



Bittern *Botaurus stellaris* **monitoring in the UK:** **Summary of the 2007 season**

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Key Results

- An increase in the number of booming male Bitterns to 51, a rise of 16% on 2006.
- An increase in the number of sites occupied by booming male Bitterns to 33, a rise of 22% on 2006, and the highest number of occupied sites since monitoring began in 1990.
- Four sites occupied by booming male Bitterns for the first time.
- A minimum of 27 nests that reached the chick stage, the same as in 2006.
- Nesting occurred at three sites for the first time.
- The first nests with young in Cambridgeshire since the late 1930's; this is also the first confirmed nesting at a newly created reedbed.

This report provides a short summary of the findings of this year's Bittern Monitoring Programme. 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. With a fairly large number of sites scattered far and wide, this task is only made possible with the support of many landowners, site managers, wardens, volunteers and local birders who go out listening and watching on our behalf. We thank them all.

For the past six years, we have used a standardised, non-invasive method of assessing nesting attempts to estimate the number of breeding females active during the season.

RSPB and Natural England jointly fund the monitoring programme, through *Action for Birds in England*. This report is widely distributed and therefore mentions only a few sites that are already well known as Bittern sites.

UK Population Monitoring

The British Bittern population has had a full survey 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.

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 the periods 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

A standardised non-invasive method is used to determine any nesting attempts at sites where booming males were confirmed. Several sites adjacent to, or near, 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.

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

2007 Results

This year saw a welcome increase in the number of booming males nationally to a minimum total of 51, a 16% increase since 2006. This is only the second year since the monitoring programme started in 1990 that there have been more than 50 booming males in the UK. Also encouraging was the 22% increase in the minimum number of sites frequented by booming males this year, the highest number of sites since the start of the monitoring programme.

The minimum number of recorded nests with chicks remained at 27 for the third year in a row. However, there was a noticeable change in the distribution of the nests nationally. This stabilization in nesting attempts follows a worrying decline of over 20% since the peak of 34 nests in 2003.

Booming

Booming was first noted at several sites in mid February and continued through the spring, with fine weather in April producing conditions conducive to good booming. Booming continued into May with some males continuing to boom sporadically until late June. Exceptionally, a male in the Fens was last reported booming in early July.

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 sites involved.

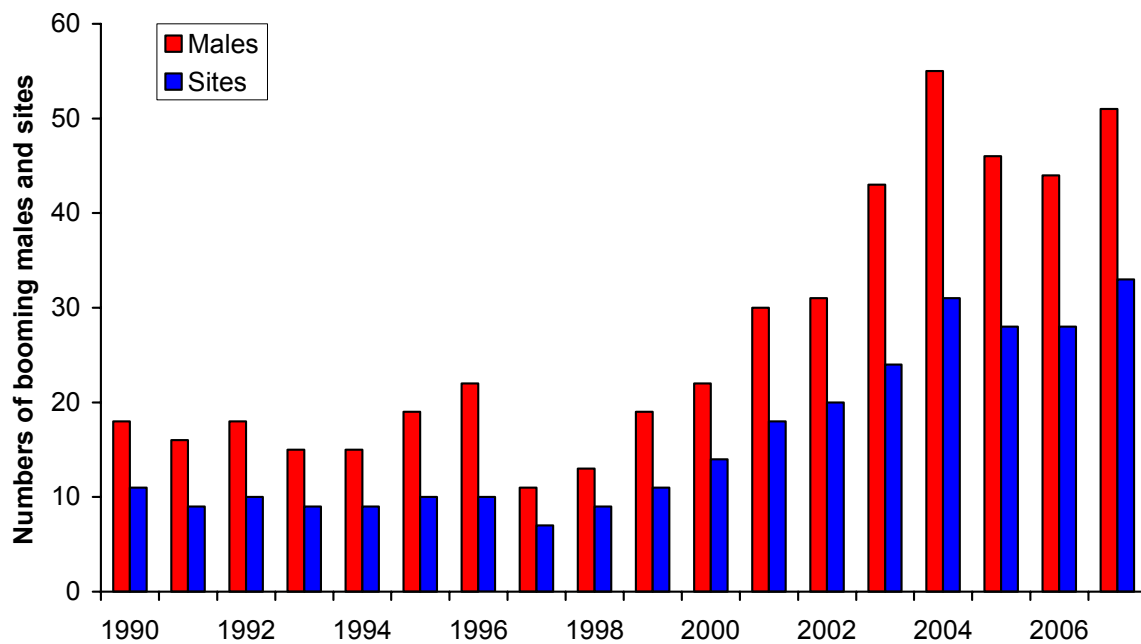


Table 1. The minimum number of booming male Bitterns in the UK since 1997 and the number of sites involved (figures in brackets show the maximum numbers).

