# UPDATE on illegal bird trapping activity in Cyprus

Covering the autumn 2019 findings of BirdLife Cyprus' continuing monitoring programme for illegal bird trapping in Cyprus and providing an overview of the latest developments regarding the problem

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# Περίληψη

Τα αποτελέσματα του προγράμματος συστηματικής παρακολούθησης για την φθινοπωρινή σεζόν του 2019 υπογραμμίζουν ακόμη μια επιτυχία στις Βρετανικές Βάσεις, ωστόσο, δυστυχώς, δείχνουν μια βραχυπρόθεσμη αύξηση της παράνομης παγίδευσης με δίχτυα εντός της Κυπριακής Δημοκρατίας.

Το πρόγραμμα παρακολούθησης του Πτηνολογικού καλύπτει μια περιοχή ερευνάς η οποία συμπεριλαμβάνει δύο περιοχές δικαιοδοσίας: την Κυπριακή Δημοκρατία και τις Βρετανικές Βάσεις Δεκέλειας (SBA). Συγκεκριμένα καλύπτει τις περιοχές Λάρνακας - Αμμοχώστου και Αγίου Θεοδώρου – Μαρώνι. Με βάση την ανάλυση των στοιχείων της έρευνας, εκτιμούμε ότι κατά τη διάρκεια του φθινοπώρου του 2019 υπήρχαν 5 117 μέτρα ενεργών διαδρομών εντός της περιοχής έρευνας. Με αυτά τα επίπεδα παγίδευσης εκτιμάται ότι περίπου 440 000 πτηνά μπορεί να θανατώθηκαν εντός της περιοχής έρευνας πεδίου. Συνολικά η χρήση διχτύων εντός της περιοχής έρευνας για το φθινόπωρο 2019 ήταν κατά 89% χαμηλότερη σε σύγκριση με τα επίπεδα του έτους 2002 (όταν ξεκίνησε το πρόγραμμα παρακολούθησης του Πτηνολογικού) σύμφωνα με την ανάλυση που έγινε στο πρόγραμμα TRIM. Πρόκειται για ένα πολύ θετικό αποτέλεσμα, ιδίως επειδή το φθινόπωρο είναι η κύρια εποχή παγίδευσης, και οφείλεται κυρίως στην πρόοδο που επιτεύχθηκε στις περιοχές των Βρετανικών Βάσεων Δεκέλειας τα τελευταία τρία χρόνια. Τα επίπεδα παγίδευσης στις περιοχές της Κυπριακής Δημοκρατίας παρουσίασαν αύξηση για το φθινόπωρο του 2019 για δεύτερη συνεχόμενη χρονιά, υπονομεύοντας τα επιτυχή αποτελέσματα που είχαν επιτευχθεί μέχρι το φθινόπωρο 2017, όταν είχαν καταγραφεί τα χαμηλότερα επίπεδα εντός της Δημοκρατίας από τότε που ξεκίνησε η έρευνά μας το 2002.

Τα αποτελέσματα της ανάλυσης για την φθινοπωρινή περίοδο παγίδευσης του 2019 σημείωσαν περαιτέρω μείωση της παγίδευσης εντός των Βρετανικών Βάσεων. Η Αστυνομία και η Διοίκηση των Βάσεων συνέχισαν την προσέγγιση συνεργασίας με τις ΜΚΟ και συνέχισαν να εφαρμόζουν το σχέδιο δράσης τους για να σταματήσουν την παράνομη παγίδευση. Η κρυφή παρακολούθηση με τη υποστήριξη της RSPB πραγματοποιήθηκε για ακόμη μία σεζόν και η Αστυνομία των Βρετανικών Βάσεων συνέχισε να εφαρμόζει μια σειρά αποτρεπτικών μέτρων κατά της παράνομης παγίδευσης πουλιών, όπως η κατάσχεση αυτοκινήτων και η ανάκληση συμφωνιών μίσθωσης αγροτικής γης. Κατά τη διάρκεια αυτής της σεζόν δεν καταγράφηκε καθόλου παράνομη παγίδευση στο Κάβο Πύλα, μια πολύ θετική εξέλιξη. Είναι πολύ ενθαρρυντικό να βλέπουμε μια περιοχή, η οποία ήταν από τις χειρότερες για την παράνομη παγίδευση, να μετατρέπεται σταδιακά σε μια ασφαλή περιοχή για μεταναστευτικά πουλιά σε ένα σχετικά μικρό χρονικό διάστημα. Αναγνωρίζουμε πλήρως την επιτυχία της Αστυνομίας και της Διοίκησης των Βρετανικών Βάσεων στην αντιμετώπιση του προβλήματος της παράνομης παγίδευσης εντός των περιοχών δικαιοδοσίας τους.

Σε αντίθεση, τα επίπεδα παγίδευσης και οι εξελίξεις στην Κυπριακή Δημοκρατία δεν ήταν ενθαρρυντικές. Ο Πτηνολογικός Σύνδεσμος Κύπρου αναγνωρίζει τα μέτρα που έχουν ληφθεί, ιδίως από την Υπηρεσία Θήρας και Πανίδας η οποία έκδωσε περισσότερα εξώδικα πρόστιμα το φθινόπωρο του 2019 από τα προηγούμενα χρόνια. Ο Πτηνολογικός Σύνδεσμος Κύπρου αποδίδει την αύξηση της παγίδευσης στη μειωμένη δράση στο πεδίο από το Κλιμάκιο Πάταξης Λαθροθηρίας της Αστυνομίας, ιδιαίτερα κατά των μεγάλων, οργανωμένων παγιδευτών. Είναι ιδιαίτερα ανησυχητικό το γεγονός ότι παρά τις πολλές καταγγελίες στην Αστυνομία Κύπρου σχετικά με έναν οργανωμένο, μεγάλης κλίμακας σημείο παγίδευσης τόσο από τον Πτηνολογικό όσο και από άλλες περιβαλλοντικές ΜΚΟ, δεν έγινε

καμία αποτελεσματική αποτρεπτική διωκτική δράση εναντίον των οργανωμένων παγιδευτών, οι οποίοι συνέχισαν ουσιαστικά ανενόχλητοι την παράνομη δραστηριότητά τους κατά τη φθινοπωρινή περίοδο παγίδευσης. Η εμπλοκή του Κλιμακίου Πάταξης Λαθροθηρίας της Αστυνομίας Κύπρου κατά της παράνομης παγίδευσης είχε μειωθεί σημαντικά τα τελευταία 2 χρόνια, ενώ το τελευταίο 'χτύπημα' ήρθε τον περασμένο Νοέμβριο όταν η Αστυνομία Κύπρου αποφάσισε το κλείσιμο του Κλιμακίου με την αιτιολόγηση των 'πενιχρών αποτελεσμάτων' του.

Ο Πτηνολογικός διαφωνεί με το κλείσιμο του Κλιμακίου. Μεταξύ 2014 και 2016, η μονάδα αυτή είχε αναπτυχθεί σε ένα αποτελεσματικό εργαλείο ενάντια στη παράνομη παγίδευση και τη λαθροθηρία, με εντυπωσιακά αποτελέσματα παρά το μικρό της μέγεθος. Κατά τη γνώμη μας, αυτή η μονάδα θα έπρεπε να ενισχυθεί προκειμένου να αντιμετωπιστούν οι μεγάλοι, οργανωμένοι και επίμονοι παγιδευτές. Η Υπηρεσία Θήρας και Πανίδας έχει επίσης αναγνωρίσει με δηλώσεις της στα ΜΜΕ το σημαντικό ρόλο που είχε το Κλιμάκιο ενάντια σε δίκτυα οργανωμένου εγκλήματος που εμπλέκονται με την παράνομη παγίδευση πουλιών. Ο Πτηνολογικός εκφράζει τις ανησυχίες του σχετικά με το πώς θα καλυφθεί το κενό αυτό.

Επιπλέον, η έκδοση εξώδικων προστίμων συνεχίζει να εφαρμόζεται. Από τον Ιούλιο 2017 έχουν εκδοθεί μέχρι τώρα 426 πρόστιμα από τις Κυπριακές αρχές, που ισοδυναμούν με €1,350,000. Πρέπει να σημειωθεί ότι η πλειοψηφία των προστίμων εκδόθηκαν από την Υπηρεσία Θήρας και Πανίδας, κάτι το οποίο αναγνωρίζεται από τον Πτηνολογικό. Παρόλα αυτά, ενδεικτικά νούμερα που παρείχε η Υπηρεσία Θήρας και Πανίδας δείχνουν ότι οι παγιδευτές και λαθροθήρες που τιμωρούνται με τα ψηλότερα εξώδικα τείνουν να μην πληρώνουν το εξώδικο και παραπέμπονται στο δικαστήριο, όπου κατά μέσο όρο λαμβάνουν πολύ χαμηλότερα πρόστιμα από το αρχικό εξώδικο. Αυτό είναι πολύ ανησυχητικό καθώς υπονομεύεται το σύστημα εξώδικης ρύθμισης και η βιωσιμότητά του.

Καταληκτικά ο Πτηνολογικός τονίζει τις ακόλουθες δράσεις και μέτρα ως προτεραιότητες που πρέπει να υλοποιηθούν το 2020:

1. Οι αρμόδιες αρχές της Κυπριακής Δημοκρατίας να ενισχύσουν τη συνεργασία με περιβαλλοντικές ΜΚΟ, υιοθετώντας μια προσέγγιση παρόμοια με αυτή της Αστυνομίας των Βρετανικών Βάσεων, προκειμένου να καταστεί αποτελεσματικότερη η πάταξη στο πεδίο.

2. Η Αστυνομία Κύπρου να επαναφέρει το Κλιμάκιο Πάταξης Λαθροθηρίας της Αστυνομίας, με κύριο στόχο τη διωκτική δράση κατά των οργανωμένων παγιδευτών και λαθροθήρων. Παράλληλα η Υπηρεσία Θήρας να εκπαιδεύσει πλήρως τους νέους θηροφύλακες που προστέθηκαν πρόσφατα, ώστε να μπορέσουν να επιβάλουν το νόμο στο μέγιστο δυνατό βαθμό και να συνεχίσουν να εκδίδουν αποτρεπτικά εξώδικα. Επιπλέον, οι Κυπριακές αρχές πρέπει να αυξήσουν την πάταξη κατά των εστιατορίων που παράνομα σερβίρουν αμπελοπούλια (για αντιμετώπιση της ζήτησης).

3. Να πραγματοποιηθεί εκπαίδευση στο δικαστικό σώμα (δικαστές, κατήγορους) σχετικά με την εξώδικη ρύθμιση και ότι η παράνομη παγίδευση πουλιών αποτελεί σοβαρό έγκλημα κατά της άγριας ζωής, προκειμένου να αντιμετωπιστεί η μεγάλη διαφορά που παρατηρείται μεταξύ των εξώδικων που εκδίδονται και των δικαστικών ποινών που επιβάλλονται τελικά. Θεωρούμε ότι η Υπηρεσία Θήρας και Πανίδας, ως αρμόδια αρχή για την εφαρμογή της νομοθεσίας για τα πτηνά, είναι η πιο κατάλληλη για την υλοποίηση αυτής της εκπαίδευσης.

4. Η Κυπριακή Βουλή να επανεξετάσει τον τροποποιητικό νόμο 'Περί Προστασίας και Διαχείρισης Αγρίων Πτηνών και Θηραμάτων Νόμος' που ψηφίστηκε τον Ιούνιο 2017, να αποσύρει τη δυνατότητα κατανάλωσης θηράματος σε εστιατόρια, καθώς και να αυξήσει τα πρόστιμα για την κατοχή και τη χρήση ξόβεργων ώστε να αποτελούν αποτελεσματικές, αποτρεπτικές ποινές (όπως έχει εφαρμόσει η Διοίκηση των Βάσεων όπου τα ίδια πρόστιμα ύψους €2000 ισχύουν για όλες τις μη επιλεκτικές μεθόδους). Ο Πτηνολογικός Σύνδεσμος Κύπρου θεωρεί ότι οι πρόνοιες αυτές για χαμηλότερα πρόστιμα για ξόβεργα παραβιάζουν την Οδηγία για τα Πτηνά (2009/147/ΕΚ).

