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ASSESSING THE USE AND IMPACT OF NETS ON WILD BIRD POPULATIONS IN ASIA AND THE MEDITERRANEAN

(Prepared by BirdLife International)

Summary:

This information document was submitted by BirdLife International. It reports on the results of a study aimed at assessing mist-net use in Asia through compilation of a global dataset of observations on the use of nets for killing, capture and trading of birds, and assessment of the legality of such use and its impact on CMS-listed species. This report also provides an overview of national legislation for countries in Asia, which provides important context for development of guidance for national assessments on the production, sale, use, and regulation of mist nets for government bodies and online retailers. The project implemented priority actions identified by the Asia-Pacific Illegal Taking of Birds Intergovernmental Task Force (ITTEA) Programme of Work under Resolution 11.16 (Rev.COP14), and is reported on in UNEP/CMS/COP15/Doc.26.1 *The Prevention of Illegal Killing, Taking and Trade of Migratory Birds*. The project was made possible thanks to the voluntary contributions of the Government of Germany, and facilitated through a small-scale funding agreement between BirdLife International and the CMS Secretariat. The ITTEA, which served as a coordination platform for this project, is funded by voluntary contributions by the Government of Australia.

Assessing the use and impact of nets on wild bird populations in Asia and the Mediterranean

Recommendations and next steps, with supplementary sections on legislation on wildlife hunting and net use in East, Southeast and South Asia, and illegal hunting with nets in the Mediterranean/West Asia region

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List of Abbreviations

API	Application Programming Interface
BCST	Bird Conservation Society of Thailand
CMS	Convention on Migratory Species
CR	Critically Endangered (IUCN Red List Status)
EAAF	East Asian-Australasian Flyway
EAAFP	East Asian-Australasian Flyway Partnership
EN	Endangered (IUCN Red List Status)
ITTEA	Asia-Pacific Illegal Taking of Migratory Birds Intergovernmental Task Force (ITTEA)
IUCN	International Union for the Conservation of Nature
KHR	Cambodian Riel
LC	Least Concern (IUCN Red List Status)
MOP	EAAFP Meeting of Partners
NT	Near Threatened (IUCN Red List Status)
SE	Standard Error
THB	Thai Baht
USD	United States Dollar
VU	Vulnerable (IUCN Red List Status)

Executive summary

Background – Nets such as mist-nets and improvised fishing nets are known to be widely used in Asia to hunt and trap wild birds for, (1) human consumption (i.e. wild meat trade), (2) the caged bird trade, (3) management of species considered pests in agriculture and aquaculture, (4) disturbance control, and (5) recreation. These practices have also led to the unintended capture of non-target species (or bycatch) and are likely to pose a significant threat to wild bird populations. Despite these conservation concerns, the impact of nets on wild birds remains inadequately assessed in the region and is likely severely underestimated. This lack of knowledge has also compromised efforts in many Asian countries to regulate and manage the sale, possession and use of nets, and carry out effective conservation interventions.

Objectives – To address key knowledge gaps on the extent to which nets (of all types) are used in Asia and how they may impact wild bird populations in this region, we aim to establish quantitative baseline data on the impact of mist-nets and other types of nets on wild bird populations in human-modified landscapes and wetlands across Asia, with a focus on three regions where nets are known to be prevalent, namely East Asia, South Asia and Southeast Asia. Our study aims to identify priorities and next steps to address the threats posed by the use of nets on wild bird populations in this region.

Methods – Our study gathered information from four sources of data: (1) a structured questionnaire to gather insights from experts and conservationists in the region; (2) a systematic review using three repositories of published research literature — the Web of Science, Scopus, and Google Scholar combined with the grey literature (e.g., scientific reports, unpublished reports and any relevant articles); (3) an analysis of the video evidence from social media platforms through targeted searches in 12 Asian languages; and (4) observations submitted to the 'Tangled & Trapped' project on the *iNaturalist* citizen science platform since 2020. To this end, we disseminated a structured questionnaire (in English) to 150 technical experts identified on the basis on their work in bird conservation in the region.

