

Two plans for conservation of Black-necked pheasants

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English version by Richard Carden



Black-necked pheasant in Vashlovani national park, Georgia. (Photo: Amiran Kodiashvili)

Black-necked pheasants of the nominate form (*Phasianus colchicus colchicus*) have become distinctly scarce across the whole area of their distribution, rendering them vulnerable and in danger of extinction. In Georgia and in Greece their cause has been taken up by private organizations, albeit with some support from the authorities. The conservation actions differ in the two countries, the one working *ex situ*, the other *in situ*. This article discusses the advantages and limitations of the two approaches.

Georgia

The association of friends of the Vashlovani National Park (FAVPA) and its president Amiran Kodiashvili took the initiative in 2011 to start a conservation programme for Black-necked pheasants in the east of the country. Their project has been given government approval. The action programme rests on the evidence of a severe decline in the country's population of wild pheasants, confirming the study by John P Carroll in 2005 in the Alazani river valley (45 sites studied, pheasants found in only 6 of those). Estimated numbers of birds: 200-300 individuals in traditional sites in the west of Georgia (Riani), 300-400 in the east (floodplains of the Rivers Lori, and Alazani - Vashlovani).

The project consists in establishing a conservation breeding station in the reserve for rearing pheasants sheltered from predation and poaching, with the aim of restoring populations in areas historically occupied and also reinforcing numbers in several other reserves. Over time the captive breeding should be capable of producing around 1000 pheasants per year. Funds have been obtained from the UNDP/GEF Small Grants Programme and several other sources. Amiran Kodiashvili and his team have installed a major nursery at Eagle Gorge, Dedoplistskaro consisting of 18 cages in the open air. Two incubators made by the English company Brinsea, which make use of contact incubation technology, have been purchased.

The Black-necked pheasant is firmly embedded in **Georgian culture**. It was declared bird of the year in 1998. Many families keep pheasants for the traditional pheasant-based dish of

'Chakhokhbili'. Families in and around the project area have put money into the project subject only to an undertaking never again to rear hybrid birds. (Hybrids came in relatively recently with imports after the fall of the Soviet Union.) The scheme should guarantee the genetic purity of wild birds in the event of escapes from domestic aviaries. The families will be supplied with captive-bred birds from the new pheasant breeding station; as will some game breeders on the same terms.

In a **first phase** some eggs were collected from two places in the Dedoplistskaro district. 19 birds hatched from these and constituted the first breeding stock. The critical situation of wild Black-necked pheasants in their natural habitat is a bar to taking any more significant number of eggs. Because of this, it will take three years to establish a nucleus of captive breeding birds. However there have been some initial encouraging results. In 2014 150 pheasants were given to three game breeders who had contributed funds to the project. These birds were the progeny of birds born on the site from eggs collected (as described). In 2015 the breeding station produced 500 pheasants. More than 200 of those were returned to the wild. Some pheasants were also supplied by the National Fauna Agency. So far the two sites from which pheasants had disappeared have been perfectly restored. The breeding station unfortunately suffered damage, in 2017 because a marten got in and killed a large number of birds, then in 2019 and 2020 from snow which caused aviaries to collapse and birds to escape. This has caused a hiatus in the programme.

Amiran Kodiashvili and his FAVPA team are now casting around for new funds to cover repairs and to employ staff with previous experience. As a start several wild pheasants have been captured from three geographically separate sites. Those should produce a sufficient number of birds by the end of 2021 to constitute a new breeding stock for future years. Further, two nests were found in vineyards close to the River Alazani. Some chicks were collected there on 11 July 2021 and these will add genetic diversity to the conservation breeding in 2022. Then the process of repopulation of other historic habitats in the region will become possible.

Analysis. The programme managers have a certain number of assets. The 1500m² aviary is still in place, though in need of repair. The whole site needs to be protected from predators, notably mustelids. The high-grade incubators are still available, along with chalets to house staff on site. The operating costs are offset by a campsite which brought in good income in 2018, though since then the flow of visitors has been halted by the pandemic. The only downside is that not all the families and game breeders have been scrupulous in respecting their undertaking to rear only genetically pure pheasants. The education effort must be kept up.

