СОВРЕМЕННОЕ СОСТОЯНИЕ САМОЙ СЕВЕРНОЙ В МИРЕ КОЛОНИИ КУДРЯВОГО ПЕЛИКАНА (PELICANUS CRISPUS) В ОМСКОЙ ОБЛАСТИ

Рассматривается современный статус самой северной в мире колонии кудрявого пеликана, расположенной на пресном озере Тенис (56°07’N, 71°45’E) в северной лесостепи Омской области. Анализируется численность взрослых птиц и количество гнездящихся пар с 1984 по 2013 г. Делается вывод, что общая численность колонии кудрявого пеликана увеличилась вчетверо, а число гнездящихся пар возросло в 13 раз за проанализированный период.

Ключевые слова: кудрявый пеликан, самая северная колония в мире, озеро Тенис, северная лесостепь, Омская область.

Introduction
I.I. Melnikov [2] observed single pelicans, which were not identification him to species at the end of XIX century on April on lakes which located near Omsk (pic. 1).

Pic. 1. Location of Omsk Oblast in South-western part of West Siberia

M.D. Ruzski [3] wrote about the Dalmatien pelican, that it’s a very rare species of fresh and salt lakes of a southern part of the Tobolsk province of Russian Imperia, which now are territories of modern Krutinsky and Tjukalinsky regions of Omsk Oblast. In 1917 this pelican was extracted on lake near station Tatjanovka and on the other lakes [1]. A.P. Kadenat [4] marked on the lake Berezino of Tjukalinsky region of Omsk Oblast 4 Eastern White pelicans which were marked on the lake lankovskoe. In September, 1972 Dalmatien pelican was marked on territory of Omsk [5]. In Omsk Oblast from the end of second half XX century Dalmatien pelican are nesting in Krutinsky region on the lake Tenis (56°07’ N, 71°45’ E [6]), and from the summer 1994 was marked single birds on lakes of Sargatsky region (northern forest-steppe too).

Materials and Methods
Our work of the research fauna and population of birds of Omsk and Omsk Oblast (pict. 2) was started in 1973 year [9] and continues to present time [10]. Accounting materials for problem solving of factoring zoogeography allowed to analysed the condition of population of species on the border of areal, “red books” and hunting species of birds [11] and find in the forest-
steppe of region series important for habitat birds of ornithological territories and find the status of birds of west-Siberia.

In a base research was taken materials of quantitative surveys of birds. The route surveys was carried out without limitation of surveys band, with following recalculation of the square on the medium-range detection.

On the lake birds was counted from boat on 10 km from the coast band for every two weeks. Birds were taken into account, when we made a single-pass on the coast and were converted to a pre-calculated numbers lake area and also made it every half month. In all groups of water habitat surveys were making in the summer, from May, 15 to August, 31. This period was divided on two parts. The first half lasts from May, 15 up to July, 15 and the second half lasts from July, 16 up to August, 31.

Pic. 2. Place of research Dalmatien Pelican in Omsk Oblast
Bird surveys conducted, as a rule, without restrictions of the research zone, with subsequent recalculation of the square on the detection range of interval methods. The base of this method, technology of making counts and processing data in the last time again published with details in work of U.S. Ravkin with other authors [12], and also with S.G. Livanov and U.S. Ravkin [13]. For birds, which were marked flying in the sky, amended on the middle speed of their moving [14]. In the urbanization part of a cities and in parks was published persistent routes, in another place of living routs were persistent, but without strictly fixed. On the lake birds was counted from boat on 10 km coast line for every half of month. On the opening lake of forest-steppe birds counted in the time of disposable moving on the coast and counted on the place of lake, also every half of month. In all groups of habitats counted in the summer- from 16 May to 31 August. In the research habitats surveys were conducted of 5 km for every weeks of observation.

In the west stay province of Ishimo-Kamishlovsky lake forest-steppe on ordinary place with rectilinear ridges up to 4 m, in length of 2-5 km with absolute high 120-140 m. This structure has orientation from north-eastern on south-western and has fairly steep slopes. Climate of province as compared with Tobolsk forest-steppe is more continental (and also on territory of Omsk Oblast). The north part of this territory has a lot of swamps and we can say, that here we can meet many big lakes (Saltaim-Tenis, Ik and other small lakes). Ishim-Irtish river has a character reliefs which have a lot of same with rivers Tobol and Ishim. We marked also, that this territory has flat lowlands of highly saline lake. In south part of this region which has character of grass steppes on ordinary black earth plowed and busy agrocenosis. Here we can see also floodplain and upland meadows. The biggest part of territory of provinces is flat interfluve which has characteristic of colorful vegetation and considerable areas of saline soils. The most important development has willow thickets and salt meadows. In northern part of province grow up birch forests on crests and elevated ground on leached black earth and podzolic and malt. There are a lot of salt licks and salt marshes. The vegetative cover is formed with help from vegetation meadows, steppe grasslands and steppes complex, which stay on meadow soils, leached and loamy black soils combined with salt marshes. In the northern part of the province are birch forests which cover 40% of the territory, and grain fields are located on up to 40% of the remaining territory. In the south-western part of the forest we found loamy black soil and meadow black soil. They have also largely plowed and cultivated land which occupied about 60%, and sometimes up to 70% of this territory. In the valley of the Ishim, in the hollows and forest edges marked meadows. In the south-eastern part of the watershed of Ishim and Irtish is Kamyslyovsky log with a chain of lakes of varying salinity on the site of a former river Kamyslyovsky.