We used a defined set of defined search terms to undertake a systematic review of the literature on Web of Science, Scopus, and Google Scholar; articles were selected for a full review only if they examined, described or discussed the use of nets to trap wild birds in our focal geographical region. Our targeted search of social media (videos) on the YouTube platform

using a set of three-four search terms in 12 commonly used languages and was carried out by a team, including volunteers familiar with each language. By integrating these different lines of evidence, we identify species impacted by the use of nets in hunting (and in deterrence nets) and assess the extent and geographic variation in netting practices across Asia. Existing literature is also reviewed to highlight gaps and inform future research needs. This information is crucial for understanding the broad-scale impacts of netting and providing evidence-based recommendations for improving legislation and regulation of mist-nets and similar bird-trapping measures in Asian countries.

Findings – In total we received questionnaire input from 107 (expert) respondents across the study region as at end August 2025. Ninety-six (96) respondents indicated that nets are still being used in their respective countries (14 countries), with eight countries reporting that nets have been used 'frequently' to 'very frequently' in recent years. Nets were identified as being used for two main purposes: hunting (for consumption, trade, recreation, and/or merit release) and as a deterrent (to protect crops and/or aquaculture operations). Based on pooled data from the literature review (n = 44), social media (video) searches (n = 705 video clips extracted from social media posts on YouTube), and the *iNaturalist* database (n = 511), we documented at least 375 bird species impacted by nets in Asia (>15% of known bird species in Asia), including at least 211 species with migratory populations in the East Asian–Australasian Flyway (EAAF). Notably, 45 species of global conservation concern (IUCN Red List status of CR, EN, VU, NT) were recorded.

Through our systematic searches of the literature, only 26 publications met the criteria for inclusion, with an additional 18 publications identified through manual searches using Google Scholar, resulting in a total of 44 studies reviewed in full. Of these, only 13 studies specifically focused on the impacts of nets on birds, while 28 studies incidentally mentioned nets as a threat to birds, and three studies focused on crop damage in agricultural landscapes noted the use of nets as a deterrent. The relatively low number of published papers suggests a significant gap in knowledge and focused research on the impact of nets on wild bird populations, with implications for bird conservation in Asia.

Recommendations – While nets continue to be widely used for both hunting and deterrent purposes, systematic monitoring of net use and impact assessments remain scarce. Our review showed that the use of nets for hunting, and as deterrence for wildlife in agricultural landscapes, is a significant conservation issue in Asia, with potential impacts on the populations of many

countryside species. Our findings underscore the urgent need for enhanced monitoring and surveillance, improved reporting, and stronger policy interventions to mitigate the risks posed by the use of nets to both migratory and resident species in the region. We recommend restricting the sale and production of mist-nets, banning online sales, and limiting their use to licensed scientific research, as already implemented in some countries, alongside increased enforcement actions at wetland and farmland hotspots in Southeast and East Asia. Additionally, socioeconomic assessments, development and promotion of non-lethal crop protection methods, and targeted public awareness campaigns are essential to reduce bird mortality and promote sustainable coexistence.

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1. Background

Migratory bird species in Asia's flyways, especially the East Asian–Australasian Flyway (EAAF) and Central Asian Flyways (CAF), are imperiled by diverse and complex threats ranging from habitat loss and degradation (Chan et al. 2019; Wang et al. 2022) to illegal taking and unsustainable hunting (e.g., Gallo-Cajiao et al. 2020), alongside the impacts of pollution (Kim et al. 2007) and emerging energy infrastructure (Smith and Dwyer 2016). While not particularly well understood, there are increasing lines of evidence showing the threat posed to bird populations by hunting (both illegal and unsustainable), and the overall impacts of hunting and trapping in East and Southeast Asia (Gallo-Cajiao et al. 2020; Iqbal et al. 2018; Ma et al. 2012; Matsyna et al. 2024; Xayyasith et al. 2020). In fact, the decline of several species such as the Critically Endangered Yellow-breasted Bunting *Emberiza aureola* is well known to be directly driven by high volumes of harvest for food and the pet trade (Beermann et al. 2021; Katuwal et al. 2023), which has impacted breeding populations of the species across its distribution. In the Mediterranean region alone, 11–36 million birds are estimated to be illegally killed or taken each year, including through the use of mist-nets (Brochet et al. 2016).

