



Bittern *Botaurus stellaris* monitoring in the UK

Summary of the 2008 season

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Key Results

- An increase in the number of booming male Bitterns to 76, a rise of 49% on 2007.
- An increase in the number of nests with chicks, with a minimum of 39 nests found, up 44% on 2007.
- An increase in the number of sites occupied by booming male Bitterns to 42, a rise of 24% on 2007.
- An increase in the number of sites with nests, with 20 occupied sites in 2008, a rise of 66% on 2007.
- Nests at Ham Wall in Somerset, for the first time.

This report provides a short summary of the results of the Bittern Monitoring Programme in 2008. The Bittern fieldwork team endeavours to investigate any reports of booming Bitterns in the country. If confirmed, this will be followed up later in the season with observations to establish whether breeding has occurred.

This report is widely distributed and therefore mentions only a few sites that are already well known Bittern sites.

UK Population Monitoring

The Bittern population in the UK has been fully surveyed in every year since 1990. The main aims of the annual survey are to:

- Report the minimum and maximum numbers of booming male Bitterns in Britain.
- Report the minimum and maximum numbers of nesting females in Britain.

The accuracy and standardisation of the annual survey is extremely important. Major wetland habitat creation, restoration and management are ongoing for this species and annual population monitoring is the main indicator with which we can measure its success.

More details of the Bittern survey techniques are available from Simon Wotton (see contact details at the end of the report).

Booming

The essential information collected during the monitoring of booming males is:

- The dates and times of visits to sites to assess listening effort.
- The start and stop dates of booming males.
- The mapped positions of any booming males heard on each visit to a site.
- Descriptions of the rate of booming of each male during each visit and the “quality” of the sound of the boom.

Only those males that are known to have boomed for a week or more are counted in the minimum figures for the year. Where a site or area holds, or is thought to hold, more than one boomer, it is important to confirm the number of boomers actually involved. This can be achieved by hearing different boomers at the same time, and by comparing the booming periods of each male to confirm that they overlap.

A maximum figure for booming males is also presented, which includes the records of other males that either boomed for less than a week or could not be confirmed as

definitely different birds to adjacent boomers. However, the published figures are the minimum figures, as they are the most reliable and are comparable with the published figures from previous years.

Nesting

No attempts are made to visit any active Bittern nests, but through long site watches to look for regular female feeding flights observations, nests were identified and their approximate locations recorded. The current methodology for recording active nests has been used since 2001, so the figures before then are not directly comparable although the methods used earlier were similar.

Several sites adjacent to, or near, sites with booming male territories were also watched for nesting activity. As in previous years, a large amount of effort and time was put into this monitoring. In line with the booming totals, there are two figures quoted; **minimum** – which only includes confirmed nesting attempts and **maximum** – which includes both confirmed and probable nesting attempts.

2008 Results

This has been an astonishing year for Bitterns in the UK. The population of booming males has increased to its highest level since the monitoring programme began, and up to or even above the 20th Century peak that was reached in the 1950s. There was a minimum of 76 booming males confirmed in England, a substantial increase of 49% on the 2007 figure of 51 boomers. The number of sites supporting at least one booming male also rose, to 42, an increase of 24% compared to 2007.

After three years where the number of active nests with chicks has remained static at 27, 2008 saw a dramatic increase of 44% to a minimum of 39 nests. There was also a large jump in the number of sites hosting breeding females, to 20 sites, a rise of 66%.

It is considered possible that increased water levels in late winter and early spring at many sites, after a wet winter, particularly in the Norfolk Broads and the Fens, may have contributed to the sharp increase in booming males and nests.

Booming

The first booming males began very early this year, with Bitterns heard at two sites before the end of January, the first being at Minsmere on 27th January. Booming continued until July in some cases, with several new males being discovered during May.

A summary of the minimum national booming figures is shown in Figure 1 and Table 1, including details on the number of sites. The maximum figures are also quoted in Table 1 as a guide, but the following text refers to the minimum figures only.

Figure 1. The minimum number of booming Bitterns in the UK since 1990 and the number of occupied sites each year.

