

6.12 Annex L – Economic Evidence

Table: A visual representation of the possible benefits arising from this programme (from option 2: The Preferred Way Forward), the mechanisms through which the benefits are realised, the estimated size of the impact, and where most of the benefits will be located. To note, the size of impact may be higher for some of the benefits classed as ‘medium’. However, we do not yet know which projects Darwin Plus will fund in future rounds and so we want to avoid over-stating potential benefits.

<u>Benefit</u>	<u>Activity providing benefit</u>	<u>Size of Impact</u>	<u>Spatial Level of Benefit</u>	<u>Quantifiable?</u>	<u>Currently Monetisable?</u>
Improved Biodiversity	<ul style="list-style-type: none"> ➤ Manage habitats and ecosystems ➤ Manage species and populations ➤ Restoration of ecosystem services ➤ Coral reef conservation ➤ Management of invasive, non-native and damaging species 	High	Regional	No	No
Climate change adaptation/mitigation	<ul style="list-style-type: none"> ➤ Soil mapping ➤ Mapping marine and terrestrial environments ➤ Management of plastic waste pollution 	High	Regional	No	No
Training	<ul style="list-style-type: none"> ➤ Training weeks provided to undergraduate and postgraduate students ➤ Masters qualifications ➤ Training workshops held 	Medium	Local	Yes	No
Capacity and Knowledge building	<ul style="list-style-type: none"> ➤ Conferences /seminars/ workshops organised to present/disseminate finding from 	Medium	Local	Yes	No

	Darwin project work ➤ Lessons learnt shared ➤ Qualifications and Training provided to OT residents ➤ Species/habitat management plans produced for OTs				
Jobs	➤ Nature conservation ➤ Nature restoration	Low	Local	Yes	No
Post-project funding	➤ External funds post project leveraged	Medium	Local	Yes	Yes

Through this programme, we expect to see benefits of high social, environmental and economic value, for example:

- Important social and economic benefits: on average, for every US\$1 million invested in nature-based solutions, close to 40 jobs are created, which is equivalent to around 10 times the job creation rate of investments in fossil fuels⁸³.
- We expect to see significant benefits in avoided costs through this programme. In the European Union, annual costs of over €12 billion were estimated due to the impact of Invasive non-native species in 2008⁸⁴ - and estimates of the total annual cost of invasive non-native species to the British economy was approximately £1.7 billion per year⁸⁵.
- Biodiversity and in particular reefs are of significant benefit to the Overseas territories. In the British Virgin Islands the monetary benefit, both at national and local level, of coastal zone biodiversity (mangroves and nearshore reefs) could “provide protection to the minimum value of \$74 million per year in avoided costs, with benefits to a wide variety of sectors of society”⁸⁶. The impact of degrading reefs is around \$3.6 million to the BVI⁸⁷.
- Significant benefits in avoided costs through addressing climate change through this programme can also be achieved. Studies have shown climate change can have potentially negative impacts on ecosystems and diverse economic sectors at a cost of between \$1-12 billion per year for the Caribbean UKOTs⁸⁸.

83 Brandan, Levy and Studart (2020) “Designing the COVID-19 Recovery for a Safer and More Resilient World,”

84 See: [The Economics of Biodiversity: The Dasgupta Review \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) (Last accessed 29/12/2021)

85 See: [Report Template - new draft \(cabi.org\)](https://cabi.org) (Last accessed 28/12/2021)

86 See: [Summary of responses - GOV.UK \(www.gov.uk\)](https://www.gov.uk) (Last accessed 29/12/2021)

87 See: [An Assessment of the value of natural capital in the protective service against coastal and inland flooding in the UK Overseas Territory of the British Virgin Islands;](#) (Last accessed 29/12/2021)

88 See: [Gap Analysis of Economic Valuation Studies Completed in the Caribbean UK OTs \(jncc.gov.uk\)](https://jncc.gov.uk) (Last accessed 29/12/2021)

- The value of natural capital and the ecosystem services they provide to the UKOTs is vast and listed below for a selection of overseas territories:
 - Value of ecosystem services in Anguilla = \$52.8 million (all estimate value per year)⁸⁹.
 - Value of ecosystem services to tourism in British Virgin Islands is around \$194 million⁹⁰.
 - The total annual monetary value for the natural capital of St Helena is £3.51 million⁹¹.
 - The total annual monetary value for the natural capital of Turks and Caicos is £106.4 million⁹².
 - The total annual monetary value for the natural capital of Anguilla is \$248 million⁹³.