Mist-nets and several types of improvised nets such as clap nets and fishing nets have been documented in recent studies to be commonly used tools in trapping both resident and migratory species and their use is estimated to result in very high mortality across the Asian region (Yong et al. 2022). Even less is known about how the use of mist-nets to protect aquaculture and agriculture products is impacting wildlife, although recent work also suggests high levels of mortality of several countryside species in coastal China (Angkaew et al. 2022; Liang et al. 2024). Angkaew et al. (2022) surveyed agricultural and aquaculture landscapes in central Thailand over 2020 to 2021 and found nets in 15% of transects covered (more than 1,800 nets and cords observed), intended to deter perceived pests including bird species; at least 45 were found caught in nets, including species that are evidently non-targeted. In Nepal, Viet Nam and Cambodia, nets are known to be used in similar ways in coastal and rice farming areas to deter bird pests, and for targeted trapping of wild birds for food (Katuwal et al. 2023; Nguyen et al. 2023; Tang and Taing 2019). However, the lack of awareness of the damage and impact posed by nets of all types to wild bird populations, has impeded regulations to control the use of netting, with major conservation implications for wild bird populations in much of Asia.

Recognizing the importance of trapping and trade as threats to migratory birds, there have been increasing international and national efforts to address this conservation issue. The Convention on Migratory Species (CMS) Resolution 11.16 (Rev.COP14) *The Prevention of Illegal Killing, Taking and Trade of Migratory Birds* was an important step in catalyzing the establishment of a CMS-coordinated intergovernmental task force to address illegal hunting, taking and trade of migratory species with a geographical focus in Asia in 2019 (i.e. Asia-Pacific Illegal Taking of Migratory Birds Intergovernmental Task Force (ITTEA)), and which developed a programme of work in consultation with contracting Parties of the CMS. In 2018, a task force to address illegal hunting, taking and trade of migratory waterbirds was established by the mandate of Decision 10 at the ninth Meeting of the Partners (MOP9) of the East Asian-Australasian Flyway Partnership (EAAFP). This has been complemented by national-level efforts across the Southeast and East Asian region to strengthen monitoring, local engagement and enforcement efforts. The same resolution has also catalyzed the establishment of similar task forces in the Mediterranean region and the Middle East.

However, despite growing international and national awareness, critical knowledge gaps remain regarding the scale and impact of nets on migratory bird populations, particularly in the EAAF. While previous studies have highlighted the indiscriminate nature of mist-nets in bird trapping (Angkaew et al. 2022; Katuwal et al. 2024; Liang et al. 2024), little is known about their spatial distribution, the motivations behind their use, and the extent to which they contribute to bird mortality across different countries. Furthermore, the overlap between net use for illegal hunting and use (for deterrence of species considered pests) in agriculture and aquaculture remains poorly understood. This study seeks to address these gaps by investigating the patterns in net use and assessing its impact on both migratory and resident bird populations. By improving our understanding of these factors, we aim to provide evidence-based recommendations to inform conservation strategies and policy interventions.

Objective

The objectives of this review are,

1. To assess and establish evidence-based data on the extent and impact of mist-nets and other types of nets on wild bird populations in Asia.

2. Discuss the implications of the use of mist-nets and other types of nets on wild bird populations, the net production sources, and existing regulatory mechanisms in place
3. Provide guidance and recommendations on how mist-nets and associated net types can be better regulated through improved monitoring, policies and enforcement.