5. Η Διοίκηση των Βρετανικών Βάσεων να συνεχίσει την προσέγγιση συνεργασίας με περιβαλλοντικές ΜΚΟ, και την εφαρμογή και την αναθεώρηση του σχεδίου δράσης της.

6. Η Διοίκηση των Βρετανικών Βάσεων να εκπονήσει σχέδιο διαχείρισης του οικοτόπου για τη μακροπρόθεσμη εξάλειψη της επεμβατικής ακακίας στην περιοχή του Κάβο Πύλα και να ξεκινήσει εκ νέου το πρόγραμμα αφαίρεσης ακακίας.

Η αναφορά χωρίζεται στα ακόλουθα κεφάλαια:

- Κεφάλαιο 1 παρουσιάζει μια σύνοψη της παγίδευσης πουλιών στην Κύπρο, δίνει μια ιστορική αναδρομή αυτής της δραστηριότητας, κάνει αναφορά στην εθνική νομοθεσία όσον αφορά την προστασία των πτηνών και παρουσιάζει την τρέχουσα κατάσταση,

- Κεφάλαιο 2 παρουσιάζει το πρόγραμμα παρακολούθησης του Πτηνολογικού Συνδέσμου Κύπρου,

- Κεφάλαιο 3 παρουσιάζει τα αποτελέσματα της έρευνας πεδίου και την ανάλυση από το πρόγραμμα TRIM, τα στοιχεία από τις προσπάθειες πάταξης των αρμοδίων αρχών και το πολιτικό και κοινωνικό κλίμα που επικρατεί, και,

- Κεφάλαιο 4 είναι η συζήτηση και εισηγήσεις, όπου γίνεται μια σύνοψη της κατάστασης της παράνομης παγίδευσης πουλιών, ενώ επίσης γίνονται συστάσεις προς την Κυπριακή Κυβέρνηση και τη Διοίκηση των Βρετανικών Βάσεων.

Τα έξοδα για την εργασία πεδίου του Πτηνολογικού (καύσιμα αυτοκινήτου), καθώς και τα έξοδα των εκάστοτε εθελοντών, καλύφτηκαν από την οργάνωση NABU (BirdLife στη Γερμανία), ενώ το RSPB (BirdLife στο Ηνωμένο Βασίλειο) κάλυψε τους μισθούς. Το Ίδρυμα MAVA υποστήριξε οικονομικά την συνεργασία μεταξύ της RSPB και της Αστυνομίας των Βρετανικών Βάσεων και συγκεκριμένα στον τομέα της παρακολούθησης με κάμερες.

# Summary

The results of the systematic monitoring programme for the autumn 2019 trapping season highlight further success in the Sovereign Base Areas, but unfortunately, they also show a short-term increase in trapping within the Cyprus Republic.

The systematic monitoring programme is based upon a survey area that encompasses two jurisdictional areas: the Republic of Cyprus and the UK territory of Dhekelia SBA. It specifically covers the Larnaka - Famagusta and the Ayios Theodoros – Maroni areas. Based on analysis of the survey data, we estimate that 5,117 m of mist net rides were active during the autumn of 2019 within the survey area. This suggests that an estimated 440,000 birds may have been killed within the survey area over the autumn. Overall, mist netting activity for autumn 2019 was 89% lower compared to the 2002 (baseline) levels within the survey area (based on analysis using the TRIM model). This is a very promising outcome, especially as autumn is the main trapping season, and is mainly due to progress achieved within the Dhekelia SBA over the last three years. Trapping activity levels within the Republic of Cyprus areas showed an increase in 2019 for the second consecutive year, undermining the success achieved up until autumn 2017, when the lowest trapping activity levels were recorded within the Republic since our surveys began in 2002.

The results of the TRIM analysis for the autumn 2019 trapping season showed a further reduction in trapping within the Sovereign base areas. The Sovereign Base Police and Administration have continued their collaborative approach with NGOs, and have continued implementing their action plan to stop Illegal trapping. Covert surveillance with help from RSPB investigations took place once again this season, and the SBA Police continued to implement a series of deterrent measures against illegal bird trapping activity e.g. car confiscations, the revoking of farming lease agreements. During this autumn, no trapping activity was recorded in the previous trapping hotspot of Cape Pyla, a very welcome development. It is very encouraging to see a site which was once a real black spot for illegal bird killing being steadily transformed into a safe area for migrant birds in a relatively short amount of time. We acknowledge in full the success of the SBA Police and Administration in tackling the illegal trapping issue within their jurisdiction.

In contrast, the trapping levels and the developments in the Cyprus Republic have not been encouraging. BirdLife Cyprus acknowledges the enforcement action taken, particularly by the Game and Fauna Service, which issued more on-the-spot-fines during autumn 2019 than previous years. BirdLife Cyprus attributes the increase in trapping activity to the reduced enforcement action on the ground by the Cyprus Police Anti-Poaching Unit, particularly against large organized trapping sites. It is particularly worrisome that despite numerous reports to the Cyprus Police regarding a large organized trapping site by both BirdLife Cyprus and other environmental NGOs, no effective deterrent enforcement action was taken against the organised trappers, who continued undisturbed their illegal activity during the autumn trapping period. The engagement of the Cyprus Police APU against bird trapping had dropped significantly over the last two years, while the final 'strike' to this previously effective Anti-Poaching Unit came last November when the Cyprus Police decided to close down this unit entirely, claiming "poor results".

BirdLife strongly disagrees with the closure of the Cyprus Police Anti-Poaching Unit. Between 2014 and 2016 this unit had developed into an effective anti-trapping and poaching force, with impressive results

despite its small size. In our opinion this unit should have been re-enforced in order to tackle the big, organized and persistent trappers. The Game and Fauna Service has also highlighted with statements in the media the key role this unit played against organised crime networks involved in illegal bird trapping. Birdlife Cyprus is concerned how this gap will now be filled.

Furthermore, the on-the-spot fine provision continues to be implemented by the Cyprus authorities, with 426 fines being issued since July 2017 equalling to €1,350,000. It should be noted that the majority of the fines have been imposed by the Game and Fauna Service, something that is acknowledged by BirdLife Cyprus. However, indicative numbers provided by the Game and Fauna Service show that trappers and poachers that have been punished with the higher on-the-spot fines tend not to pay them and end up in court, where they, on average, received much lower court sentences than the original fine. This is very worrying as it undermines the on-the-spot fine system and its sustainability.

In conclusion, BirdLife Cyprus stresses the following actions and measures as areas for action in 2020:

1. The Cyprus competent authorities to strengthen the collaboration with environmental NGOs on the ground, adopting a similar approach to that taken by the SBA Police, in order to make enforcement action more effective.
2. The Cyprus Police to reinstate the Anti-Poaching Unit, with a focus on enforcement action against the organized trappers and poachers. Also the Game and Fauna Service to fully train the new wardens recently added to its ranks, in order to enable them to enforce the law to its full extent and to continue issuing deterrent on-the-spot fines. Furthermore, the Cyprus authorities need to undertake increased and consistent enforcement action against law-breaking restaurants serving illegal *ambelopoulia* "delicacies" (to address demand).
3. Training to be provided to the Judiciary and Prosecutors regarding the on-the-spot fine system and that illegal bird trapping is a serious wildlife crime, in order to address the large discrepancy observed between on-the-spot fines issued and court sentences handed out. We consider that the Game and Fauna Service, as the responsible authority for the implementation of the Birds legislation, is best placed for this.
4. The Cyprus Parliament to revisit the June 2017 amendment to the "Protection and Management of Wild Birds and Game Species law" to withdraw the possibility for game consumption in restaurants. Also to increase the fines for limestick possession and use so that they provide an effective deterrent (in a similar manner to how the SBAs have applied the same €2000 fines for all non-selective methods). BirdLife Cyprus considers that the provisions for lower limestick fines are in breach of the EU Birds Directive (2009/147/EC).
5. The SBA Administration to continue with the collaborative partnership approach adopted with environmental NGOs and the implementation and review of its action plan.
6. The SBA Administration to move to draw up a habitat management plan for the long-term eradication of invasive acacia on Cape Pyla, in line with the responsibilities to manage the SAC (Special Area of Conservation), and to restart the acacia removal programme.

The report is separated into the following sections:

- Section 1 provides an overview of the bird trapping in Cyprus, gives some historical background to this activity, makes reference to the national legislation regarding bird protection and presents the current situation,

- Section 2 describes the historical outline of the surveillance programme of BirdLife Cyprus,
- Section 3 presents the survey data from the monitoring programme and the analysis from the TRIM software, summarises the enforcement data of the competent authorities and gives an outline of the political and social attitudes regarding this issue, and
- Section 4 is the discussion, giving an overview of the illegal bird trapping situation, while also providing recommendations to the Cyprus Government and the SBA Administration.

All the running costs for the field work (car fuel), as well as all the volunteer costs were covered by NABU (BirdLife in Germany), while the RSPB (BirdLife in UK) covered salaries. The MAVA Foundation financially supported the covert surveillance enforcement work that was undertaken between the RSPB Investigations team and SBA Police.

# 1. Overview of bird trapping in Cyprus

Trapping with non-selective methods (mist nets and limesticks) and the trade of wild birds have been prohibited since 1974 under Cyprus legislation, when the law 'Protection and Development of Game and Wild Birds Law of 1974 (39/1974)' was introduced[1]. Moreover, in 1988 Cyprus ratified the 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats, adopting a long list of birds as protected, including the Blackcap (*Sylvia atricapilla),* hence prohibiting the killing (hunting) and consumption of Blackcaps (Blackcaps are the main target species of illegal bird trapping in autumn in Cyprus). With Cyprus joining the EU, EU Birds Directive (2009/147/EC, formerly 79/409/EEC) was transposed into Cyprus Law N. 152(I)/2003, prohibiting anew the use of non-selective methods including mist nets, limesticks and calling devices, as well as the possession of trapping equipment, trapped birds and the trading and eating of trapped birds.

Historically, trapped birds – mostly Blackcaps - were a food supplement for the mostly poor island inhabitants living off the land. The practice of bird trapping in Cyprus has been recorded in historical documents from the Middle Ages and even earlier times. However, trapping as practiced in Cyprus today bears no relation to historical 'tradition'.

Nowadays, bird trapping in Cyprus is widespread and extensive, contributing to the large scale killing of hundreds of thousands of migratory and wintering birds. Survey records show that 155 bird species have been found trapped in mist nets or on limesticks, of which 82 are listed as conservation priority species under the EU Birds Directive and/or by BirdLife International[2]. This is a clear indication of the non-selective nature of these methods. This illegal activity has become a profitable business which is controlled to a large extent by the 'big' trappers who are also involved in organised crime. The Cyprus Game & Fauna Service estimated this illegal business to be valued in the order of 15 million euros per year[3].

Apart from the extensive use of non-selective methods for illegal bird trapping in Cyprus, organised trappers nowadays use illegal electronic calling devices that imitate the calls of migratory birds. These calling devices are normally operated during night-time, luring the birds into the trapping sites and hence increasing the illegal catch. A recent academic study undertaken in Cyprus has shown that the use of electronic calling devices (song playback) is highly effective in luring birds towards trapping sites (Sebastianelli M. *et al*, 2020). The findings of this study showed that playback not only increased the number of individuals of target species captured by 6 to 8 times, but also significantly increased bycatch. The study authors concluded that: '*Our findings thus show that in contrast to popular belief that tape lures are a selective trapping method, they also lead to increased captures of non-target species, which can include species of conservation concern*'.

