



The current status of British mayflies and stoneflies

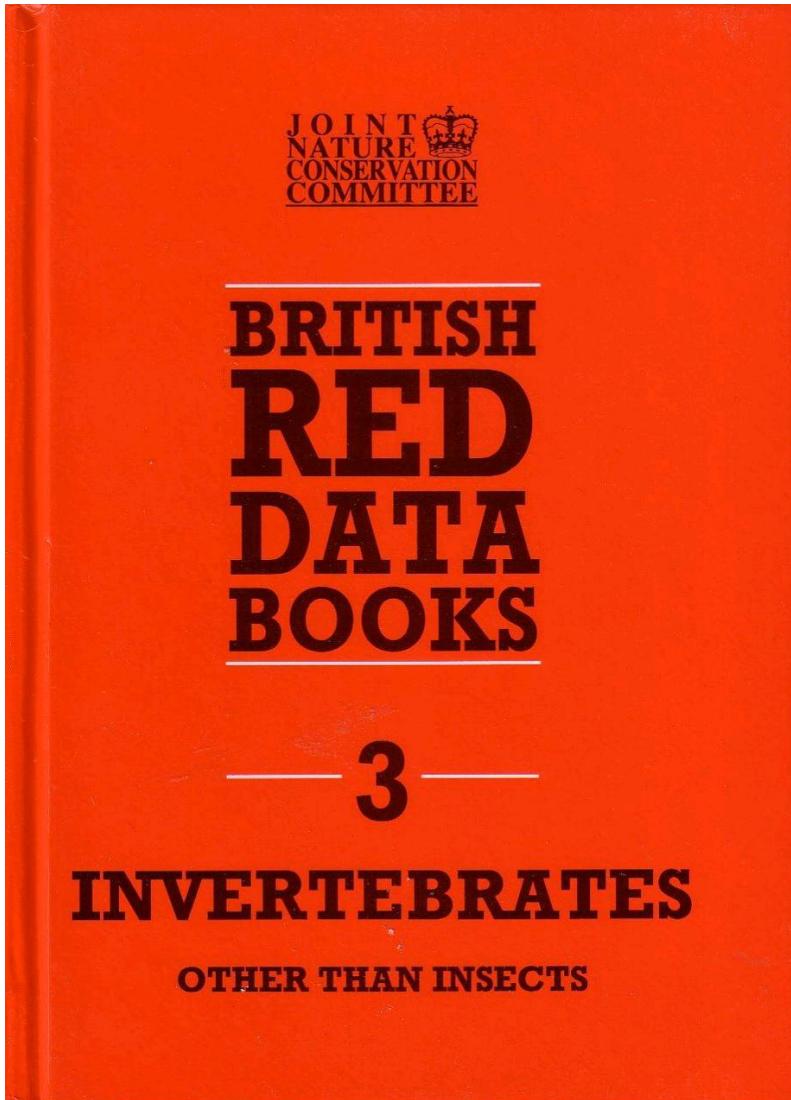
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Outline

- History of red listing in Great Britain
- Criteria for listing
- Results – Plecoptera
- Results – Ephemeroptera
- Summary



Published 1989

Based on rarity rather than threat

- RDB1 Endangered (1 10km square)
- RDB2 Vulnerable (
- RDB3 Rare (<16 10km squares)
- RDB4 Out of danger
- RDB5 Endemic
- RDBI Indeterminate
- RDBK Insufficiently known
- NN Nationally Scarce
- NA 16-30 10km squares
- NB 31-100 10km squares



Published 1990

RDB1 *Heptagenia longicauda*

RDB2 *Potamanthus luteus*
Ephemerella lineata

RDB3 *Paraleptophlebia wernerii*

NN *Kageronia fuscogrisea*

Extinct *Isoperla obscura*

RDB2 *Isogenus nubecula*

RDB5 *Taeniopteryx nebulosa britannica*
Brachyptera putata

Capnia vidua anglica

NN *Rhabdiopteryx acuminata*
Brachyptera putata
Nemoura dubitans



IUCN RED LIST CATEGORIES AND CRITERIA

Version 3.1 Second edition



The IUCN Red List of Threatened Species™

- RE** Regionally Extinct (RE)
- EW** Extinct in the Wild (EW)
- CR** Critically Endangered (CR)
- EN** Endangered (EN)
- VU** Vulnerable (VU)
- NT** Near Threatened (NT)
- LC** Least Concern (LC)
- DD** Data Deficient (DD)
- NE** Not Evaluated (NE)

