LAND BRANDENBURG

Ministerium für Ländliche Entwicklung, Umwelt und Landwirtschaft

Species and Biotope Conservation

The Great Bustard – the Brandenburg Ostrich

LfU
Landesamt für Umwelt

The Great Bustard –
the Brandenburg Ostrich

Contents

Did you know ...
that an old Great Bustard male can be as heavy as a roe deer, weighing up to 17 kilograms? The great bustard is one of the heaviest flying birds in the world. Not only that, but the difference in weight between the male and female great bustard is greater than that of any other bird species in the world.

Did you know …
earlier the Great Bustard was considered big game and could only be hunted by the kaisers, kings, and nobility? The administrators of the king's court hunt recorded 820 bustards killed by hunting in Prussia in the year 1900.

Courtship display of a Great Bustard male

The Great Bustard – has it been saved?

Brandenburg's Bustard is famous. In the 1990s our heaviest species of bird even became popular abroad. When the Ministry for Environment travelled to London in order to present landscapes and birdlife of Brandenburg their hosts in Britain were especially keen on the Great Bustards. Indeed, they had Bustard Pubs there as well as Bustard Ale, but the Bustards had vanished 160 years before.

Beyond the professional sphere the "Markish Ostrich" (called after the former "Mark Brandenburg") became an ambassador of the Brandenburg landscapes. Visitors come from all over Germany, and international visitors come from the Netherlands, Denmark, Great Britain and beyond to see the impressive droves of Bustards in the fields. The highlight, however, is the spectacular courtship in spring. The Bustard population in the last three remaining Great Bustard areas is increasing and these areas demonstrate that agriculture, nature conservation and hunting can all successfully co-exist. Our objective is to continue and maintain this conservation success.

Jörg Vogelsänger
Minister for Rural Development, Environment and Agriculture of the Federal State of Brandenburg

The Brandenburg Ostrich

Historical prints of Great Bustards: from "Brehms Tierleben" ("Brehm's Animal Life") 1893 (above) ... as well as a bustard male (B. Morris in „British Game Birds and Wildfowl", 1855) (below).

Once a steppe bird ...

The original habitats of the Great Bustard were wide-open steppe landscapes. Forest clearing in the Middle Ages created fields, meadows, and heathlands – so-called "cultured steppes" – that were attractive to the bustards and which they quickly settled. In the 18th and 19th centuries the large birds were a widely distributed species on the agricultural lands of Europe. Even Southern Sweden and large parts of England were home to Great Bustard populations.

Did you know ...
earlier the Great Bustard was called the Ackertrapp (Field Bustard) or Trappgans (bustard goose)? In Upper Wendish it was called "Dudak" and in Lower Wendish "gropun."

... today on fields and in meadows

Additional habitats came about in Central Europe when the large fen mires were drained. Pure arable land has lost its suitability for Great Bustards for a long time. But neither is conventionally managed grassland an optimal habitat because of its cool and moist microclimate and the respective vegetation structure. Today the remaining bustard habitats in Germany are a mix of fields and grassland on fen mire ground. For decades now the coexistence of fields and fen mires has characterized the habitat of the bustards in Germany.

Although the species is able to get through the winter with just a few patches of rapeseed, it belongs to the bird species with the most complex ecological requirements: large, open and undisturbed areas without fragmentation and human settlements, diverse vegetation rich in microstructures with sparse, sunny patches and plenty of insects, spiders and other invertebrates. This manifold and abundant arthropod fauna is essential for the young in the first weeks of their life.

Once in their thousands in Brandenburg …

Bustard hunter in the Middle Ages, after GEWALT (1959).

Distribution of the Great Bustard in Brandenburg in 1934, after GEWALT (1959).

Did you know …
the Great Bustard is still a game bird in Germany, however with a year-round close season?

The so-called „Mark Brandenburg" was always the stronghold of the Great Bustard in Germany. That is why the bird is also known as the "Märkische Strauß" or Brandenburg Ostrich. While the authorities valued the bird for hunting and eating, the farmers complained about the damage to their fields. For this reason one began to control the Great Bustards beginning in 1753 with the permission of Frederick II in order to reduce the damage to agriculture. At the beginning of the 20th century school children still had to collect bustard eggs from the fields.

In 1939 there were about 3,400 bustards living in the then Mark Brandenburg, more than half of the German population. The population then sank rapidly in the following decades.

… today a rare bird

The intensification of agriculture since the middle of the 19th century fundamentally altered the agrarian landscape and destroyed the habitat of numerous plant and animal species including the Great Bustard. They disappeared from the farmland first and later from the marsh areas as more and more land were transformed into monotonous grassland.

In the 1970s and 80s the reproduction practically broke down – even though a hundred or so individuals still lived there was hardly any offspring fledged. Many clutches were destroyed during the frequent agricultural operations, and the very few chicks that hatched starved or became chilled in the dense and humid vegetation.

The long life expectancy delayed the process of extinction but could not prevent it completely – many of the former strongholds became abandoned. For decades conventional agriculture has not been capable of maintaining Great Bustard habitats in Germany. The species is dependent on conservation areas with special "bustard-friendly" farming practices and management concepts

Causes for the decline of the Great Bustard

- increase in mowing and other work processes
- intensive fertilization
- pesticides
- soil compaction
- high livestock densities
- large-scale monocultures
- loss of fallow land

→

- time between work processes no longer sufficient for breeding and rearing
- dense and high vegetation with unfavorable microclimate
- low vegetation diversity
- decline in invertebrates (number of species and biomass)

→

- large losses due to machine use (clutches, young and adult birds)
- lacking sunny areas for the chicks
- high resistance to their movement
- starvation due to acute lack of invertebrates

Only extensively managed meadows (right), arable land and fallow ground offer enough food for great bustard chicks; they have no chance of survival in high, dense, intensively used grassland (left). The photo (below) shows an area of arable ground which is particularly rich in insects.