2. Methodology

2.1 Study area

Nets, including mist-nets and improvised fishing nets are known to be widely used in mainland Southeast Asia for trapping birds (Yong et al. 2023), and has also been reported from East Asia (e.g., Liang et al. 2024). Therefore, we conducted a broad-scale assessment of the current situation regarding the use of nets and confirmed that this threat is ongoing; this study covers data from Southeast Asia: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, Thailand, the Philippines, Timor-Leste, Viet Nam, East Asia: China, Japan, Mongolia, the Republic of Korea, the Democratic People's Republic of Korea, and South Asia: Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka (Figure 1).



Figure 1. Countries covered by this study are represented in two colors: green-shaded countries indicate countries where at least one record was found in the datasets from the three main sources queries (systematic review of published literature, systematic video searches on social media, and *iNaturalist* database), while dark grey represents regions where searches were conducted but no relevant records were retrieved.

Table 1. Definitions of the most commonly used net types used for trapping and hunting birds, as applied in this review (see also examples in Figure 3).

Net type	**Definition**
Mist-net	Mist-nets are fine, nearly invisible nets suspended vertically between poles, commonly used to capture birds for research or monitoring purposes. However, hunters often set them near bushes, forest edges, and wetlands to catch birds, while in agricultural fields they are used to protect crops.
Fishing net	Fishing nets, including gill nets, are primarily designed for harvesting fish. However, due to their greater availability compared to mist-nets,

	they are often modified for capturing birds — either for direct hunting or as a deterrent in agricultural areas. These nets can be deployed both vertically and horizontally. The mesh size is typically chosen based on the target species, with medium to large mesh sizes commonly used to trap (larger-bodied) waders or to protect aquaculture ponds from birds considered agricultural pests.
Parallel cords	Parallel cords are filament lines set parallel to the water (sometimes crossed, forming large mesh nets) above aquaculture ponds to protect them from birds considered as agricultural pests. These lines vary in thickness and are often coloured red, green, or left transparent.
Clap nets	Clap nets consist of two parallel nets laid on the ground and held under tension by springs. These nets, typically 10 to 50 meters in length, surround a central area where bait—such as food or live decoy birds—is placed. A trapper, hidden nearby, manually triggers the nets when birds enter the area. The nets then snap shut to capture the birds. This net is use for direct hunting, particularly targeting sparrows, swallows, doves. We documented them in Cambodia and Lao People's Democratic Republic.
Ground nets	Ground nets are laid over low vegetation and set up in a way that allows quails or other ground-dwelling birds to move underneath them. Trappers, often assisted by dogs, flush the birds from cover, prompting them to fly upward into the nets from below. This type of net is used for direct hunting. It has been documented in Pakistan and India.

2.2 Data collection

To synthesize knowledge on the current (2015 onwards) use of mist-nets and other types of nets in the context of bird trapping, we gathered data from four sources as follows: (1) a standardized online survey questionnaire to gather insights from experts and conservationists in the region; (2) a targeted literature review using three online repositories of research

papers—Web of Science, Scopus, and Google Scholar combined with grey literature (e.g., scientific reports and any relevant articles); (3) an analysis of available video evidence from online platforms (i.e., YouTube); and (4) observations submitted to the "Tangled & Trapped" project on the citizen science database, *iNaturalist*, which commenced data collection since August 2021.

2.2.1 Online survey questionnaire

We distributed an online survey questionnaire to 150 technical experts and conservationists in Asia to gather insights into the status of the use of nets for trapping or hunting wildlife in their respective countries and recommendations regarding local language keywords suitable for video searches. Experts approached are individuals deemed to be knowledgeable about bird conservation issues, including bird trapping and hunting, in each country. Brief information on the study background, objectives, and the scope of questions were provided in the questionnaire. The questionnaire focused on the extent and level of net use (all kinds of nets, including mist-nets and net-like traps) that could potentially impact wild birds, target species, and the main sources of mist-nets sold in their respective countries (see details in Appendix I).