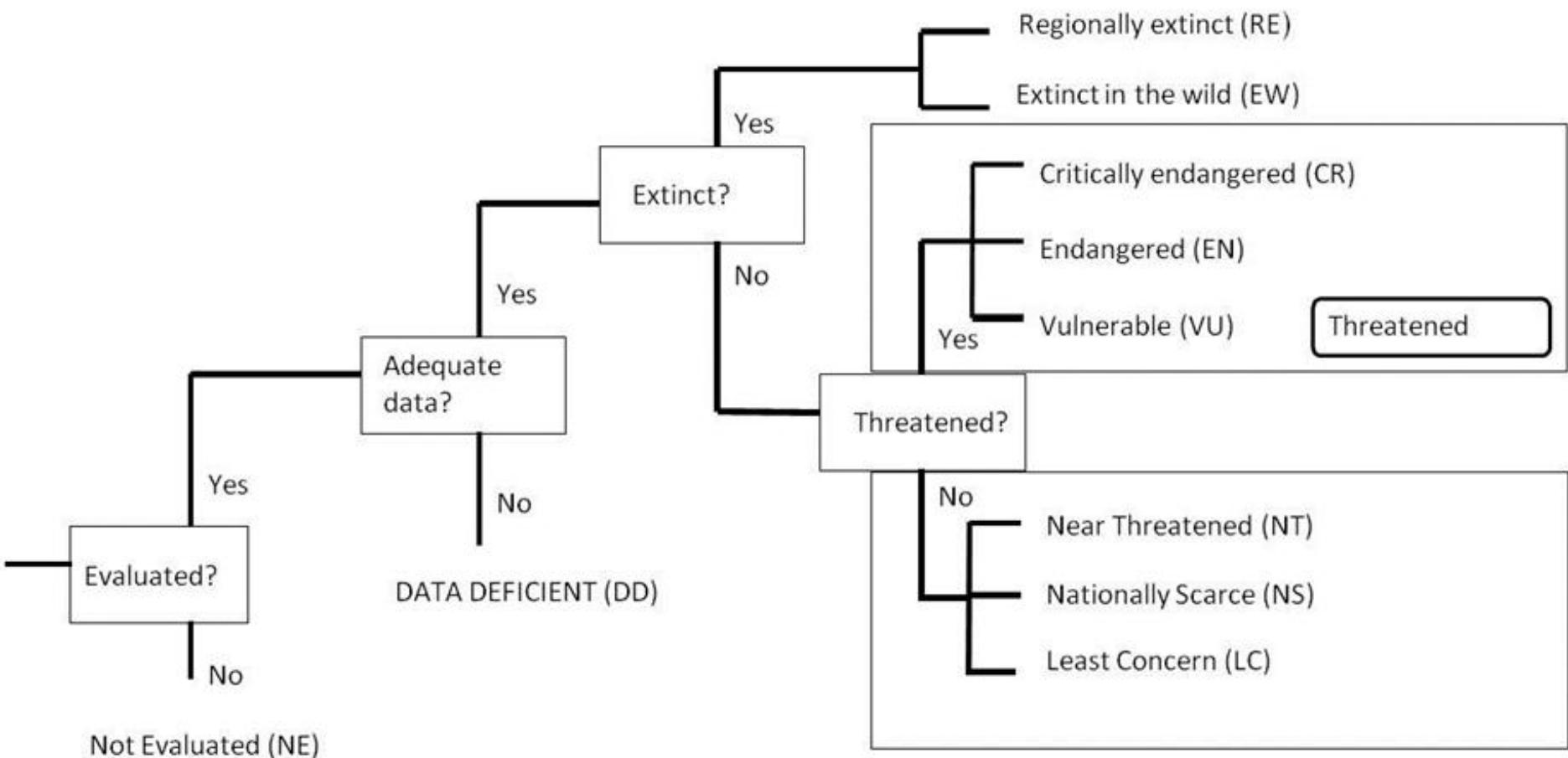


Figure adapted from IUCN (2001)

Criterion	Main thresholds		
	<i>Critically Endangered</i>	<i>Endangered</i>	<i>Vulnerable</i>
A. Rapid decline	>80% over 10 years or 3 generations in past or future	>50% over 10 years or 3 generations in past or future	>30% over 10 years or 3 generations in past or future
B. Small range + fragmented, declining or fluctuating	Extent of occurrence <100 km ² or area of occupancy <10 km ² + two of the following: <ul style="list-style-type: none"> - severely fragmented or only a single location - continuing decline - extreme fluctuations 	Extent of occurrence <5,000 km ² or area of occupancy <500 km ² + two of the following: <ul style="list-style-type: none"> - severely fragmented or no more than 5 locations - continuing decline - extreme fluctuations 	Extent of occurrence 20,000 km ² or area of occupancy <2,000 km ² + two of the following: <ul style="list-style-type: none"> - severely fragmented or no more than 10 locations - continuing decline - extreme fluctuations