Additional benefits of Option 2 (The preferred way forward):

Darwin funded activities can demonstrate a positive BCR, an assessment of the Darwin Initiative project EIDPO44 found that, over a ten-year period, every £1 spent by Darwin establishing mushroom growing generated around £4 of income for participants⁹⁴. Darwin Plus in its current form and structure does not complete such VfM assessments, and a case for change is required for improving evidence and assessing costs and benefits of projects outcomes (hence their value for money). This option is also aiming to develop socio-economic indicators facilitating better assessment of the outcomes delivered by different projects⁹⁵. This is in line with the National Audit Office recommendation that monitoring the natural environment using satellite data can provide many benefits which includes cost savings, through reductions in physical inspections, near-real-time monitoring and improved spatial disaggregation⁹⁶. The total value of satellite-derived Earth Observation for government applications was estimated to have been £943 million p.a in 2018⁹⁷, given the remoteness of many of the UKOTs the benefits of monitoring the natural environment using satellite data would be pronounced as it would result in reducing the considerable travel time to the territories and travel costs as a result. Project DPLUS081⁹⁸ successfully built capability and knowledge in this respect, training 23 people in the use of remote sensing for environmental analysis whilst also using satellite data to map and model the marine and terrestrial environment in TCI and BVI. This project is expected to deliver financial savings over a 10-year period through the increased capability and improved evidence base as the trained staff can use the equipment now available to provide near-real-time monitoring for natural disaster monitoring (which too can provide financial benefits in avoided insurance/infrastructure costs from natural disasters). Although the benefits for this project have not been monetised, if only a fraction of the value satellite-derived Earth Observation for government applications has to the UK p.a was realised by this project then it would demonstrate the economic value of this and other similar projects Darwin Plus funds.⁹⁹

89 See: [Anguilla Natural Capital Accounts \(jncc.gov.uk\)](https://jncc.gov.uk) (Last accessed 29/12/2021)

90 See: [Gap Analysis of Economic Valuation Studies Completed in the Caribbean UK OTs \(jncc.gov.uk\)](https://jncc.gov.uk) (Last accessed 29/12/2021)

91 See: [St Helena Natural Capital Accounting \(jncc.gov.uk\)](https://jncc.gov.uk) (Last accessed 29/12/2021)

92 See: [Turks and Caicos Islands Natural Capital Accounting \(jncc.gov.uk\)](https://jncc.gov.uk): (Last accessed 29/12/2021)

93 See: [Anguilla Natural Capital Accounts \(jncc.gov.uk\)](https://jncc.gov.uk): (Last accessed 29/12/2021)

94 LTS International Ltd (2015) Darwin Initiative Value for Money Assessment: Value for money assessment of the 'Harnessing livelihood benefits from a payments for ecosystem services scheme' project (EIDPO044).

95 See Table 4 and Section 5.9.1 for further detail on costs and details of the indicator work propose under this option

96 See: [Environmental-metrics-governments-approach-to-monitoring-the-state-of-the-natural-environment \(nao.org.uk\)](https://nao.org.uk) (Last accessed 31/12/2021)

97 See: [LE-IUK-Value-of-EO-to-UK-Government-FINAL-forWeb.pdf \(londoneconomics.co.uk\)](https://londoneconomics.co.uk) (Last accessed 29/12/2021)

98 See: [Darwin Plus - DPLUS081 \(darwininitiative.org.uk\)](https://darwininitiative.org.uk) (Last accessed 29/12/2021)– Also see Appendix 2 for further information of key outputs for this project

