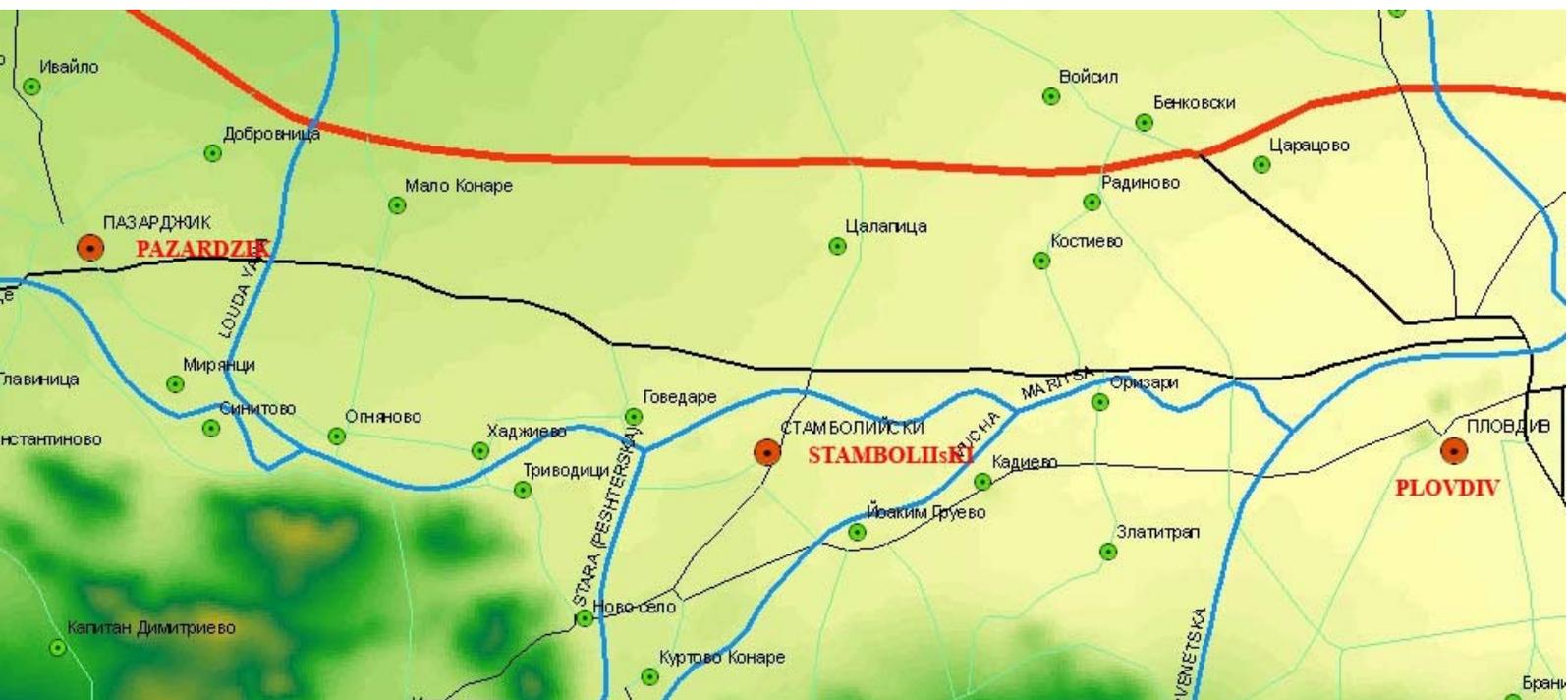


CONSERVATION OF PYGMY CORMORANT THROUGH EDUCATION AND PUBLIC AWARENESS

FINAL REPORT



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PROJECT SUMMARY

From 1994 till 2005 the Pygmy Cormorant had been listed in the category nearly threatened. The main European population (> 75% of the global one) is concentrated in southeast Europe, specifically on the Balkan states. It is protected also by the Bulgaria legislation. The bird is a partially migratory species, with northern population wintering further south. Due to the shift of its wintering areas from the end of 1970s, beginning of 1980s Pygmy Cormorants started wintering in Bulgaria. The main wintering sites are the Burgas Wetlands, Tundza River and Maritsa River. Only these sites hold over 20% of the global population.

The focal points of the project was to comprehend the threats, carry out a research on the species biology and raise the public awareness towards more responsible conservation. The area chosen was a 40 km section of Maritsa midstream between the cities of Plovdiv and Pazardzik. In terms of the set project goals this river stretch has social and geographical advantages: It is a wintering place for significant number of cormorants; it is easily accessible at all points; there are fisheries and other type of wetlands; the two large cities and about 10 villages all located along the banks make use of the river in ways, which lead to close interactions between humans and water connected birds.