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

Table 2 and Figure 2 provide a summary of booming activity by region. On the Suffolk coast in 2007, there were again 20 booming males, for the third year in a row. However, a local decline did occur at Easton Broad, where the number of boomers dropped from five in 2006 to two in 2007. This site suffered from several saline incursions since Autumn 2006, with a result that water levels on the site were uncontrolled for large amounts of time. This led to conditions being perhaps less than suitable for Bitterns here.

On a more positive note however, these losses were compensated for by increases of one boomer each at Minsmere, North Warren and Hen Reedbed. This was the first year that there have been three Bitterns in the minimum booming figures at North Warren, a recently restored reedbed.

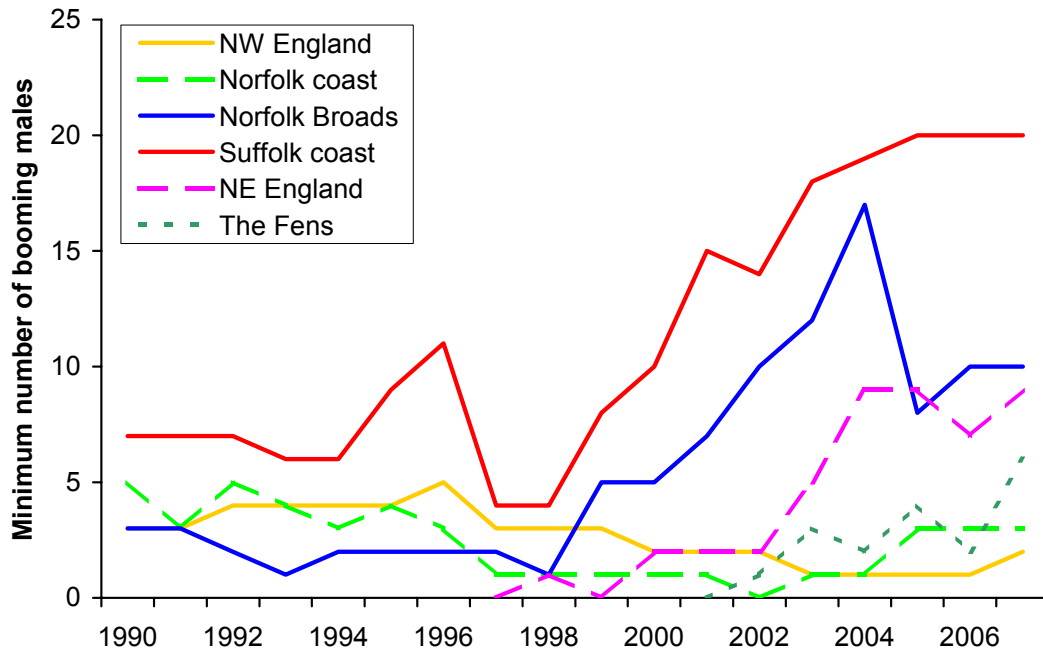
Table 2. The number of booming males since 1997 in each region/country are shown below (figures in brackets are maxima).

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% change 06-07
Suffolk Coast	11	4	4 (6)	8	10 (13)	15 (17)	14 (19)	18 (19)	19 (20)	20 (24)	20 (29)	20 (25)	0
Norfolk Broads	2	2	1 (3)	5	5 (6)	7	10 (11)	12 (15)	17 (22)	8	10 (12)	10 (17)	0
Norfolk Coast	3	1 (2)	1	1 (3)	1 (3)	1 (2)			2 (3)	3	3 (4)	3	0
NE England			1 (2)		2	2	2	5 (8)	9 (10)	9 (11)	7 (9)	9	+29
NW England	5	3	3	3	2	2	2	1	1	1	1 (2)	2	+100
The Fens								3	2 (3)	4	2 (3)	6	+200
SE England			1		1 (1)	1	2	2 (3)	3 (4)		1 (2)	1	0
SW England	1	1	2	1	1	2	1 (1)	1	1	1 (1)			0
C England				1									0
Wales									1				0
										(1)	(1)		
UK TOTAL	22	11 (12)	13 (18)	19 (22)	22 (28)	30 (33)	31 (37)	43 (52)	55 (65)	46 (54)	44 (63)	51 (63)	+16

In Norfolk, the total number of boomers also remained unchanged from 2006, at 13. Three booming males were distributed along the coast and 10 were recorded in the Broads, including one at a new site. There was a delay in booming activity in the Broads this year, despite a number of sites being in apparently good condition at the start of the booming season. The population of boomers in the Fens increased from two in 2006 to six in 2007, an encouraging increase. Five of the boomers in the Fens were recorded in Cambridgeshire, including one at a new site here.

