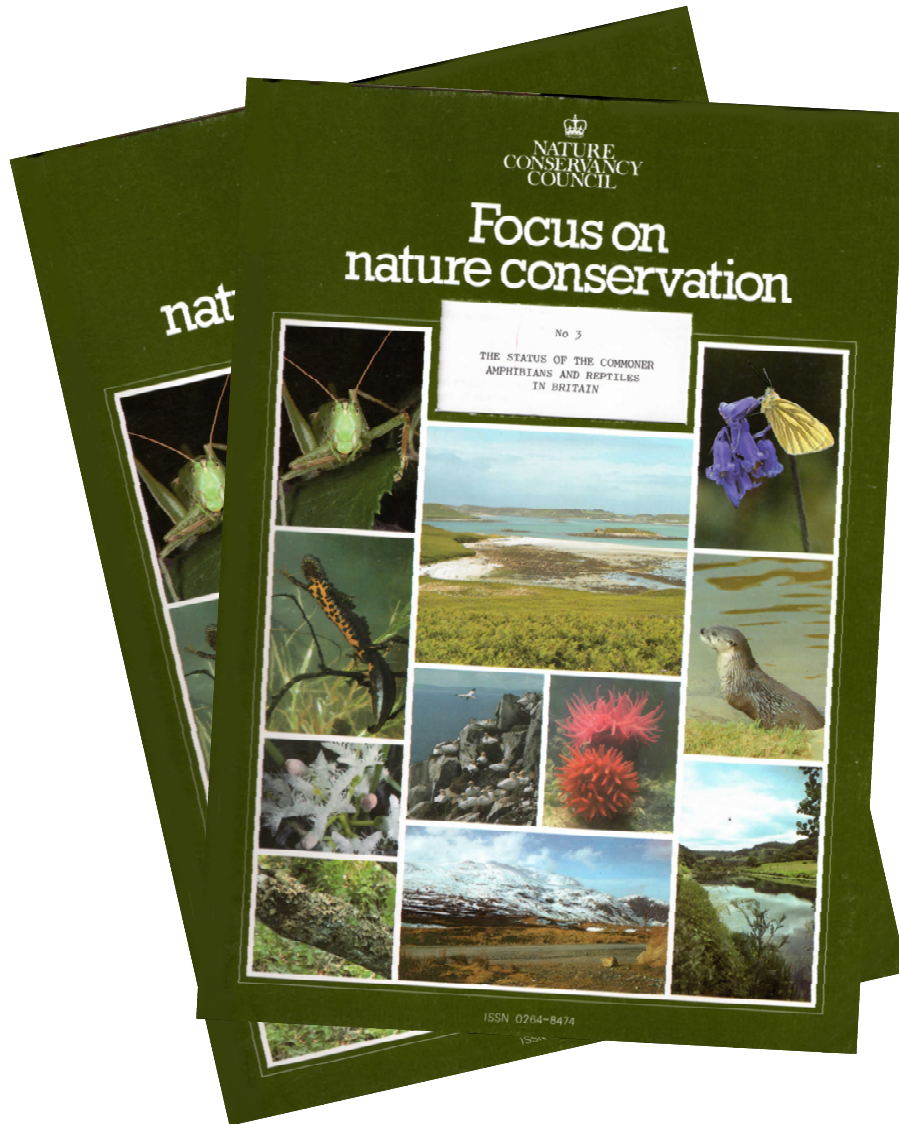


# National status and trends of adders in Britain

Angela Julian & John Baker (ARG UK),  
Jim Foster (ARC)

