

Annual Report 2016



Fig. 1: Human-led migration (HLM) 2016; picture: A. Schmalstieg.

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1. DEMOGRAPHY

By the end of 2016, the total population of free-living Northern Bald Ibises consisted of 70 individuals (see table 1). Of these birds, 34 belong to the breeding colony of Burghausen and 36 to the breeding colony of Kuchl near Salzburg.

age class	Kuchl		BGH	
	status	LIFE GA	status	LIFE GA
juv	15	6	13	22
2nd	12	14	9	4
3rd	6	8	8	2
adult	3	3	4	11
total	36	31	34	39
	+5		-5	

Tab. 1: Demographic status end of 2016: comparison of the actual status (stat) and the intended status according to the specifications in the LIFE+ project's Grant Agreement (GA); breeding colonies Kuchl/Salzburg (Kuchl), Burghausen (BGH) and Überlingen (UEB); the number in the bottom line indicates the difference of the real status in relation to the intended status for the referring colony.

2. BREEDING COLONY BURGHAUSEN

Since 2015, the birds of the colony Burghausen are breeding at the new breeding structures at the defence wall of the castle of Burghausen.



Fig. 2: NBIs searching for food in Burghausen; picture: D. Trobe.

In 2016, three adult migrants returned to the breeding area in Burghausen. Four non-migratory breeding birds have been supplemented to the group in Burghausen. At the beginning of the breeding season, the birds were temporarily enclosed in an aviary. All birds used the defensive wall of the castle as a breeding and sleeping place. In total, six chicks were raised in Burghausen in 2016.

At the end of 2016, the Burghausen colony consisted of 34 birds (see table 1). These birds belong to both the F0 generation and the F1 generation.

The number of adults in the population (4) is still much below the planned number. This is still

mainly due to the aftermath of the losses of experienced adults in 2014/2015.

3. BREEDING COLONY GEORGENBERG/KUCHL

Three adult migratory Northern Bald Ibises returned to Kuchl in 2016. Four breeding, non-migrating birds were supplemented. Together they raised 7 juveniles.

At the end of 2016, 36 individuals were part of the Salzburg colony (see table 1). These birds belong to both the F0 generation and the F1 generation. The actual population size is slightly higher than the planned population size according to the Grand Agreement.



Fig.3: Flight practice; picture: Waldrappteam

4. BREEDING COLONY ÜBERLINGEN

As already stated in the last annual report, the start-up at Überlingen was postponed until 2017. The first subadult birds should then return in 2019, the first reproduction in the colony is assumed to start in 2020. The collaboration with the major stakeholders in Überlingen is already established.

5. HUMAN-LED MIGRATION

In 2016, the flight training camps were again situated in Seekirchen am Wallersee. 32 chicks in two groups were raised, first completely separated from one another by two foster parents for each group.

In May, the two foster mothers of one of the NBI groups finished their work due to personal reasons. This confronted us with a completely new situation. The two groups of young NBIs were already merged in an early stage at the training camp, with Corinna Esterer and Anne-Gabriela Schmalstieg caring for and training of all birds from that day on.

Thanks to the vast experience of Corinna and Anne, we were able to start the human-led migration with a group of 26 birds on August 19 2016. Due to the change in the fostering teams, the remaining six birds were not as reliably following the microlights as the majority of the group; therefore, they were transferred directly to the wintering area.

On September 14 2016, we arrived with 24 birds in Tuscany. Two birds were unfortunately injured during the migration flights, but they were able to stay with us thanks to the veterinary care of Alexandra Scope, who accompanied this human-led migration. Two further birds were unfortunately lost during the migration flights due to an attack by a golden eagle.



Fig. 4: Corinna Esterer and Anne-Gabriela Schmalstieg took care of all 32 chicks for the very first time; picture: J. Fritz

In the context of the human-led migration 2016, two data collections were done: Alexandra Scope, our project veterinary, collected blood samples during and after two migration flights. Those samples are used for the analysis of different physiological parameters, with the aim to get a deeper insight in the regulation of bird migration flights. This analysis will be done in cooperation with several Viennese university institutes. In addition, some birds carried data logger, which record positioning data with unprecedented density and precision, enabling a detailed understanding of the function and dynamics of formation flight. This research project is performed in collaboration with the Konrad-Lorenz Research Institute in Vienna and it is sponsored by the Austrian Research Promoting Agency.