In an operating time of the international ornithological expedition carried out on Omsk area in 2000 the account of Dalmatian pelicans May, 27 from helicopter "Mi-2" on lakes Saltaim and Tenis (pic. 3).
It was taken into account in the general 225–250 birds and 50 of them were on nests. Thus 25 individuals on northern coast about which it was not clear to researchers were still met, whether they were counted earlier on east coast Tenis. On the motor boat by expedition on May 28, 2000 it was established, that birds sat on eggs. Birds concentrated basically on 4 groups in a southern part of east coast. During following on lakes from the north on the south were 21 flying bird in the beginning is counted, then 86 were in air and was marked, that 30 birds sat on nests. Observers saw again 50 flying pelicans and 20 sitting on nests and new 18 flying. In the next 30 minutes was found 25 birds at northern coast [7]. Results of this research was assumed, that about 100 birds had nests in three colonies on the big islands. Up to this account by same expedition to 2000 on lake Achikul (56° 18’N, 71° 50’E), a little bit to the east Tenis, it was marked 20 Dalmatian pelicans [8].

Results and Discussion

During research of vicinities of lake Tenis of 26 August, 2005 with participation of authors it revealed 12 pelicans sitting on a coast of lake Koshara of Tukalinsky region. In June, 2006 single individuals of the Dalmatien pelican are marked during them foraging visiting in the evening and by morning of lake Ik.

For study the migration routes and wintering place the most northern population of Dalmatien Pelican on August 10, 2006 on the island of the lake Tenis authors caught and marked metal rings 16 young birds Dalmatien Pelican, which were almost of the size of adult species but that had not flown yet. In next years work will continue, but we didn’t take founding ringing birds of the most northern colony of Dalmatien pelican without method of telemetry. We marked from 2 up to 10 individuals of this pelican on the lake Achikul of the Tukalinsky region in the summer of 2011 year.

At the beginning of XXI century there is an increase of the numbers of Dalmatien Pelican. For example, from 2000 year to 2006 year the total numbers increased in 9 times, but in 2007 it decreased in 1,5 times, because island, where living Dalmatien pelicans was broken by the storm and pelicans needed to take places for nesting in the shoreline, but here their eggs were broken by Seagulls and Crows. Numbers of colony of Dalmatien pelican in 2010 increased in 13 times, because level of water decreased and Cormorant went away from lake Tenis. The total numbers of nesting pairs of Dalmatien pelican increased in 2 times from 2000 to 2006 year, but then increased in 4 times in 2009 year. It is very good results, and we know, that in 1984 only 4 pairs nested here, and in 1991 year 34 pairs nested like in 2009 year. In total we counted 14 August 2009 68 young birds , and in 2009, 10 August we counted 80 young and non-flying birds. We counted 100 young birds in 2013 and 50 pairs of adult birds.

We analyzed all data of numbers this species on lake Tenis, which were taken from Red book of Omsk Oblast [15]. In 1984 year nesting group contain 4 (value pack – 100 birds); 1985 year – 29 (160); 1986 – 26 (without data); 1987 – 22 (70); 1989 – 31 (150); 1990 – 61 (without data); 1991 – 34 (65); 1992 – 65 (180); 1998 – 25 (50); 1999 – 14 (60); 2000 6 (32); 2002 – 25 (180); 2003 – 21 (up to 250), 2006 – 9 (up to 300); 2007 – 4 (up to 150); 2008 – 4 (up to 150); 2009 – 35 (up to 200); 2010 – 40 (up to 300); 2011 – 42 (310); 2012 – 42 (325); 2013 – 50 (400) (pic. 4).

