



**JNCC Report 739**

**Indicator K3: Status of endemic and globally threatened species in the  
UK Overseas Territories**

**Leah Farquharson and James Williams**

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**For further information please contact:**

Joint Nature Conservation Committee  
Quay House  
2 Station Road  
Fletton Quays  
Peterborough PE2 8YY  
[https://jncc.gov.uk/  
Communications@jncc.gov.uk](https://jncc.gov.uk/Communications@jncc.gov.uk)

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## Executive Summary

The UK Overseas Territories (UKOTs) are considered globally significant biodiversity hotspots, supporting complex ecosystems which are home to many species that are found nowhere else in the world. Species status assessments, such as the International Union for the Conservation of Nature Red List Assessments, are effective tools in understanding the level of threat facing these species. Using species status assessment, JNCC is quantifying the proportion of endemic species in the UKOTs that are considered globally threatened. These are species listed as Vulnerable, Endangered and Critically Endangered on the International Union for the Conservation of Nature Red List.

Indicator K3 is currently under development. Work is ongoing to create a species database for the UKOTs that can be used to assess the threatened status of endemic species. This year's interim publication presents statistics from the initial data collection.

JNCC has developed this indicator using data provided directly from the UKOT Governments and Administrations as well as species records from the [International Union for the Conservation of Nature Red List](#) and RSPB [The UK's Wildlife Overseas: a stocktake of nature in our Overseas Territories \(2014\)](#). It has not been possible to review all endemic species records at this stage. The remaining records are currently being reviewed by JNCC and the UKOT Governments and Administrations.

Results are presented as a combined indicator across all UKOTs and includes true endemic species only.

JNCC has calculated the proportion of endemic species in each IUCN Red List category based on the current endemic species database. As of January 2023, 45.5% of endemic species in the UKOTs are considered threatened. This is based on the current K3 endemic database which includes 653 records. Of these records, 75% have been assessed on the IUCN Red List (492 species). The remaining species records (161) are currently unassessed.

We are working to produce a full publication of the K3 indicator in 2024. The results from next year's publication will provide a baseline to measure change in the status of endemic species going forward.

These statistics will be used to inform national and international UK policy commitments, particularly reporting to the Convention of Biological Diversity and the UN Sustainable Development Goals as well as other UK Government policy areas. JNCC aims to develop and improve the statistics in ways that will support the work of UKOT Governments and inform non-governmental stakeholders and the wider public. Indicator K3 is published as an Experimental Statistic to facilitate users' and stakeholders' involvement in assessing its suitability and quality. JNCC welcomes feedback and suggestions on any aspect of the interim K3 indicator via [Communications@jncc.gov.uk](mailto:Communications@jncc.gov.uk).

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## 1. Introduction to Indicator K3

### 1.1. Indicator K3 – Status of endemic and threatened species in the UK Overseas Territories (UKOTs)

JNCC is developing a statistic to quantify the proportion of endemic species in the UK Overseas Territories (UKOTs) that are considered globally threatened. This first iteration of the K3 indicator presents the percentage of threatened endemic species in the UKOTs based on initial data collection alongside the technical background information. This indicator has been developed using data from the [International Union for the Conservation of Nature Red List](#) (IUCN Red List) and [RSPB The UK's Wildlife Overseas: a stocktake of nature in our Overseas Territories \(2014\)](#) (Stocktake). JNCC has also been working closely with the UKOT Governments and Administrations who have provided additional species records and reviewed the endemic status of species on the Stocktake. JNCC is continuing to review endemic species records with the support of the UKOT Governments and Administrations working towards a full publication of the K3 indicator in 2024.