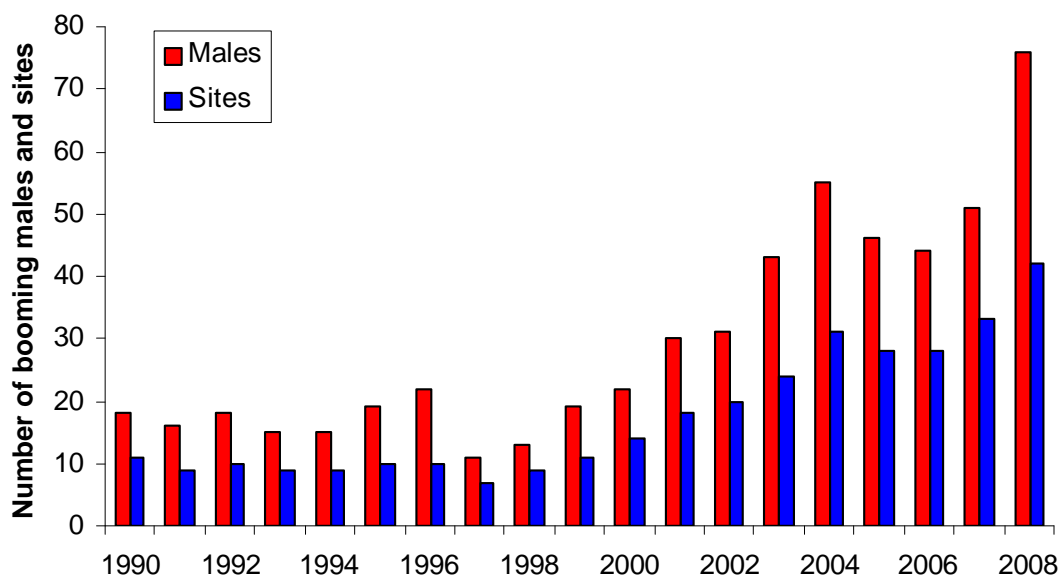


Table 1. The minimum number of booming male Bitterns in the UK since 1996 and the number of occupied sites involved each year (figures in brackets show the maximum numbers).

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Males	22	11 (12)	13 (18)	19 (22)	22 (28)	30 (33)	31 (37)	43 (52)	55 (65)	46 (54)	44 (63)	51 (63)	76 (87)
Sites	10	7 (8)	9 (12)	11 (14)	14 (16)	18	20 (23)	24 (29)	31 (33)	28 (30)	27 (35)	33 (40)	42 (47)

Table 2 and Figure 2 provide a summary of booming activity by region. As can be seen most regions remained stable or showed an increase, except for NE England where the number of boomers fell by one since 2007.

On the Suffolk coast in 2008, there were 24 booming males, the highest recorded total since the monitoring programme began. This is the first time in four years that there has been an increase on the Suffolk coast. There was confirmed booming at a new site this year and no sites suffered a decline in calling males. Despite further saline incursions at Easton Broad, there was an increase to three boomers, although the males started calling much later here than usual.

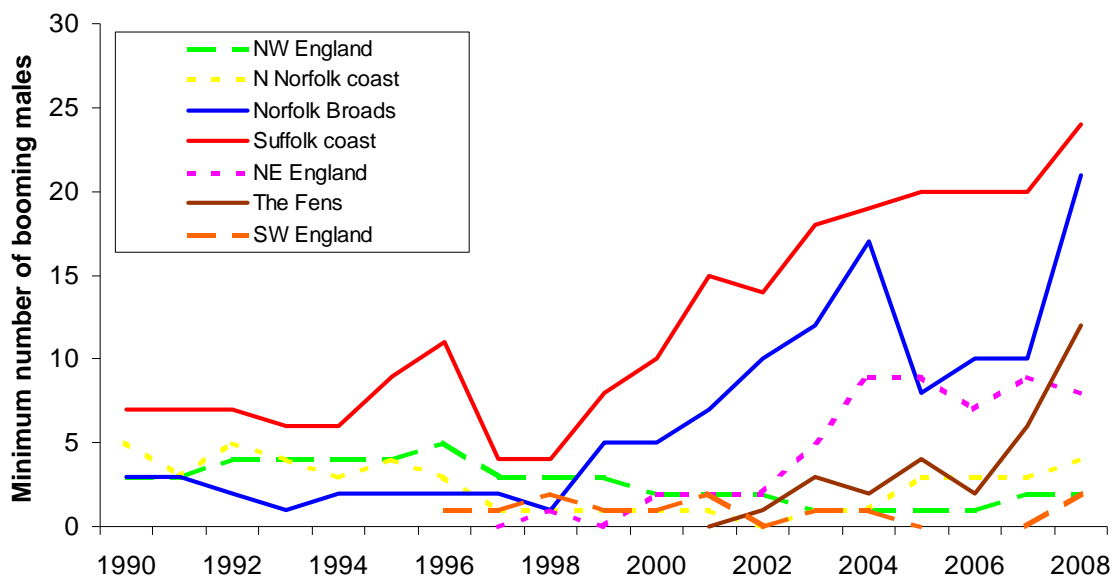
In the Norfolk Broads, there was a veritable explosion in booming Bitterns this year, with the number of boomers more than doubling to 21, from 10 in 2007. Booming was reported at one new site in the Broads this year. Thirteen sites were occupied in 2008, compared to nine in 2007. On the North Norfolk coast, four boomers were found, at three regular sites.