Criterion	Main thresholds		
	<i>Critically Endangered</i>	<i>Endangered</i>	<i>Vulnerable</i>
C. Small population and declining	<250 mature individuals, population declining	<2,500 mature individuals, population declining	<10,000 mature individuals, population declining
D. Very small population	<50 mature individuals	<250 mature individuals	D1. <1,000 mature individuals
D2. Very small area of occupancy			D2. <20 km ² or 5 or fewer locations
E. Quantifiable probability of extinction	>50% within 10 years or three generations	>20% within 20 years or five generations	>10% within 100 years

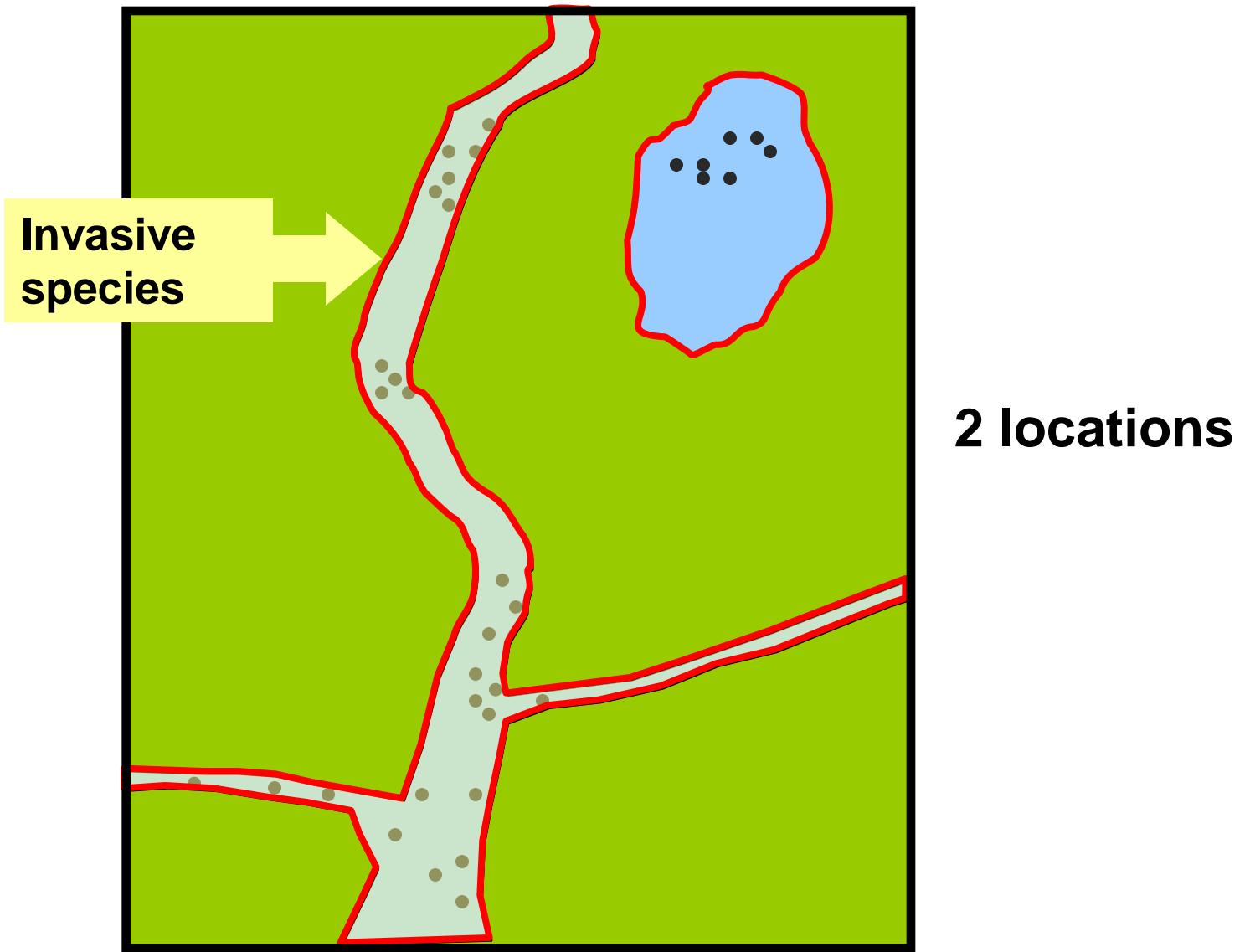


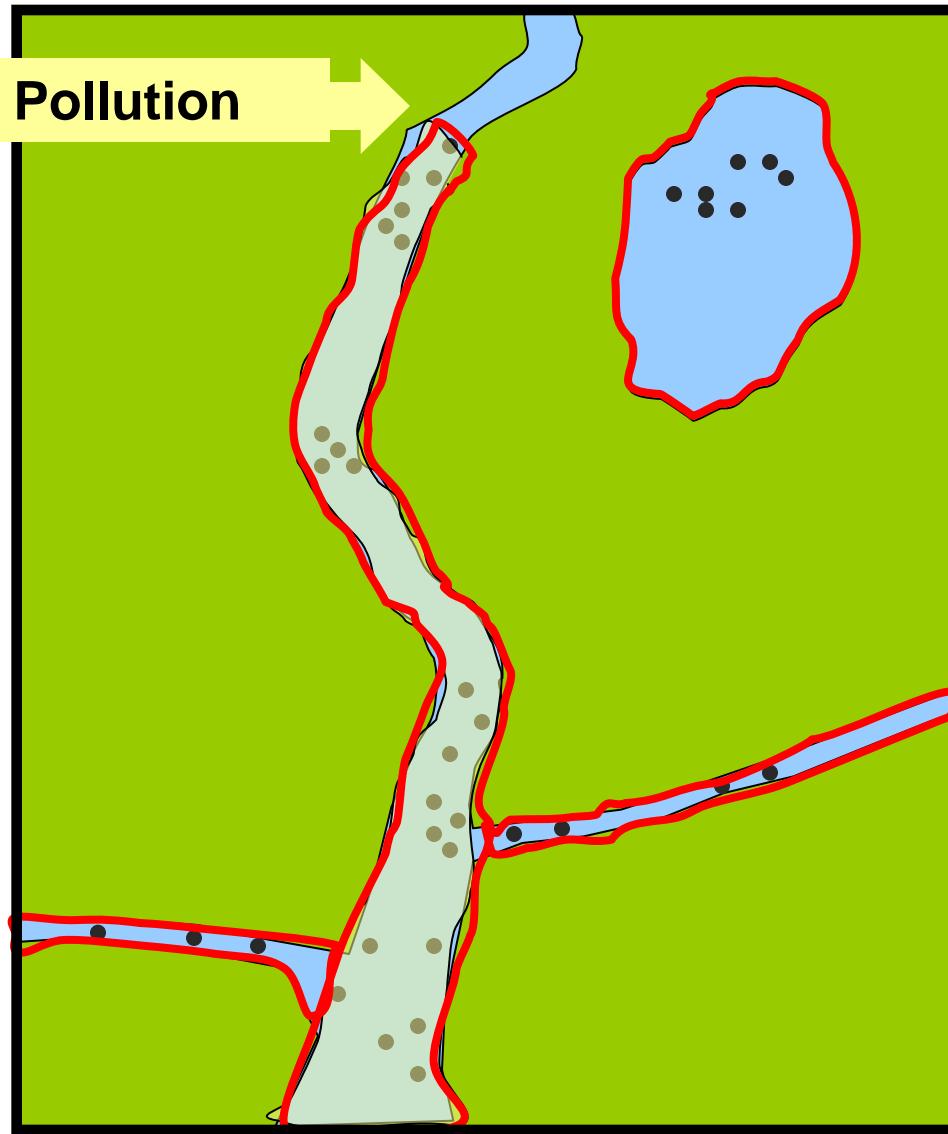
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D2. Very small area of occupancy			D2. <20 km ² or 5 or fewer locations