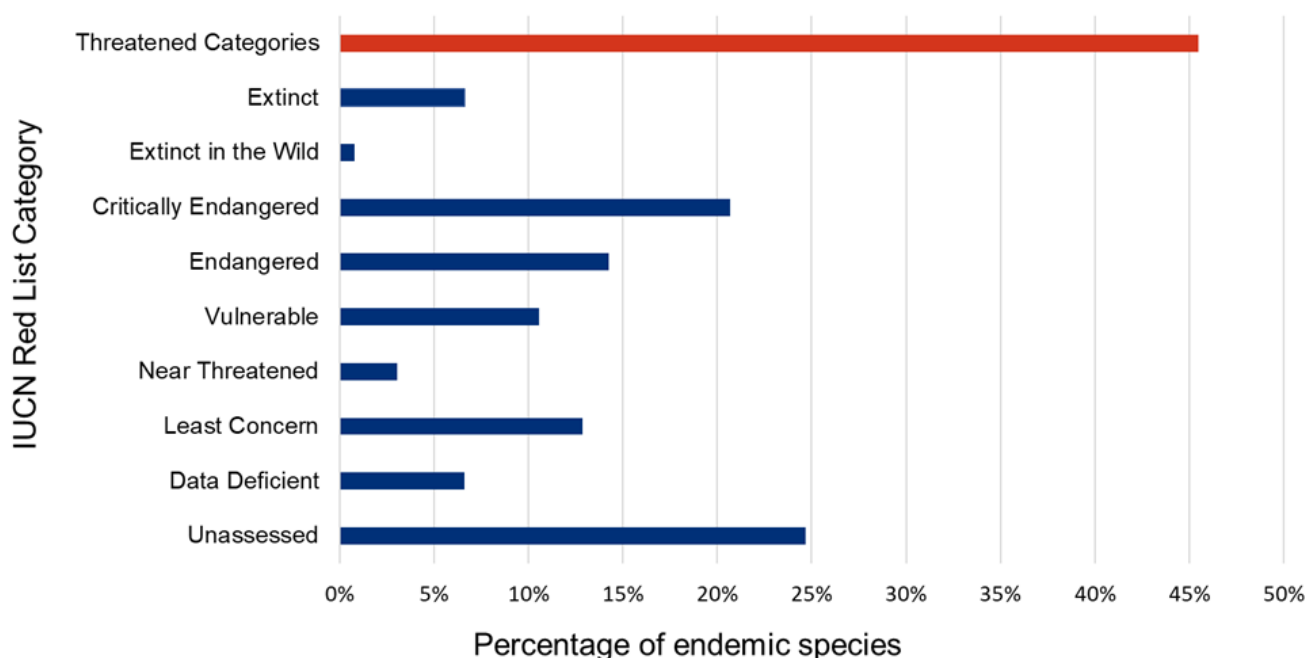
### 1.2. Purpose of the K3 Indicator

Indicator K3 will establish a baseline that can track changes in the threatened status of endemic species in the UKOTs over time. These statistics will be used to inform UK Government policy commitments including the Convention on Biological Diversity (CBD) specifically target 12 which refers to the prevention of extinction of known threatened species and the UN Sustainable Development Goals. In next year's publication links with the new Kunming-Montreal Global Biodiversity Framework will be made.

The results from the K3 indicator will also support work in the UKOT Governments, providing an evidence base of threatened endemic species which can support the prioritisation of resources for targeted conservation action. Quantifying and tracking threat levels over time will assist in communicating progress of conservation action in the UKOTs, as well as identifying species and regions that require further status assessments.

## 2. Status of endemic and threatened species in the UKOTs: Results

### 2.1. Status of threatened and endemic species in the UKOTs: Combined



**Figure 1.** Percentage of endemic species, in total (across all 13 UK Overseas Territories) within each IUCN Red List category. The figure also presents a combined threatened category.

**Table 1.** Number and percentage of endemic species, across all UKOTs, within each IUCN Red List category. The combined threatened category is presented in the first row.

IUCN Red List Category	Number of UKOT Endemic Species	Percentage of UKOT Endemic Species
<b>Threatened Categories</b>	<b>297</b>	<b>45.5%</b>
Extinct	43	6.6%
Extinct in the Wild	5	0.8%
Critically Endangered	135	20.7%
Endangered	93	14.1%
Vulnerable	69	10.5%
Near Threatened	20	3.1%
Least Concern	84	12.9%
Data Deficient	43	6.6%
Unassessed	161	24.7%
<b>Total (excluding threatened category)</b>	<b>653</b>	<b>100%</b>

As of January 2023, 45.5% of the endemic species in the UKOTs are considered threatened (Figure 1). These fall under the Vulnerable, Endangered and Critically Endangered IUCN Red List categories, with 69, 93 and 135 species under each category respectively (Table 1). This is based on the current confirmed endemic species list for the UKOTs which contains 653 records in total. Of the current endemic species list 24.7% (161 species) are unassessed (Figure 1, Table 1).