In Northeast England, numbers of boomers increased by two from last year, up to nine. This is a return to the level in 2004 and 2005, after a drop in 2006. A Bittern was heard away from the usual Humber area sites, at a new location in 2007. For the first time since 2002, more than one bird was heard to boom in Northwest England. At Leighton Moss, only one Bittern was again heard to boom this year, no change in the last five years. A second boomer, however, was recorded at a new site away from Leighton Moss. A single boomer was also present at a site in Southeast England, for the first time since 2004, although again, as last year, no boomers were recorded in Southwest England or Wales.

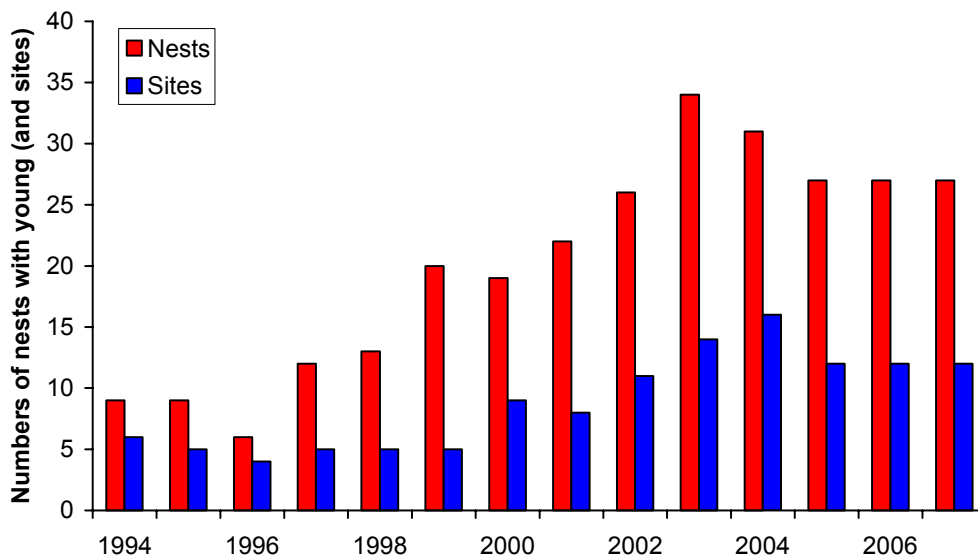
Figure 2. The minimum number of booming Bitterns in the key regions since 1990.



Breeding

Nesting activity was only recorded at 36% of the sites where there was confirmed booming, with only 12 sites holding nesting females compared to the 33 sites that held booming males. 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 2007, and the number of sites involved.



In a summer notable for its cool temperatures, heavy rainfall and flooding, several early nesting attempts by Bitterns failed. For instance, of the nine nests located on the Suffolk Coast in May, seven failed in the persistent rain and chilly winds over the Whitsun Bank Holiday weekend.

Again this year, most nesting attempts were in East Anglia, with 24 of the 27 nests (88%) occurring in Suffolk, Norfolk and Cambridgeshire. However, there were several notable changes in the nesting locations within these three counties this year. Nesting attempts at a regional level is summarised in Table 3 and Figure 4.

Table 3. The minimum number of located nests with chicks in each main region since 1997 (with the number of sites involved in brackets). Note that the current methods for recording active nests started in 2001, so the figures before then are not directly comparable.