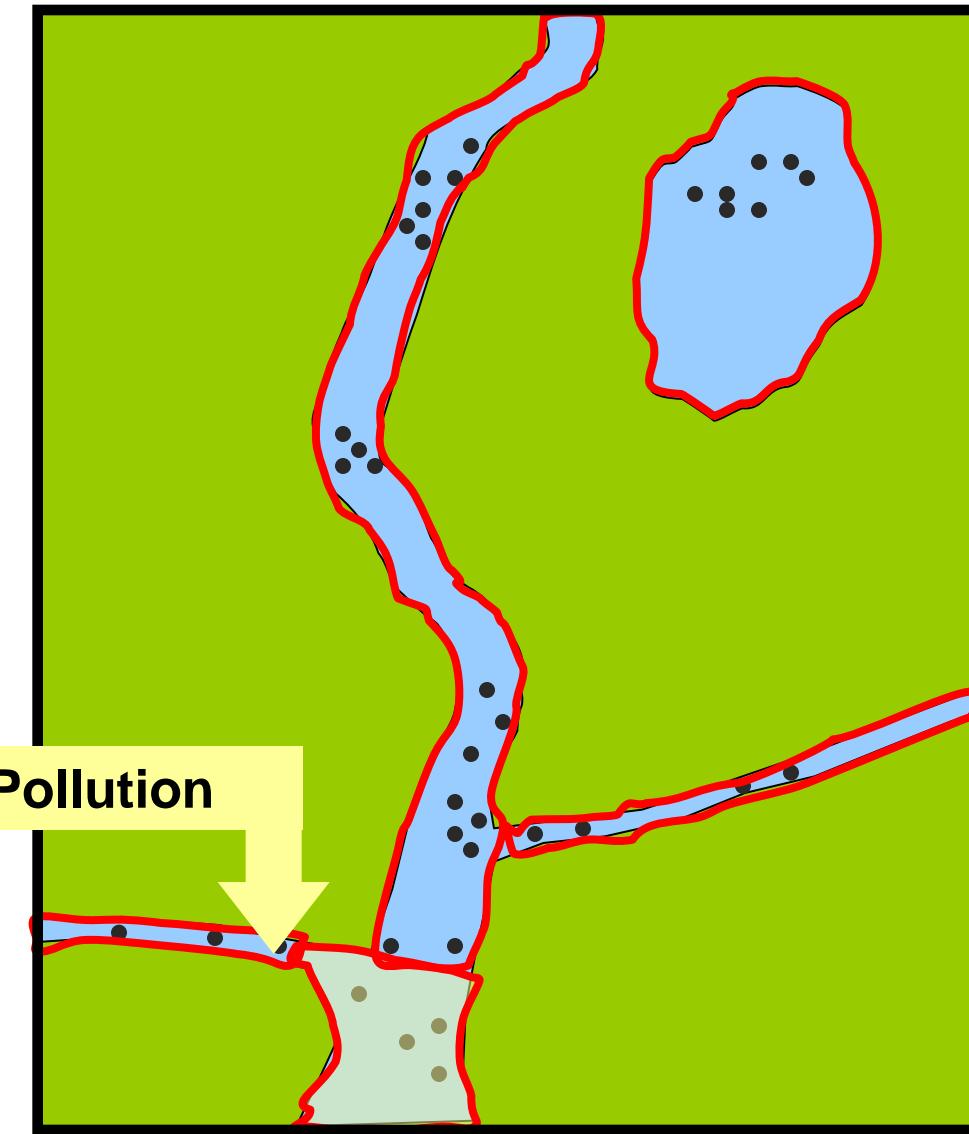
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D2. Very small area of occupancy			D2. <20 km ² or 5 or fewer locations

Location is a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the taxon.