The main conservation measures:

- Organising expert ornithologists, NGO volunteers into “conservation” patrol teams. They will provide:

- A critical and most vulnerable stage of the diurnal biological cycle of the Pygmies is their gathering at common night roost. Protection of the roosting site and monitoring of the feeding sites of the globally threatened Pygmy Cormorant in the period October - March
 - Protection and monitoring of the ornithofauna along a section of Maritsa River.
 - Evaluation of the threats for the water-connected birds in the monitored region and defining future activities.
- Environmental educational programme;
 - Raising public awareness;
 - Research on the ecology of the Pygmy Cormorant;
 - Habitat restoration measures.

PROJECT IMPLEMENTATION

1. Organising expert ornithologists, NGO volunteers into “conservation” patrol teams (duration 2 years)

Indoor lectures were organized from October, 2005 - May, 2006. They were carried out at BALKANI Wildlife Society office, Sofia. Invitations were sent to students at Sofia University, Forestry University



and 5 schools in the capital. Nevertheless, the attendance was lower than expected over 30 people were attracted and regularly visited the lectures. The themes of these weekly non-formal course were on bird identification and ecology, environmental law and its implementation. Its participants formed the patrol teams. One team was wardening between Stabmoliiski and Pazardzik, while the other from Stamboliiski to the Night roost.

Results and discussion

28 monitoring/patrol actions were done within the 2-year period. 14 of them covered the whole section of the river, 5 only the region between Stamboliiski and Plovdiv, while the rests of the visits were at the night roost and feeding/conflict hotspots. No other night roosts were found, except the one near Plovdiv. The registered threats from the patrolling listed under are:

1. Direct shooting – 2 times direct shootings have been noted at the night roost. No animals were killed and the poachers received warning and were given information about the conservation status of the animal. No direct shootings along the river have been observed. The waterfowl in the river is a subject of hunting and I presume rarely killing of Pygmies do occur. No shooting has been registered at the fishponds of Tri Vodici and Stamboliiski. Nevertheless, cormorant killing do occur in Tri Vodici fishponds, since dead birds (eg 30.1.05 – 4 Pygmy Cormorants, 2 Grey Herons) have been observed. However this is not a common practice. Through all our visits the cormorants have been scared off the fishponds by sound (small bombs were thrown). There is no government policy for compensation of damages done by Cormorants.
2. Habitat degradation and alternation – the extend of this threat is difficult to be assessed. Cleaning the riverbed and clearing the riverside vegetation from the city of Plovdiv to the Pygmy Cormorant night roost was done in November 2004. Warning signals from me, Green Balkans Federation and Bulgaria Society for Protection of Birds was submitted to the Regional Inspectorate of Environment and Waters Plovdiv and the machines were stopped a few meters from the night roost island. The developed threshold will be a reason for future degradation of the Pygmy Cormorant night roost island. A major flood of Maritsa River has change significantly the riverside vegetation in August 2005. Follow up actions of the Government and some municipality lead to additional deforestation of the riverside vegetation. Places to perch and alternative roosting sites are scarce.

3. Other threats – the banks of the river are heavily populated during the weekends and there are numerous anglers. Illegal means of



fishing and fishing equipment. 2 Cormorants and 1 Moorhen has been found dead with hooks on their legs. 3 shootings near the night roost (not directly, but close to it) were registered. The hunters were asked to hunt at another place.

Protection and monitoring of the ornithofauna along a section of Maritsa River

The patrolling teams were collecting information also on other species. 134 species have been recorded during the 2 years survey. 4 of these species are globally threatened: Dalmatian Pelican, Pygmy Cormorant, Imperial Eagle and Ferruginous Duck. Data collected within the project of the breeding numbers of Kingfishers (11 pairs), concentration of Great Cormorant (1 345 individuals) and Pygmy



Cormorant concentrations (724 individuals) was submitted to Bulgaria Society for Protection of Birds and was the reason for expanding the proposal of SPA Maritsa-Plovdiv (code BG0002087) by about 18 km towards the town of Stamboliiski and now covers 1117,55 ha.

Environmental educational programme

Two different lesson plans were elaborated. One of them was elaborated by Petar Guidzenov, Green Balkans Federation.

The methodological goals were, for the students to know and understand: the importance of every species in the concept of eco system balance; to be able to identify the Pygmy Cormorant from the Great Cormorant; to generate by themselves ideas how to protect the species and the river ecosystem.

Lessons were taught in the cities of Plovdiv and Sofia, the villages of Zvunichevo, Ognianovo, Isperihovo and others. The target group of students were 7-8 grade students, to whose curriculum the information was adapted.



Results and discussion

Overall 23 lessons were given, attended by over 350 students. The methodological goals were achieved to a different extent in the cities and in the villages. Multimedia projection, special drawings and print materials were used for demonstration and illustration. Compared with the students from the towns environmental protection as a citizen's responsibility was not a well-known matter at the village schools, but there the children were interested in the printed materials and the



species biology. All the students did not know the Pygmy Cormorant as a species.