The **advantage of this Georgian approach** is that it makes it possible to repopulate historic habitats from which the birds have been absent for several decades, and to reinforce existing populations which had become scarce through years of poaching and illegal hunting (today subject to much stiffer penalties). The precaution of not initially taking more than a limited number of eggs from the wild seems like good practice. Whilst the pairing of birds remains a human choice (which might reduce genetic variety), that is compensated by the certainty of genetic diversity among these breeding birds. The captive breeding in this project is not being done with any commercial purpose and so it is not planned to continue with it indefinitely. This will avoid the major problem with captive breeding, namely that it brings loss of genetic variation over time, as has been demonstrated in a comparison of wild populations in a region of Iran with populations on a commercial farm near Baku in Azerbaijan. - Captive breeding has also to be accompanied by rigorous sanitary measures to minimise the risk of disease striking with devastating effect. That happened for instance in Bulgaria in August 2020 where the entire stock on a state pheasant breeding station had to be culled because of an outbreak of avian flu dropped in by wild geese and herons.

Greece



Map 1: the national park of East Macedonia and Thrace, Greece, with River Nestos and delta on the left-hand side (opposite the island of Thasos).



Map 2 shows the spring counting points, as numbers strung out either side of the river. It also depicts how drastically reduced the true forest area – darkest green - now is, surrounded by areas of agriculture.

There is a reduced population of wild Black-necked pheasants confined to the **Nestos Delta** reserve, which is at the western extreme of the historic West Asian range. These are the last indigenous Black-necked pheasants left on the continent of Europe. Despite every attention by the Hunting Federation of Macedonia and Thrace, KOMATH, the number of individuals struggles to increase, for reasons linked to considerable predation and the damage caused to the environment by man. This was the context in which the WPA backed up by GWCT committed to develop a programme of conservation action alongside KOMATH, with a shared wish to keep to conservation *in situ*.

Wetlands have suffered losses worldwide. Over the last century more than half of the wetlands in Europe and elsewhere in the world have disappeared. The Nestos Delta has not escaped. We know that wetlands are sites of great biodiversity. However they are constantly under threat from human pressure, principally the intensification of agriculture, urbanisation and pollution.

In Greece the loss of wetlands from 1920 to 1991 is estimated at 63%, the loss of riverine vegetation at 35%, principally replaced by cultivated land and urban infrastructure. The pattern of

flow of the River Nestos has gone through significant changes, caused by the operations of two hydroelectric barrages.

During the 1950s the Greek state took the decision to clear-fell the vast riverine forest of Kotza Orman in the Nestos Delta and to free this area for agriculture. Then in the 1980s the ecological importance of wetlands began to be appreciated and concerns emerged for conserving them. The majority of delta zones were included in the Ramsar Convention and the EU's Natura 2000 network. Map (1) above shows, in green, the national park of Eastern Macedonia and Thrace, between Kavala and Komitini. The area was mainly forest up to the 1930s but is now mainly farmed land. Map (2), which shows the points from which KOMATH carry out their spring call count of territories, also shows how drastically the riverine forest has been reduced; urbanisation and intensive agriculture now dominating the whole region.

Historic populations. Christos Sokos, scientific officer for KOMATH up till 2018, highlighted the critical factors which led to the need for a rescue plan for the Black-necked pheasant in Greece. Up till the 1980s there were no population estimates available, only reports by hunters and forestry wardens which suggested an abundance of wild pheasants in the Nestos region. Then Paralikidis and his team (1997) established the size of the population at between 700 and 1050 individuals over the period 1990-94. Systematic and regular surveys were not undertaken until 2003, when KOMATH started tracking pheasants formally, using the methods of call-counting based on Burger's system of 1996.

The survival of the Black-necked pheasant only in the Nestos Delta and the depleted numbers put this sub-species in danger of extinction at the national level (Handrinos 2009). Predators, shepherd dogs, intensive agriculture and poaching are the main reasons. A collapse of the population would have grave consequences, with the possible extinction of the last indigenous population of wild pheasants in Europe. Further, there is no captive breeding of these birds. KOMATH has been taking steps to help them by improving the quality of the habitat, employing wardens, by the regular surveys of numbers, and publication of an action plan (Sokos & Birtsas 2005).

Despite KOMATH's efforts, the indigenous population was struggling to increase. WPA was alerted by the author, and Richard Carden then chairman of WPA sized up the urgent need for outside assistance. He suggested drawing on GWCT's specialist technical skills in managing land for small game, and Roger Draycott was brought in. Richard Carden made initial contact with KOMATH. The dossier advanced rapidly and on 12 December 2016 **WPA (UK)** signed a formal **agreement with KOMATH**, with the stated aim of saving the last indigenous wild pheasants still present in Europe and doing everything possible to build up numbers.