6. MORTALITY

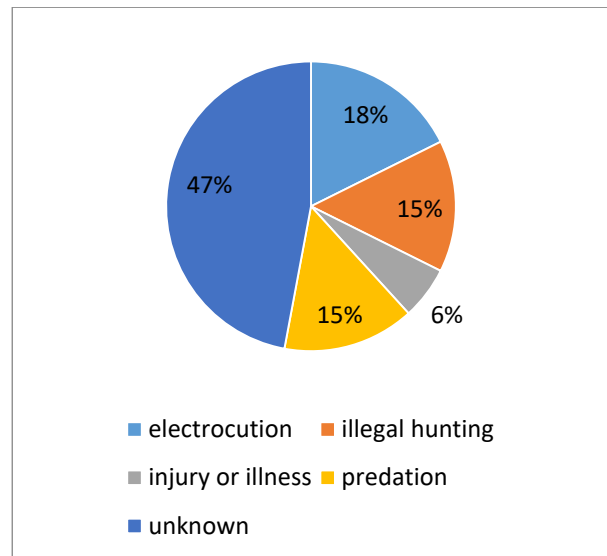


Fig. 5: Causes of death in 2016; n = 33.

Most cases of killed birds that could be related to known death causes can be assigned to the categories “electrocution”, “illegal hunting” and “predation”. In those cases, we lost most of the birds due to electrocution. One bird died due to this in Italy, the other five birds all died in Austria due to unsecured power poles they used as roosting place. Thus, we recognize another relevant mortality cause for the reintroduced NBI population, which also exceeds the peril caused by illegal hunting.

Unfortunately, we registered a rise in the number of illegally hunted NBIs, compared to the previous years of the LIFE+ project. In total, 5 birds were illegally hunted in Italy in the autumn of 2016. Only one of the birds survived these incidents. We assume that this higher number of illegally hunted birds is also linked to the reorganization of the police body in Italy in 2015. Italian NGOs (e.g. LIPU) registered an immediate increase in the amount of environmental crime. Nevertheless, the situation has improved during the LIFE+ period. We assign this to the escorted autumn migration and the awareness-raising in Italy, together with growing support from volunteers and NGOs during the migration period in Italy.

In terms of age, most of the lost Northern Bald Ibises were juveniles (see Fig. 6), which accounted for 59% of the total loss of this year's population.

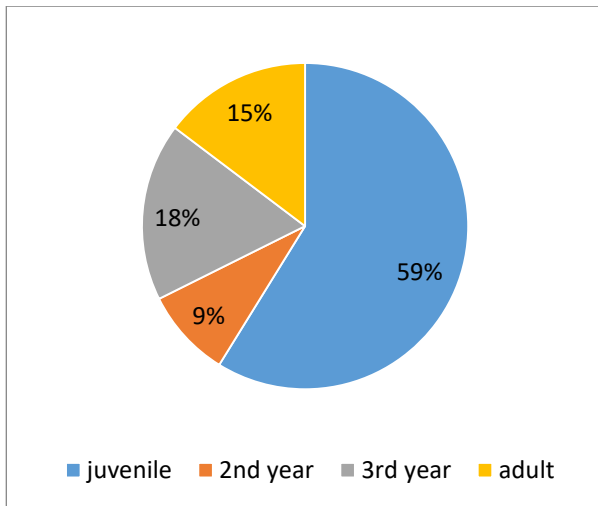


Fig. 6: Death rate by age group in 2016, n = 34.

7. VETERINARY CARE AND BASIC RESEARCH

The veterinary care for our NBIs is mainly in the responsibility of our project veterinarian Prof. Alexandra Scope from the University of Veterinary Medicine, Vienna, in collaboration with the veterinarians Dr. Jean Meyer from Carinthia, Dr. Renato Ceccherelli from CRUMA Veterinary and Wildlife Centre in Livorno and others.

Still, the whole population of NBIs is in a very good health condition. Almost all health problems were caused by trauma (beak, leg, wing fractures, illegal hunting).

From November 30 to December 01, a LIFE+ veterinary meeting, organized by Waldrappteam and hosted by Zoo Vienna, took place. 25 people – veterinarians, scientists and conservationists - from four different nations participated in this meeting. The major aim of the meeting was the networking of veterinarians who act in the context of the LIFE+ project as well as in the Spanish reintroduction project *Proyecto eremita*. Another aim was to present and discuss ongoing and projected research on physiology, endocrinology and genetics in NBI.