2.2.2 Scientific publication and grey literature searches

We conducted systematic searches on two major repositories of the peer-reviewed literature, namely the Web of Science and Scopus to collect relevant English-language research publications, using Boolean search operators and wildcards (*) to account for variations in word suffixes within the search string. Search terms applied consisted of three components that reflected, (1) the use of illegal mist-nets and hunting activities, (2) habitat type, and (3) the area of interest (examples of search terms are provided below). Additionally, we employed a snowball sampling approach, reviewing literature cited by relevant papers during the screening stage, and conducted a manual search on Google Scholar to identify additional scientific reports, news articles, or publications not captured in the initial database search (Gusenbauer and Haddaway 2020). Articles were selected for a full review only if they focused on any aspect of threat by nets in our focal areas and/or landscapes of interest.

Example from Web of Science search terms

TS= (bird* OR avian*)

AND TS= (net OR netting OR mist-net* OR illegal OR hunt* OR "illegal bird hunting" OR bycatch OR "bird pest control" OR "agricultural netting" OR "bird exclosure" OR "crop damage")

AND TS= (grassland OR wetland OR agri* OR crop OR paddy* OR rice* OR corn OR sunflower OR seed OR maize OR wheat OR *nut OR cherry OR berry OR rice OR soybean OR sorghum OR *fruit* OR *orchard OR apple OR vegetable OR saltpan)

AND TS= (*indo* OR vietnam OR *laos* OR *brunei* OR *thailand* OR myanmar OR *philippines OR *cambodia* OR *singapore* OR malay* OR *timor* OR *china* OR chinese OR "hong kong" OR japan OR macau OR mongolia OR *korea OR taiwan OR bangladesh OR bhutan OR india OR pakistan OR nepal OR "Sri Lanka" OR "South Asia" OR "East Asia" OR "Southeast Asia" OR *asia* OR *oriental*)

2.2.3 Mist-net activity levels vs economic income

To test the relationship of socioeconomic indicators as a potential predictor of mist-net use, we used GDP per capita for each country as a proxy to assess the influence of income on the overall frequency of mist-net use. Frequency values were derived using the mode of responses from the online survey (Questions 2 and 3.3; see Appendix I). We constructed Generalized Linear Models (GLMs) with appropriate error structure using the *glmmTMB* package (Brooks et al. 2017). We selected the (truncated) Poisson distribution for the model, based on the assumption that the mean and variance are equal. We used Akaike's Information Criterion adjusted for small sample size (AICc) for ranking models (Burnham and Anderson 2002, 2004). We evaluated the data for outliers and overdispersion using the *DHARMa* package (Hartig 2022) and all models passed all assumptions.

2.2.4 Literature review

A total of 720 articles relevant to our search terms from either Web of Science or Scopus were initially screened based on the relevance and eligibility of the paper's abstract, if it had one. We retained studies that focused on the use of nets for bird trapping (both intentional and

unintentional, e.g. nets resulting in non-target bycatch[1] mortality) in wetlands, grasslands, and agricultural landscapes within the focal region. Of these, 26 publications met the inclusion criteria, and an additional 18 were identified through manual searches via Google Scholar, resulting in 44 studies reviewed in full (Appendix II). For each study, we extracted data on species, equipment or tools used, the presumed primary purpose, and any reported socio-economic drivers. We classified the presumed primary purpose into three main categories: (1) hunting—nets used to intentionally hunt birds (for personal consumption, traded for wild meat or as pets, and other recreational purposes); (2) Deterrence—to protect crops and farmed animals; and (3) Bycatch[2]—when nets are used for other purposes, such as catching fish and left unattended in an area, and birds accidentally get tangled in the nets. We also recorded study objectives, data collection methods (e.g., field surveys, interviews) in each study, conservation management actions implemented or recommended, and identified research gaps.

