

Birdlife International
European Division

Annex 2

of the Guidelines for monitoring of population parameters of
Great Bustard and of the effects of management measures

Guidelines for Great Bustard nests



Prepared for the Memorandum of Understanding on the conservation and
management of the Middle-European population of the Great Bustard under the
Convention on Migratory species (CMS) by

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The nest of a Great Bustard is generally only a shallow, 25-35 cm wide depression in the ground, deliberated bushing has not observed yet, if some plant pieces line the nest, this is supposedly accidental. The clutch is usually 2, more rarely 1 or 3 eggs, the olive-brown, olive-green or rarely pale blue, and well blotched with brown eggs are elliptical. The nests are in grass or crop as usual, mainly in winter cereals (figure 1), Papillionaceae or in other crops, but the fallows (see the photo in the front cover) are also a very frequent nesting site (Faragó, 1983, Morgado & Moreira 2000), although sometimes the eggs are laid in extremely unusual place (figure 2).



Figure 1: Great Bustard nest in winter wheat



Figure 2: Great Bustard nest in a new potato field.

How can we find a Great Bustard nest? Although the eggs, the nest, moreover the female on the nest are considered relatively big, they are very hard to notice due to their colour camouflage so bewilderingly. The nest is nearly impossible to see from a distance of 10-20 m, if the vegetation reaches the 50 cm height (figure 3). We notice the nest or the hatching female only if the bird takes wing just before we step on it. In such a case the female very often drops into the nest (figure 4). It usually escapes from an approaching machine similarly in the last moment, moreover it sometimes staying calm sitting on its nest, while the machine passing above it, to expose itself to the danger. Hawk-eyed and patient bird watchers are able to find nests also like that they keep watch on the female, which is sitting on its nest or sneaking to the nest, but in tall vegetation it is very hard to glimpse a female in this way. A female can easily reveal her nearby nest with her typical behaviour, the females are hectic, worried, confused and often examine the sky as long as they interrupt the hatching. However we can see a female, which is sitting on its nest, we can measure out the nest by the help of two or more observation direction – to the construction of these observation directions a GPS appliance could be very useful, – by only a few meter miscalculation.



Figure 3: Great Bustard nesting site in fallow (Bromus grass). In the foreground there is a nest with 2 eggs, roughly 1 meter far from the point, where the photo was taken.



Figure 4: The female defecated into her nest, while she escaped.

At times we got information about a Great Bustard nest only indirectly or posterior. Farmers, shepherds, tractor drivers or hunters can give these reports, which are often irreplaceable, that's why it is very important to collect them. If we meet these people during our work, we should ask them about their experiments in reference to the Great Bustards. In this way we can be informed about an „unknown” breeding sites, and due to the nest site fidelity of the females (Alonso et al. 2000), we presumably will find nest in the same place in the future. As we found, they even notify us immediately as they find a nest for a small premium. This needs of course preliminary education, in the course of which we have to tell them what to do if they find a nest.

The females are very sensitive to the disturbance during the hatching. In the first days in the hatching period, it is imaginable in some case that they abandon the nest already after the first disturbance forever, and the hatching can become unsuccessful for the given year as a consequence. Even more, according to the theory of several experts if we walk to a nest, we can lead predator mammals to the eggs on our tracks, but it happens regularly that Corvids follow us, and rob the eggs if we chase the female away from the nest (figure 5). Accordingly let us never endanger the nests of the Great Bustards as far as possible. Only if we have got a well justified reason, can we approach the nest! Simply for scientific reason only if it is very important. Do not forget, that this activity has to be permitted!

The nests get destroyed unfortunately earlier, the probability of supplemental nesting is bigger, and in fact this must happen in the first week of the hatching. This is a kind of guarantee for the female to have chicks in the given year, but we have to know that the supplemental nest is usually smaller and less fertilized and the nestlings from the supplemental nest are less viable.



Figure 5: A female Great Bustard is sitting on eggs, in front of a lurking hooded crow.



Figure 6: Eggs are hidden avoid the nest predatory birds.

But if we find a Great Bustard nest accidentally, or we have to search the nest just for the rescue of the hatch, then let's try notice the surroundings and fix the location, and leave the nest as soon as possible for opening the door to the female to come back to the nest soon. A Hungarian practice for avoiding the robbing by Corvids is the covering of the eggs by a handful of plants (Figure 6). More preferable to come back to the locality 26 days later, when the hatching has finished surely. There are a lot of signs which give a handle to us to draw a lot of conclusions at a retrieved or posterior found nest, too. If the transfer of the eggs is necessary, we have the possibility to take more measurements. Let us try to answer by the measurements for the next questions:

- Discovering of the nest:
 - Date and time of the discovering.
 - The location of the nest. If it is possible, set the coordinates of the nest

by a GPS appliance, but sign the location on a map in any case. If it is necessary, use direction lines of observation for the localization. (Handle this information secretly, for fear of that they get into the hand of incompetents, avoid the simple publication!)