A further 6.6% and 0.8% of endemic species are considered Extinct or Extinct in the Wild respectively (Figure 1)

The 43 species listed as extinct were classified in this category pre-2010 prior to the adoption of the Aichi targets. One species, *Sympetrum dilatatum* (St Helena Darter), was listed as Critically Endangered (possibly extinct) in 2019 and reclassified as Extinct in 2020.

There has been an increase in the number of endemic species from the UKOTs assessed on the Red List since the publication of the Stocktake. RSPB reported 145 endemic species with Red List assessments in 2014 (as compared to 486 in 2022). This included 111 endemic globally threatened species as compared to the 297 endemic globally threatened species presented in this interim version of the K3 indicator.

The RSPB Stocktake assessment of known endemic threatened species in the UKOTs in 2014 reported that 77% of all endemic species fall within the threatened categories (Churchill *et al.* 2014). The variation between the results of the K3 indicator and the Stocktake is explained by the different methodological approach to assessing threatened status (Section 3.5)

Of the total current endemic species list, 75% have been Red List assessed (492 species). The current database primarily contains records from the IUCN Red List (Section 3.2).

As the K3 endemic species database expands, the proportion of unassessed endemic species is likely to increase. The cycle of assessment for the IUCN Red List will influence future updates to this indicator. Implications of this are discussed in section 3.7.

## 2.2 Status of endemic species in the UKOTs: By Region

This first publication of the K3 indicator is as an Experimental Statistic, in order to seek feedback from users and stakeholders. The publication of the K3 indicator presents a combined indicator across all UKOTs. In the future it is hoped to provide the results by geographic region or individual UKOT. This is anticipated to be in the 2024 or 2025 update of this indicator, subject to agreement with the UKOTs.

There is added value in grouping the territories by region or presenting individual UKOT data:

- Showing areas that have high endemism.
- Presenting areas with high conservation threat.
- Increasing the sensitivity of the indicator – detecting change in endemic species at a finer resolution and geographic scale.
- Prioritisation of resources for targeted conservation action.
- Detecting progress, or lack thereof, of conservation action.

## 2.3 Data Sources

The majority of records (486) for the development and publication of the interim version of the K3 indicator in 2023 have been obtained from the IUCN Red List with the remaining records either provided directly by the UKOTs or verified from the RSPB Stocktake.

The [International Union for the Conservation of Nature Red List](#) (IUCN Red List), produced by the Species Survival Commission, is an inventory of the global conservation status of biological species. It is a reliable source of information both in terms of scientific data and institutional knowledge. Assessments are based on a precise set of criteria that is used to evaluate extinction risk of species and subspecies, with data provided at global and regional level. The IUCN Red List is recognised as the most authoritative source of information on species conservation status; however it is dependent on species being assessed, and for those that have been there is no set period for reassessment. The Red List does not therefore cover all of the species known to exist on the UKOTs.

RSPB [The UK's Wildlife Overseas: a stocktake of nature in our Overseas Territories \(2014\)](#) is an inventory of recorded species in the UKOTs. It is based on a wide range of data sources including published and unpublished literature and direct communication with collaborating organisations and individual experts throughout the UKOTs. Prior to publication of the Stocktake, species lists for each territory were reviewed by relevant experts and were signed off by each UKOT.

The UKOT Governments have reviewed, and are continuing to review, endemic and possible endemic species from the Stocktake alongside providing their own internal species lists for the development of the K3 indicator. Due to the prominence of official data, information gathered from government sources, JNCC is confident in the accuracy of the data reported in this indicator.



### 3. Technical Background

This section describes the methodology and approach to developing this interim version of the K3 indicator.

#### 3.1. Geographic Scope

This indicator presents data from 13 of the 14 UKOTs. JNCC worked directly with nine of the 13 UKOTs in the development of this interim version of the K3 indicator. Due to capacity issues four of the UKOTs were unable to directly provide species lists but have given permission to include IUCN Red List data for their territory (See section 3.3).

The British Antarctic Territory was excluded in the development of the K3 indicator. The British Antarctic Treaty deals with matters relating to biodiversity conservation in this region.

#### 3.2. Data Collection

Indicator K3 was developed using data from the [IUCN Red List](#) and RSPB [The UK's wildlife overseas: A stocktake update of nature in our land-based Overseas Territories](#). Both databases were used as a starting point for developing an endemic species inventory for the UKOTs. Verification of the Stocktake endemic species list and additional endemic species records were provided directly by the UKOTs.