2.2.5 Searches for video evidence from the *YouTube* online platform

We first scraped relevant videos available on a popular social media platform, YouTube.com, using selected keywords (3 to 5 words per language) recommended by local experts through the Google Sheets API search. It is well known that there is considerable media content on bird hunting (including videos showing hunting with nets) on online social media platforms (see also Yong et al. 2024). YouTube was identified and selected as the social media platform, among several platforms to focus on, given the concentration of published videos on bird hunting, based on the authors' collective experience. Here, we checked at least 400 videos per country from the scraped list, selecting only those that clearly showed activities using nets (or other types of nets) to hunt or trap birds. The languages covered in the search provided in Table 1.

Data on the species trapped, the equipment or tools used to trap and hunt species, and the presumed purpose/intent were extracted from these videos (wherever possible) to determine the overall impact of mist-nets across different countries and to create a database of every species known to be trapped or killed in mist-nets and other improvised nets. We made a targeted effort to search for eligible videos from all countries in the study regions. In total, we

[1] 'Bycatch' is defined and applied in this report in the broad sense and involves the accidental and unintentional catching of an untargeted species in nets used for purposes other than for trapping wildlife (see also Angkaew et al. 2022; Yong et al. 2022).

were able to gather data from only 15 Asian countries due to time and linguistic constrains: Bangladesh, Cambodia, China, India, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Pakistan, Republic of Korea, Thailand, the Philippines, and Viet Nam. Online social media material from countries such as Brunei, Timor-Leste, the Democratic People's Republic of Korea, Bhutan, Nepal, and Sri Lanka could not be located (Table 1), possibly because they are either confounded linguistically with material (from the 15 Asian countries), or simply because bird hunting using nets is highly infrequent, occurring at very low intensities.

Table 1. Languages covered in the video search aimed at gathering information representative of each country in our study region. A check mark (✓) indicates relevant videos were retrieved; a cross mark (×) indicates none could be located.

Region	Country	Languages checked	Relevant videos retrieved
Southeast Asia	Brunei Darussalam	Standard Malay	×
	Cambodia	Cambodian (Khmer)	✓
	Indonesia	Indonesian	✓
	Lao PDR	Laotian, Thai[a]	✓
	Malaysia	Standard Malay	✓
	Myanmar	Burmese	✓
	Philippines	Filipino, English[b]	✓
	Thailand	Thai	✓
	Timor-Leste	Tetum	×
	Viet Nam	Vietnamese	✓
East Asia	China	Mandarin Chinese	✓
	Japan	Japanese	✓
	Republic of Korea	Korean	✓
	Mongolia	Mongolian	✓
South Asia	Bangladesh	Bangla	✓
	Bhutan	Dzongkha	×
	India	Hindi, Tamil, Marathi, English[b]	✓
	Nepal	Nepali	×
	Pakistan	Urdu, Pashto, Sindhi, Balochi	✓
	Sri Lanka	Sinhalese, English[b]	×

[a] Search term in Thai with 'Laos' specified also retrieved video content uploaded by Laotian YouTubers. Since Isaan (a dialect of the Thai language) is very similar to Laotian, the videos were reviewed by an observer is familiar with Isaan.
[b] For searches in English language, the search term in included the country name

2.2.6 *iNaturalist* Database

Since August 2021, we have used the *iNaturalist* project "Tangled & Trapped" (https://www.inaturalist.org/projects/tangled-trapped; Figure 2) to collect observations of dead, injured, or entangled wildlife in nets, traps, and deterrents for non-scientific purpose(s). With each submission to the project, observers are asked to provide details on equipment used (i.e., vertical net, fishing net & gill net, netting enclosure, parallel cords, fishing line and/or hook, snare, glue-trap (e.g., birdlime), trap, other, or unknown) and the presumed purpose (i.e., protecting crops, protecting farmed animals, disturbance control, consumption, pet trade, merit release[2], recreation, unintentional bycatch, other, or unknown), if they could identify it. A total of 1,666 observations globally has been submitted to the project (retrieved as of 30 June 2025). We reviewed each observation to confirm species identification and correct observation details; however, only records involving mist-nets and other types of nets (see examples in Figure 3) from the focal areas were selected (n = 511) for further analysis.