# National & Regional Status



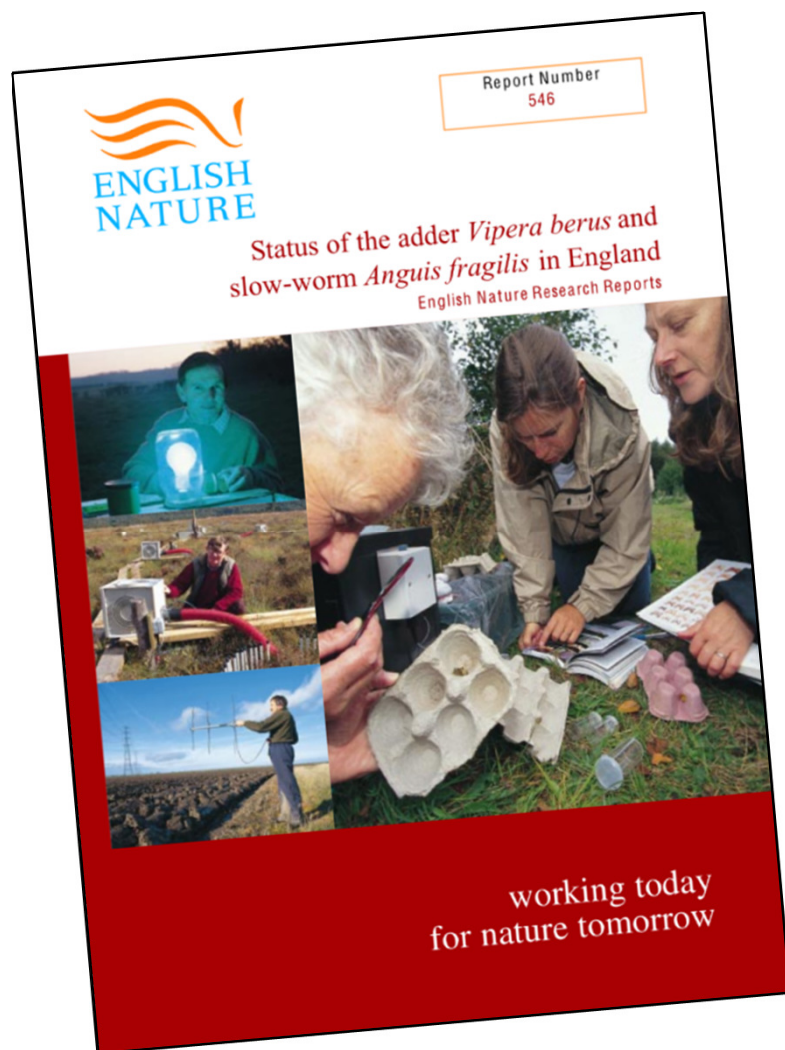
Cooke, A.S. & Scorgie, H.R.A. (1983). The status of the commoner amphibians and reptiles in Britain. Focus on Nature Conservation, No. 3.

Hilton-Brown, D. & Oldham, R.S. (1993). The status of the widespread amphibians and reptiles in Britain, 1990, and changes during the 1980s. Focus on Nature Conservation, No. 131.

# Regional Status

Cooke & Scorgie (1983).	Status 1980 (roughly). Changes during 1970s.
Hilton-Brown & Oldham (1993).	Status 1990. Changes during 1980s.
Current.	Status now. Changes since 1990s.

# Status at particular sites



Baker, Suckling & Carey (2004).

Status of the Adder (*Vipera berus*) and Slow-worm (*Anguis fragilis*) in England. English Nature Research Report 546, Peterborough.

# Regional Status

Original NCC Criteria	Score	2016 criteria
Absent	0	Absent
Absent or rare		Possibly absent
Very rare	0.5	Rare
Fairly abundant in some areas		Fairly abundant in some areas (fairly abundant at some sites but not widespread)
Fairly widespread		Fairly widespread
Fairly common	1	Fairly common
Locally abundant		Locally abundant (abundant at some sites, but not widespread)
Widespread and very abundant		Widespread and very abundant

# Regional Status

0.62

# Regional Status

	<b>C&amp;S</b>	<b>HB&amp;O</b>	<b>Current</b>
Common frog	0.83	0.93	
Common toad	0.81	0.82	
Viviparous lizard	0.76	0.63	
Smooth newt	0.67	0.69	
Adder	0.61	0.55	0.62
Grass snake	0.56	0.42	
Palmate newt	0.55	0.58	
Slow-worm	0.49	0.49	
Great crested newt	0.35	0.49	

47 responses vs. 140/142.

