

# **Invertebrate Status Reviews (Red Lists)**

Jon Webb Feb 2016

## What are in Invertebrate Status Reviews?

- Each encompasses a named taxonomic group e.g. stoneflies



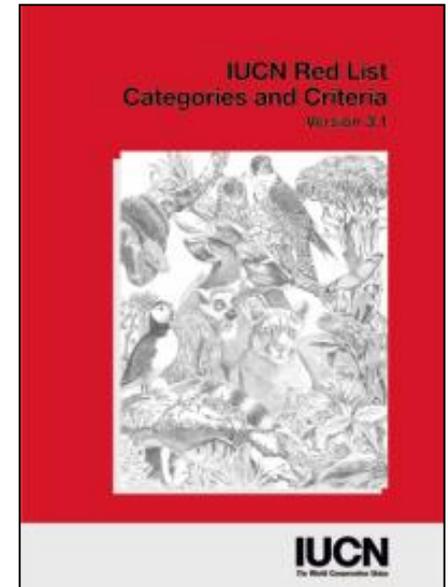
- Covers Great Britain: England, Scotland and Wales

# What is the point?



Up-to-date conservation status for species underpins everything I do.

1. Site quality based on presence of threatened and rare species (SSSI notifications and monitoring, development casework).
2. Flags up new species that may require resourcing.
3. Could be used for reporting?



## What do they analyse?

<p>1 Threat of extinction (IUCN guidance)</p>	<p>Extinct (EX) Critically Endangered (CE) Endangered (EN) Vulnerable (VU) Near Threatened (NT) Least Concern (LC) Not Applicable (NA) non-natives etc</p>
<p>2 Great Britain Rarity Status</p>	<p>Nationally Rare Nationally Scarce</p>

- Status Sheets for species (IUCN Threatened Status)
- Lists non-native/migrant species
- Indicates presence in Scotland, England or Wales

# 1 IUCN Threat Categories



RE	Regionally Extinct	
CR(PE)	Critically Endangered (Presumed Extinct)	'Red Listed'
CR	Critically Endangered	'Red Listed'
EN	Endangered	'Red Listed'
VU	Vulnerable	'Red Listed'
NT	Near Threatened	
LC	Least Concern	
NA	Not Applicable	

# 1 Threat Status: IUCN Criteria for invertebrates



<b>Criteria</b>	
A Population reduction	Butterflies and a few others
B Geographic range	Most invertebrates
C Small population size and decline	Butterflies and a few others
D Very small or restricted population	Most invertebrates
E Quantitative Analysis	na

# 1 Using Criteria B: Geographic range

IUCN Threat Status	Area of Occupancy (AoO)	And satisfy 2 of the following...		
		Locations	Decline	Fluctuations
Critically Endangered	>10km <sup>2</sup>	1	Continued decline	Extreme fluctuations
Endangered	>500km <sup>2</sup>	2-5		
Vulnerable	>2,000km <sup>2</sup>	6-10		
Near Threatened	Close to 2,000km <sup>2</sup>	11-15		

- AoO uses Tetrads, not Hectads, as a standard measurement of 4km<sup>2</sup>
- Locations - variable

# 1 Threat Status: Example of IUCN Criteria

## ***Cryptocephalus decemmaculatus*** **Ten-spotted pot beetle** **Endangered**

Known from three historic sites; now lost from Chartley Moss in the last couple of decades. Scottish population at one site is uncertain and now only confirmed at Wybunbury Moss.



AOO estimated at 8km<sup>2</sup>

Number of locations = 2

Declining in AoO and number of locations



## 2 GB Rarity Status

No. of Hectads recorded from	Rarity Status
1-15	Nationally Rare (NR)
16-100	Nationally Scarce (NS)