Table 2. The number of booming males located within each region/country between 1996 and 2008 (figures in brackets are maxima).

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	% change 07-08
Suffolk Coast	11	4	4 (6)	8	10 (13)	15 (17)	14 (19)	18 (19)	19 (20)	20 (24)	20 (29)	20 (25)	24 (27)	+20%
Norfolk Broads	2	2	1 (3)	5	5 (6)	7	10 (11)	12 (15)	17 (22)	8	10 (12)	10 (17)	21 (25)	+110%
Norfolk Coast	3	1 (2)	1	1 (3)	1 (3)	1 (2)			2 (3)	3	3 (4)	3	4	+33%
The Fens								3	2 (3)	4	2 (3)	6	12	+100%
NE England			1 (2)		2	2	2	5 (8)	9 (10)	9 (11)	7 (9)	9	8 (9)	-11%
NW England	5	3	3	3	2	2	2	1	1	1	1 (2)	2 (3)	2	0%
SE England			1 (1)		1	1	2	2 (3)	3 (4)		1 (2)	1 (2)	3	+200%
SW England	1	1	2	1	1	2	1 (1)	1	1	1 (1)	1 (1)		2 (3)	n/a
Central England				1				(1)					(1)	0%
Wales									1					0%
UK TOTAL	22	11 (12)	13 (18)	19 (22)	22 (28)	30 (33)	31 (37)	43 (52)	55 (65)	46 (54)	44 (63)	51 (65)	76 (87)	+49%

Mirroring the large increase in the Broads, the number of booming males in the Fens also increased sharply to 12, a startling number given that there were just two confirmed here in 2006. Ten were found in Cambridgeshire, at six sites, two of which held boomers for the first time since the start of the monitoring programme. After the successful nesting at Kingfishers Bridge in 2007, four boomers were found here this year.

Figure 2. The minimum number of booming Bitterns within the key regions since 1990.



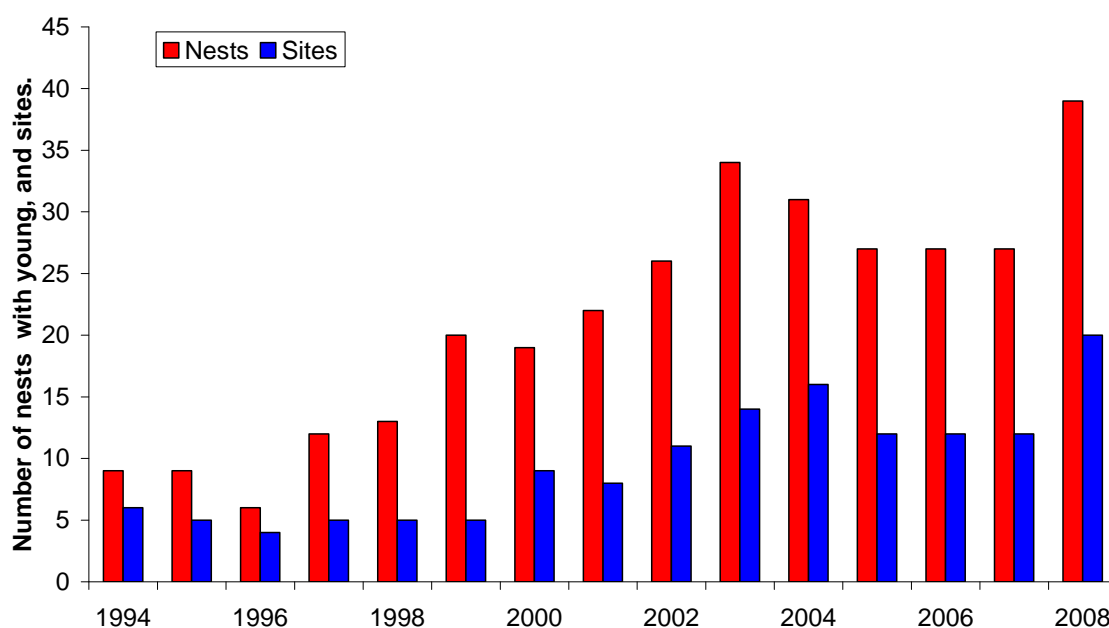
In NE England, there was a slight decline in the number of boomers, from nine in 2007 to eight in 2008. Two sites with single boomers in 2007 were not occupied in 2008, but a booming male was reported from a site that last held a boomer in 2005. Booming was also heard at a new site, but only for a couple of days so could not be confirmed. In NW England, just the one boomer was recorded at Leighton Moss again, but booming was confirmed at a site in Cumbria for the first time.