We exclude from the analysis the data about pelicans 2000 year when on the Tenis worked two expeditions and their results has differences with our results. Adverse factors for duplication of this species on the lake Tenis became storm weather in May which causes to destruction masonry as a result of destruction of island. For this research of migratory ways and places of wintering of the Dalmatien pelican on August 10, 2006 and then in next years, included 2013 authors were catching and ringing young pelicans practically in size with adult birds, but not flying on island from one micro groups is carried out.

We had lead searches of other nested micro groups of pelicans in this day, but, unfortunately, they did not find more. Near the islands of a colony of pelicans it is marked in air about 75 individuals. We met only in the other place of lake on the opposite side on the quagmire to hunting base as more than 70 were sitting Dalmatien pelicans but unfortunately we did not find any nestlings, as well as on the other part of lakes.
Nests of the Dalmatian pelican on given to V.V. Iakimenko [16] settle down 2 up to 20 couples in micro groups, from 4,4 up to 5,8 nests in group (Mean value – 5,3 nests). In nests from 1 up to 4 eggs. The average size of a laying has stable enough parameters and differs from 1,7 up to 2,2 eggs in nest. The success of duplication essentially differs in different seasons and makes 2,6 chicken on nest.

In East Kazakhstan in the middle of XX century it was carried out a spent ringing Dalmatian pelicans on lakes Alakulskoj of group. Ringed young pelicans in the next years were extracted near places of young birds, then on Balkhash, on Karatale, in delta Or. Kagan (Uzbekistan). Thus, the common direction of flight from lakes Alakulskoj of group – to the southwest, is possible to wintering places in Iran. In Kazakhstan the Dalmatian pelican does not winter anywhere. Nesting of the Dalmatian pelican is known from Balkan peninsula in the west up to the upper Huang He in the east, from Persian gulf in the south up to lake Black in Kurgan Oblast in the north [17]. The Dalmatian pelican winters on the western part of Mediterranean sea, in Egypt, at the Black Sea coast of Caucasus, in the south of Caspian sea, in Iran, Pakistan, Northwest India and in Southeast China [18].

In the time expedition (30 June 2013), we made the counting of young birds from motor boat. And now with nesting on islands we found in the east part of lake Tenis on the nesting coast along shoring line was find 3 young birds of Dalmatian Pelican, the age was about one month. Other part of Dalmatian Pelican was on other coasts, which were in north and in the centre of this lake. On island, which located in north part we found 6 young birds, but we ringed only two, because their size were very small and they can lose a ring. Total we found 4 islands in the centre of lake Tenis and there were about 100 chicks and adult birds about 400 individuals of Dalmatian Pelican.

Conclusions
We made analyze of total numbers of adult birds and chicken of this population of pelicans. We marked, that numbers of this birds increase in 3 times in the time of our work since 2000. It show us, that habitat, where living south birds is very comfortable on the end of arial in terms of global change climate and anthropogenic transformation. Thus, we found 16 Dalmatian pelicans and more than 150 not nesting birds in August, 2006 and we can say that for about 8 birds this nesting ended successful. This data tell us only about degradation of population on period of 2006, because this result is comparable with the data of 1984. But on the next year we saw, that nested 29 couples and it is also good result for this population. The facts of 2006 can compare with plenty of 2012, when begins gradually increase of nesting this species in Omsk Oblast.

These factors have a big influence on reuction of population of Dalmatian Pelican. Our facts say that, Dalmatien Pelican preserved in Omsk Oblast, but threats remain for his living in this Oblast. Serious threat for Dalmatien pelican today is an anxiety from motor boats because local residents carry tourists directly to their nests. It forces them to abandon hatched a laying, and they at once perish from gulls. Urgently it is necessary to organize management of visitors of a colony, it is especial in time for incubating eggs. Other potential threat for life of young birds and in general lakes it is connected to pollution of lake water by products of intensive agricultural activity of field husbandry and animal industries.

For rescue of a population of Dalmatian pelicans on the lake Tenis we need urgent realization of biotechnical actions for preservation of a habitat. It sees for us in expansion of their nested island opposite the centre of hunting base № 2 the help of fastening islands from vegetarian in April 2007 r, drawn on cables boats of a fish factory. More effective action would be flooding near the islands of two metal pontoons and fastening on their basis while existing nested island and given quagmire.

For check our research we organized expedition in 2013 year and marked, that colony of Dalmatien pelican increase and we counted 100 young birds and 50 pairs. In total we counted 400 birds in colony. We can say, that it is great result, because in present time on lake Tenis stay very comfortable terms and we hope, that in future time this result save and continue to increase.

We thank for the help in work for ringing Dalmatien pelicans in August, 2006 on the lake Tenis of hunter masters A.E. Shwein, E.E. Mezer and D.B. Bochko.

ЛИТЕРАТУРА

Современное состояние самой северной в мире колонии кудрявого пеликана...