# Change in Status

Original NCC	2016	
Increase	Significant or major increase	+1
Slight or possible increase	Slight increase	+0.5
No change	No change	0
Slight or possible decrease	Slight decrease	-0.5
Decrease	Significant or major decrease	-1
Absent throughout period	Absent during period	
Too rare to assign a trend.	Not possible to assign a trend	



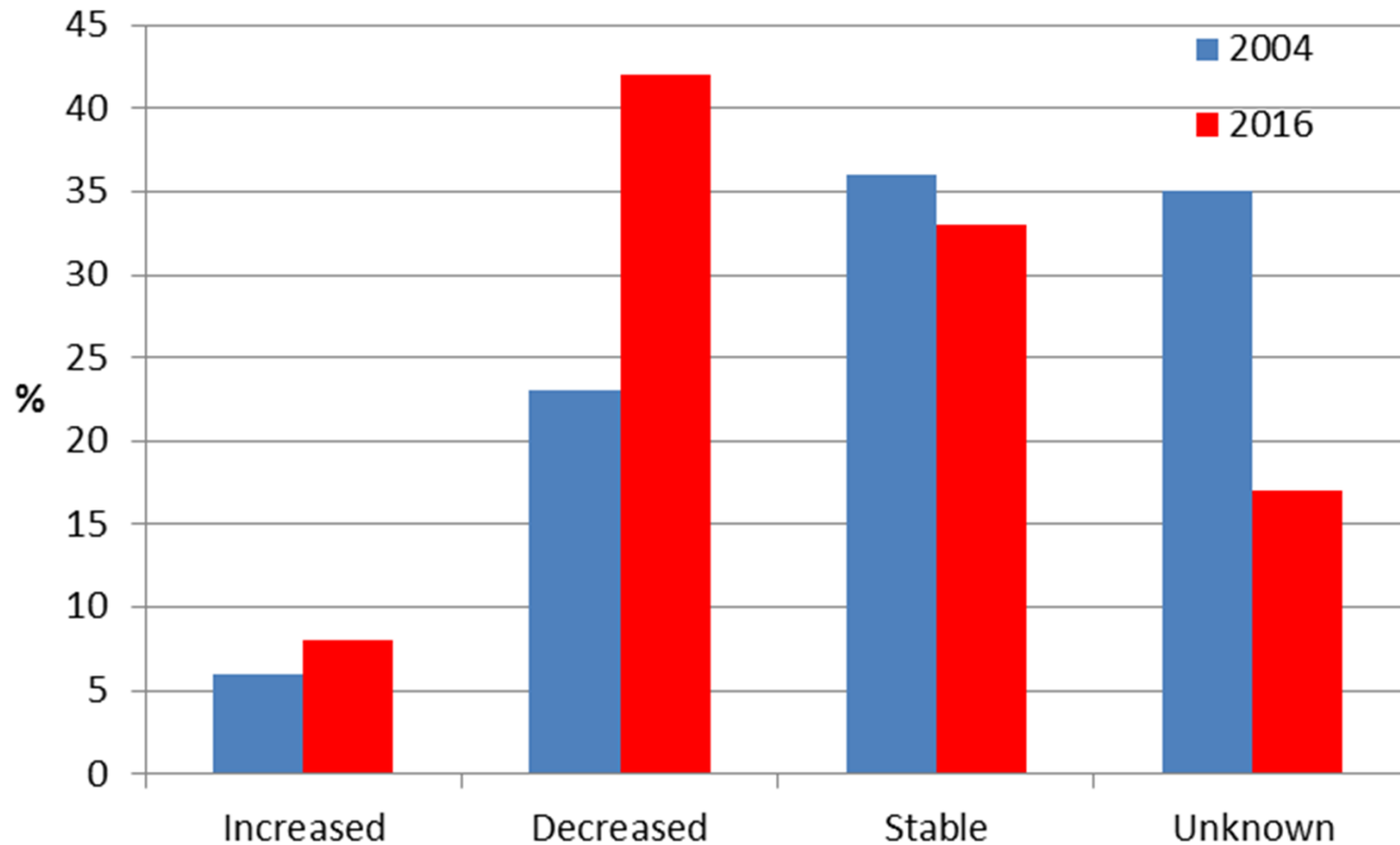
# Status Change

<b>Status change</b>	<b>C&amp;S</b>	<b>HB&amp;O</b>	