*Cryptocephalus coryli*.  
5 hectads = NR



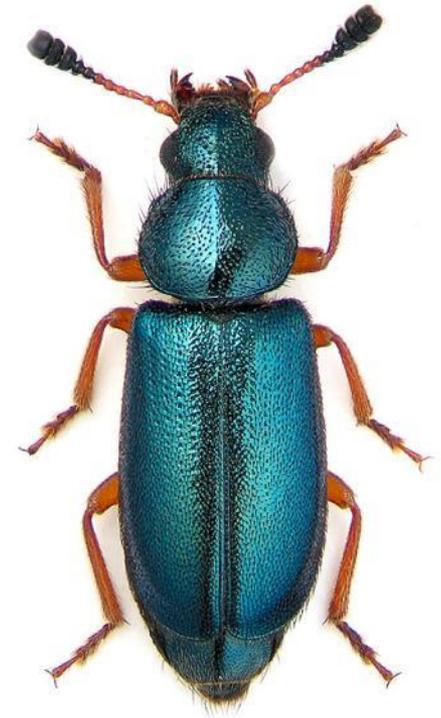
*Osyphia bipunctata*.  
18 hectads = NS



*Cantharis pellucida*  
529 hectads = no status

## 2 GB Rarity Status: Under-Recording

- Reliant on expert opinion of author, his peers and the agency staff
- E.g. *Necrobia violacea* Present in 50 hectads.
- 'A Cosmopolitan species of carrion and meat products - despite lack of records it is more than likely to be well distributed and not nationally scarce (NS – i.e. in over 100 hectads)'



# Summary Info from Leaf beetle review

## 1 IUCN Threat Status

Of the 283 leaf beetles species in Great Britain:

- 3 extinct (1%)
- 42 'red listed': CR, EN, VU (14.5%)
- 18 non-native (6%)



## 2 Great Britain Rarity Status:

44 Nationally Rare

66 Nationally Scarce

# Current Position



<b>Completed reviews 2008-2015</b>	<b>In prep by Natural England</b>	<b>To Do</b>
<p>Dragonflies 2008 (by BDS)                      Butterflies 2010 (by BC)                      Water Beetles 2010 (ind)                      Soldier Beetles 2013                      Darkling Beetles 2013                      Molluscs 2014 (by NRW)                      Hoverflies 2014 (ind)                      Leaf Beetles 2014                      Grasshoppers 2015                      Stoneflies 2015                      Woodlice 2015                      Centipedes/Millipedes 2015                      Water bugs 2015</p>	<p><b><i>Ready to publish</i></b>                      Ground Beetles                      Mayflies                      Caddis flies                      Shield Bugs                      Dolly flies                      Soldier flies</p> <p><b><i>In prep</i></b>                      Spiders (by NRW)                      Craneflies                      Plant bugs                      Plant hoppers                      Macro-moths                      Scarab Beetles                      Rove Beetles                      Clown Beetles                      Weevils</p>	<p>c. 2k beetles                      c. 3k flies                      c. 600 bees / wasps                      c. 500 sawflies                      c. 500 plant bugs                      c. 1.5k micro-moths                      c. 500 odds and sods</p> <p><b><i>Also non-inverts</i></b>                      Mammals, herps,                      birds, plants, lichens,                      mushrooms.</p>

# The Process

1. [optional] Collect and quality assure data
2. Analyse data on a spreadsheet
3. Draft using our Guidance
4. Quality Assurance: Author > IAWG > Author > JNCC > Author > Finally to Me (pew!)
5. Publication



# Summary of Current Results

## British Wildlife Paper (in prep) – August 2016

Of 3,770 species reviewed...

- 395 (11%) are red listed: 205 Vulnerable (VU), 114 Endangered (EN) and 76 Critically Endangered (CR)
- 584 taxa are classed as Nationally Rare and a further 902 as Nationally Scarce.
- Together = 39% of the total invertebrates reviewed.
- Costs £50-£100 per species
- Resources permitting, it should be possible to review c12,300 species out of a total of c37,000 macro-invertebrates in Great Britain.
- By 2017 – c.7,000 will have been reviewed

## Eurynebria complanata (EN)

- A predator strongly associated with sandy beaches. This species was last recorded in England in June 2002 as is considered extinct there. It is now only known from seven locations along the Welsh coast and is declining fast.



Image by John Waters

# Pros of undertaking a Status Review

## 1. Collation of more records

Taxa	Starting Records	Current Records
Scarab beetles	16,000 (corrupt)	43,240
Weevils	>5,000?	159,000
Plant bugs	40,000	140,000
Rove beetles	>50,000?	300,000



## Pros of undertaking a Status Review

2. Datasets will be made available on NBN
3. More National Recorders (Clown Beetles, Weevils)



4. All recorders see their records being 'used'

# Problems Arising when undertaking Status Reviews



1. Some LRCs concerned to share data at first but relations now seem very good
2. Some people wont share their data
3. Interpretation of IUCN terminology
4. IUCN uses tetrad as opposed to hectad as a standard 'dot on a map'



## If you want to do a review

- Contact [jon.webb@naturalengland.org.uk](mailto:jon.webb@naturalengland.org.uk)
- Invertebrate IAWG can provide guidelines and help with process or I will pass you onto the appropriate specialist
- IAWG and JNCC review documents
- BRC can provide access to data
- May be able to find resources (more difficult now)