Israel Nature and Parks Authority

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Science Division
Department of Information Systems

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EUROBATS National Implementation Report for Israel

Israel is a non-Party range state and is the process of joining EUROBATS. We hope to officially join before the start of MoP 7 and we hereby submit for the first time a national report for EUROBATS.

Over 30 species of bats occur in Israel, and Israel has long recognized the importance of bats in the ecosystem. Only one species of bat (the fruit-bat, *Rousettus aegyptiacus*) is not protected by Israeli law, but all the other species are insectivores and are fully protected. Currently there are efforts under way to classify the fruit-bat as a protected species, too.

There are many activities that occur in nature reserves and also in urban and agricultural areas in Israel to raise awareness and to educate the public and the farmers about the importance of bat conservation. These have been going on for many years and the INPA also participates in the annual International Bat Night each summer.

In order to describe the current status of bats within Israel, we have reproduced here the summary of the most recent bat survey in Israel. The full report is in Hebrew and is available from the National Focal Point for EUROBATS for Israel, Dr. Simon Nemtzov (simon@npa.org.il ; Tel. +972-58-5063118), Wildlife Ecologist and Coordinator for International Treaties for the Israel Nature and Parks Authority (INPA), which is the government agency in charge of all wildlife conservation and for the enforcement of wildlife protection laws.

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National Monitoring Plan for Israel's Bat Species: Insectivorous Bat Survey in Israel 2013

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Introduction

The National Monitoring Plan for Israel's Bat Species was formulated by the Science Division of the Israel Nature & Parks Authority (INPA) together with experts from the Mammal Center of the Society for the Protection of Nature in Israel (SPNI), following the recognition of the importance of the order Chiroptera to the vertebrate fauna of Israel as well their importance as biological indicators of the habitats and ecological systems they inhabit.

The order Chiroptera which includes about 30 species in Israel is the largest order of all of Israel's vertebrates. The wide diversity of bat species in Israel is represented by multiple families and zoogeographic origins, for several species of which Israel is the limit of their range.

However, most bat species in Israel, 29 out of about 30, are threatened with extinction and are listed in the Israel Red List of Endangered Species. All species of insectivorous bats are protected by Israeli law (yet the one frugivorous species in Israel is not protected). The INPA is the government agency in charge of enforcement and of any conservation measures which need to be taken.

The National Monitoring Plan for Israel's Bat Species is based on the Guidelines for Surveillance and Monitoring of European Bats published by the EUROBATS Secretariat[1], and on established protocols from long-term monitoring conducted in northern Israel for the past 15 years. The aim of the monitoring plan is to gain a broad view of the status of bat

[1] Battersby, J. (2010). Guidelines for Surveillance and Monitoring of European Bats. EUROBATS Publication Series No. 5. UNEP / EUROBATS Secretariat, Bonn,Germany, 95pp.

populations within the country over time as a base for establishing appropriate management guidelines for species and habitat conservation.

The 2013 Survey

This report summarizes the surveillance conducted in summer 2013. During this year we expanded the bat surveillance conducted so far in northern Israel by adding winter surveillance and by adding more sampling sites. The monitoring in northern Israel is thus the most comprehensive. In the rest of the country we established a surveillance regime which operated for the first time in 2013, although not at all sites. In the Central and Judea-Samaria Districts surveillance was conducted mostly as planned, whereas in the Southern and Eilat Districts only partial surveys were conducted due to logistic and other problems.

In total, 64 sites throughout Israel were surveyed in 2013 (75% of the sites in the monitoring plan). These sites include natural and man-made roosts (caves, buildings and abandoned army bunkers), as well as foraging sites, mainly consisting of natural water resources, located in Nature Reserves and National Parks. In total 26 bat species were documented, representing about 84% of the known bat fauna in Israel.

Results

In northern Israel, where annual monitoring has been conducted for many years, surveillance results from 2013 show a stability in bat activity at the majority of sites examined (summary in Table 1). However, in several locations we are witnessing a trend of change in recent years, which requires re-examination of the current conservation management measures:

1. Population decrease trend in bat activity: In two important roosting sites in the Upper Galilee we witnessed a decreasing trend of population size and changes in species composition. This trend was observed at the Alma Cave and to a lesser extent in Sharach Cave. One of the plausible contributors for such a trend is attributed to visitor activity in caves causing disturbance to the local bat populations during a critical time period of cub rearing. Entrance into bat-inhabited caves is currently forbidden by law during the winter months (November to March), in order to minimize disturbance during winter hibernation. However, new information has accumulated suggesting that

many species in Israel may not go into full hibernation, but continue to be active during winter in warmer parts of the country, apart from rainy or particularly cold nights. This implies that the sensitive season might be spring and early summer during the pup-rearing period, when human visitation is at its peak. A re-evaluation of the current visitation policy in bat-inhabited caves is required, taking into consideration the reproductive biology of different bat species.