[1] The specific articles of Law 39/1974 that prohibited the trapping and trade of wild birds include: Article 10 ('prohibition of hunting etc. of certain bird species', without including the blackcap either in the protected or the game species), Article 14 ('prohibition of offering game or wild birds in restaurants etc.') and Article 15 ('prohibition of the use of light projectors, traps, luring methods, limesticks and flushing of birds).

[2] BirdLife Cyprus 'List of birds recorded trapped in mist nets and on limesticks' found here.

[3] Game and Fauna Service (17th March 2010), Position paper presented at the Committee of Environment of the Cyprus House of Parliament during a discussion to change the legislation on the protection and management of wild birds and game species

These calling devices can often be heard easily from hundreds of metres away from trapping sites during night time, highlighting the extensive use of calling devices and their intensity within the trapping areas.

This report presents the latest survey results for the 2019 autumn season, when trappers target migratory birds, and especially Blackcaps and other migrant songbirds. Trapped birds are either served as expensive *ambelopoulia* 'delicacies' in local restaurants or are sold and used for home consumption.

# 2. Surveillance programme of BirdLife Cyprus

BirdLife Cyprus is a non-profit NGO working for the protection and conservation of birds, their habitats and wider biodiversity, and is the partner of BirdLife International in Cyprus. With support from the RSPB (BirdLife partner in the UK), BirdLife Cyprus has undertaken a systematic surveillance programme of illegal bird trapping in Cyprus since autumn 2002, providing a long record of trapping activity and giving the NGO a very good measure of expertise on the issue. The surveillance programme follows a 'Bird Trapping Monitoring Protocol' that was developed by BirdLife Cyprus and the RSPB, in consultation with the Game and Fauna Service (GFS) and Sovereign Base Area (SBA) police at the start of the programme. Figure 1 shows the main areas of bird trapping; monitoring is concentrated in the two areas (numbered 1 and 2) where extensive trapping takes place:

1. Kokkinochoria area (Eastern Larnaca/Famagusta area) – this area also includes the Dhekelia Eastern Sovereign Base (ESBA) area), and

2. Ayios Theodoros and Maroni area (Western Larnaca).

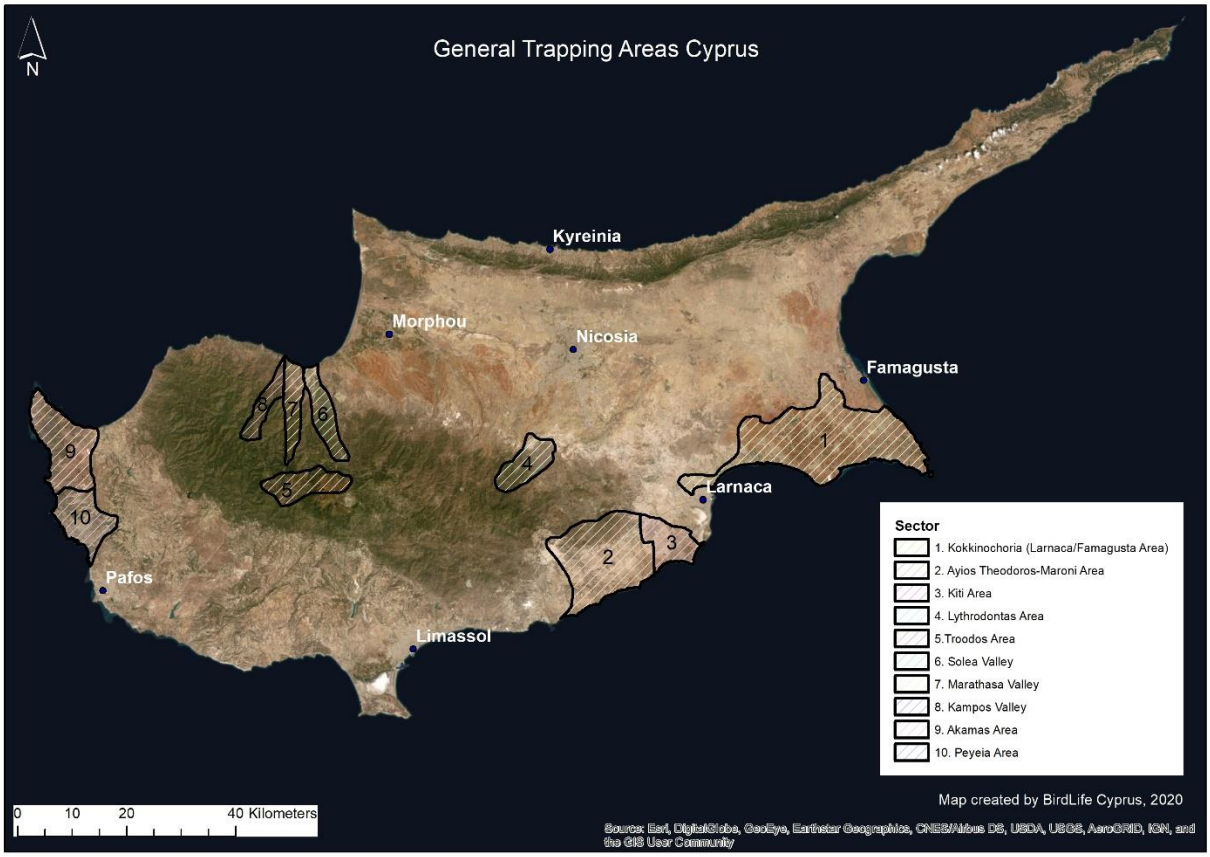



**Figure 1: Map of Cyprus showing the main trapping areas**

Although trapping is also an issue in other areas of Cyprus, the survey efforts focus on these two main areas due to resource limitations and because they hold the highest trapping activity. The monitoring is undertaken by visiting a random selection of sample squares (1 $km^2$) during daytime hours, with a focus on detecting mist netting activity. Limesticks are recorded if they are found while searching for mist nets. The squares selected are stratified to ensure a representative coverage of areas under SBA

administration and the Republic of Cyprus. For more details on the methodology of BirdLife Cyprus see Appendix 1.

The project is undertaken in close co-operation with the competent authorities of the Republic of Cyprus (the Game & Fauna Service and the Cyprus Police Anti-Poaching Unit) and the SBA Police. When trapping paraphernalia is detected, the BirdLife Cyprus team contacts the relevant enforcement authorities. It should be noted that the BirdLife Cyprus observers never confront suspected trappers and never remove trapping paraphernalia.

BirdLife Cyprus would like to express its particular thanks to the RSPB for supporting the project financially since its inception in 2002 and for covering relevant salaries of staff members. Furthermore, BirdLife Cyprus would like to thank NABU (BirdLife in Germany) for their financial support from 2013 and for covering the running costs and volunteer costs of the surveillance programme. Birdlife Cyprus would also like to thank the Oak and MAVA Foundations, which financially supported the covert surveillance enforcement work that has been undertaken between RSPB Investigations team and SBA Police in the last few years. Finally, BirdLife Cyprus would like to thank the two volunteers that have helped in the monitoring survey and the gathering of the field data for the autumn 2019 season.

Regarding the analysis of the field data, BirdLife Cyprus uses the TRIM (TRends & Indices for Monitoring data) program for trend analysis. The organisation has been gathering field data in a systematic manner since 2002 as part of its surveillance programme, which makes it possible to use such programs for the analysis.

TRIM is a program for the analysis of time series of counts with 'missing' observations. The program can be used to estimate indices and trends and to assess the effects of covariates on these indices and trends. TRIM analyses time series of counts, using Poisson regression and produces estimates of yearly indices and trends (Panneloek & van Strien 2005). If observations are missing, TRIM estimates the missing values on the basis of changes observed on plots that were monitored.

In other words, TRIM enables us to use the data from all the trapping survey squares ever surveyed under the BirdLife Cyprus surveillance programme during the autumn period, in total 185 squares, even though these squares were not all covered every autumn season. The programme 'fills in' missing values for squares that were not covered in a particular year on the basis of the general trend derived from the data as a whole. The TRIM software (freely available from here) is very widely used for analysis of field data from ecological or biological studies. It works as an index, setting the first year of a time series of data (in this case year 2002) the value of 100 and then showing changes up or down in subsequent years relative to this value of 100.

# 3. Results

## *Survey results and data analysis*

***Field survey data***

The field survey for autumn 2019 was carried out between September and October 2019 following the standard survey protocol. In total, 60 squares were surveyed during this period and BirdLife Cyprus reported all trapping finds to the relevant enforcement authorities, either the SBA Police Anti-Poaching Unit, the Game & Fauna Service or the Cyprus Police Anti-Poaching Unit, depending on the location of the finds. Additional squares within the SBA area have been added to the sample since 2015, following the July 2015 workshop recommendation of independent science expert Alison Johnston (British Trust for Ornithology - BTO), to improve the precision of the trend within the SBA over time. Moreover, the survey area was expanded during autumn 2018 to cover the Ayios Nikolaos Garrison area of the Dhekelia SBA, where high levels of trapping activity have been recorded in the previous years. This survey area expansion arrived at after consultation with Simon Wotton, RSPB science department, in order to ensure that the robustness of the methodology is maintained.

A summary of the survey data for autumn 2019 is presented in Appendix 2. In total, the field team recorded 41 active net rides (these are cleared "runs" in acacia plantations or other habitats e.g. orchards, olive trees, either holding nets or where there was clear evidence of preparation for the setting and/or use of nets), which sum up to a length of 758 metres of net rides used for mist netting, and 11 mist nets found *in situ* (either classified as Active Set Nets or Active Unset Nets[4]).
**The total length of active mist net rides** within the 405 km$^2$ survey area (Larnaka - Famagusta and Ayios Theodoros – Maroni areas) can be extrapolated to 5,117 m (758m x 405/ 60)[5].

In terms of limesticks, BirdLife Cyprus detected 128 limesticks in the autumn of 2019 (see Appendix 2). However, as already explained, BirdLife Cyprus does not focus its field survey on the detection of limesticks, as other organisations do. For example, during the autumn 2019 camp of the Committee Against Bird Slaughter (CABS / SPA Foundation), which took place from 21st August to 17th November, a total of 1,969 limesticks, 87 mist nets and 55 electronic bird callers were detected and seized[6]. It is important to highlight that the majority of the limesticks detected by CABS / SPA Foundation were in areas controlled by the Republic of Cyprus, indicating that limestick use is still widespread and remains a problem that the enforcement agencies need to address effectively and with zero tolerance.

[4] Active Set Net (ASN) is a net ride where the mist net is *in situ* and is set and ready for catching birds. Active Unset Net (AUN) is a net ride where the mist net is *in situ* but is furled i.e. the mist net is not stretched up for catching birds but lowered down.

[5] There are 405, 1 km$^2$ squares within the survey area that are classified as suitable for trapping activity (on the basis of vegetation characteristics) and 60 of these squares were surveyed in Autumn 2019. Out of these 405, 1 km$^2$ squares, 291 squares are found in the Republic areas, 83 are found in the Dhekelia SBA and 31 squares are in "Joint" areas. Those areas are either joint between SBA and Republic, SBA and buffer zone, or SBA, Republic, and Buffer zone.