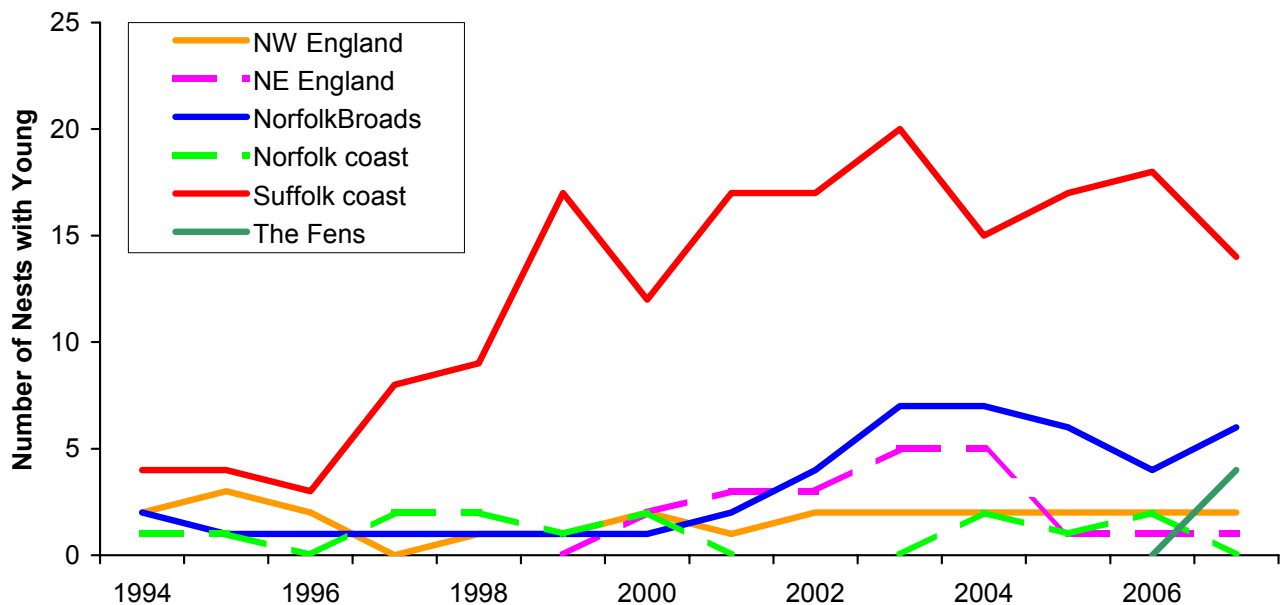
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% change 06-07
Suffolk Coast	3 (2)	8 (2)	9 (2)	17 (2)	12 (4)	17 (4)	17 (5)	20 (5)	15 (5)	17 (5)	18 (5)	14 (5)	-22
Norfolk Broads	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)	2 (2)	4 (3)	7 (4)	7 (3)	6 (4)	4 (3)	6 (4)	+50
Norfolk Coast	0	2 (1)	2 (1)	1 (1)	2 (2)	0	0	0	2 (2)	1 (1)	2 (2)	0	-100
NE England	0	0	0	0	2 (1)	2 (1)	3 (2)	5 (4)	5 (5)	1 (1)	1 (1)	1 (1)	0
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)	0
SW England	0	1 (1)	0	0	0	0	0	0	0	0	0	0	0
The Fens	0	0	0	0	0	0	0	0	0	0	0	4 (1)	na
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)	0

On the Suffolk coast there was a decline in nesting attempts, from 18 in 2006 down to 14 in 2007. This can be partly explained by the decrease in nesting attempts at Easton Broad, where the number of nests with chicks fell from four to one, probably as a result of the saline incursions at this site in recent months rather than the poor weather in May. Another decline occurred at North Warren, but Minsmere and Hen Reedbeds produced the same number of nests as last year. Of the nine nests at Minsmere, however, four were known to be re-lays after early nests were lost during the poor weather in May. There was a welcome increase at Walberswick where two nests hatched this year.

In Norfolk six nests were located, the same total as in 2006. No nests were located on the Norfolk Coast this year, however this was balanced by an increase in the Broads, including two at two new sites. In Northwest England, two nests were located at Leighton Moss and only a single nest was found in Northeast England, for the third year in a row, with different sites involved in each of the three years.

Perhaps the most exciting result of the season came from Cambridgeshire where the first Bittern nests since the late 1930s were discovered. Four nests were located from three different females at Kingfishers Bridge, a site where there was only one booming male. This is the first time in the UK that Bitterns have nested at a newly created reedbed and a wonderful achievement for all the people who have worked hard to create this wetland from scratch.

Figure 4. The minimum number of located nests with young between 1994 and 2007, by region.