##### 3.2.1. IUCN Red List

The IUCN Red List will act as the primary source of information on the Red List status of endemic species. The IUCN Red List assesses species status at a global level which is applicable to the K3 indicator.

##### 3.2.2. Data download

An initial download for all species from the UKOTs was taken from the IUCN Red List in July 2022. This excluded the British Antarctic Territory, which is not included in this indicator, and Sovereign Base Areas of Akrotiri and Dhekelia (SBA). The SBA requires a specific search on the IUCN Red List using a polygon function. A previous search using this function for SBA did not produce robust data and therefore was not repeated for the final database. Data for the SBA was provided directly from the SBA Administration.

The IUCN data download was produced using the advanced function. This feature allows the user to select specific fields, in this case the use of a filter function that includes endemic status. Taxonomic data is downloaded as a separate file from the IUCN database. This was merged with the species data to produce a complete database that includes taxonomy, endemic status, assessment category and geographic range as applicable to this indicator.

Some species from St Helena, Ascension and Tristan Da Cunha were grouped as endemic across the region in the IUCN download. This was true for 279 records. A manual search in the 'rationale' column of the IUCN species database for endemic status confirmed which island each species was endemic to. 11 species were listed as endemic to St Helena and Ascension, and a further 22 were confirmed as endemic to St Helena, Ascension and Tristan Da Cunha. The remaining records were refined as endemic to one of these Islands. These records are included in this database as true endemics and not regional endemics.

A total of 486 true endemics with corresponding Red List assessments came from the IUCN Red List download and additional six records with corresponding Red List assessments directly from the SBA which were verified by JNCC on the IUCN website.

### **3.2.3. RSPB Stocktake**

The UK's Wildlife Overseas: a stocktake of nature in our Overseas Territories (2014) is a comprehensive inventory of all known species in the UKOTs. Its purpose was to provide a broad view of the biodiversity known to occur in each of the territories. It includes the number of endemic species occurring in the territories and the proportion which have had their conservation status assessed on the IUCN Red List. This assessment has highlighted knowledge gaps in different taxonomic groups as well as the need for increased Red List assessments in the UKOTs.

### **3.2.4. Reviewing endemic species from the Stocktake**

This Stocktake has acted as a reference point for endemic species in the UKOTs in the development of the K3 indicator. It includes an extensive list of endemic UKOT species, 1,368 in total, as well as 34 endemic subspecies and 223 possible endemics.

Of the 1,368 endemic species, 332 are assessed on the IUCN Red List as of July 2022. The remaining 1,036 records will be reviewed by the UKOT Governments and taxonomic experts to confirm endemic status.

### **3.2.5. Possible endemics and endemic subspecies**

A review of the 33 endemic subspecies in the Stocktake has shown 15 are assessed on the IUCN Red List. Of these 15 records, seven subspecies are not endemic, six are near or regional endemics and two are endemic. The endemic subspecies were added to the database.

Of the 223 possible endemic species in the Stocktake, nine have been assessed on the Red List. A review of these records has shown that three are endemic, four are regional endemics and the remaining two species are not endemic. The remaining 214 records are undergoing a review with the UKOT Governments.

## **3.3. Engagement with the UK Overseas Territories**

JNCC has pursued direct engagement with UKOT Governments on the development of the K3 indicator. Official government and expert local and taxonomic knowledge have been essential in verifying endemic status particularly for species that are not listed on the IUCN Red List.

Of the 13 UKOTs that form this indicator, nine of the territories have verified the stocktake species as well as providing additional records. The remaining four territories have given permission to present the K3 indicator this year using data from the IUCN Red List. The current database contains 161 records that have been provided directly from the UKOTs and are currently unassessed on the IUCN Red List. Work is ongoing to develop a full endemic species database with support from the UKOT Governments and Administrations.

### 3.4. K3 Indicator Development – regional endemic and subspecies

Regional endemics are not included in this interim version of the K3 indicator. There are 22 regional endemics listed on the IUCN Red List, including a further 214 possible endemics on the Stocktake that need to be verified. These records will be reviewed, and the geographic range of each species confirmed. It is anticipated that these will be included in some capacity in next year's publication. Discussions are ongoing on the best approach for including these data.

Subspecies are not included in the current version of the K3 indicator. We cannot say at this stage whether these will be included in future updates to this statistic.