In SW England, there was encouraging news from the RSPB Ham Wall reserve, in the Somerset Levels, with two confirmed boomers here. The reedbed at Ham Wall was created in the mid 1990s.

Breeding

Nesting activity was confirmed at 20 sites, compared to the 42 sites that held booming males. Of interest was that no booming males were found at two of the nesting sites, although males were present nearby. Figure 3 and Table 3 summarise the numbers of active nests with chicks, nationally. The maximum figures are also quoted in Table 3 as a guide, but the following text refers to the minimum figures only.

Figure 3. The minimum number of nests with chicks in the UK, between 1994 and 2008, and the number of sites involved.



For the second consecutive summer, cool temperatures and heavy rainfall were often the prevailing weather conditions. This is likely to have caused the failure of several first clutches and did result in the failure of some broods, particularly at the end of May.

Again, most nesting attempts were in East Anglia, with 32 of the 39 nests (82%) occurring in Suffolk, Norfolk and Cambridgeshire. The nesting attempts at a regional level are summarised in Table 3 and Figure 4.

On the Suffolk Coast, there were a similar number of nests to last year; however, numbers are down 25% from the 20 nests found in 2003. This can be partly explained by the lack of any nesting activity at Easton Broad and a drop in the number of nests at Minsmere. At Minsmere, 11 nests were found in 2003, but only seven were located in 2008. Some sections of the reedbed here suffered severe flooding in April and May, which may have resulted in the loss of some nests at the egg stage. Minsmere does remain, however, the best site nationally for breeding Bitterns by quite a margin. On a more positive note, there were increases at Hen Reedbeds, North Warren and Walberswick compared to 2007.

Table 3. The minimum number of Bittern nests found in each region since 1996 (with the number of sites involved in brackets).