4 locations



4-5
locations

Results - Plecoptera

Natural England Commissioned Report NECR174

A review of the stoneflies (Plecoptera) of Great Britain

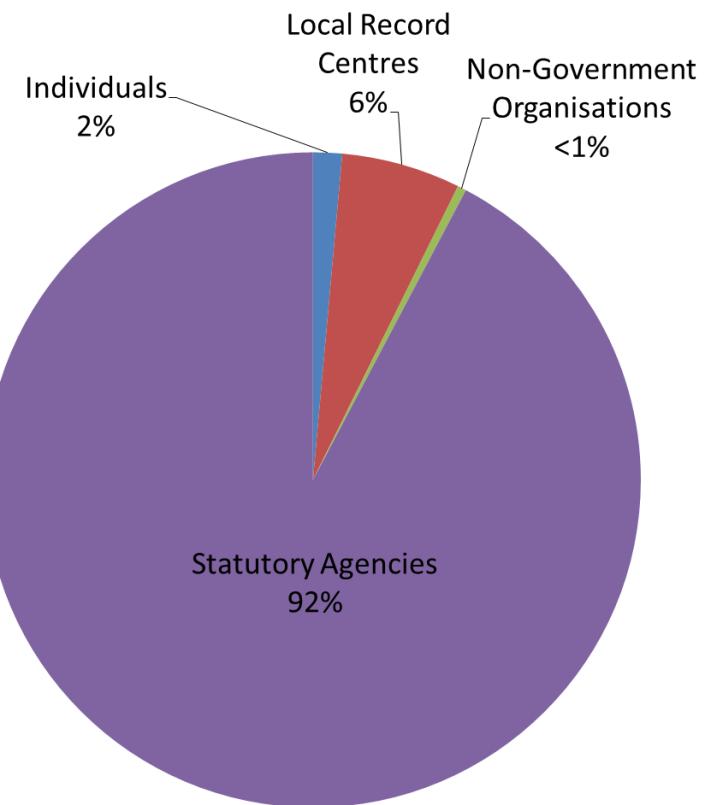
Species Status No.20

First published 12 February 2015

www.gov.uk/natural-england

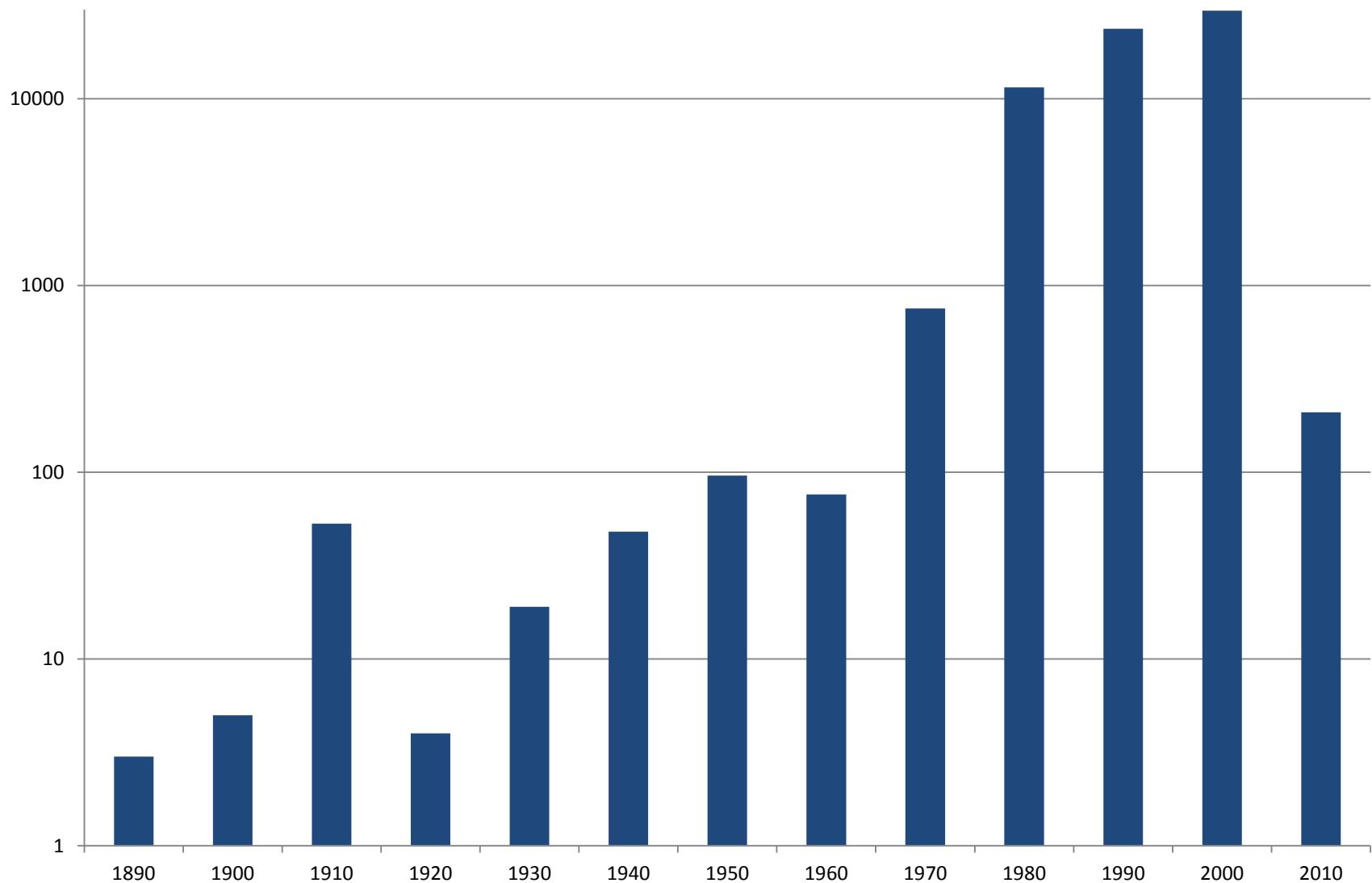


Published 2015
34 species assessed
Based upon 66,000 records





Number of Plecoptera records by decade



Plecoptera – downgraded species

Scientific name	Number of post-1990 hectads
<i>Capnia atra</i>	3
<i>Capnia bifrons</i>	30
<i>Capnia vidua anglica</i>	2
<i>Diura bicaudata</i>	76
<i>Protonemura montana</i>	12