[6] Data sent to BLCY via email from CABS on 5/12/19

Based on the data gathered in the field this autumn, BirdLife Cyprus estimates that just over 442,000 **birds could have been killed within the survey area** and nearly 590,000 birds could have been killed across the island of Cyprus[7]. It is important to note that the estimated death toll does not take into consideration any net rides that have been classified as 'Prepared' (previously this net ride classification was also considered for the death toll estimation), following the recommendation included in the BTO assessment report (July 2015) to revise slightly the calculation[8] (read Appendix 3 for more details).

If one were to split the potential death toll estimate (442,000 birds) between jurisdictions within the survey area based on the trapping activity detected, then just over 301,000 birds would be the potential number killed in the Republic and just over 117,000 the potential number killed in the Dhekelia SBA[9]. The 'joint' squares are not accounted for in these death estimates at the jurisdiction level. Note however, that the limestick toll is not fully accounted for in this estimate (as the methodology of BirdLife Cyprus focuses more on detecting mist netting activity), which would make the potential kill in the Republic higher. The total estimate of birds killed is derived using field-gathered data in combination with expert judgement for some variables (such as the number of birds caught per net) that are too dangerous to measure in the field.

### *Trends in autumn mist netting activity*

The TRIM program was used to analyse the survey data and to produce trends in autumn bird trapping from 2002 to 2019. The metres of net rides that are recorded as active[10] for bird trapping with mist nets within each survey square are used as the response variable, with autocorrelation and over dispersion accounted for as well. The TRIM changepoint model is used with a changepoint in every year, which returns the same result as a fully time-dependent model[11] (for more details on TRIM approaches read Appendix 4). The TRIM program is a good way of analysing these data and will produce a model of the change in bird trapping activity (with mist nets) between a base year (i.e. 2002) and each subsequent year of sampling.

A key conclusion from the BTO assessment report on the monitoring methodology of BirdLife Cyprus[8] is regarding possible observer bias deriving from how net rides are classified by different observers: '*It is important to note that even if there are some differences in how certain rides would be categorised by different observers, the trend relies on consistency over time. For this reason, even if there are differences in categorisation between observers, providing that the same observer consistently applies the criteria*

[7] The estimate does not include any illegal bird trapping possibly taking place in the Turkish occupied parts of Cyprus.

[8] BirdLife Cyprus organised a workshop with title 'Methodology of surveying illegal bird trapping in Cyprus' in July 2015. Independent science experts from the British Trust Ornithology (BTO) were invited to review the monitoring methodology of BirdLife Cyprus and to provide a report of their assessment and recommendations.

[9] From the 758 metres of active net rides detected within the survey area, 361 metres were in the Republic of Cyprus (from the 36 squares surveyed), 397 metres were in the SBAs (from the 20 squares surveyed). For the calculated death estimates at a jurisdiction level, the trapping finds (excluding the 'Prepared' rides) in each jurisdiction are extrapolated to the total number of squares that are classified as suitable for trapping activity (see footnote 5 above).

[10] This includes all 4 categories of net ride classification: P – Prepared, ANN – Active No Net, AUN – Active Unset Net and ASN – Active Set Net. Read Appendix 1 for details on net ride classification.

[11] This is a linear trend model using the stepwise approach and with all years selected as changepoints.

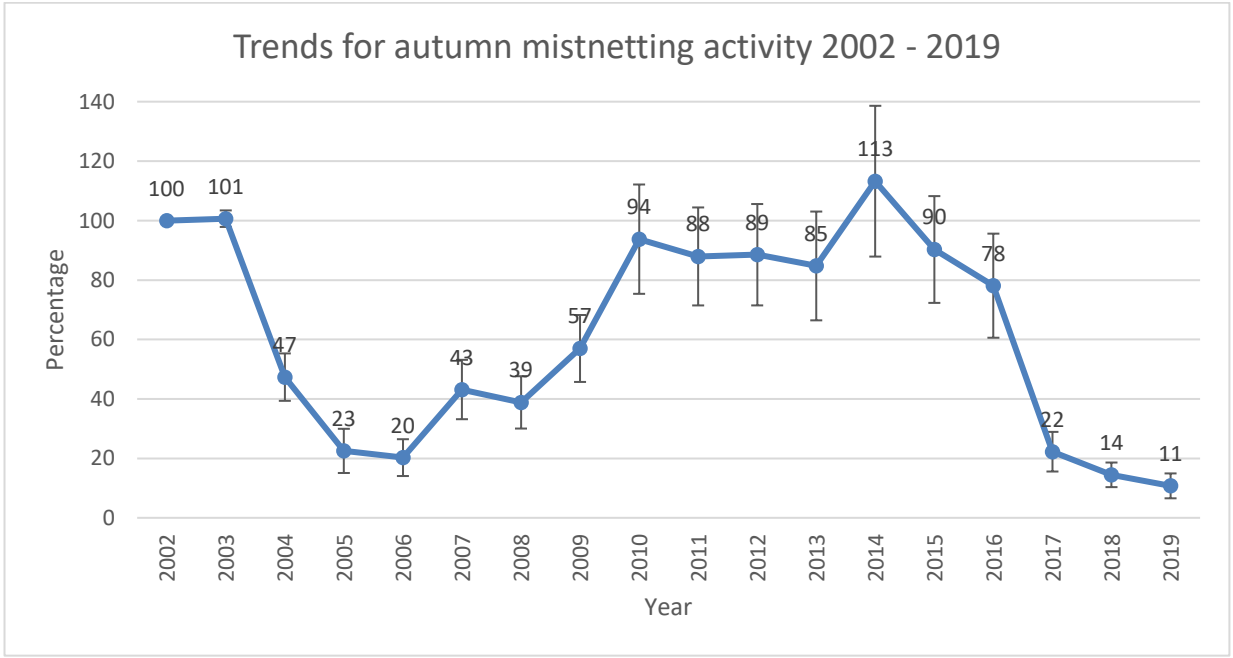
*for classifying rides over time, the trend for illegal bird trapping activity will not be compromised'*. For more details on net categorisation read Appendix 1.

It is also noted that the BirdLife Cyprus monitoring methodology is different from the non-systematic field surveys undertaken by other organisations such as CABS, which are targeted at known trapping areas and are not controlled and consistent regarding the survey effort. Therefore, the findings and results of the two surveys are not directly comparable, but they both provide invaluable field data and are supportive and complementary to each other, provided the differences in methodology are taken into account.

Figure 2 shows the trapping activity levels since 2002 across a sample size of 185 squares within the survey area, with standard error margins. Additional square coverage has been included in the last few years, particularly within the SBA, following a recommendation in the BTO assessment report (July 2015)[8] to increase the sample size within this stratum. In keeping with our standard methodology, a stratified random sample of 60 of the 185 squares was surveyed in autumn 2019.

It is important to highlight that the additional squares surveyed have slightly expanded the total square coverage to 185 (compared to 157 squares in 2018, 129 squares in 2017 and 104 squares in previous years), hence the TRIM program has imputed missing values for these extra squares as well. As a result, if one were to compare the index values presented in Figure 2 below with the trend analysis results reported in the previous autumn trapping reports[12], the index values may vary slightly for the previous autumn seasons (i.e. for autumn 2018 and earlier).

**Figure 2 Trends for autumn bird trapping activity with the use of mist nets for all jurisdictions in the survey area**




[12] BirdLife Cyprus trapping reports can be found here.

**Table 1 Statistics for trend for autumn trapping levels based on Figure 2**

| | Multiplicative trend | Standard error | 95% confidence interval | Significance |
|---|---|---|---|---|
| **All squares** | 0.9618 | 0,0138 | 0.027048 | Moderate Decline |

Note 1: The multiplicative trend reflects the changes in terms of the average percentage change per year i.e. if the trend is equal to 1 then there is no trend. Hence value 0.9618 calculated above indicates an overall decrease of around 4% per year in mist netting activity.

Mist netting activity for autumn 2019 is **89% lower compared to the baseline year of 2002:** index value is 11 for autumn 2019. As shown in the graph above, the trapping activity for autumn 2019 showed a further reduction compared to 2018 and was the lowest recorded since the start of the surveillance programme, a very encouraging outcome. Furthermore, the overall trend is a statistically significant 'moderate decline'.

Figure 3 summarises autumn mist netting activity in the Republic of Cyprus (RoC) applying the same 'Linear trend model using the stepwise approach' in the TRIM program – with all years initially selected as changepoints in the TRIM analysis. Figure 4 summarises autumn mist netting activity in the Sovereign Base Area (SBA) applying the same 'Linear trend model using the stepwise approach' in the TRIM program. Note, however, that for the SBA analysis, TRIM would not run with the year 2003 as a changepoint. The sample of 185 squares surveyed in various seasons during the surveillance programme includes 115 squares within the RoC, 57 within the SBA and 13 squares that cover areas in both jurisdictions (referred to as 'joint' squares, including also areas that cover the SBA and UN buffer). For autumn 2019, the breakdown of the squares randomly selected and surveyed at a jurisdiction level were as follows:

- 36 squares within the Republic of Cyprus,
- 20 squares within the Dhekelia SBA, and
- 4 'joint' squares.