Fig. 7: Veterinary Meeting in the Tiergarten Schönbrunn

8. GENETIC SCREENING

The isolation of the microsatellite was published (Wirtz et al. 2016, see publications list).

For the next years, we aim for an improvement of the genetic variability both in the release population as well as in the two zoo-populations which provide chicks for release. Improvement mainly happens by the supplementation of birds out of zoo-colonies with a complementary genetic profile.

9. CAMPAIGN AGAINST ILLEGAL BIRD HUNTING

As already stated above, in 2016 five birds were illegally hunted in Italy during the autumn migration.

The fact that all birds in this project carry GPS transmitters gives them the important role as an indicator of the real dimension of this threat. Consistent measures are urgently needed and we are working very hard to counter those incidents.

A precedent has recently been set up with the prosecution of the hunter who shot GOJA and JEDI dead in the province of Livorno in Italy in 2012. In May 2016 there was a hearing in which our employees Anne-Gabriela Schmalstieg and Daniela Trobe, together with the officials of the provincial police and others, were invited as witnesses for the first time.

With the help of our lawyer Carla Campanaro and the Italian provincial police of Livorno, the hunter was convicted for being guilty of the killing on the 13th September 2016.

In the case of GOJA and JEDI, the responsible hunter could be identified for the very first time. The conviction of the hunter is a big and important success for our LIFE+ project. This precedent is a clear signal to the minority of hunters who also aim for protected species. The fine was rather

small with 2000 euros, maybe even more important was the withdrawal of the hunting licence. The hunter was lucky that until this incident he has been innocent and that the NBI project was still little known in Italy in 2012. A civilian criminal process will be further processed in 2017, with the primary aim of increasing public awareness of the issue.

Italian hunting federations, such as FIDC, now want to cooperate even more with our project to show that poaching seriously damages the international reputation of Italy and Italian hunters in particular.

Further measures are aiming directly at the hunters themselves. Since February 2016, the LIFE+ project is also present at Italian hunting fairs with up to 36,000 visitors. This way we can get in contact not only with the official representatives of hunting associations, but also with the hunters themselves. In this context, we also hand out questionnaires to the hunters. In 2016, we participated in around seven hunting expos in the core area of the Bird Migration Corridor, one in Malta and 4 different networking events with working groups. So far, over 600 filled questionnaires were collected at the fairs. An evaluation of the preliminary results should take place during the coming year.

10. VISIT FROM THE EUROPEAN COMMISSION

Once during the term of each LIFE+ project, an official visit of a LIFE+ delegation is scheduled. In our case, this meeting took place on July 6th and 7th 2016. The delegation consisted of two representatives of the LIFE+ Unit of the European Commission and the so-called Monitor, who supervises our project on behalf of the European Commission. The most essential part of the visit was a detailed examination of the technical and financial activities of the project. After 2.5 years, we were able to present the delegation with positive interim results.



Fig. 8: The project management team with representatives of the European commission in Seekirchen am Wallersee.

In addition, the delegation also visited the training camp in Seekirchen am Wallersee, with a training flight of 32 hand-raised NBI as an highlight, as well as the breeding colony in Burghausen, Bavaria. Afterwards the two representatives flew with two ultralight aircraft to Burghausen, piloted by the professional pilot of the project, Walter Holzmüller, and by project manager Johannes Fritz.

11. INTERNATIONAL SYMPOSIUM OF NBI IN SEEKIRCHEN AM WALLERSEE

From the 4th until the 7th of August 2016, an international symposium on NBI conservation took place in Seekirchen am Wallersee/Salzburg. Thirty-seven scientists and species conservation experts from thirteen countries discussed the implementation of measures to prevent the extinction of the NBI and, within the next ten years, to downgrade this ibis species from the currently highest threat category in the Red List of Threatened Species. The occasion for the meeting was the publication of an international plan of action for NBI and the successes of current research and resettlement projects in Europe.



Fig. 9: All participants of the NBI Symposium at the flight training in Seekirchen am Wallersee/Salzburg.

12. RESEARCH

The NBI is still a relevant model for the study of various aspects of migration and bird migration in

particular. The data is collected primarily during the human-led migration flights, in a manner that does not affect the actual resettlement project. The budget for this basic research comes from national science funds or from cooperation with research institutions.