Great Bustards looking for a mate ...

Great Bustards do not live in pairs, but in reproductive communities, internationally known as "leks". In the old days these could comprise up to 130 birds covering a territory of 30 to 80 square kilometres.

Outside the breeding season males and females live in separate groups ("droves") with the juveniles of the previous brood staying with their mothers. It is only during the display and mating season that males and females come together, but no pair bonds are formed.

Year by year the birds return to the same sites for courting. The traditional display sites are used over decades.

Males skirmishing at the edge of the courting ground.

The courtship of Great Bustards is a spectacular event. The males first strutting over the fields appear to grow in size and change their colour from brown to white. This is done by ruffling the feathers and inflating a special balloon-like structure in the neck. The wing feathers are twisted forward and fan out, and the tail is cocked right up and over onto the back. The head, with the long, white whiskers pushed upwards, is drawn onto the back. The displaying male stomps his feet and swings his inflated neck. Looking like a big, bright flower the male is able to attract females at a distance of several kilometres. After mating, the females again disperse to lay their eggs. Following a Spanish radio-tracking study, the nest sites were on average eight kilometres away from the display ground, and maximum even 54 kilometres. Males play no part in the nesting or care for the young. The incubation and rearing of the chicks is carried out by the female alone.

Females appear to visit several males before copulating and seem to be very selective in their choice of mate. Mating success is strongly skewed, with the majority of matings performed by a small proportion of males at a lek site. The older males are responsible for most of the reproduction.

Did you know ...
during the courtship the heart rate of the males can reach 900 beats per minute?

The clutch normally consists of two eggs, although occasionally one or three may be laid. The female merely makes a small depression in the ground, usually without any nesting material.

Did you know ...
the adult birds are omnivorous with a broad spectrum of plant and animal food whereas the young in their first days completely depend on insects? In the first two weeks of life Great Bustard chicks need more than 10,000 insects – almost a kilogram – in order to survive.

... and with successful mating

After an incubation period of about 25 days the eggs hatch, and the chicks weigh about 90 grams. Even though they leave the nest immediately, they are only able to follow the hen clumsily and slowly in the first days of life.

The female feeds them small bits of food from bill to bill, initially only insects. Without a sufficient supply of big arthropods the chicks have no chance of survival. From the tenth day on the proportion of plants markedly increases.

Even though the young bustards are beginning to fly at four to five weeks, they still try to keep out of harm's way by hiding in the vegetation – a fateful strategy! It may help to be invisible for eagles and foxes, however it is deadly in case of big farming machines. Only when ten or twelve weeks old – and nearly sized like their mother – will the chicks try to escape on their wings – sized then nearly like their mother. The male chicks quickly grow larger than this, but even in the autumn the mother – now much smaller than her offspring – still feeds them from time to time.

Females become sexually mature from two years of age and males typically from four or five years.

Annual Cycle of the Great Bustard

Males go travelling …

In Russia most of the Great Bustards are migratory. Even the Spanish bustards change regularly between nesting and wintering areas; males even cover up to 250 kilometres between. In contrast, the central European bustards are mainly resident. Unless there is a winter flight, they stay in the vicinity of their breeding grounds, rarely moving more than 15 to 25 km away.

However, mainly males disperse further away during their second calendar year. These "excursions" can cover hundreds of kilometers in all directions. In times past they met conspecifics everywhere to join them in their leks and this avoided problems of inbreeding in the population. Nowadays this dispersal often comes to nothing, reducing the survival chance of the "bachelors". Flying bustards often collide with power lines; fatalities due to wind turbines are known from Spain.

Severe winters cause high mortality – the 1978/79 winter reduced the German population by 45 percent hitting both the starving bustards in their breeding grounds and the birds that tried to escape.

… flight from hard winters

Our bustards only leave their breeding grounds in years with long-lasting snow cover. On their westward winter-flight some of the birds even reach Belgium, the Netherlands and France. In recent decades this has only happened in 2009/10 and 2010/11, and this was despite the clearing of strips in the rape-seed fields – the preferred winter feeding habitat – in these hard winters. Great Bustards could possibly be winners with climate change – at least in Central Europe.

Following models combining bustard population data and climate data, East-German bustards could benefit even more from climate change than elsewhere in Central Europe. Crucial, however, is the altering land-use due to climate change. The international responsibility of Germany to protect this species is therefore all the greater.

Did you know …
Great Bustards are powerful and untiring flyers in spite of their weight? While in Central Europe they are resident, in Russia they are migratory birds that move about 1,000 kilometres to their winter range in the Ukraine.