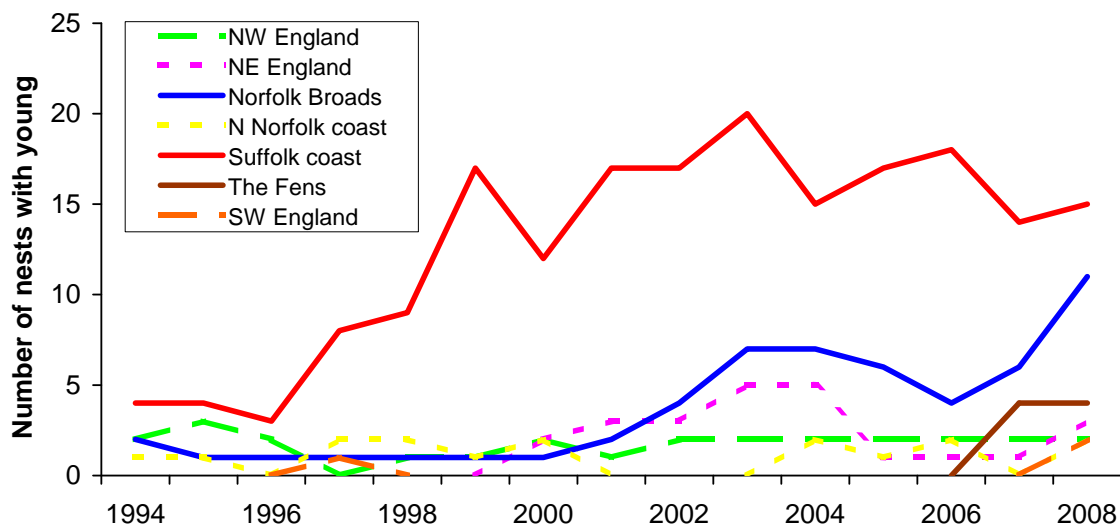
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	% change 07- 08
Suffolk Coast	3 (2)	8 (2)	9 (2)	17 (2)	12 (4)	17 (4)	17 (5)	20 (5)	15 (5)	17 (5)	18 (5)	14 (5)	15 (4)	+7%
Norfolk Broads	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)	2 (2)	4 (3)	7 (4)	7 (3)	6 (4)	4 (3)	6 (4)	11 (8)	+83%
Norfolk Coast	0	2 (1)	2 (1)	1 (1)	2 (2)	0	0	0	2 (2)	1 (1)	2 (2)	0	2 (2)	n/a
The Fens	0	0	0	0	0	0	0	0	0	0	0	4 (1)	4 (2)	0
NE England	0	0	0	0	2 (1)	2 (1)	3 (2)	5 (4)	5 (5)	1 (1)	1 (1)	1 (1)	3 (2)	+200%
NW England	2 (1)	0	1 (1)	1 (1)	2 (1)	1 (1)	2 (1)	2 (1)	2 (1)	2 (1)	2 (1)	2 (1)	2 (1)	0
SW England	0	1 (1)	0	0	0	0	0	0	0	0	0	0	2 (1)	n/a
UK TOTAL	6 (4)	12 (5)	13 (5)	20 (5)	19 (9)	22 (8)	26 (11)	34 (14)	31 (16)	27 (12)	27 (12)	27 (12)	39 (20)	+44%

The Norfolk Broads had a wonderful breeding season in 2008, with the number of nests increasing from six to eleven. Hickling Broad remains the most productive site for Bitterns in the Broads. Two nests were also found at a new location in the Broads this year, although no booming was recorded at this site. Breeding Bitterns made a welcome return to the Norfolk coast also, with two nests found, including one at a new site where no booming was heard.

There were four nests in the Fens this year, at two sites. Three of the nests were found at Kingfishers Bridge. In NW England, two nests were again located at Leighton Moss and there was an encouraging increase in the number of nests found on the Humber, with three found this year, at two sites.

Bitterns returned to breed in SW England for the first time in over a decade. Two nests were found at Ham Wall, the first time that Bitterns have nested at a newly created RSPB reedbed. It is thought that both nests successfully fledged young.

Figure 4. The minimum number of active nests with young, between 1994 and 2008, by region.



Summary

It has been an excellent season for both booming male and nesting female Bitterns in the UK this year, with the highest recorded totals achieved for both since annual monitoring was initiated in 1990 and most probably since the 1950s. However, Bitterns are still far from secure in the UK, with the threat to coastal sites from sea level rise increasing. Indeed, Easton Broad on the Suffolk coast has been inundated several times since autumn 2006, and no nests were found here this year for the first time since 1999. A number of other key sites are also under threat, including Minsmere and Walberswick.

The long-term survival of Bittern in the UK will depend on shifting the core breeding population from vulnerable coastal sites to areas of reedbed that are safe from saline incursions and are capable of supporting breeding females. In this context, it is encouraging that nesting was recorded at more inland sites this year, with nesting at two sites in the Fens and at Ham Wall in the Somerset Levels. In both areas, and elsewhere, there is ongoing reedbed restoration and creation that we anticipate will attract booming and nesting Bitterns in the next few years. The fact that Bitterns are increasingly breeding successfully in the UK in reedbeds specifically created for them, is a cause for much celebration.

Finally, given the large increase in the number of booming males and confirmed nests this year, it is revealing to look at the changes in site distribution between 2008 and the low point since 1990 when the lowest number of boomers and nests were recorded. Figure 5 shows the distribution of booming males in 1997, when only eleven boomers were found in the UK, and 2008. Figure 6 shows the distribution of confirmed nests in 1996, when only four nests were found, and 2008.

Figure 5. The distribution of sites with booming Bitterns in (a) 1997, when there were just eleven boomers at seven sites, and (b) 2008, when there were 76 boomers at 42 sites.