**Figure 3 Trends for trapping activity for autumn mist netting within the Republic of Cyprus**

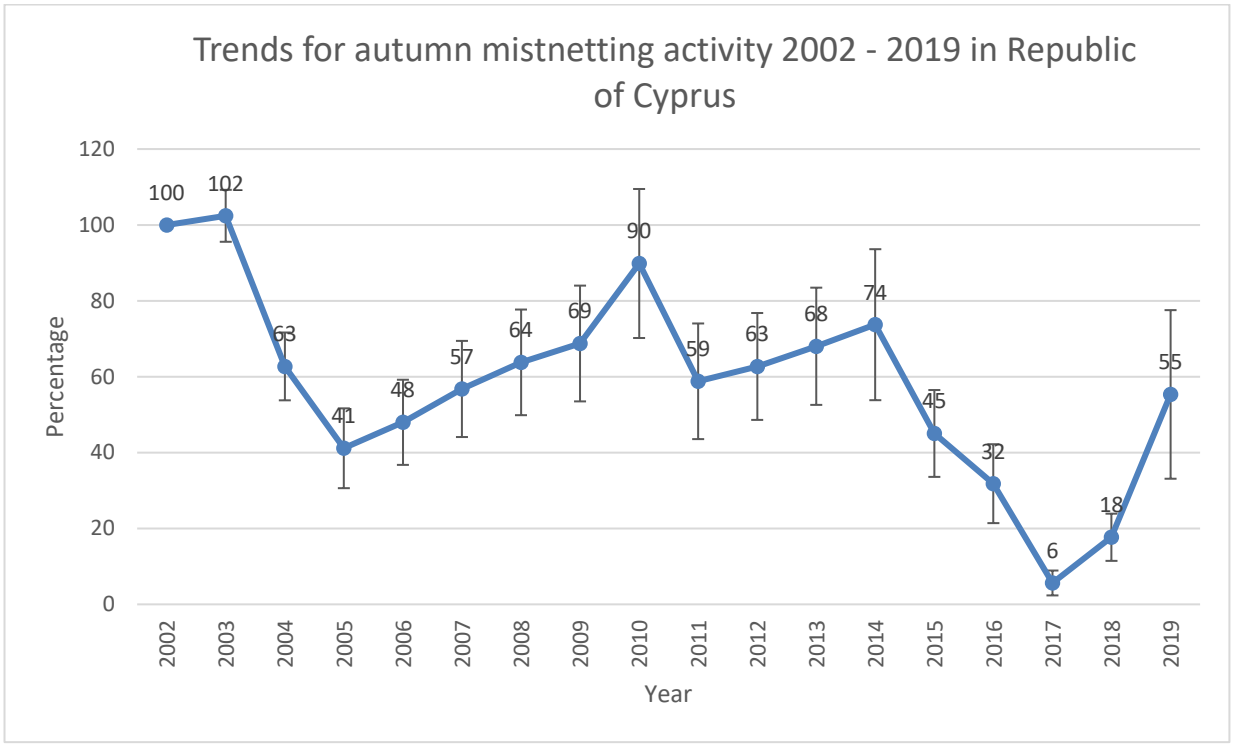



**Figure 4 Trends for trapping activity for autumn mist netting within the SBA areas**

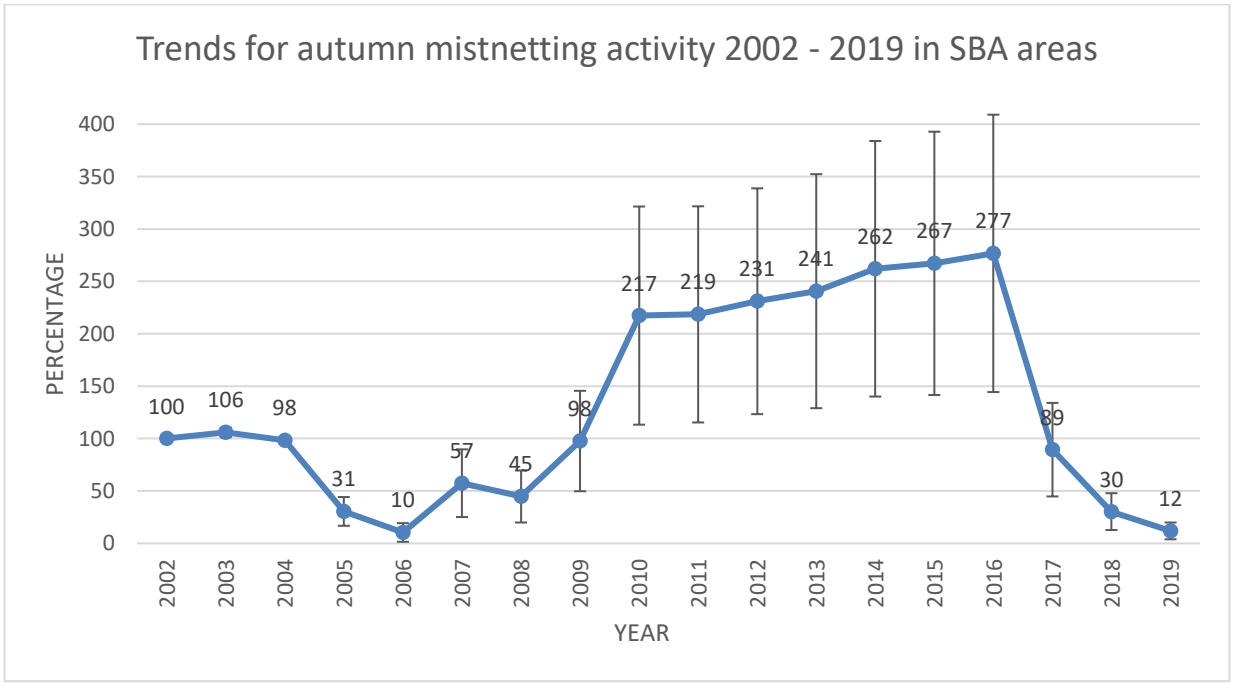


**Table 2 Statistics for trends for autumn trapping activity levels based on Figure 3and Figure 4**

| | Multiplicative trend | Standard error | 95% confidence interval | Significance |
|---|---|---|---|---|
| **RoC squares** | 0.9306 | 0.0153 | 0.029988 | Moderate Decline |
| **SBA squares** | 1.0197 | 0.0302 | 0.059192 | Uncertain |

At a jurisdiction level, the trapping activity trends indicate that:

- **For the Republic areas, autumn 2019 mist netting activity (index value 55) was 206% higher compared to autumn 2018 (index value 18), though the standard errors are wide. In comparison to 2002, the autumn 2019 levels were 45% lower. This is the second year in a row that there has been a short-term increase in trapping in the Republic. Even though trapping levels are still lower than those recorded in 2002, this increase for a second consecutive year is very concerning.**
    - For the 36 squares covered within the Republic, the range of counts was from 0 to 120 metres of active net rides, while no trapping at all was recorded in 31 squares. The average within the Republic was 10 metres of active net rides per square surveyed (361/ 36 squares surveyed within the Republic = 10).

- **For the SBA areas, autumn 2019 mist netting activity (index value 12) showed a decrease of 60% compared to 2018 (index value of 30). In comparison to 2002, the autumn 2019 levels were 88% lower, continuing the positive downward trend for a third consecutive year.** It is noted that the lowest mist netting activity for the SBAs was recorded in 2006 (index value of 10).
    - As seen in Figure 4, the confidence limits for the SBA trend are noticeably wide. This is due to the following factors: the relatively small sample size (20 squares surveyed in autumn 2019), the large number of zero counts (15 out of the 20 squares surveyed recorded no trapping activity at all). It is anticipated that the new larger sample size in the SBA will only start to have an impact on the confidence limits in a few years' time.
    - **It is highlighted that this season no trapping activity was recorded in Cape Pyla, a trapping hotspot only a few years ago, which will have most certainly contributed to this further reduction within the SBAs.**

With regards to the statistical significance of the trends from the TRIM analysis (see Table 2), for the SBAs the trend significance is assessed as 'uncertain', similarly to autumn 2018 – this indicates that these positive results must be maintained for a few more years in order to become statistically significant.

As for the Republic, the statistically significant 'steep decline' noted last season is now assessed as a 'moderate decline', suggesting that there is a worrying change in the long-term trapping activity trends of the Republic. Even though enforcement data from GFS shows that there were more on the spot fines issued in 2019 compared to 2018 (see Table 3), BirdLife Cyprus highlights that there needs to be more

effort placed on the prosecution of the big, organised trappers. Additionally, all the restaurants serving *ambelopoulia*, are found exclusively in the Republic, and still constitute the main economic incentive for organised trappers. Therefore, the Cyprus authorities have a major role to play in clamping down on the supply – demand business chain.

## *Enforcement*

*Overview of enforcement for autumn 2019*

There are three competent authorities that are responsible for enforcement against illegal bird trapping in Cyprus: the Game & Fauna Service and the Cyprus Police Anti-Poaching Unit (sadly recently dismantled) that are responsible for areas controlled under the Republic of Cyprus, and the SBA Police Anti-Poaching Unit is responsible for areas within the UK Sovereign Base Areas. The resources of the above-mentioned enforcement bodies are as follows:

- Game & Fauna Service, the responsible body for the implementation of the Birds Directive, has around 210 game wardens in total across the whole of island[13]. The Larnaca & Famagusta district, where most of the bird trapping takes place in Cyprus and where the survey area of BirdLife Cyprus is focused, has about 50 game wardens.

- Cyprus Police Anti-Poaching Unit had four officers at the start of 2019, sadly in November 2019 the unit was officially dismantled by the Chief of Cyprus Police.

- SBA Police Anti-Poaching Unit was comprised of 11 officers at the Eastern Dhekelia Sovereign Base Area during the autumn trapping period (September to October). BirdLife Cyprus would like to thank the SBA Administration and SBA Police APU team for its willingness and support in undertaking joint field monitoring of illegal bird trapping with the BirdLife Cyprus team.

Table 3 summarizes the enforcement data of the three competent authorities regarding illegal bird trapping for the months of August, September and October, the main period for bird trapping in Cyprus, for years 2011 - 2019.

[13] Over 100 staff have recently been added to the GFS, previously recruited on a seasonal basis as part of the summer anti-firefighting programme.

**Table 3 Summary of illegal bird trapping statistics of the competent authorities for the months of August, September and October for years 2011 - 2019**

| | Game & Fauna Service – Larnaca & Famagusta district[2] | | | | | | | | | Dhekelia SBA Police Anti- Poaching Unit[3] | | | | | | | | | Cyprus Police Anti- Poaching Unit[4] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Years* | ***2011*** | ***2012*** | ***2013*** | ***2014*** | ***2015*** | ***2016*** | ***2017*** | ***2018*** | ***2019*** | ***2011*** | ***2012*** | ***2013*** | ***2014*** | ***2015*** | ***2016*** | ***2017*** | ***2018*** | ***2019*** | ***2011*** | ***2012*** | ***2013*** | ***2014*** | ***2015*** | ***2016*** | ***2017*** | ***2018*** | ***2019*** |
| **No of trappers arrested / cases** | 57 | 70 | 78 | 64 | 54 | 35 | 19 | 21 | 25 | 23 | 22 | 22 | 30 | 17 | 29 | 6 | 12 | 8 | N/A | N/A | N/A | 27 | 28 | 36 | 13 | 4 | N/A |
| **No of mist nets[1]** | 204 | 311 | 287 | 235 | 230 | 195 | 39 | 34 | 21 | 361 | 275 | 227 | 184 | 181 | 496 | 154 | 51 | 20 | N/A | 116 | N/A | 116 | 121 | 164 | 37 | 5 | N/A |
| **No of limesticks[1]** | 2,550 | 5,372 | 3,830 | 1,577 | 1,740 | 1,291 | 521 | 1,186 | 903 | 290 | 314 | 516 | 256 | 234 | 295 | 259 | 116 | 97 | N/A | 4,799 | N/A | 3,950 | 3,359 | 1,915 | 811 | 213 | N/A |

N/A: Not available

Note 1: The total number includes both trapping paraphernalia (mist nets and limesticks) collected as court evidence when an arrest takes place and from confiscations.

Note 2: Data for 2019 provided from Game & Fauna Larnaca & Famagusta district officer via email (11th February 2020).

Note 3: Data for 2019 received from SBA police Anti-Poaching Unit officer after visit to SBA police station (14th January 2020).

Note 4: Data for 2019 was requested from Cyprus Police headquarters via a letter. However the information provided (13th January 2020) was not compatible and hence non-comparable with this table, although in previous years these data were provided as requested.

- Game & Fauna Service – Larnaca & Famagusta district: The enforcement data for autumn 2019 show an increased number of cases (25) compared to autumn 2018 (21), suggesting enhanced enforcement action by this agency but also, and more worryingly, that illegal bird trapping activity within the Republic of Cyprus is on the increase in the last few years (see Figure 3).

- SBA Police Anti-Poaching Unit (APU) – Dhekelia Sovereign Base: The enforcement data for autumn 2019 show that 8 people were arrested compared to 12 during autumn 2018. The lower number of arrests could be attributed to the reduction in trapping activity within the SBAs (see Figure 4).

- Cyprus Police Anti-Poaching Unit: The enforcement data sent to us by Cyprus Police headquarters for their action undertaken in autumn 2019 were not clear and were not comparable with our data from previous years, hence it was not possible to assess its enforcement action.

**Illegal bird trapping with mist nets decreased overall during autumn 2019, based on the survey data from BirdLife Cyprus. This is a very positive outcome, which we hope will continue next year. However, the increase in trapping in the Republic of Cyprus for a second consecutive year, despite the higher number of cases undertaken by the Game & Fauna Service, is worrying. It should be noted here that many of the sites found active by our field team where in areas known to be operated by large scale, organized trappers. This emphasizes the need for more enforcement against organized trappers. However, the decision for the dismantlement of the Cyprus Police APU, a unit that a few years ago was very effective and a deterrent force with on the ground enforcement action with a focus on big, organised trappers, is a move in the complete opposite direction and a major setback to tackling illegal bird trapping within the Republic. BirdLife Cyprus considers that the increase in trapping activity levels recorded within the Republic is very likely associated with the limited enforcement action by the Cyprus Police APU, and its dismantlement last November.**

**On the other hand, the multi-pronged approach implemented by the SBA Administration and Police in the last few years, including close cooperation with NGOs such as Birdlife Cyprus, RSPB and CABS, has led to a further reduction in trapping activity levels within the SBA areas.**

Illegal bird trapping has become a demand-driven wildlife crime, with the trading of trapped birds in lawbreaking restaurants being the key economic driver for organised trappers, who, as is generally acknowledged, make thousands of euros of illegal profit every year. These restaurants selling *ambelopoulia* are exclusively within the Republic. From data provided from the Game and Fauna Service, restaurant checks and prosecutions were reduced in 2019 compared to 2018 (see Table 4). This data does not include any checks conducted by the Cyprus Police APU (however, BirdLife assumes that no such checks were undertaken, considering the limited enforcement action this unit had during 2019). BirdLife Cyprus believes that more enforcement is needed, particularly on the big, organised trappers and on restaurants, in order to stop this illegal demand-supply profitable business.