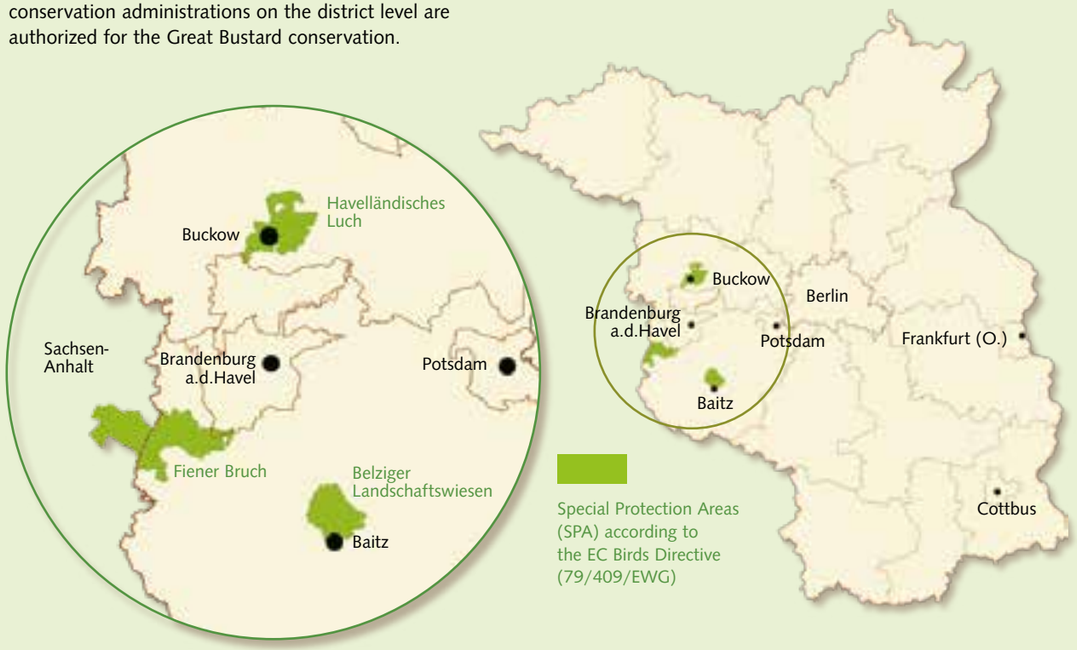
Help in situ …

… and international responsibilities

More than thirty areas in the former GDR were designated “bustard sanctuaries.” But only in few of these conservation measures came into effect. In all the places where the designation “bustard sanctuary” was only an empty phrase the large birds have since disappeared.

They survived only in areas where there were intense efforts to protect the birds and their habitat – in the Havelländisches Luch, the Belziger Landschaftswiesen, and in the Fiener Bruch.

Today the Brandenburg State Office for Environment is the responsible authority for Great Bustard conservation with significant assistance of the “Society for the Protection of Great Bustards”, which is also active in Saxony-Anhalt. In this federal state the conservation administrations on the district level are authorized for the Great Bustard conservation.



Did you know …
the Great Bustard has an enormous distribution reaching from Spain to Mongolia, but that they now only live in isolated populations?

Looking outside the box

The conservation of the Great Bustard in Germany is part of international efforts to protect the species. This happens in the frame-work of European and even world-wide agreements, first of all the EC Birds Directive that focusses not only at the birds themselves but also their habitats. Designated as Special Protection Areas (SPA) these are part of the Europe-wide network NATURA 2000. This network consisting of SPAs and conservation areas under the EC Habitats Directive is targeted on the preservation of wildlife and flora in Europe – very much in the sense of the Biodiversity Convention that is supposed to ensure a diversity of life on Earth beyond just the EU. Great Bustards are a part of this diversity.

There is even an agreement that is dedicated solely to the Great Bustards in Central Europe – the so-called "Memorandum of Understanding." This sub-agreement of the Bonn Convention for the Conservation of Migratory Animals regulates the international efforts in research and protection of the Great Bustard. In this context there have been four conferences at which the 13 signatory states agreed to an international work program and critically inspected the status of the implementation of the memorandum. Several guidelines were elaborated giving advice for monitoring, methodology, reintroductions etc.

The Great Bustard conservationists in Germany co-operate closely with their colleagues in Spain, Austria, Hungary, Ukraine, and Russia. As well, there is long-term mutual support with a reintroduction project in England. As a strictly protected species the Great Bustard also falls under the trade restrictions of CITES.

According to the Red List of Threatened Birds of the World the Great Bustard is considered "vulnerable" – this corresponds to category 3 "endangered" in Germany. Red Lists are points of orientation for conservation strategies and political decisions. On the Red Lists of birds in Germany and Brandenburg the Great Bustard is ranked in category 1, "threatened by extinction."

The Brandenburg region has always been the stronghold of Great Bustards in Germany. Therefore, the State of Brandenburg is well aware of its responsibility and has implemented all possible measures to preserve this marvellous species and its habitats.

The conservation of the Great Bustard in Brandenburg is achieved by …

- "bustard-friendly" management of habitats together with the farmers
- minimizing disturbances
- reinforcement by hand-reared bustards as long as the population is not self-sustaining
- predation management in order to raise reproduction and adult survival

Bustard friendly habitats

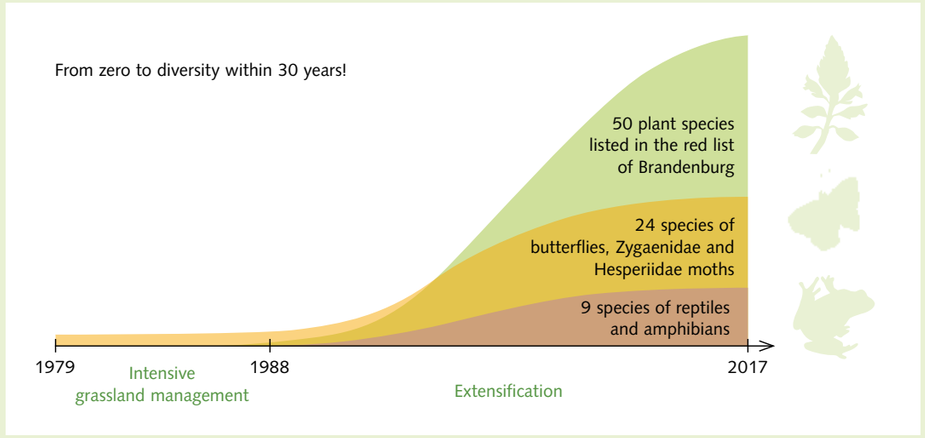
"Transparent" landscape
The original steppe bird needs a wide and open landscape for breeding and to cope with disturbance and predators. Single trees, bushes or small copse are tolerated as long as they do not alter the general character of the habitat.