	<b>1970s</b>	<b>1980s</b>	<b>Recent</b>
Common frog	-0.08	+0.16	
Palmate newt	-0.12	-0.10	
Common toad	-0.13	-0.05	
Adder	-0.14	-0.16	-0.55
Viviparous lizard	-0.20	-0.18	
Smooth newt	-0.20	-0.02	
Slow-worm	-0.28	-0.21	
Grass snake	-0.33	-0.15	
Great crested newt	-0.37	-0.24	

# Regional Status

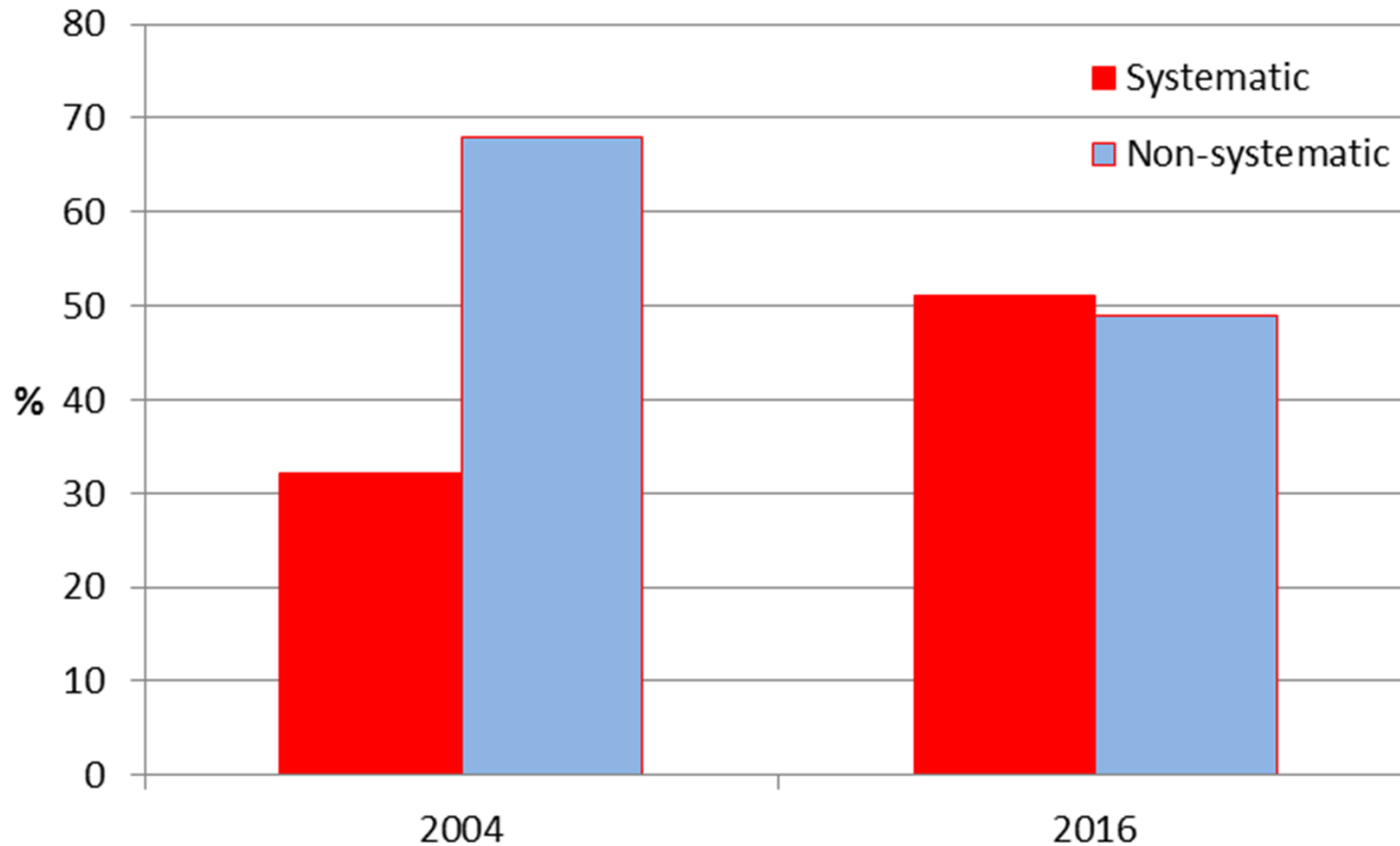
Factor	C&S	HB&O	2016
Urban development/building	3 (8)	2 (6)	20 (13)
Agricultural changes	7 (19)	5 (16)	16 (10)
Forestry	5 (14)	2 (6)	15 (10)
Mineral/peat extraction	N/A	2 (6) (peat)	7 (5) (either)
Fires	6 (16)	6 (19)	16 (10)
Unspecified	1	4 (13)	N/A
Miscellaneous 'improvements' etc.	2	0	N/A
Neglect/succession	N/A	2 (6)	16 (10)
Habitat management	N/A	N/A	9 (6)
<b>Loss of habitat</b>	<b>24 (65)</b>	<b>23 (72)</b>	<b>92 (65)</b>
Public pressure (disturbance)	5 (14)	6 (19)	23 (15)
Predation	0	N/A	12 (8)
Persecution	7 (19)	2 (6)	16 (10)
Climate	0	1 (3)	3 (2)
Total	37(100)	32 (100)	153 (100)