**Table 4 Summary of restaurant checks and prosecutions in Cyprus**

| | 2010[1] | 2011[1] | 2012[1] | 2013[1] | 2014[2] | 2015[3] | 2016[3,4] | 2017[4] | 2018[5] | 2019[6] |
|---|---|---|---|---|---|---|---|---|---|---|
| Restaurant checks | 20 | 31 | 18 | 7 | 14 | 8 | 12 | 21 | 20 | 7 |
| Restaurant prosecutions | 13 | 15 | 8 | 3 | 1 | 1 | 1 | 7 | 5 | 0 |

Note 1: Data source for years 2010-2013: Ombudswoman report dated 27/5/2014 (http://www.ombudsman.gov.cy/ombudsman/ombudsman.nsf/index_new/index_new?OpenForm).
Note 2: Data source: Reply from Ministry of Interior to question of Member of the Parliament Mr Perdikes (question dated 15/6/2015, ref no 23.06.010.04.629) regarding restaurant prosecutions by the Game and Fauna Service for year 2014 available here.
Note 3: Data source: Reply letter from Game Service dated 11/8/2017.
Note 4: Data source: Letter from Cyprus Police headquarters dated 25th January 2018.
Restaurant check breakdown: Nicosia – 10, Limassol – 3, Larnaca – 8, Famagusta – none, Paphos – none
Restaurant prosecution breakdown: Nicosia – 5, Limassol – 1, Larnaca – 1, Famagusta – none, Paphos – none
Note 5: Data source: Letters from both GFS headquarters and Cyprus police Headquarters (Information received on 11/1/19 and 11/2/19 respectively)
Restaurant check breakdown from Cyprus police for 2018: Nicosia -3, Limassol-none, Larnaca – 6, Famagusta – none, Paphos – none.
Restaurant checks from GFS for 2018: 11 checks in total
Restaurant prosecution breakdown from both agencies: Nicosia - 4, Limassol – none, Larnaca – 1, Famagusta – none, Paphos – none.
Note 6: Data source: Email sent to Birdlife Cyprus by Game and Fauna Service official (13/1/20).

## *Feedback from competent authorities to BirdLife Cyprus reports*

Table 5 summarises the number of reports that BirdLife Cyprus provided to the competent authorities regarding active trapping sites and the overall feedback given by the competent authorities. The information presented in the table below refers to active trapping sites as recorded by the survey team (this includes all net codes, P, ANN, AUN and ASN – see Appendix 1 for net ride classification - and sites where limesticks were found) and were reported to the competent authorities for further action.

With regards to the Game and Fauna Service, 11 locations were reported to this agency. At two sites confiscation of limesticks occurred while there was nothing found at the other 9 sites reported by Birdlife Cyprus. According to feedback from the GFS, on average, sites reported by Birdlife Cyprus were visited around four days after being reported.

With regards to the Cyprus Police Anti-Poaching Unit, one location was reported to this agency, on 2 separate occasions. As a result the trapper was fined two times for the illegal use of mistnets. Unfortunately, the resources of this unit this season were very restricted, consisting of only four officers, while in November 2019 this unit was dismantled entirely after orders from the Cyprus Chief of Police (Savva, 2019).

With regards to the Dhekelia SBA Police Anti-Poaching Unit, 14 locations were reported to this agency. Based on the feedback provided from the SBA Police, mistnets and limesticks were confiscated at 6 locations. The remaining 8 locations were placed under observation, however no arrests or confiscations took place. Feedback and response time from SBA Police about locations visited and found active was given on the same day, or next day at most.

**Table 5 Summary of trapping reports provided to competent authorities from Birdlife Cyprus during Autumns 2012-2019**

| | Game and Fauna Service – Larnaca & Famagusta | | | | | | | | SBA Anti-Poaching Police Unit | | | | | | | | Cyprus Police Anti- Poaching Unit | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| **Number of reports[1]** | 50 | 43 | 33[6] | 23 | 21 | 8 | 17[9] | 11 | 52 | 38 | 40 | 51 | 34 | 26 | 12 | 14 | none | 3 | 13[6] | 12[8] | 8 | none | 7 | 2[11] |
| **Arrests[2]** | 17 (34%) | 19 (44%) | 8[6] (24%) | 11 (48%) [7] | 10 (48%) | N/F | N/F | 0 | 9 (17%) | 8 (21%) | 6 (15%) | 4 (8%) | 5 (15%) | 0 (0%) | 7[10] | 0 | N/R | 1 (33 %) | 2 (15%) [6] | 1 (8%) | 2 (25 %) | N/ R | 2 | 2 |
| **Confiscations[3]** | 10 (20%) | 8 (19%) | 11 (33%) | None | 1 (5%) | N/F | N/F | 2 | 22 (42%) | 18 (47%) | 5 (15%) | 10 (20%) | 14 (41%) | 3 (12 %) | 2 | 6 | N/R | N/A | N/A | 2 (17%) | 0 (0%) | N/ R | 3 | 0 |
| **Clearance[4] / Nothing Found[5]** | 23 (46%) | 16 (37%) | 14 (42%) | 12 (52%) | 10 (48%) | N/F | N/F | 9 | 21 (40%) | 12 (32%) | 29 (70%) | 37 (72%) | 15 (44%) | 23 (88 %) | 8 | 8 | N/R | N/A | N/A | 9 (75%) | 6 (75 %) | N/ R | 2 | 0 |

N/R – Not relevant; N/A – Not available; N/F – No feedback provided

Note 1: Reports may also include reports from members of the public that were sent to the competent authority via BLCY.

Note 2: Arrests represent individual people and not specific sites. E.g. If 4 people are arrested at one trapping site that will count as 4 arrests.

Note 3: Confiscations of mist nets, limesticks and/or calling devices

Note 4: Clearance refers to collection of trapping paraphernalia such as pole bases, poles, loudspeakers, wires etc.

Note 5: 'Nothing found' refers to reports where the competent authority checked the trapping location but reported it inactive (no nets or limesticks were found) upon its visit, hence no prosecution or confiscation took place, or no feedback was provided.

Note 6: Two sites were reported to both the Game Service and the Cyprus Police (autumn 2014) – both reports resulted in prosecutions and they are accounted for in the statistics of both enforcement agencies shown above. The feedback for these two sites was provided from the Game & Fauna Service and is used to calculate the % value for the Cyprus Police.

Note 7: Two of the BirdLife Cyprus' reports that resulted in prosecutions were for illegal shooting of bee-eaters.

Note 8: The feedback for the reported sites to the Cyprus Police APU for autumn 2015 was provided by CABS, which worked closely with this enforcement agency during the season.

Note 9: Three reports are for illegal hunting of bee-eaters and one is for illegal feeding of birds for hunting purposes.

Note 10: 7 people were arrested due to video evidence collected at 2 different trapping locations.

Note 11: Both reports involved the same site.

*Enforcement on the ground – on-the-spot fines in the Republic, two years later*

In July 2017 an amendment to the 'Protection and Management of Wild birds and Game species' Law of 152/2003' would regulate all bird trapping and poaching offences as on-the-spot fines (as opposed to court prosecution). At the time, BirdLife Cyprus expressed its opposition to this amendment, having serious reservations over how game wardens and police officers would be able to impose on-the-spot fines without risking their personal safety – read relevant article published early July 2017.

Despite our concerns, over the past two years, the Cyprus enforcement agencies, and particularly the Game and Fauna Service, have been implementing the on-the-spot fine provisions adopted in July 2017, issuing high fines. This has undoubtedly acted as a significant deterrent for trappers. That said, from the data provided to Birdlife Cyprus for the period July 2017 to February 2020 by the Game Service, it seems that the higher the fine, the less chance there is of it being paid by the offender. Table 6 below shows that even though more than half the fines handed out so far have been paid (169 from 249), the money these fines equate to (€550,000) only add up to around one third of the total money from all the fines (€1,350,000). It appears that fines of €4,000-5,000 and higher are not paid (based on averages), with offenders being led to the courts for prosecution.

**Table 6 Breakdown of on the spot fines handed out from July 2017 till February 2020[14]**

| | **No. of Fines** | **Amount in Euro** |
|---|---|---|
| Fines that have been paid | 249 | 550,000 |
| Fines still pending payment | 8 | 20,000 |
| Fines that haven't been paid and will/have gone to court | 169 | 780,000 |
| **Total** | 426 | 1,350,000 |

In addition to the high fines not being paid, another worrying aspect of the on-the-spot fine provision are the low fines stipulated for the possession and use of limesticks, due to an amendment passed by Cyprus Parliament. At ONLY €200 for the possession of up to 72 limesticks (1% of the maximum penalty of €20,000 stipulated in the relevant legislation in July 2017), BirdLife Cyprus believes that this is afar from a deterrent fine for limestick trappers and that it sends a message of decriminalization of this non-selective method. We believe this to be a loophole in the legislation for limestick trappers to continue this illegal practice and BirdLife Cyprus believes that this relaxation of the law came after pressure from pro-trapping lobby groups. Findings from the field monitoring and trapping cases with the use of limesticks in the last two years clearly indicate that trappers 'use' this loophole; there have been cases

[14] Information sent to BLCY by GFS official via email on 17/2/20

that law breakers were arrested for limestick use, only to be detected active again a few days later, indicative that a €200 fine is non-deterrent.

**Table 7. Average fines under different circumstances[15]**

| Average fine given by courts prior to 2017 law amendment (€) | Average size of on-the-spot fine which is not paid and thus taken to court (€) | Average fine issued by courts on people who did not pay their on-the-spot fine (€) |
|---|---|---|
| 780 | 5,050 | 1,871 |

Birdlife Cyprus has expressed concerns about the lack of information regarding the court sentencing and specifically the rulings taken by judges regarding unpaid fines. The data in Table 7 shows some indicative values of fines under different circumstances, provided by the Game and Fauna Service, and confirms Birdlife Cyprus' fears that once a fine is not paid and follows the court prosecution proceeding, the offenders are handed out lower fines. Although there is still an improvement in comparison to the much lower fines given out by courts prior to 2017, this significant difference between the unpaid on-the-spot fines and the court sentences could compromise the entire on-the-spot fine system, making it ineffective.

## *Social and political attitudes*

*Developments in the Republic of Cyprus*

In November 2019, it was unexpectedly announced that the Cyprus Police Anti-Poaching Unit would be closed down due to its "poor enforcement action", as mentioned in a newspaper article published covering this specific issue[16]. The same article quoted a reply dated 22nd November 2019 from Mr Andreas Assiotis, General Director of the Ministry of Justice and Public Order, addressing a parliamentary question dated 28th July 2017 of Mr George Perdikes, Member of the Cyprus Parliament, as follows: '*…As you know, recently the decision has been taken by the Chief of Police to dismantle the Anti-Poaching Unit given the fact that the enforcement action of the unit was meagre in the last few years. More specifically, in 2018, 39 cases were made, of which 29 were on-the-spot fines and for the year 2019 up until 13/11, 10 cases were made of which 8 were on-the-spot fines. Despite this, the unit occupied 5 officers which could be put to better use taking into account the general issue of lack of staff within the Cyprus Police…'*. In the same reply it was also stated that '*….the Anti-Poaching Unit was formed in 2007 and provided a supportive role to the Game and Fauna Service….'*

Hence, based on the published news, the Ministry of Justice and the Cyprus Police have based their decision to dismantle the APU on its "poor performance", and because it was "under-resourced" and was "complementary" to the Game & Fauna Service, a justification that BirdLife Cyprus considers insufficient and unconvincing.