2. Seasonal changes in species composition in roosting caves: Surveillance in recent years of Alma Cave, Jermak Hoota (vertical cave), Berniki Cave and Amiaad Hoota reveals that the species composition in a particular cave is not constant year-round, but rather changes seasonally, where different species leave or inhabit the same caves during different seasons in response to their physiological needs and habitat changes during the year. Understanding the temporal dynamics is of crucial importance to their successful conservation, and therefore requires surveillance in more than one season.

3. During 2013 a number of incidents of impairment to insectivorous bats and their roosts occurred in abandoned army bunkers along the Israel's eastern border with Jordan, such as the demolition of the Tel Yishmael bunkers during peak residence by bats, the sealing of the Navaron bunker openings, and the planned destruction of Orna bunkers at Hamat Gader. Many species of insectivorous bats are known to congregate in large numbers at single roosts, and so any damage to important bat roosts may have significant negative consequences to the survival of these populations. In order to minimize the occurrence of such actions, there is a need to inform and coordinate any construction work with Defense Department contractors and planners, and to familiarize INPA rangers with this topic.

4. During the first surveillance year, important aspects relating to the necessary preparedness for a national long term monitoring were learned. An important objective of the 2013 monitoring was devoted to examining the logistic preparedness, in terms of equipment and manpower required vs. that currently available. The conclusions will be implemented to creating the necessary adaptations required for a successful long-term monitoring of Israeli bats.

Table 1. The known bat species in Israel (total 31 species), showing the number of sites in each of the five INPA Districts, where each species was detected during the 2013 survey.

A blank cell indicates that the species was not expected to occur in this particular District; whereas a zero indicates that it did not occur where expected.

Species	Israel Red Book Status[2]	North	Central	Judea-Samaria	South	Eilat	Total number of sites
1. *Aselia tridens*	VU	4	1	3	0	1	**9**
2. *Barbastella leucomelas*	EN			0	0	0	**0**
3. *Eptesicus bottae*	VU			4	2	2	**8**
4. *Eptesicus serotinus*	EN	1	4	0			**5**
5. *Hypsugo bodenheimerii*	EN			3	0	2	**5**
6. *Hypsugo savii*	EN	0					**0**
7. *Miniopteris schreibersii*	EN	3					**3**
8. *Myotis blythii*	CR	0					**0**
9. *Myotis capaccinii*	VU	3	0	0			**3**
10. *Myotis emarginatus*	CR	2	0	1			**3**
11. *Myotis myotis*	CR	1					**1**
12. *Myotis mystacinus*	EN	0					**0**
13. *Myotis nattereri*	EN	6	3	1			**10**
14. *Nyctalus noctula*	EN	1	1	0			**2**
15. *Nycteris thebaica*	EN	2		0	0	0	**2**
16. *Otonycteris hemprichii*	VU		0	3	1	2	**6**
17. *Pipistrellus kuhlii*	NT	3	6	5	2	2	**18**
18. *Pipistrellus pipistrellus*	EN	3	4				**7**
19. *Pipistrellus rueppellii*	EN	0		2	0	1	**3**
20. *Plecotus austriacus*	EN	0		0	0	0	**0**
21. *Rhinolophus blasii*	EN	3	0	0			**3**
22. *Rhinolophus clivosus*	VU			2	2	1	**5**

[2] Dolev, A. & A. Perevolotsky, eds. (2004). **The Red Book: Vertebrates in Israel.** The Israel Nature and Parks Authority and the Society for Protection of Nature in Israel.

Species	Israel Red Book Status[2]	North	Central	Judea-Samaria	South	Eilat	Total number of sites
23. *Rhinolophus euryale*	CR	4	1	1			**6**
24. *Rhinolophus ferrumequinum*	EN	10	8	0			**18**
25. *Rhinolophus hipposideros*	VU	6	4	1	0	0	**11**
26. *Rhinopoma cystops*	VU	11	2	15	1	2	**31**
27. *Rhinopoma micrphylum*	VU	7	0	5	0	0	**12**
28. *Rousettus aegyptiacus*	LC	4	1	0	0	0	**5**
29. *Tadarida teniotis*	NT	1	4	2	1	0	**8**
30. *Taphozous nudiventris*	EN	0	1	4	0	1	**6**
31. *Taphozous perforatus*	EN	0	0	3	0	1	**4**
		19	**13**	**16**	**6**	**10**	**Total = 194**