### 3.5. Calculating endemic species status

The status of threatened endemic species in the UKOTs, as well as the percentage of species in each IUCN Red List category, has been calculated as a percentage of the number of species in each category against the total number of species. The total number of species includes those listed as data deficient and unassessed. Data deficient and unassessed species have been recorded as separate categories. A taxon is data deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution or population status. Unassessed species have not had an assessment of data availability and therefore cannot be categorised as data deficient:

**% Threatened Status = (Vulnerable + Endangered + Critically Endangered) / Total Species (Inc Data Deficient and Unassessed)**

We have included the data deficient and unassessed records in the percentage threatened status to give a more representative statistic that includes all species recorded for this indicator.

#### 3.5.1. RSPB Stocktake Threatened Species Status

RSPB calculated the percentage of endemic species in the UKOTs in the Stocktake assessment in 2014 using the following equation:

**% Threatened Status = (Vulnerable + Endangered + Critically Endangered) / (Total species (Exc Data Deficient, Extinct and Unassessed))**

Data deficient, unassessed and extinct species were removed from the total species used to assessed threatened status in the Stocktake calculations.

Assessing threatened status of our current database using the RSPB calculation above gives a figure of 73.1% of species in the threatened categories. This is comparable to the figure quoted by RSPB in 2014 (77%). The number of endemic UKOT species that have been red list assessed has increased since the publication of the Stocktake in 2014 (section 2.10) which can explain the small differences in these figures. We are confident that our data is representative of the status of threatened endemic species in the UKOTs despite using a different methodological approach.

### 3.6. Sources of uncertainty

The species in the current database are known endemics. JNCC are confident that the current endemic species database is accurate having verified records through official sources. We are in the process of verifying the remaining endemic and regional endemic species for inclusion in next year's publication.

Of the 1,624 endemic, possible endemic and endemic subspecies in the Stocktake, 1,268 have still to be verified. These records will be evaluated through literature reviews and through direct engagement with the UKOT Governments as well as taxonomic experts.

### 3.7. Constraints

The development of the K3 indicator is limited by the data sources available and the capacity of government departments and experts to engage in the development of this indicator. The K3 indicator can only provide an indication of the status of endemic and threatened species in the UKOTs based on the data that is available.

#### 3.7.1. Red List Assessments

Threatened status is based on the IUCN Red List global assessments. At the time of publication, 492 endemic species in the UKOTs have been assessed on the Red List, an increase of 347 assessments since the publication of the Stocktake in 2014. Considering there are an estimated c. 1,500 endemic species in the UKOTs, a large proportion of the endemic species in our database will not have a Red List status.

Red List assessments are based on a variety of information including species distribution, habitat and ecology, threats to species and current conservation methods. Due to the unique and often elusive nature of the endemic species included in this indicator, and the lack of capacity and funding for research in the UKOTs, the likelihood of comprehensive data being available for all species in the near future is limited. Over the lifetime of this indicator further endemic species will undergo Red List assessments however it is acknowledged that there are limitations to developing a complete database.

#### 3.7.2. Knowledge Gaps and Bias

Every UKOT has endemic species although some have a higher proportion than others. This is partly due to differences in biodiversity across the different geographic regions as well as differences in the knowledge of species presence between territories.

As with most species data, there are knowledge gaps amongst certain taxonomic groups. Terrestrial species are more represented than marine species and lower (non-vascular) plants are less well documented than higher (vascular) plants. The same is applicable to invertebrates. An analysis of threatened status of endemic species within different taxonomic groups is being considered for future updates of the K3 indicator. At this stage this is dependent on capturing sufficient data that represents the taxonomic groups present in each UKOT.

### 3.8. Quality control and quality assurance

The work on indicator K3 is compliant with JNCC's Evidence Quality Assurance Policy. JNCC's risk assessment recognises that indicator K3 figures could have a moderate impact if used to inform UKOT policy decisions and funding bids.

### 3.9. Update frequency

JNCC will continue to develop the K3 indicator over the next financial year aiming for a revised publication in 2024. The ongoing frequency of updates will be decided once a fuller species inventory is complete as part of the ongoing evaluation of this indicator. Future updates are dependent on IUCN Red List assessment cycles, as well the capacity of the UKOT to provide information about new discoveries of species, which in many cases depends on funding for survey and the availability of external taxonomic expertise.

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