Results - Ephemeroptera

Natural England Commissioned Report NECR193

A review of the status of the
mayflies (Ephemeroptera) of
Great Britain

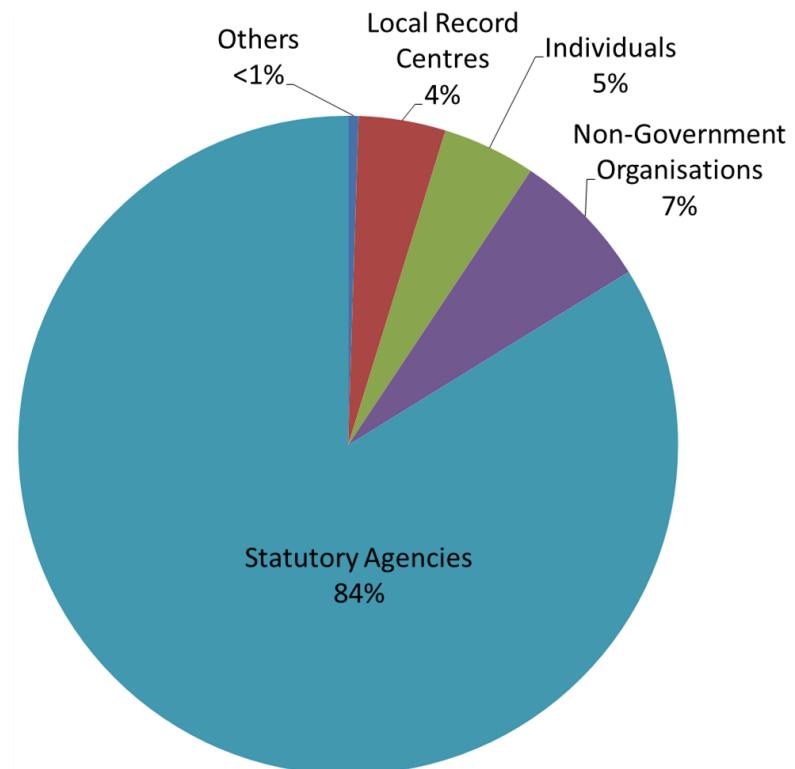
Ephemeroptera
Species Status No.28

First published 11 March 2016

www.gov.uk/natural-england

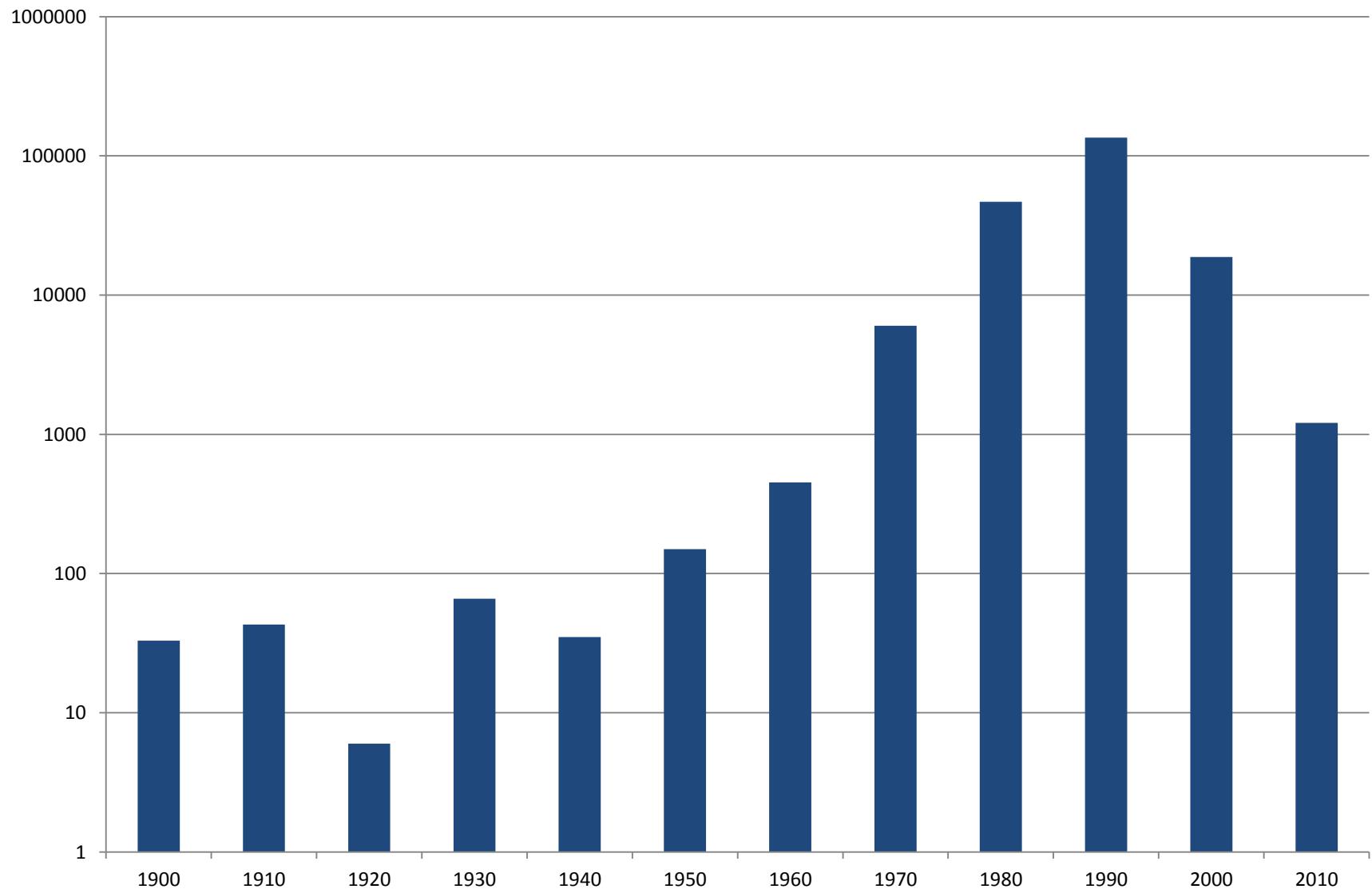


Published 2016
51 species assessed
Based upon 210,000 records





Number of Ephemeroptera records by decade



Ephemeroptera – downgraded species

Scientific name	Number of post-1990 hectads
<i>Baetis buceratus</i>	84
<i>Baetis fuscatus</i>	27
<i>Baetis niger</i>	93
<i>Caenis macrura</i>	13
<i>Ecdyonurus dispar</i>	80
<i>Ecdyonurus torrentis</i>	34
<i>Leptophlebia marginata</i>	98
<i>Leptophlebia vespertina</i>	94
<i>Siphlonurus lacustris</i>	76



Summary – IUCN Status

RE	CR(PE)	EN	VU
<i>Isoperla obscura</i>	<i>Isogenus nubecula</i>	<i>Potamanthus luteus</i>	<i>Rhabdiopteryx acuminata</i>
<i>Arthroplea congener</i>		<i>Siphlonurus alternatus</i>	<i>Baetis digitatus</i>
<i>Heptagenia longicauda</i>		<i>Siphlonurus armatus</i>	<i>Ephemera lineata</i>

	DATA DEFICIENT	