The state of affairs painted by Sokos was confirmed by the first visit of Carden and Draycott to the site. A new approach was needed. What had seemed unlikely became possible through the participation of WPA and GWCT. Under the new action plan relations were established with the Forestry Service. This led to the creation of clearings by some felling of selected species, notably poplars. In appropriate places more than 1200 trees of new forest species more suited as pheasant habitat and feeding have been planted by the team on several sites (mulberry, walnut, fig, pyracantha, blackthorn/sloe). All these plants, of indigenous local species, have been grown on by KOMATH in a small part of the Forestry Department's tree nursery, conceded to them. This line of action needs to be kept going, but in better collaboration with local people, so as to avoid some plants being destroyed through grazing. KOMATH has carried out its own improvement of forest habitat by felling trees to create pathways and clearings, and these openings themselves stimulate regrowth of shrubs.

Predation. The main brake on numbers inside the reserve remains predation. This is the major problem but Greek legislation allows no action without formal evidence of pressure that predation is having in practice. For the first time cameras were put in place at the end of spring 2019 to record and study the impact of predators on pheasant nests (mainly eggs). The results left no room for doubt: the majority of artificial nests were destroyed within 24 hours. Now the hope is that decisions will be taken by the ministry to open the way for regulation of predators.

Development of the population. Despite the covid crisis KOMATH has kept up its spring surveys in the Nestos Delta. Call counts were carried out on 28 April 2020. In total 75 territories were recorded: 21 to the west, 54 to the east of the river; more than at any time in the past. Unfortunately flooding is more and more frequent in those areas in recent years, and this constitutes a big barrier to dispersal and spread of the population further north, upriver, where there is suitable habitat which could harbour a significant number of birds. Recapping, in the south-east part of the Delta where territories have been regularly surveyed there is a slight tendency for numbers to increase.

The pheasants use shrubby areas and forest edges of the forest. They are also recorded in the shrubby areas of abandoned farmland in places outside the reserve. In the past they probably also used the natural forest more because would have been more open then. The protected areas are now enclosed, to stop grazing, and deer have disappeared. On account of this there are no longer large herbivores suppressing succession of bushes as probably happened in the past. Consequently a large part of the forest zone is relatively unattractive for the pheasants. Some of the best breeding habitat is now to be found in abandoned farmland where former pasture has turned into a mixture of herbaceous plants and bushes (Roger Draycott, reports).

Advantages and limitations of conservation *in situ*. The experience now being gained may well become the response to a situation where a very limited population can advance from a low threshold and become self-sustaining. Favouring its growth *in situ* can only optimise this approach since wild populations evolve with great genetic diversity. This makes them responsive to changes in their environment. The limit to expansion is to be found, in the Nestos area, in the habitat as a whole, as shown by the map of call-count points, which shows the narrow corridor of riverine forest surrounded by parcels of cultivation.

Conclusion

In the Republic of Georgia, pheasant conservation started by private initiative has received the approval of government but in Greece intervention from outside was in a way necessary. The different approaches to conservation action are related to the environment on the reserves. Whilst agriculture has encroached on the forested areas in Georgia too, the habitat is still suitable. The situation is different in Greece where the strip of riverine forest is much reduced. In the Georgian case effort is being put into captive breeding whilst in the Nestos Delta reserve the priority has been improvement of the habitat. In the Georgian case and within the limits of material resources, conservation breeding is seen as a way to repopulate historical sites. In Greece, the Nestos Delta reserve being so limited, this calls for a major effort, as shown by actions taken and still in progress. There are prospects of expansion to the north but subject to disruption by flooding, caused by the dams upstream. Consequently, and as signalled by Sokos in 2014, “These efforts must be encouraged and combined with reintroductions in zones where habitat is suitable, along with firm management of human activities”. The stock of birds being as small as it is leaves no room at present for taking of pheasants from within the reserve to respond to Sokos' wishes for reintroductions. That is why in several places in Greece introductions are being made of wild pheasants of Armenian origin, reared in Bulgaria. The hope must be that future growth in numbers in the Nestos Delta will put an end to or at least cut down those activities.