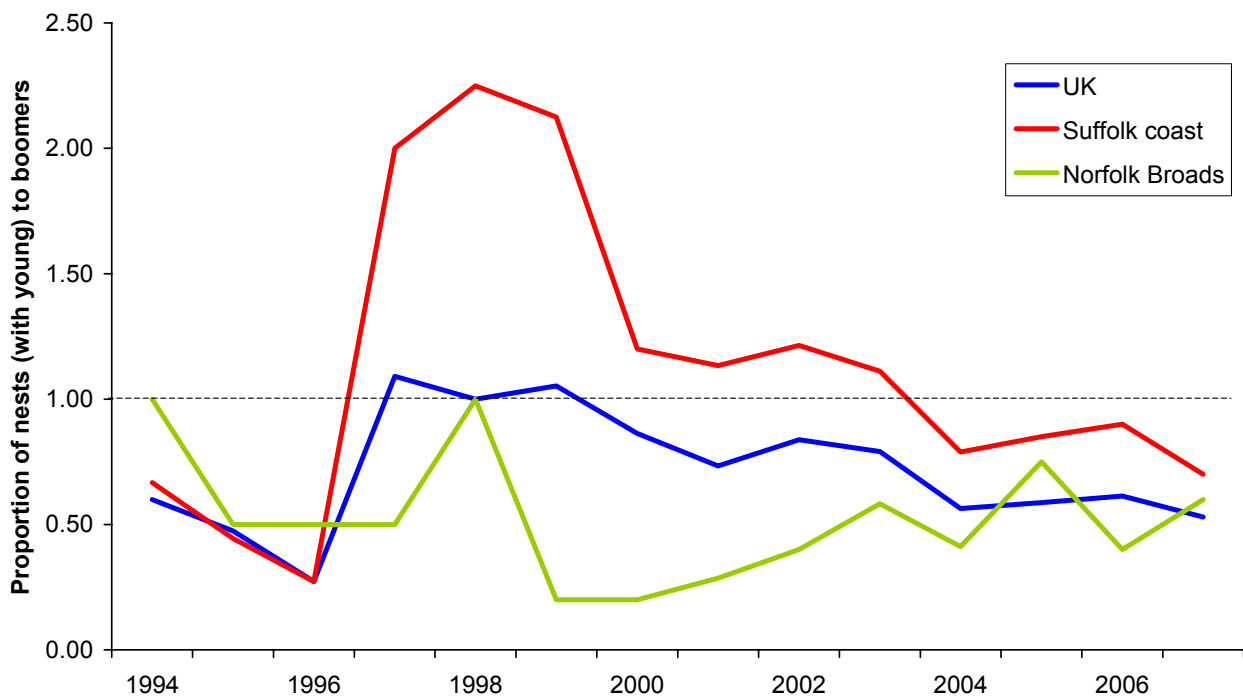
Summary

It is an encouraging that there has been an increase in the number of booming males this year after the declines of the last two years, and that more sites were occupied than ever before. However, Bitterns are 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 has consequently suffered a drop in the number of boomers (five to two) and nests (four to one) this year. A number of other sites are also under threat, including Minsmere.

The news that Bitterns are now breeding inland in the Fens is thus very welcome in this context. We anticipate that an ever-increasing proportion of the population will breed here, in an area relatively safe from saline inundation. As Fenland has been the focus of much recent reedbed creation activity, at sites such as Kingfishers Bridge, Lakenheath Fen and Over Fen, and is set to host a far greater wetland area still (including the Great Fen Project), there will potentially be much habitat for Bitterns to colonise here. The fact that Bitterns have bred for the first time in the UK in habitat specifically created for them is a cause for much celebration and we look for the birds to consolidate their position here and at other reedbed creation sites over the coming years.

A lack of nesting females in the UK population is a cause for concern, particularly with almost all at sites in East Anglia. Figure 5 shows that, nationally, the annual proportion of nests with young to the number of booming males has been below one – that is, there are more booming males than nesting attempts in most years. Between 1996 and 2000 on the Suffolk coast, however, the nesting attempts outnumbered the number of boomers. This period coincided with the great jump in the number of boomers nationally.

Figure 5. The annual proportion of nests (with young) for every booming male Bittern nationally, and for the Suffolk coast and Norfolk Broads populations.



A key aim is to increase the number of nesting attempts away from the core Suffolk sites, through the great amount of reedbed creation and restoration that has been undertaken throughout the country and is still ongoing, to ensure that UK Bitterns become much more established over a wide geographical area in the coming years.

Contact Us

The Bittern Monitoring Programme will continue in 2008, 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 best survey methods and when to listen, please contact Simon Wotton on the contact details below.

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