Less is more for the Great Bustard
Fertilizers and pesticides lead to high nutrient loads in the soil, to lush, dense and uniform vegetation. Bustards, however, need sparse, low and diverse vegetation. Biologists have the rule of thumb: every plant species hosts ten to twelve arthropod species. These, in turn, are essential as diet of the bustard chicks and many other species, such as grey partridges, lapwings, and skylarks.

Diversity instead of monotony
Huge, monotonous fields were improved by so-called bustard strips, i. e. strips inside the fields in order to reduce the size of these and to create additional structures, diversity and feeding plots. Over the years the strips turn into permanent grassland which is gently managed in favour of bustard clutches and chicks. Happily many farms in the Havelländisches Luch switched to organic farming. Whereas there are several agri-environmental schemes in the grassland, bustard strips and organic farming are the only ways to improve arable farmland.

Great Bustards need farming
Bustard-friendly habitats can only be created together with farmers. The basis of this cooperation are agri-environmental schemes, conservation contracts and special regulations in the conservation areas. The farming practise needs to be fitted to the annual cycle of the birds.

Did you know …
bustards are more closely related to cranes than to chickens?



The Great Bustard is a flagship species, and an umbrella species as well. Under the umbrella of bustard conservation, biodiversity in total has been increasing for decades as shown here with the example of three species groups (data: Wernfried Jaschke, SPA Havelländisches Luch).

Please do not disturb!

Great Bustards feel comfortable when they are able to see any disturbance from a distance. This way they can react properly and either hide or try to escape. Therefore guidance of visitors is an essential part of the conservation strategy – prohibited core areas for the bustards' welfare, and observation points and towers for the public. Guests from all over the world appreciate these facilities.

Agreements with operators of small airports, balloonists, the army, and even the fleet of planes from the Federal Government significantly reduced disturbances from the air. The bustards are thankful: the insemination rate of their eggs increased from 74 % in the 1980s to currently 93 %.

The artificial sitter

In the late 1980s large-scale habitat management started in the Havelländisches Luch and the Belziger Landschaftswiesen. Before then the only way of bustard conservation was to rescue the eggs found during farming measures, to incubate them artificially, and to hand-rear the chicks in the Nature Centre Buckow (today Bird Conservation Centre). Finally, the juveniles were released in the same unsuitable habitat where the eggs came from.

Today reinforcement is still a part of the conservation strategy – but supplementary to habitat conservation. The main objective of the conservation programme is a self-sustaining population independent of artificial restocking. In the Havelländisches Luch we are close to this objective.

Results of artificial incubation and rearing

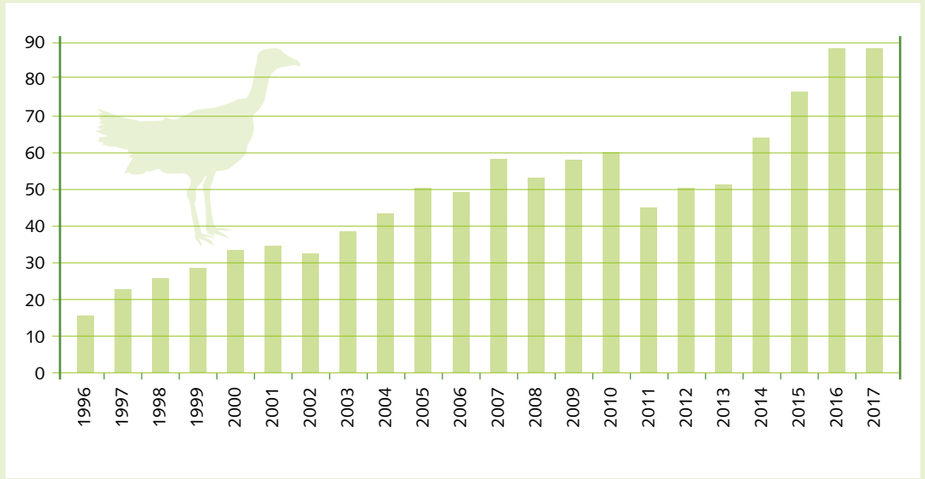
Time frame	Hatching success rates of fertilized eggs	Released birds as a percentage of hatched chicks	Number of released birds
1980 – 89	64,7 %	53,6 %	338
1990 – 99	69,6 %	69,9 %	143
2000 – 09	70,5 %	79,0 %	266
2010 – 17	79,9 %	85,4 %	323

The table presents data of the artificial incubation and rearing. Stepwise the results improved from one decade to the next.

The eggs for the artificial incubation are from clutches disturbed during agricultural work, but also collected by the conservation staff. But doesn't it harm the population when the eggs are taken away? Well, long-term investigations have shown that the majority of the eggs get lost due to predation. Like many ground-breeding birds, bustards suffer from this in large parts of Central Europe. As long as the vegetation is low and does not provide shelter, nearly all clutches in the German population find their end in the stomach of predatory mammals and birds. These eggs are lost anyway, and the females produce one, two or even more replacement clutches till they are finally successful – or not. Therefore the experts in the staff came to the decision to collect a part of the earlier clutches in order to incubate them artificially, and to rear the hatched juveniles in captivity for later release. The most important issue in this process is to avoid habituation or even imprinting to humans.

The release strategy requires:

- reduced contact with humans as much as possible,
- to confine contact to dedicated uniform-like dressed staff members, and
- to start the release period early at the age of eight weeks.



In the SPA „Havelländisches Luch", the population increased since 1996 by more than five-fold. Only few hand-reared birds were released here in the last decade; however broods inside the enclosures were intensively managed. In 2011 the population dropped following a winter flight.