<i>Capnia atra</i>	<i>Baetis fuscatus</i>	<i>Caenis macrura</i>
<i>Capnia vidua anglica</i>	<i>Electrogena affinis</i>	<i>Caenis pseudorivulorum</i>
<i>Nemoura lacustris</i>	<i>Caenis beskidensis</i>	<i>Caenis pusilla</i>
<i>Protonemura montana</i>		



Summary - GB Rarity

Plecoptera

Nationally Rare	Nationally Scarce
<i>Nemoura lacustris</i> <i>Nemoura dubitans</i> <i>Isogenus nubecula</i> <i>Rhabdiopteryx acuminata</i>	<i>Capnia atra</i> <i>Capnia vidua anglica</i> <i>Amphinemura standfussi</i> <i>Protonemura montana</i> <i>Brachyptera putata</i>

Ephemeroptera

Nationally Rare	Nationally Scarce
<i>Baetis digitatus</i> <i>Caenis beskidensis</i> <i>Caenis pseudorivulorum</i> <i>Caenis pusilla</i> <i>Electrogena affinis</i> <i>Siphlonurus alternatus</i> <i>Siphlonurus armatus</i>	<i>Ameletus inopinatus</i> <i>Baetis atrebatinus</i> <i>Brachycercus harrisellus</i> <i>Ephemerella lineata</i> <i>Kageronia fuscogrisea</i> <i>Rhithrogena germanica</i> <i>Paraleptophlebia cincta</i> <i>Paraleptophlebia wernerii</i> <i>Potamanthus luteus</i>



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