[15] Information provided to BLCY by GFS on 12/3/20

[16] Politis newspaper article 'Poaching. Poor results', published 14th December 2019, p 1 & 27

In fact, the enforcement action of this unit, particularly in the period 2014 - 2016, was both remarkable and impressive (see Table 3), rivalling the results that the SBA Police have been achieving in more recent years. However, their effective, on the ground enforcement action was opposed by the pro-trapping and hunting lobby groups. During the autumn 2017, these groups exerted pressure on the government, which resulted in its immediate reduction in size from 7 officers to four in the middle of the autumn trapping season (see page 26 of our autumn 2017). Since then the unit has generally remained undermanned with around four officers. In practice, this made it nearly impossible for the unit to have an effective presence on the ground, hence the relatively poor results of the last few years. BirdLife considers that if the APU had been given sufficient resources, which we consider is a matter of prioritisation and a political decision, then it would have continued to have a deterrent presence against poaching and illegal bird trapping and its performance results would certainly be much improved (as achieved during 2014-2016).

Moreover, the Cyprus APU was created in 2007 and was acting as an independent Anti-Poaching Unit, comprised of highly trained police officers from the Emergency Response Unit. Its role, due to its relatively small size, was to focus on the big organised trappers and the restaurants serving trapped birds, as well as poaching cases, something that the Cyprus Police had also highlighted in past meetings with BirdLife. Furthermore, the importance of this unit is stressed in a newspaper article published regarding its closure[17], where the Game and Fauna Service representative stated that '*the APU worked independently, but also in collaboration with the Game and Fauna Service and had a very important role to play*".

The need for a fully functioning and well-staffed Anti-Poaching Police unit was very evident last September-October. It became apparent that a large trapping site in the Larnaca district known to belong to organized trappers was active on a daily basis, with hundreds of birds being caught and killed there every day. Reports were made to the competent authorities on numerous occasions, by both Birdlife Cyprus and CABS, in particular to the Cyprus Police Anti-Poaching Unit. However almost every time when the police visited the site there was no trapping activity taking place, apart from on two occasions. BirdLife published a Press Release on 12th October 2019, which also included a shocking video (shot by the RSPB) showing this illegal activity taking place on site and involving several trappers. Our PR called on the authorities to take action against large scale trapping. To date, no feedback has been provided to BirdLife Cyprus by the Cyprus Police, while only a few weeks after the press release the closure of the unit was announced. The closure of the Cyprus Police APU is a major setback in enforcement in the Republic as it played a key role in tackling large organized trappers, as also highlighted by the Game and Fauna Service which '*…considers that it is losing its important collaborator, for the serious cases where also organised crime networks were involved*'[17]. Birdlife Cyprus is concerned that the GFS will struggle to fill this gap and to effectively tackle organized crime networks involved in trapping activity.

Developments in the Republic have also been very concerning on the legislative front. In July 2019, Birdlife Cyprus attended a public consultation for a proposed amendment law prepared by the Game and Fauna Service regarding the 152/2003 Law on the 'Protection and Management of Wild Birds and

[17] Alithia newspaper article titled 'Διαλύεται οριστικά το Κλιμάκιο Πάταξης Λαθροθηρίας της ΜΜΑΔ', 12/11/19, page 11.

Game Species'. Various proposals have been included in this amendment law, which BirdLife Cyprus expressed its concerns over, including in writing as part of the consultation. In early 2020, this amendment was submitted to the Cyprus Parliament, and is currently being discussed at the Environment Committee[18]. BirdLife Cyprus attended Parliamentary sessions in January and February, expressing its concerns, particularly regarding a proposal for specific songbird species - the main targeted ones for trapping - to be issued a lower fine of €200 when caught with the use of limesticks or shot at / killed, compared to other bird species killed with illegal methods where a fine of €2000 would still be applicable. This proposal is very worrying and is practically decriminalising the killing of certain songbirds, something that the pro-trapping lobby has been pushing for many years as a 'traditional' practice, an invalid reason under the Birds Directive and a reasoning that the European Court of Justice has overruled in the past[19]. We consider that if this proposal were to pass, it would be a serious relaxation to the existing law and a violation to the Birds Directive.

*Developments in the Eastern (Dhekelia) Sovereign Base Area*

SBA Police and Administration have continued to apply the partnership approach adopted in 2017, strengthening their collaboration with NGOs. For another year, covert surveillance was undertaken with the assistance of RSPB, the joint-monitoring survey with Birdlife Cyprus continued, as did the collaboration with CABS. The development and implementation of an action plan to deal with illegal trapping issues within the SBAs is a major step in the right direction, setting a framework of actions for each trapping season that are reviewed every trapping seasonal. The implementation of stricter measures such as the confiscation of vehicles, the revoking of land lease agreements, as well as the use of new technology such as drones and night-vision equipment have brought tangible results on the ground, with a significant reduction in trapping activity with mist nets recorded since 2016 (see Figure 4). A blog and video released by RSPB investigations officer Guy Shorrock last November summarises the great progress achieved, as well as the work the RSPB investigations team had in autumn 2019 with the SBA Police.

At the beginning of 2019, the on-the-spot fine provision adopted by the Republic of Cyprus in July 2017 was also adopted by the Sovereign Base Areas. The law was essentially mirrored over from the Republic, except for the fines for the illegal use of limesticks, which have been set at the same level as the other offences for the use of non-selective methods i.e. at €2000 (rather than the €200 fine that is stipulated in the Republic). BirdLife Cyprus welcomes this decision taken from the SBA Administration and Court, as it gives a clear message of zero-tolerance towards any illegal bird trapping and poaching activities within their jurisdiction, and considers all non-selective methods (mistnet or limesticks) as serious wildlife crimes to be punished with deterrent sentences.

[18] Currently the Cyprus Parliament is closed due to the Covid 19 outbreak.

[19] Case C-79/2003 Commission vs Kingdom of Spain for permitting illegally the non-selective nature of hunting by means of the 'parany' (a so-called traditional method used in Spain, similar to limesticks).

# 4. Discussion & Recommendations

2019 showed a decrease in trapping with mist nets for a third consecutive autumn season. Overall, there has been an 89% reduction in mist netting activity between the baseline year of 2002 and 2019, within the survey area (see Figure 2). However, this encouraging overall decrease in bird trapping within the survey area has not been reflected in all jurisdictions across Cyprus.

With regards to the SBAs, trapping levels have continued to decrease during this autumn, continuing and building on the progress that has been achieved since 2016 (see Figure 4). During this autumn, no trapping activity was recorded in the previous trapping hotspot of Cape Pyla, a very welcome development. It is very encouraging to see a site which was once a real black spot for illegal bird killing being steadily transformed into a safe area for migrant birds in a relatively short amount of time. Birdlife Cyprus acknowledges in full the success of the SBA Police and Administration in tackling the illegal trapping issue within their jurisdiction. It is evident that the new partnership approach and the internal anti-trapping action plan that the SBAs have put in place in the last few years, in conjunction with the close collaboration with NGOs, are having tangible results on the ground. This approach and associated measures must be continued into 2020 and beyond, to ensure this success continues and establishes.

Unfortunately, trapping activity levels within the Republic of Cyprus areas showed an increase for autumn 2019 (compared to autumn 2018 – see Figure 3) for the second consecutive year, reversing the success achieved up until autumn 2017 when the lowest trapping activity levels were recorded within the Republic. BirdLife Cyprus acknowledges the enforcement action taken, particularly by the Game and Fauna Service that issued more on the spot fines during autumn 2019 than past recent years (see Table 3). BirdLife Cyprus attributes this increase in trapping activity to the reduced enforcement action on the ground by the Cyprus Police Anti-Poaching Unit, particularly against large organized trapping sites. It is particularly worrisome that despite numerous reports to the Cyprus Police regarding a large organized trapping site by both BirdLife Cyprus and other environmental NGOs, no effective deterrent enforcement action was taken against the organised trappers, who continued undisturbed their illegal activity during the autumn trapping period. The engagement of the Cyprus Police APU against bird trapping had significantly dropped since 2017, following the removal of core police officers at the time and a reduction in its resources (see Table 3). Sadly, the final 'strike' to this previously effective, highly deterrent on-the-ground Anti-Poaching Unit came unexpectedly last November when the Cyprus Police decided to close down this unit entirely, on the justification of "poor results" and being "under-resourced".

BirdLife strongly disagrees with the recent closure of the Cyprus Police Anti-Poaching Unit. Between 2014 and 2016 this unit had become an effective, deterrent anti-trapping and poaching 'force', with impressive results despite its small size. In our opinion this unit should have been re-enforced in order to tackle the big, organized, persistent trappers. The Game and Fauna Service had also highlighted in the media the key role this unit played against organised crime networks involved in trapping, and Birdlife Cyprus is concerned how this gap will be filled.

In no way can it be assumed that the problem of illegal bird trapping has been solved. Similar reductions in trapping were recorded in the past, but did not last. Prior to and just after Cyprus joining the European Union (EU), a significant decrease in bird trapping was recorded due to increased enforcement effort, resulting from behind-the-scenes pressure from the EU to tackle this problem. However, a few years later, the zero-tolerance approach was no longer being applied, and trapping levels increased dramatically. The decrease observed within the Dhekelia SBA over the last few years is encouraging and welcomed, whereas the increase in trapping in the Republic in the last two years is worrying and more targeted actions are needed, despite the on-the-spot fine system being applied since 2017.

With regards to the amendment to the 'Protection and Management of Wild birds and Game species Law of 152/2003' and specifically the introduction of on-the-spot fines, this continues to be implemented by the enforcement agencies. From July 2017 to mid-February 2020, a total of 426 fines have been issued adding to a total of €1,350,000. From data provided by the Game and Fauna Service, it appears that, similarly to last year, the lower fines are being paid, while the higher fines are not. Offenders who do not pay the on-the-spot fines are taken to court, and from indicative numbers provided to Birdlife by GFS it appears that the Cyprus courts tend, on average, to issue much lower sentences (€1,871 compared to €5,050). If this continues then the sustainability and impact of the new on-the-spot fine system would be undermined. Moreover, the much lower penalties for limestick trapping is a serious concern, and field data from limestick trapping sites found active, even after recent enforcement action, highlight the non-deterrent effect of a €200 fine.

## Recommendations

In conclusion, BirdLife Cyprus stresses the following actions and measures as areas for action in 2020:

1. The Cyprus competent authorities to strengthen the collaboration with environmental NGOs on the ground, adopting a similar approach to that taken by the SBA Police, in order to make enforcement action more effective.
2. The Cyprus Police to reinstate the Anti-Poaching Unit, with a focus on enforcement action against the organized trappers and poachers. Also the Game and Fauna Service to fully train the new wardens recently added to its ranks, in order to enable them to enforce the law to its full extent and to continue issuing deterrent on-the-spot fines. Furthermore, the Cyprus authorities need to undertake increased and consistent enforcement action against law-breaking restaurants serving illegal *ambelopoulia* "delicacies" (to address demand).
3. Training to be provided to the Judiciary and Prosecutors regarding the on-the-spot fine system and that illegal bird trapping is a serious wildlife crime, in order to address the large discrepancy observed between on-the-spot fines issued and court sentences handed out. We consider that the Game and Fauna Service, as the responsible authority for the implementation of the Birds legislation, is best placed for this.
4. The Cyprus Parliament to revisit the June 2017 amendment to the "Protection and Management of Wild Birds and Game Species law" to withdraw the possibility for game consumption in restaurants. Also to increase the fines for limestick possession and use so that they provide an effective deterrent (in a similar manner to how the SBAs have applied the same €2000 fines for

all non-selective methods). BirdLife Cyprus considers that the provisions for lower limestick fines are in breach of the EU Birds Directive (2009/147/EC).