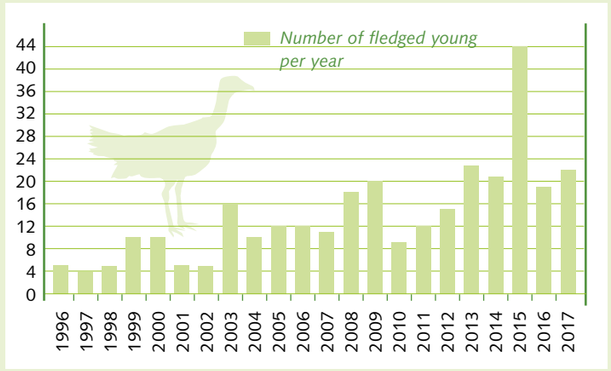
Under pressure

Over centuries humans have changed the habitat of the Great Bustard and its flora and wildlife. Predator-prey relationships and competition between species constantly had to adjust in a steadily changing world. Ecologists speak of "dynamic equilibrium". During the last decades, several factors have been supporting species that belong to the predators of Great Bustards and their eggs, e. g. vaccination against rabies (fox et al.), introduction (neozoons like racoon and racoon dog), conservation (White-tailed Eagles) or simply unlimited food resources (raven, predatory mammals). The bustards themselves are affected but the biggest impact is on their reproduction. Without a cocktail of conservation measures there would be hardly any offspring.

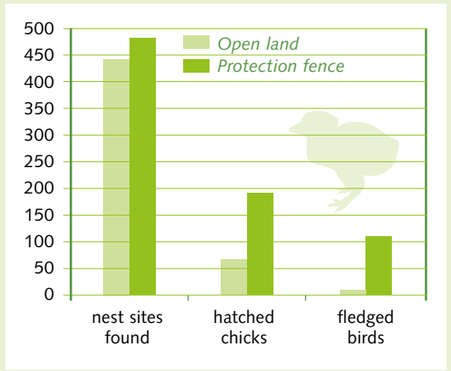
Other ground-breeding bird species for which predation is a critical factor on their population level are Lapwing, Curlew and Partridge, not however smaller species such as several song birds.

While foxes can also be a threat to adult bustards, racoons (middle) and racoon dogs (right) pose a risk primarily to the clutches and chicks.

While the hunt for foxes and other predatory mammals has not improved the bustards' breeding performance, fox-free enclosures of 15 – 30 ha in the three conservation areas proved successful. With their sense of security free-ranging (!) females prefer these areas to adjacent grounds and breed there successfully. In the SPA „Havelländisches Luch", this strategy was started in the 1990s, and maybe that is why it is so successful here. Up to 15 females are breeding at the same time in an area of 18 ha, and per year up to 14 juveniles become fledged – much more then outside the fences. Nevertheless, this is considered to be a temporary aid, and hopefully, later bustard generations will be able to breed successfully without fences.



Protecting the birds from ground predators in the fenced-in areas has led to an increasing reproduction rate in the German Great Bustard project.



Comparison of the reproduction rate in the wild and in the fenced-in areas in the Havelländisches Luch 1990-2017.

Great Bustard in Conflict

In the 1990s the media reported about the Great Bustard to be "the most expensive bird in the world". The upgrading of the railway line from Berlin to Hannover required special conservation measures as the route went right across the Havelland Great Bustard area. What had previously only been used as noise control for human settlements was now to be used to protect the bustards – embankments on either side of the tracks to avoid collisions between the birds and the trains or the new overhead wires.

The project was a complete success for all parties involved, including the Deutsche Bahn (German Railway). The respective section of the line was completed on time, and the expenses were well below the budget. The alternatives – a long bypass or a tunnel – would have exceeded the costs by a multiple. Many other species take benefit from the implemented measures – birds as well as beavers or otters, for which passages beneath the tracks were built. The bustards themselves tolerate the train line, the population has increased since.

Did you know …
Great Bustards sleep on their belly? They duck their head between their shoulders.

Thanks to the "bustard embankments" birds such as these cranes (photo above) may cross the tracks without collision risk.

Wings in the wind

Conflicts between Great Bustards and wind turbines have also caused media coverage. The large turbines change the landscape, alter habitats, and can obstruct flyways. To bird and bat species they also pose a collision risk. So far, fatalities have been documented only in Spain; however our knowledge may be incomplete as the monitoring in Germany is restricted to a few of the many wind farms.

At present we don't know how these powerful flyers cope with the wind farms on their traditional migration routes. A former wintering area lost its value for the bustards after the erection of nearly hundred wind turbines on the flyway to this area. It is of primary importance to keep the flyways between the last three breeding areas free of barriers like this.

The bustards keep nearly one kilometre distance to a wind farm in the SPA „Fiener Bruch", so losing an important part of their former habitat. A stepwise habituation of at least some bustards may be possible but would increase the collision risk on the other side. The prediction of impacts on the population level is difficult.

An analysis of human infrastructure in western Brandenburg revealed that only 10 % of the remaining bustard areas and their surroundings can be considered as suitable habitat.

Compensation measures for windfarms are intended to avoid any deterioration for the Great Bustard population and other species. Part of these are agri-environmental measures in favour of the bustards, fixed for up to twenty years. In addition, monitoring in some wind farms was financed in order to investigate the behaviour of bustards and other species towards the wind farms and their collision risk. The results may be useful for further wind farm plannings.

Recent developments in the agricultural policies brought the "Brandenburg Ostrich" again into difficulties: cultivation of plants as renewable resources makes sense for energy production, however, causes additional pressure on biodiversity. EU set-asides made up to nearly 20 % of the arable fields in Brandenburg, supporting many farmland bird species. Today most of these fields are grown with maize, sorghum and other energy crops. For Great Bustards suitable habitats got lost. With increasing numbers of bustards in the conservation areas, set-asides of sufficient extent could have been stepping stones between these strongholds.

Did you know ...
the Great Bustards are not able to stand on one leg like a stork because they have no opposable hind toe? They cannot perch and are completely ground-dwelling.

Many species suffer from the cessation of EU set-asides, including the corn bunting (left) and the whinchat (right).

How can YOU help the Great Bustard?