# Status at particular sites



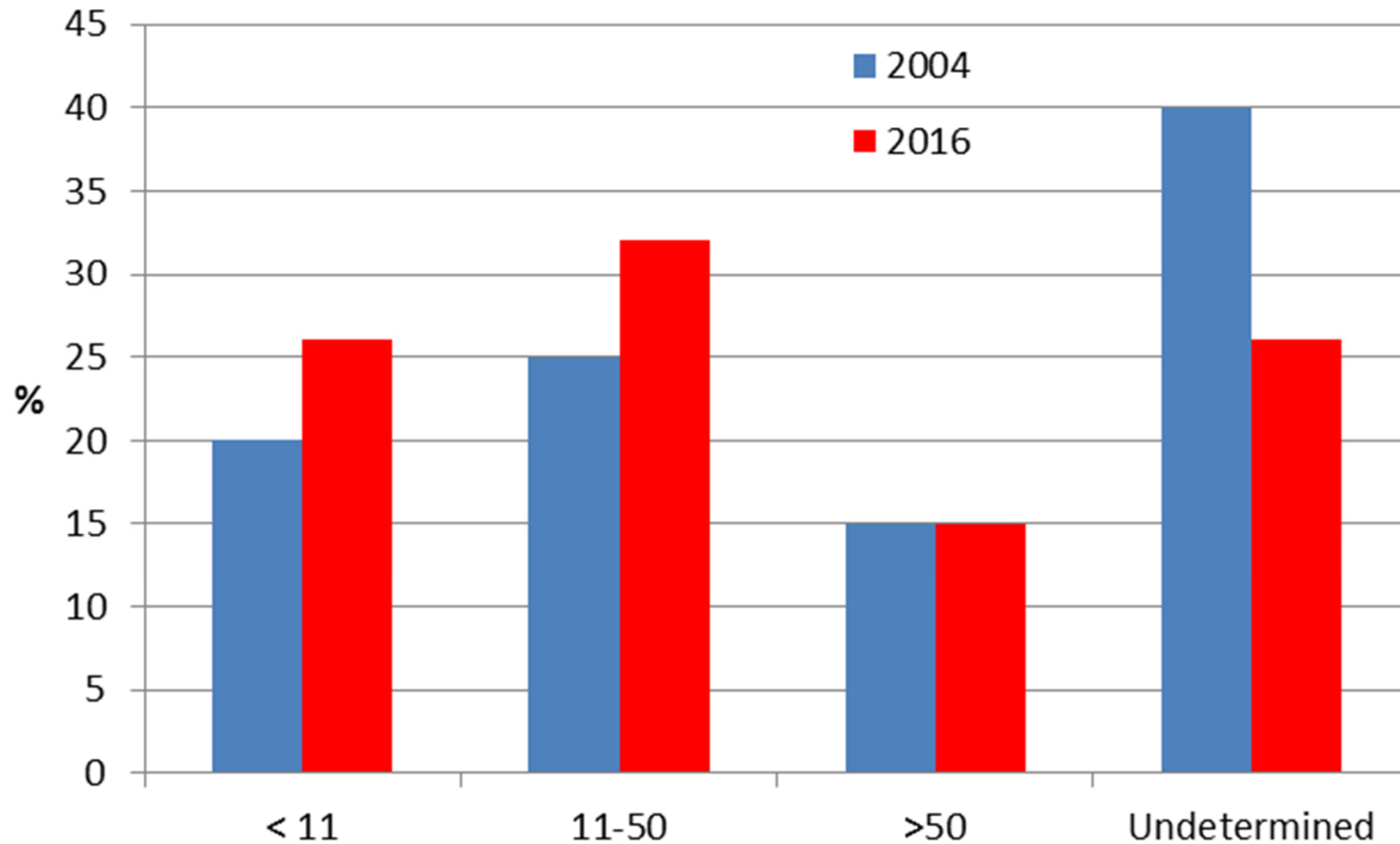
*Increased* and *Stable* similar – but fewer unknowns and more decreases.  
Chis = 9.30,  $p < 0.03$ .