Below is a list of publications in 2016:

Fritz et al. 2016 **Der greise Einsiedler fliegt weiter.**
WDT News

Fritz et al. 2016 **Flying with birds: The reintroduction project Waldrappteam.** EAAV European Association of Avian Veterinarians

Fritz et al. 2016 **Back into European ecosystems: The LIFE+ Northern Bald Ibis reintroduction project in Central Europe.** Report of 4th IAGNBI Meeting Seekirchen

Fritz et al. 2016 **Kampagne gegen illegale Vogeljagd in Italien im Kontext des LIFE+ Projektes zur Wiederansiedelung des Waldrapps.** Der Falke, 54

Unsöld et al. 2016 **Wiederansiedelung des Waldrapps Geronticus eremita in Europa: Anpassung der Methoden an das Verhalten der Vögel.** Der Falke, 54

Unsöld et al. 2016 **Artenschutzprojekt Waldrappteam: Potenzial und Risiken von Prägung als Methode für den Artenschutz.** Der Falke, 54

Sperger et al. 2016 **Flugstrategien bei migrierenden Waldrappen.** Der Falke, 54

Wirtz et al. 2016 **Isolation of microsatellite loci by next-generation sequencing of the critically endangered Northern Bald Ibis, Geronticus eremita.** Journal of Heredity, 107(4)

13. TEAM, PARTNER AND SPONSORS

LIFE+ Partner

Förderverein Waldrappteam (coordinating beneficiary); Alpenzoo Innsbruck, Tirol; Stadt Burghausen; Land Salzburg; Konrad Lorenz Forschungsstelle; Parco Natura Viva Garda Zoological Park; Tiergarten Schönbrunn GmbH; Tierpark Rosegg.

Sponsors 2016

Bund Naturschutz in Bayern e.V.; Frau Maria Schram; HIT Umwelt- und Naturschutz Stiftung; Verein für Tier- und Naturschutz in Österreich; Grovni Stiftung; Zoo Schweiz; Tierpark Hellabrunn München; Waldrapp-AG.

Partnerinstitutions 2016

CRUMA Veterinary Wildlife Management Centre LIPU; Greifvogelstation Haringsee; Max-Planck-Institut für Ornithologie Radolfzell; OasideiQuadris di Fagagna; Tierarztpraxis Völkendorf; Universität Trier; Universität Wien; Veterinärmedizinische Universität Wien; Vogelwarte Radolfzell; World Association of Zoos and Aquariums (WAZA); WWF Italien; WWF Oasi Laguna di Orbetello; Zoologische Staatssammlung München.

Team 2016

Aichner Barbara Maria; Altnöder Ursula; Attenberger Birgit; Böhm Christiane; Bouckova Aneska; Buratti Luca; Brimmer Regina; Campanaro Carla; Cianchi Fabio; Dorfner Monika; Dorfner Renate; Drius Mita; Eberhard Barbara; Esterer Corinna; Fließner Iris; Franzke Siegfried & Brigitte; Fritz Angelika; Fritz Johannes; Fuchs Michelle; Gönner Bernhard; Habel Oliver; Hafner Lynne; Haidinger Theresa; Henrich Maximilian; Hoffmann Wiebke; Holzmüller Walter & Edith; Kirtz Manfred; Klar Carolin; Klumb Milena; Kopp Elisabeth; Kotrschal Kurt; Kramer Regina; Lechner Norbert; Liechtenstein Emanuel; Lotz Matthias, Andrea & Stefan; Lundt Holger; Madritsch Amba; Matignoni Cesare; Meyer Jean; Nowack Linda; Obermayer Jennifer; Perco Fabio; Perco Nicoletta; Prillinger Klaus; Schnöll Georg & Georg jun.; Schweikl Marseta; Scope Alexandra; Schmalstieg Anne-Gabriela; Schroll Michael; Spindler Ernst-Josef; Sperger Christian; Stadter Anette & Hans; Stanclova Gabriela; Steger Anna; Strebel Gunter; Tiefgraber Melanie; Travali Angela; Trevisi Rachele; Trobe Daniela; Trusendi Maurizio; Unsöld Markus; Völkl Bernhard; Weindl Josef & Familie; Wiener Siegfried; Zimmer Susanne.



Fig. 12: Project Management Team; v.l.: B Eberhard, W Holzmüller, C Sperger, D Tritscher, M Klumb, A-G Schmalstieg, J Fritz, C Esterer, I Scheiber, M Unsöld, A Fritz, B Gönner, D Trobe, R Trevisi.