Farmers in the nature reserves “Havelländisches Luch” and “Belziger Landschaftswiesen” are included in the conservation efforts. They work within the guidelines of the Agri-Environmental Programs, and the conservation agreements and have adapted the farming practices toward bustard-friendly land use. There are similar approaches for the third of the remaining bustard areas – the “Fiener Bruch. In all of the reserves the conservationists are in steady contact with the hunters, who for their part consider the ecological demands of the Great Bustards. As the number of bustards is rising, broods outside the conservation areas can be expected increasingly. Therefore the attention and support of the farmers and hunters in the wider surroundings of the reserves are important. Any information regarding observations, broods or supposed broods is welcome (contacts see p. 47).

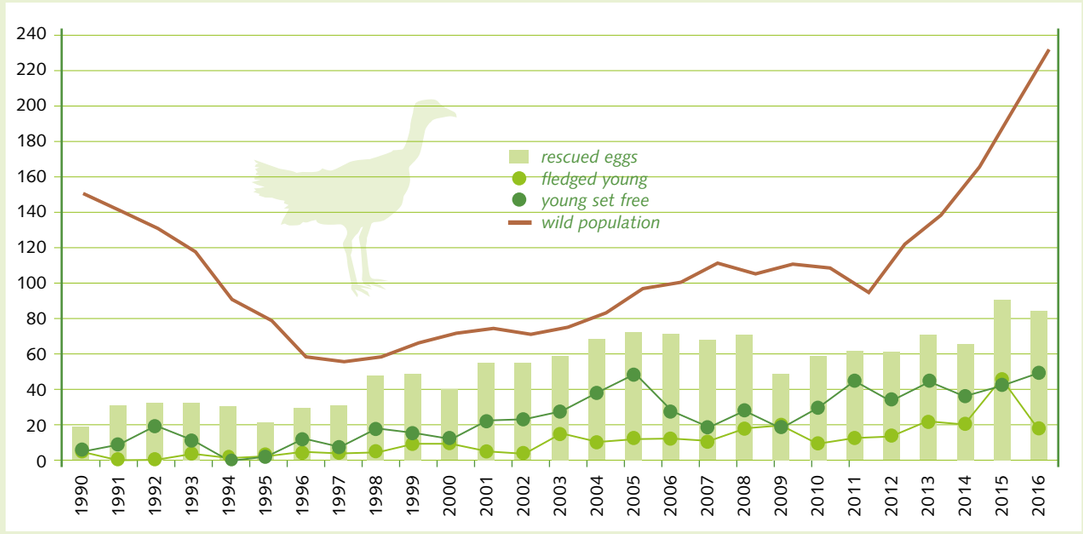
Beyond that, everybody can help to protect the Great Bustard, be it as a visitor to the conservation areas or as local resident of the surrounding villages. Please, use only the official routes and paths, and respect the restricted areas. Not only the bustards are sensitive to disturbances, but also visitors who travelled from afar – only to find an empty courting ground. Please, be aware of the instructions on the information boards in the reserves.

Reports of sightings are always welcome. Please, contact the staff, particularly in case of observations outside the reserves. They complete our picture of the space use of the bustards, fill gaps in the monitoring, and may help to involve farmers, for instance in case of supposed breeding on a certain field. Well-equipped ornithologists should always pay attention to the legs of the bustards. Sometimes, colour rings are visible even with a binocular, however, identification of the ring code needs a good telescope. But never approach a bird just to identify its number!

Whoever would like to do more for the Great Bustards …

… is welcome to get in contact with the members of the conservation staff. You may also support the **Society for the Protection of the Great Bustard** (contacts see p.47).

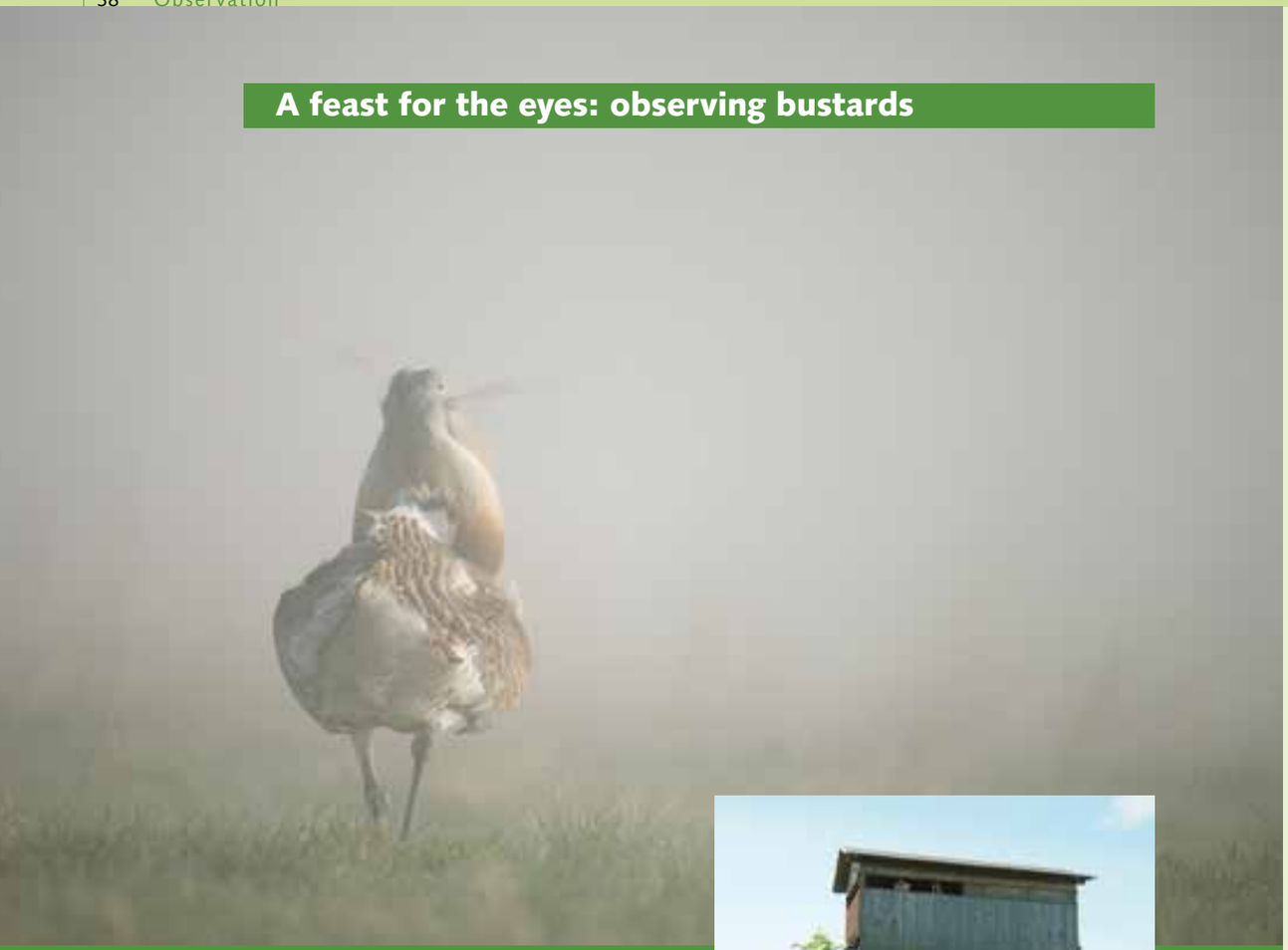
Great Bustards have been equipped with radio-transmitters for more than two decades in order to follow their tracks. Much have we learned about bustard behaviour, spacing in the course of the year, and mortality.