99 To Note: Projects DPLUS063 and DPLUS132 are also using satellite data to monitor the natural environment.

There are likely to be benefits in terms of additional finance leveraged for this option also. Additionally, we could assume a broadly constant ratio of Darwin Plus grant plus co-financing to funding leveraged (allowing for the same diminishing returns and optimism bias as used to calculate the additional co-financing in this option and as under option 1 to calculate the additional approximate funding leveraged for environmental activities post-project if a greater sample of projects with additional finance leveraged was held. For this option it could in practice be higher in so far as restructured components may help to generate additional finance at higher rates than has been the case to date.

Additional benefits of Option 1:

There are likely to be benefits in terms of additional finance leveraged. Although quantitative data is held on the additional finance leveraged from only one project in round 6 of Darwin Plus projects, we could assume a broadly constant ratio of Darwin Plus grant plus co-financing to funding leveraged (allowing for the same diminishing returns and optimism bias as used to calculate the additional co-financing in this option) to calculate the additional approximate funding leveraged for environmental activities post-project if a greater sample of projects with additional finance leveraged was held. Additionally, through increased funding a greater number of Darwin Plus projects will take place that produce environmental outcomes such as the eradication of invasive non-native species¹⁰⁰. Not only do such projects deliver important environmental benefits such as halting biodiversity loss, but they also represent huge financial benefits in terms of avoided costs that take place over a 10-year period – long after the end of the project lifetime. In the European Union, annual costs of over €12 billion were estimated due to the impact of INNS in 2008¹⁰¹. Although the small relative area size of the UKOTs is not comparable to the European Union, the value of biodiversity and natural capital in the overseas territories is considerable. If the annual costs due to the impact of INNS to the UKOTs is considered to be even a fraction of this value, the benefits that such Darwin Plus projects deliver in terms of minimising the impact of INNS would provide significant financial benefits during and post project lifetime.

100 3 Darwin Plus projects from the latest funding round (round 9 - See Appendix 1 for further detail) have a specific focus on invasive species

101 See: [The Economics of Biodiversity: The Dasgupta Review \(publishing.service.gov.uk\)](#) (Last accessed 06/01/2022)

6.13 Annex M – Overview of Roles and Responsibilities in Darwin Plus Tiers

High-level overview of roles and responsibilities for Darwin Plus Main and Strategic

Key Area	Defra	Darwin Plus Advisory Group	Fund Manager	Delivery Partners
Grantee Selection	<p>Approves guidance.</p> <p>Oversees the Darwin Plus Advisory Group.</p> <p>Darwin Plus Programme Board awards funding.</p>	<p>Assesses applications and recommends proposals based on merit for funding.</p> <p>Reviews project level MEL plans and logframes.</p>	<p>Develops guidance</p> <p>Administration of application process.</p> <p>Assesses applicants MEL strategy.</p> <p>Undertakes financial due diligence.</p>	<p>Develops grant applications.</p>
Project level monitoring and reporting	<p>Reviews annual synthesis report.</p>	<p>Receives annual synthesis report.</p>	<p>Day-to-day point of contact for projects.</p> <p>Assesses and scores project reviews, before publication.</p> <p>Synthesises a project-level portfolio review.</p> <p>Conducts midterm reviews on a sample.</p>	<p>Reports against the agreed project-level MEL framework and in line with guidance.</p> <p>Quality assures results and assesses performance annually.</p>
Programme level monitoring and reporting	<p>Sets strategy.</p> <p>Accountable for programme risks.</p> <p>Owens MEL and reporting framework.</p>	<p>Advises Defra on the strategy.</p> <p>Reviews programme level MEL strategy.</p> <p>Receives the Annual Review.</p>	<p>Compiles and quality assures data.</p> <p>Updates programme logframe and results framework.</p> <p>Owens agreed risks; manages</p>	<p>Delivers activities to the agreed standard.</p> <p>Accountable for management of project risks.</p> <p>Timely and efficiently</p>

