategy developed with target audience**	3.1 On-line recording being undertaken (focused on at least 10 priority IAS) [Mar 2019]. 3.2 Design of locally implementable field-based strategy for Akrotiri and other OTs finished [May 2017].	3.1 Website operational and functions as expected. 3.2 Evidence-based field-based strategy available on website, and published if appropriate.	3.1 Stakeholders find the website useful. 3.2 Resulting strategy has support from stakeholders.

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

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

Project Implementation timetable:

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

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

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.	
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.	Y
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.	Y
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.	N
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Y
Do not include claim forms or other communications with this report.	