Successful conservation management is currently leading to population growth after decades of decline. A stable number of fledged juveniles and the release of hand-reared birds contribute to this growth.

A striking demonstration of the sexual size dimorphism in Great Bustards.

A feast for the eyes: observing bustards



For the viewer it is an unforgettable experience to watch the courting males in the distance, like big white flowers in the morning mist or at dusk. To be able to enjoy this spectacle without disturbing the actors there are four observation towers in the Havelländisches Luch, the Belziger Landschaftswiesen und the Fiener Bruch near Bücknitz (see maps on pp. 42 and 43). With a little luck you might also meet a Barn Owl in one of the towers. Look for the dark pellets and white splotches.

In mild weather the courting of the bustards begins as early as February and continues on – if not so intensely – until the early summer. The best bustard observations can generally be made from the beginning of April to the end of May. The morning and evening hours are particularly suitable, although in the fen mires it can be foggy in the early hours. As summer approaches the bustards are increasingly "invisible." It is occasionally possible to see the birds from the road, for example in the winter months when they leave the core areas of the protected area. Sometimes the bustards stand on the side of the road, but quickly increase their distance to several hundred metres from any cars which stop and especially if people get out. Good optics can help you see the birds well from a greater distance without disturbing them.

Guests from all over Europe and even from oversees visit the observation towers in the Brandenburg Great Bustard territories.

If you adapt to the bustards, you have a good chance of experiencing the birds and their natural habitat.

During the courting period the Society for the Protection of the Great Bustard offers a visitors' service in the exhibition of the Bird Conservation Centre in Buckow as well as guided excursions. Details can be found on the website of the society as well as in the local media. As well, the rangers of the Westhavelland Nature Park, NABU experts and several specially trained nature guides offer Great Bustard tours.

Did you know …
Great Bustards may become 20 to 25 years old.

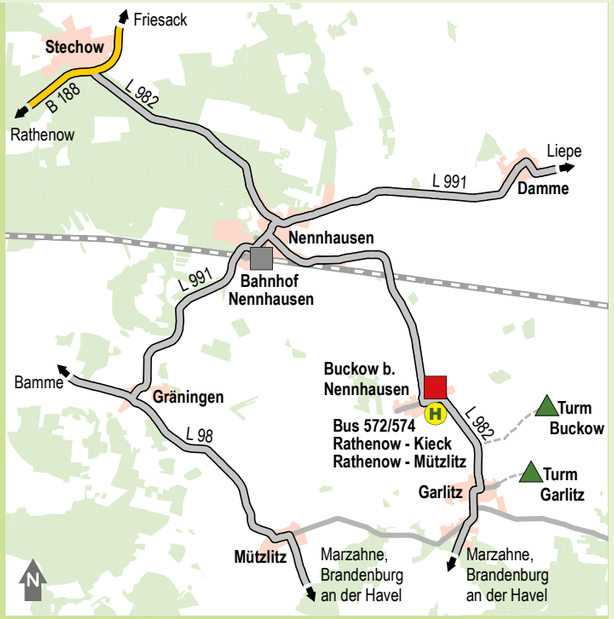
Buckow: the cradle of Brandenburg Great Bustard conservation

The Buckow Nature Conservation Centre in the Havelländisches Luch was created in 1978. Changes in the organization of state nature conservation, high personal commitment, and a great deal of voluntary support made it possible to start in 1979 full-time efforts for the Great Bustards and their habitat.

From the beginning the Great Bustard has been the flagship species representing the manifold flora and wildlife of farmland as it used to be. Like all the other farmland species bustards are afflicted by increasing intensity of agriculture. On the other side, a landscape that is able to host a vital population of Great Bustards should be also a refuge for biodiversity as a whole. The work spectrum of the nature centre ranged from research and bird censuses to seminars for farmers and voluntary conservationists. Only small-scale habitat management was possible in the first years.