Public Awareness



A brochure was published and disseminated among students, volunteers, environmentalists and other interested groups. The patrolling teams were also informing anglers, hunters and other persons along their route about the conservation significance and the globally threatened status of the Pygmy Cormorant.

With the help of the Regional Inspectorate of Environment and Waters public relations employee Tsvetana Chocheva on goals were presented at the local newspapers Videlina and Zname on **11.04.2006**. T-shirts with a picture and a sign globally threatened – lets protect it together was made and distributed to volunteers and students.

Results and Discussion



1000 brochures were published and disseminated by BALKANI Wildlife Society, Green Balkans Federation and Bulgarian Society for Protection of Birds in the vicinity of Plovdiv, Sofia and Pazardjik. 200 T-shirts were prepared and given as awards to volunteers and students participating in the protection and educational activities. Though no exact quantitative data was collected, a rough estimate is that 70% of the anglers were aware of the differences between the Great and the Pygmy Cormorant and new that the later was a protected species.

Research on the ecology of the Pygmy Cormorant

The information about the Pygmy cormorant is insufficient. During the project information about feeding places and annual fluctuation of the wintering birds was collected. Pellet gathering also took place at the night roost site. No pellets were collected from feeding territories. Information about the breeding pairs in Bulgaria was also collected.

Results and Discussion



The data about feeding preferences and the diet of the Pygmy Cormorant is insufficient in global scale. Pellet collecting was started at the end of February, 2005 and continued to March 2006. The island was reached by a boat. In total 273 pellets were collected. The otoliths and other bones were taken from the pellets and preserved in test tubes with glycerin. Only one elytra from an insect has been found. Otolith identification has still not been done.

Counts of the Pygmy Cormorants arriving at the night roost have been done. The first Pygmies start arriving near Plovdiv, at the beginning of October, the highest numbers are counted in December (2218, 2005 and 1753, 2006). The birds start arriving at the night roosts three hours before sunset. The biggest flocks and most cormorants arrive about 1 hour before sunset (the biggest flock was 221 birds). The birds arriving from the west arrive generally later than those from the east. Most of the cormorants leave to their breeding grounds till the end of April. Nevertheless, 29/4/06 331 Pygmy Cormorants have been registered at the night roost.

The dead rate at the night roost was 1-3 cormorants per week. 4 birds have been examined for toxins. No toxins have been found; probably

it is the natural date rate. 5 stomach contents have been collected from the dead birds.

From the beginning of the 20th century the breeding Pygmy Cormorant population in Bulgaria declined as some breeding sites disappeared (e.g. colony in Sofia vicinity, the Bulgarian section of Maritsa River, etc.)



During the last years the breeding population numbers of the Pygmy Cormorant in Bulgaria were determined to a large extent by extrapolation, since most of the colonies were at difficultly accessible

Danube islands. There is no recent published data about the number of cormorant pairs breeding on the islands. The aim of this research was to count the number of breeding Pygmy pairs and to be a base point for future researches and a beginning of a monitoring on the bases of which there will be an idea of fluctuations, decline or increase. 10 islands were visited by the researcher dr. Petar Shrulinkov. On the following Bulgarian islands colonies of *Phalacrocorax pygmeus* were observed: Dolni Tsibar, (N43 49.599 E23 31.121) and Mishka (N44 00.827 E26 17.297). The traditional breeding site at Srebarna Reserve was also visited and counted. The total number of breeding pairs is estimated to be about 420-450 pairs. Detailed data on colonies and breeding pairs will be published soon.

I have recorded though 1 adult Pygmy Cormorant on the 14.7.2005 near the village of Hristo Milevo, south of Plovdiv and 1 adult 6.8.2005 at the Stamopoulo marsh. Probably these are birds that did not migrate north.

Habitat restoration

Two events were organised in March 2005 and March 2006 for planting willow saplings. They were planted between the night roost and Stamboliiski. Over 400 sapling have been planted, but due to the flood in August, 2005. In the March, 2005 in the planting activity employees from tour operators Penguin Travel and Odiseia Inn took part.

Acknowledgement

I would like to thank Rufford Small Grants for giving me the opportunity to implement the project; Ivailo Nikolov, Hristo Dinkov and d-r Petur Shurilinkov for helping me with the logistics and field work; BALKANI

Wildlife Society, Green Balkans Federation and Bulgarian Society for Protection of Birds for overall help; Petar Guidjenov connection with volunteers and teaching in Plovdiv; Dimitar Plachiiski for distribution of Pygmy Cormorant brochures; Penguin Travel for help with the transport.

Future plans and project continuation

For the monitoring and guarding of the night roost and Orizare quarries during winter of 2006/2007 funding for transportation Penguin Travel secures costs. Pellet collection will continue and pellet identification will be done. Publishing the results from 3 years monitoring of the Pygmy Cormorant numbers at the Plovdiv night roost.