5. The SBA Administration to continue with the collaborative partnership approach adopted with environmental NGOs and the implementation and review of its action plan.
6. The SBA Administration to move to draw up a habitat management plan for the long-term eradication of invasive acacia on Cape Pyla, in line with the responsibilities to manage the SAC (Special Area of Conservation), and to restart the acacia removal programme.

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# Appendix 1

**Methodology of the trapping surveillance programme**

Survey area and sampling strategy

The surveillance project began in 2002 with the coverage of 60 sample squares (each 1x1 km) chosen at random from within a 261 km2 study area, which covered most of the Famagusta/Eastern Larnaca area and the Ayios Theodoros – Maroni area.

In 2005, the monitoring became more targeted, focusing on habitat suitable for trapping. Each 1 km square within the study area was classified as either a 'possible bird trapping area' or 'unlikely bird trapping area' based solely on the presence or absence of vegetation suitable for setting limesticks or nets. Surveillance subsequently took place in 'possible' squares only. Some 44 of the original 60 sample squares were 'possible bird trapping area' squares under the new classification. These 44 squares were kept, with another 16 new squares chosen randomly to bring the total sample to 60 again.

Then, in 2007, the survey area was expanded to cover 295 km2 for Famagusta/Eastern Larnaca area and 111 km2 for Ayios Theodoros – Maroni area, bringing the total survey area to 406 km2. This was done after preliminary surveys in autumn 2006 found evidence of extensive trapping on the margins of the original (261 km2) survey area. The sample size was expanded to 100 squares (40 new squares were randomly chosen) to allow for this extension of the survey area. Out of the 406 1 km2 squares of the expanded survey area, 301 have been classified as 'possible bird trapping area' squares.

In 2017, the Ayios Nikolaos Area of the ESBA was added into the survey after reports from CABS of extensive trapping taking place in this area. An additional 18 squares were added to the survey area bringing the new total to 405 squares adding up to 310 square kilometres.

The random selection of sample squares is stratified to ensure representative coverage of areas under SBA, Republic of Cyprus and "joint" jurisdiction (squares where the two jurisdictions meet). In terms of the analysis of the survey data BirdLife Cyprus is using the TRIM (TRends & Indices for Monitoring data) programme, which enables the analysis of time series of counts with missing observations (read more about TRIM in Appendix 4.

Surveying for trapping activity

Surveying consists of a two-man team systematically searching for evidence of illegal trapping activity in the randomly selected one by one kilometre squares. The time taken to survey each square is recorded, as are weather patterns and the presence or absence of large numbers of migrant birds.

For safety reasons (avoidance of possible confrontation with trappers) the BC observers do not go out in the field at dawn, which is the main period of trapping activity, but carry out surveys between 09:00 and 17:00. Each sample square is surveyed only once each season, partly for safety reasons (minimising the risk of the observers becoming known to trappers) and partly because repeat sampling of each square has no particular value when it comes to analysis of the collected data. Opportunistic observations are also made in the surroundings of squares where mist netting is suspected. Trapping activity includes:

- mistnetting activity, which is the main focus of the surveillance programme of BirdLife Cyprus. This is calculated using the total length of active net rides recorded within the survey area; and
- limesticks, using the total number of active limesticks found within the survey area.

Mist nets

The two observers carry out a thorough search of all habitat patches suitable for the setting of mist nets (i.e. all areas with bushes and/or trees) within each sample square. The observers record all direct and indirect evidence of mist net and tape lure use and of net ride preparation and use (e.g. cleared corridors within vegetation for putting up nets, presence of pole bases). The codes used for the various categories of mist netting activity and tape lure use are given below, as are the codes used for recording the type of habitat where trapping activity is detected. The surveyors note cases where they come across enclosed (fenced) areas that they cannot see into at all, or cannot see into well enough to survey fully.

**Box 1 Key to survey codes used for the field**

| Net code | Habitat code | Tape lure code |
|---|---|---|
| O – old ride | A – acacia | P – tale lure present, playing |
| P – ride recently prepared | C – citrus | L – loudspeakers present |
| ANN – active no nets present | E – eucalyptus | Y – tape lure present, not playing |
| AUN – active unset net present | F – fig | U – unknown |
| ASN – active set net present | J – mulberry | W – electrical wires associated |
| IUN – inactive unset net present | O – olive | with tape lures |
| | M – maquis | B – car battery present |
| | P – pomegranate | |
| | K – carob | |
| | Cy – cypress | |
| | L – lentisk | |
| | S – syrian plum | |

The main net ride classifications are described below:

- Prepared (P): A net ride that is clearly ready to be used but there is no evidence e.g. bird feathers, blood stains, thrown pebbles, to suggest illegal activity was taking place the previous night / morning (see Figure 4),
- Active No Net (ANN): A net ride that from the evidence found e.g. bird feathers, blood stains, thrown pebbles, indicates that illegal activity was taking place the previous night / morning but no net is present (see Figure 5),
- Active Unset Net present (AUN): A net ride where the trapper has left the mist net on the poles but it is furled i.e. the mist net is not stretched up for catching birds but lowered down (or the net is placed e.g. under a tree) (see Figure 6), and
- Active Set Net present (ASN): A net ride where the trapper has left the mist net set on the poles and it is ready for catching birds (see Figure 7).

**Figure 5: Prepared (P) net ride**

**Figure 6: Active No Net ride (ANN) with poles, bases, feathers & signs of trampling in an olive grove**

**Figure 7: Active Unset Net present (AUN) in an olive grove**

**Figure 8: Active Set Net present (ASN) –corridors in orchards are often used for mist netting**

Limesticks

While the main effort of the observers is to locate evidence of mist netting, all evidence of limestick activity is also recorded. Limesticks are much harder to locate in the field than mist nets and are often set in a different habitat to mist nets. In addition, incidental evidence for limestick use is hard to detect (though trees pruned to hold limesticks are readily identifiable). It is impractical to search entire 1 km2 sample squares for limesticks due to the time consuming nature of the task. The protocol is therefore for the observers to look out for limesticks while concentrating on surveying for mist netting activity.

# Appendix 2

**Survey data for autumn 2019**

Confidential Information - This information is only provided upon request

# Appendix 3

**Estimation of numbers of birds caught during autumn 2019**

The following key assumptions are applied for the estimation of the birds killed:

- 12 metres is the assumed average length for a mist net
- 20 birds are caught per 12-m net per day (Magnin, 1986)
- 0.5 birds are caught per limestick per day
- 60 days is the duration of the trapping period for spring and autumn seasons
- 50% scaling factor – applied for spring estimates to account for a lower number of migrating birds passing via Cyprus compared to the autumn
- 405 are the possible bird trapping squares within the survey area as identified from the surveillance programme in 2007 (the random sample of squares surveyed by BirdLife Cyprus is taken from these 301 squares)
- 75% of illegal trapping activity for all of Cyprus takes place within the survey area (based on input from enforcement authorities and other experts)
- Net ride categories 'ANN' (Active No Nets), 'ASN' (Active Set Nets) and 'AUN' (Active Unset Nets) nets are assumed that they are active every day during the trapping season (read Appendix 1 for details on net ride classification).
    - Note: Net ride category 'P' (Prepared) is not taken into account for the estimation of numbers of birds killed anymore, following the recommendation of BTO science experts (BTO report, July 2015) to revise slightly the equation.

Using the above assumptions the bird death toll is estimated as follows for autumn:
For nets = [(Total length of ANN+AUN+ASN rides)] / (average length of a net) x (20 birds per net per day) x (total number of 'possible bird trapping area' squares / number of squares surveyed) x (length of trapping season in days)

= [(453+0+164] / (12) x (20) x (405/60) x (60)

**= 416,475** birds could have been caught within the survey area in **mist nets**.

For limesticks = (Total number of limesticks found) x (0.5 birds per limestick per day) x (total number of 'possible bird trapping area' squares / number of squares surveyed) x (length of trapping season in days)

= 128 x 0.5 x (405/60) x 60

= **25,920** birds caught within the survey area on **limesticks**

**In total 442,395 birds** could have been killed in mist nets and on limesticks within the survey area during autumn 2019. Assuming that the survey area accounts for 75% of the trapping activity in Cyprus, the bird death toll in Cyprus is:
= 442,395 / 75%
**= 589,860 birds could have been killed in nets and on limesticks across all Cyprus during autumn 2019**.

**Note**: these death toll estimates do not take into consideration any illegal bird trapping taking place into the Turkish occupied part of Cyprus.

# Appendix 4

## TRIM model description

TRIM (TRends & Indices for Monitoring data) is a program for the analysis of time series of counts with missing observations. The program can be used to estimate indices and trends and to assess the effects of covariates on these indices and trends. TRIM analyses time series of counts, using Poisson regression and produces estimates of yearly indices and trends (Panneloek & van Strien 2005). If observations are missing, TRIM estimates the missing values on the basis of changes observed on plots that were monitored.

In other words, TRIM enables us to use the data from all the trapping survey squares ever surveyed under the BirdLife Cyprus surveillance programme during the autumn period, in total 104 squares, even though these squares were not all covered each autumn season. The programme 'fills in' missing values for squares that were not covered in a particular year on the basis of the general trend derived from the data as a whole. The TRIM software (freely available from here) is very widely used for analysis of field data from ecological or biological studies. It works as an index, setting the first year of a time series of data the value of 100 (in this case year 2002) and showing up or down changes in subsequent years relative to this value of 100. TRIM program allows the user to select various models to undertake the analysis: a) Model 1: No time-effects, b) Model 2: Linear (switching) trend, and c) Model 3: Effects for each time-point. **For the analysis presented in this report BirdLife Cyprus has selected Model 2, following the advice of RSPB senior conservation scientist Mr Simon Wotton**. Below is an explanation of why.

Which model should one use: the time-effects model or the linear trend model? (Panneloek & van Strien 2005)

The time effects model (= year effects model in case the time points are years) estimates parameters for each separate year and should be chosen if one wants to assess indices for each year. The linear trend model should be chosen if one is interested in testing whether a trend has happened across a number of years, by selecting one or more years as changepoints. The linear trend model should also be chosen when the data are too sparse to run the time effects model. Using the linear trend model also allows testing trends before and after particular changepoints. Options are (1) to test trends before and after a priori selected changepoints or **(2) to let TRIM search for the substantial changepoints by using the stepwise procedure.** If all years are selected as changepoints, the linear trend model is equivalent to the time effects model (although it results in a description in terms of trend slope parameters rather than time point parameters). Note that the linear trend model also produces indices for each year, but not necessarily based on yearly parameters as in the time effects model. Instead of yearly parameters, the linear trend uses the trend across a number of years to approximate the indices.

**BirdLife Cyprus has used the 'Linear trend model by using the stepwise procedure and with all years selected as changepoints' for the trend analysis presented in this report, following the recommendation of RSPB senior conservation scientist Mr Simon Wotton**. The linear trend model can be run without any changepoints selected. Thereby it imputes missing counts based on the trend over the whole period studied. Be careful in using the model without any changepoints; the resulting indices might be unrealistic (this is the key point why this approach was not recommended and all years were selected as changepoints).