Regional working groups on the district level were established for bird and mammals species, this way coordinating the work and the commitment of many volunteers. International Great Bustard conferences were organised to promote cross-border activities. Focus of these meeting was the steady decline of the species and possible chances to halt it under the conditions of the socialist agriculture. Still, in that time a dream of all people involved became reality: the change of the management on several thousand hectares from “industrial farming” (a declared target of the government) to softer approaches in favour of the bustards and biodiversity in total. For the first time it was possible to improve the habitats – a huge step in conservation!

Right from the start, preservation of species diversity on farmland has been the core of the work of the Nature Centre in Buckow, today Brandenburg State Bird Conservation Centre. Lapwing (above) and an organic field (bottom)



Hand in Hand

The political upheaval in 1989 brought new opportunities for the conservation of Great Bustards. Privatisation and reorganisation of agriculture were used to improve the situation for the Great Bustards at least in some of the former strongholds. This happened in cooperation with the farmers and their new companies. In 1991 the Nature Centre Buckow and the existing field station in Baitz were brought under the Brandenburg State Office for Environment.

LIFE projects were organised as a basis for the later agri-environment programs and the permanent protection of the areas. Capable sponsors such as the Frankfurt Zoological Society supported the work and made it possible to acquire farmland for conservation purposes. A non-governmental organisation was founded – the "Society for the Protection of the Great Bustard". As, well international cooperation in research and conservation experienced tailwinds. There is hardly a Great Bustard country between Spain and Mongolia which was not involved in joint activities and projects. In 1995 again an international Great Bustard conference was organised and held in Buckow. Till today the conference proceedings are a highly acknowledged reference.

The first twenty years of the nature protection station are inseparably linked with the names Dr Heinz Litzbarski and Dr Bärbel Litzbarski. For their achievements they were honoured with the Federal Cross of Merit in 2011. After retirement, Heinz Litzbarski continued his work as the head of the Society for the Protection of the Great Bustard. This was acknowledged with the Nature Conservation Award of the State of Brandenburg.

1998 brought a new start and reorganisation. The "bustard centre" in Buckow was turned into the "Brandenburg State Bird Conservation Centre" with the former nature centre in Baitz as an outpost.

Area of responsibility is now the entire state of Brandenburg and the whole range of bird conservation. Beyond farmland there are much more conservation projects now and moreover coordination of monitoring and bird ringing in Brandenburg, involvement in landscape planning, cooperation with foresters, fishers, energy companies and many more, conflict management for "pest species" etc. New conservation conflicts arising are climate change but also climate impact management.

Parallel to this, the work on site was ongoing. The cooperation with the farmers had to be adjusted again and again under steadily changing framework conditions. Not only that the bustards had to be safeguarded but also the farmers who are managing their habitats.

As well, the division of labour with the Bustard Society had to be revised from time to time leading to a greater part of practical work and public relations on their side. Bird conservation Centre and the society share the same location in Buckow making it easier to care for the bustards hand in hand. But successful Great Bustard conservation also needs hand-in-hand cooperation between conservationists and farmers!

Map sections and photos of the Brandenburg State Bird Conservation Centre in Buckow (left) and its satellite station in Baitz (right).

Additional information ...

Status of the Great Bustard in Europe

Population size in 2012

	Individuals	Trend	Accuracy
Spain	29.400-34.300	↑	A
Russia	5.000	↓	B
Portugal	1.893	↑	A
Hungary	1.555	=	A
Turkey	400-1.000	↓	B
Ukraine	520-680	=	B
Austria	213-253	↑	A
Germany	123	↑	A
Serbia	3-5	↓	A
Romania	9	↓	B
Slovakia	0-2	=	A
Moldavia	0	0	A
Czech Republic	0	0	A
Bulgaria	70	?	C
Great Britain (reintroduction project)	20	↑	A

Accuracy: A – very accurate, B – relatively accurate, C – uncertain

International cooperation in Great Bustard conservation: the Society for the Protection of the Great Bustard at work on projects in Russia, Mongolia, and Spain (from left to right).

National and international legal bases

European Bird Conservation Guidelines

The EC Birds Directive (79/409/EWG from April 2, 1979) came into effect in 1979. It forms the legal basis for the EU-wide protection of all native, wild bird species. It aims to conserve or restore a sufficient diversity and habitat area for the European bird species in the EU.

Convention for the Conservation of Migratory Species

The so called "Bonn Convention" was signed on June 23, 1979. The convention fixes the obligations of the signatory states for the trans-boundary preservation of the populations of migratory animal species. It is estimated that there are 8,000 to 10,000 migratory species worldwide. Around 1,200 threatened species or regional populations of these are covered by the convention.

Memorandum of Understanding

Arrangement between several countries in the framework of the Bonn Convention, that aims to research and protect specific species or species' groups. The "MoU on the Conservation and Management of the Middle-European Population of the Great Bustard" came into effect in 2001.

Biodiversity Convention

The preservation of biological diversity is the main goal of this internationally binding convention treaty since the UN Conference for Environment and Development held in Rio de Janeiro in 1992. The most important objectives are:

- the conservation of biological diversity,
- the sustainable use of its components,
- the fair and equitable sharing of benefits arising from genetic resources.

It is often seen as the key document regarding sustainable development. The signatories are requested to develop national strategies for the conservation and sustainable use of biological diversity.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

International agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

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www.greatbustard.org
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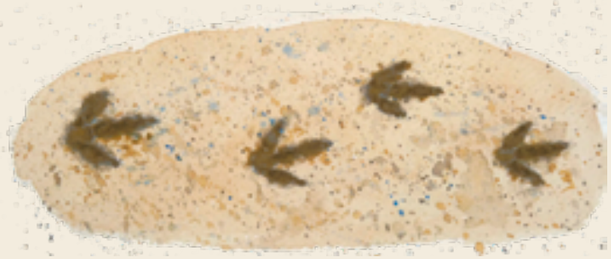

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