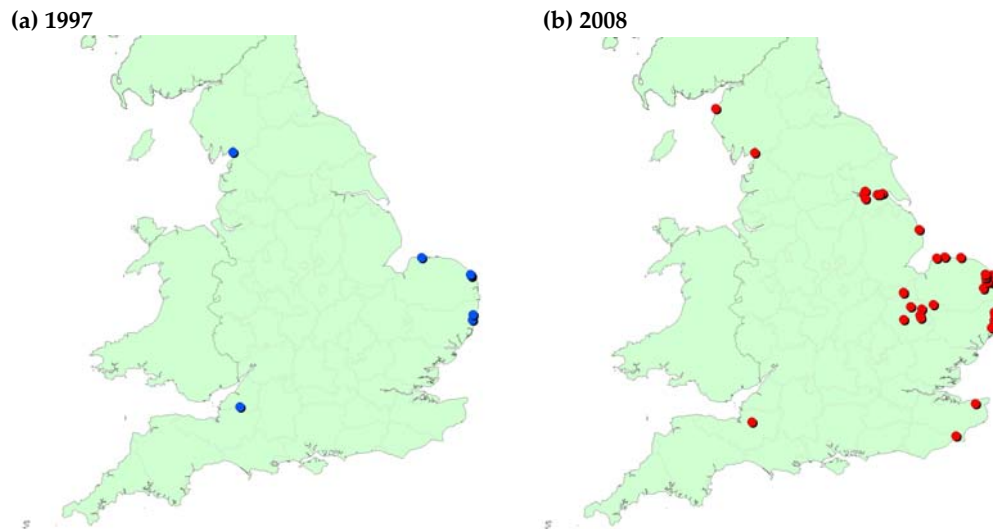
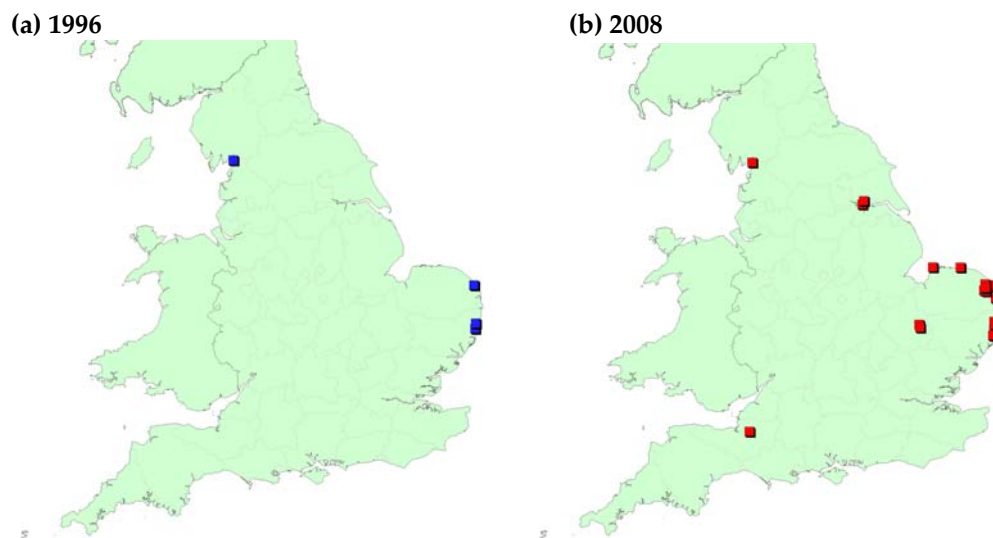


Figure 6. The distribution of sites with confirmed Bittern nests in (a) 1996, when there were just six nests at four sites, and (b) 2008, when there were 39 nests at 20 sites.



Contact Us

The Bittern Monitoring Programme will continue in 2009 as a joint project between Natural England and RSPB. RSPB field staff will be starting to monitor booming Bitterns from early March 2008 and will be contacting landowners, site managers and other contacts from this time. With reedbed creation throughout the UK and an expanding Bittern population, we are increasingly reliant on landowners, site managers, wardens and local birders to report booming to us. Please keep an ear out for them next spring, even at sites where they have not been heard for many years. To report an observation or for more information on the survey methods, please contact Simon Wotton on the contact details below.

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