- Who and how found the nest?
- The stage of the hatching:
 - Is the nest living or abandoned or robbed or succeeded?
 - If it is robbed, what animal could do it supposedly and when? What kind of signs can be seen?
 - If it is living, how old could it be? (This is difficult, but some sign can be sneak. E. g. the base of a young nest is novel, slightly trodden. „Cheeping” or cracked eggs show that the hatching is approaching the end.)
 - Is there droppings of Great Bustard in the nest or very close to it?
 - If the hatching was successful, when the offspring’s hatched probably?
- The clutch:
 - The number of the eggs.
 - The size of each egg: width, length, weight.
 - The colour of the eggs.
 - Are the eggs fertile or sterile? (Only posterior ascertainable!)
- The environment of the nest:
 - vegetation type,
 - habitat structure (the coverage) and the height of the vegetation,
 - plant species around the nest and their abundance.
 - If it is possible, draw a map about the habitat within 1 km around the nest, like in the figure 7.
 - Get information about the disturbance factors in the neighbourhood of the nest.
 - Where are nests of Corvids and bogs of foxes/badgers? What kind of potential nest robbers can be seen nearby?
- Was the sitting female possible to see? What did she do while we were at the nest?
- Activities:
 - Write down, what did we do at the nest. Taking photos, measures the eggs, covering the eggs against predators, etc.,
 - What kind of agricultural activities happened? What size of buffer zone maradt?
 - Later on what happened at and around the nest till the end of the hatching?
- The examination of the nest with thermo logger: a thermo logger is a small gadget, which can be hide into a nest of a Great Bustard easily without that the thermo logger would disturb the bird in hatching, and its record the temperature of the nest repeatedly, and later this database can show us the process of the hatching and the time, when the chicks hatched or when the female abandoned the nest, but maybe it can also cause problems.
- Other remarks.

A photo can be very useful not only for simple documentation, but for answering subsequent questions. Take photos about the nest and about it’s environ. Nowadays a simple digital camera offers cheap opportunity to document every detail plentifully.

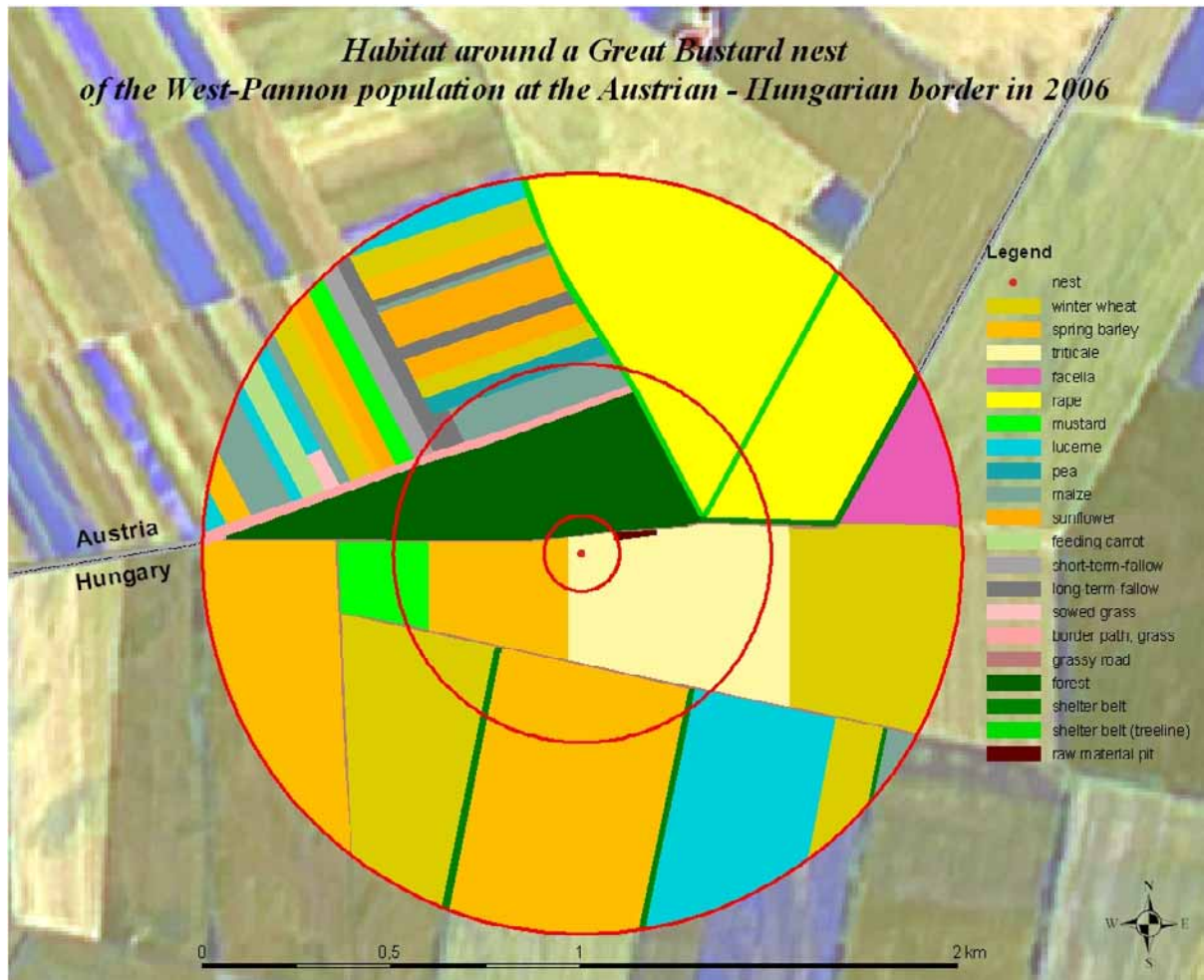


Figure 7: Habitat around a Great Bustard nest of the West-Pannon population at the Austrian – Hungarian border in 2006.

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