	<p>Reviews and publishes logframe.</p> <p>Reviews Fund Manager reports.</p> <p>Conducts and publishes Annual Review.</p> <p>Conducts and publishes Programme Review at end of Business Case cycle.</p>	<p>Receives Programme Review.</p>	<p>project risks, including fiduciary and safeguarding.</p> <p>Reports quarterly, annually and end of Business Case cycle.</p>	<p>escalates risks and issues.</p> <p>Reports progress to Fund Manager.</p>
<p>Payments and finance</p>	<p>Reviews and scrutinises deliverables to authorise payments.</p> <p>Controls the annual review/drafting of the Terms and Conditions.</p> <p>Approves funds to delivery partners.</p> <p>Delegates to Fund Manager to issue grants to awarded projects.</p> <p>Oversees the delivery and reporting of the budget.</p>	<p>None</p>	<p>Issues and signs grants on Defra's behalf.</p> <p>Reports on deliverables and finance to Defra.</p> <p>The Fund Manager issue and sign grants on Defra's behalf. Defra controls the annual review/drafting of the Terms and Conditions, and delegates to the Fund Manager to issue them to the awarded projects.</p>	<p>Submits reports to support efficiency of projects payments.</p> <p>Complies with spot checks, audits, and the T&Cs of the agreement.</p>

			<p>Administers financial change requests and payments to delivery partners.</p> <p>Conducts spot check audits on projects.</p>	
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High-level overview of roles and responsibilities for Darwin Plus Local

Key Area	JNCC	Defra	Fund Manager	Delivery Partners
Grantee Selection	<p>Co-develops and approves guidance with Defra.</p> <p>Assesses applications and recommends projects for funding.</p>	<p>Co-develops and approves guidance with JNCC.</p> <p>Oversees the Darwin Plus Advisory Group.</p> <p>Darwin Plus Programme Board awards funding.</p>	<p>Administration of application process.</p> <p>Assesses applicants MEL strategy.</p> <p>Undertakes financial due diligence.</p>	<p>Develops grant applications.</p>
Project level monitoring and reporting	<p>Reviews annual synthesis report.</p>	<p>Reviews key points at Darwin Plus Programme Board.</p>	<p>Day-to-day point of contact for projects.</p> <p>Assesses and scores project reviews, before publication.</p> <p>Synthesises a project-level portfolio review.</p> <p>Conducts midterm reviews on a sample.</p>	<p>Receives annual synthesis report.</p> <p>Reports against the agreed project-level MEL framework and in line with guidance.</p> <p>Quality assures results and assesses performance annually.</p>
Programme level monitoring and reporting	<p>Co-sets strategy with Defra.</p>	<p>Co-sets strategy with JNCC.</p>	<p>Compiles and quality assures data.</p>	<p>Delivers activities to the agreed standard.</p>

	<p>Owens MEL and reporting framework.</p> <p>Reviews and publishes logframe.</p>	<p>Accountable for programme risks.</p> <p>Reviews Fund Manager reports.</p> <p>Conducts and publishes Annual Review.</p> <p>Conducts and publishes Programme Review at end of Business Case cycle.</p>	<p>Updates programme logframe and results framework.</p> <p>Owens agreed risks; manages project risks, including fiduciary and safeguarding.</p> <p>Reports quarterly, annually and end of Business Case cycle.</p>	<p>Accountable for management of project risks.</p> <p>Timely and efficiently escalates risks and issues.</p> <p>Reports progress to Fund Manager.</p>
<p>Payments and finance</p>	<p>Reviews and scrutinises deliverables to authorise payments.</p> <p>Approves funds to delivery partners.</p>	<p>Manages the delivery and reporting of the budget.</p>	<p>Reports on deliverables and finance to Defra and JNCC.</p> <p>Administers financial change requests and payments to delivery partners.</p> <p>Conducts spot check audits on projects.</p>	<p>Submits reports to support efficiency of projects payments.</p> <p>Complies with spot checks, audits, and the T&Cs of the agreement.</p>