# Assessment methodology



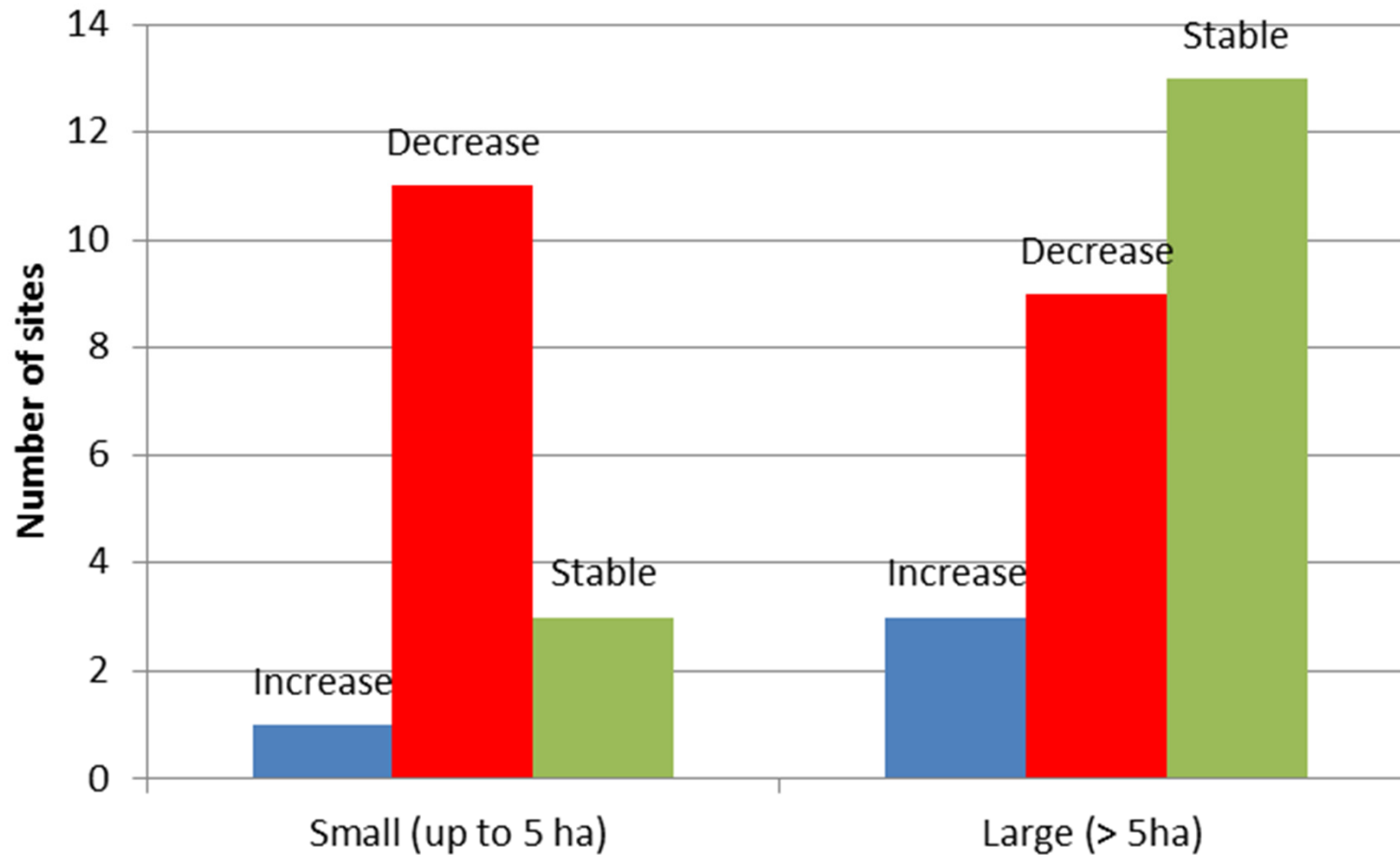
The proportion of systematic surveys increased between 2004 and 2016, from 32% to 50% (Chis = 6039,  $p = 0.01$ ).

# Population size



Population size estimates were given for a higher proportion of sites – a rise from 60% to 73%. The overall pattern remains similar, however, with only 15% of populations thought to contain more than 50 individuals.

# Site size and population status



Site size shows similar trend to 2004 data – although not statistically significant,  $\chi^2 = 5.28$ ,  $p = 0.07$ .

# Causal factors (%)

<b>Reasons for change</b>	<b>2004</b>	<b>2016</b>
Building development	10	6
Agricultural changes	4	2
Forestry operations	10	4
Mineral/peat extraction`	1	0
Fire	12	2
Public pressure (disturbance)	25	20
Persecution	17	12
Predation	9	16
Pollution	1	0
Neglect/succession	14	2
Habitat management/creation	12	18
Introduction/development mitigation.	-	2
Introduction/conservation	-	0
Climate change/weather conditions	1	10
Changes in legislation	-	2
Unknown	6	4

# Prominent negative factors

<b>Factor</b>	<b>Regional</b>			<b>Site</b>	
	<b>1980</b>	<b>1990</b>	<b>2016</b>	<b>2004</b>	<b>2016</b>
Urban develop.			13		
Agric. changes	19	16	10		
Forestry			10		
Fires	16	19	10		
Public pressure		19	15	25	20
Persecution	19		10	17	
Predation					16
Neglect/succession				14	
Habitat management					18



# Is 'informed opinion' reliable?

Questionnaire survey on grass snakes in 1970s:

*...because of its special habitat requirements, this snake could easily become an endangered species in Britain, unlike the adder which can occupy many marginal habitats.*

# Conclusions

Both regional and site assessment indicate continuing worrying declines.

A range of factors appear to be involved.

# Acknowledgements

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