Among species that can be identified, we applied a biological definition of a migratory species. Species are only considered as 'migratory' only if they are known to have at least one migratory population or taxon, based on the biological definition of migration. Evidence of migration for each species is then cross-checked with authoritative global databases on ornithology, including Cornell University's Birds of the World (2025) and BirdLife International DataZone (Accessible at https://datazone.birdlife.org/), field guides, and other peer-reviewed sources.

[2] Merit-release is a practice of religious significance common in parts of Southeast Asia, where individuals buy animals with the intention of releasing them as an act of gaining spiritual merit (see also Gilbert et al. 2012). This has created a market in which people earn income by trapping and selling animals specifically for this purpose.

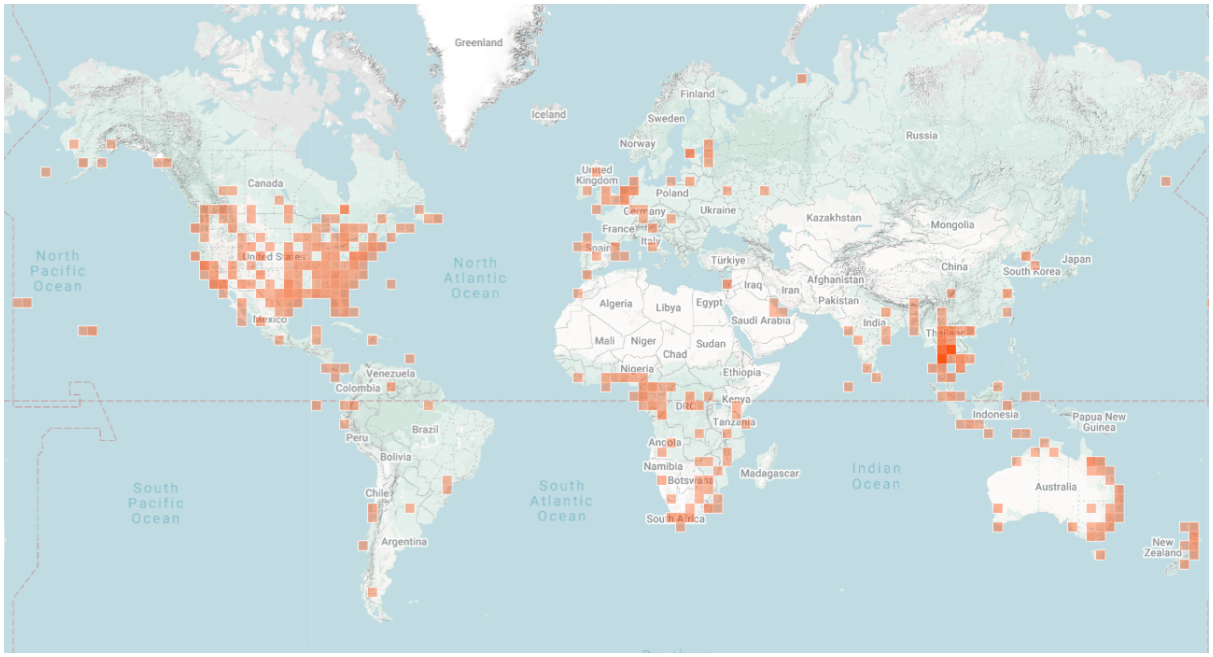


Figure 2. Orange squares represent the locations of 1,666 observations submitted to the *iNaturalist* project "Tangled & Trapped" (https://www.inaturalist.org/projects/tangled-trapped), retrieved on 30 June 2025.

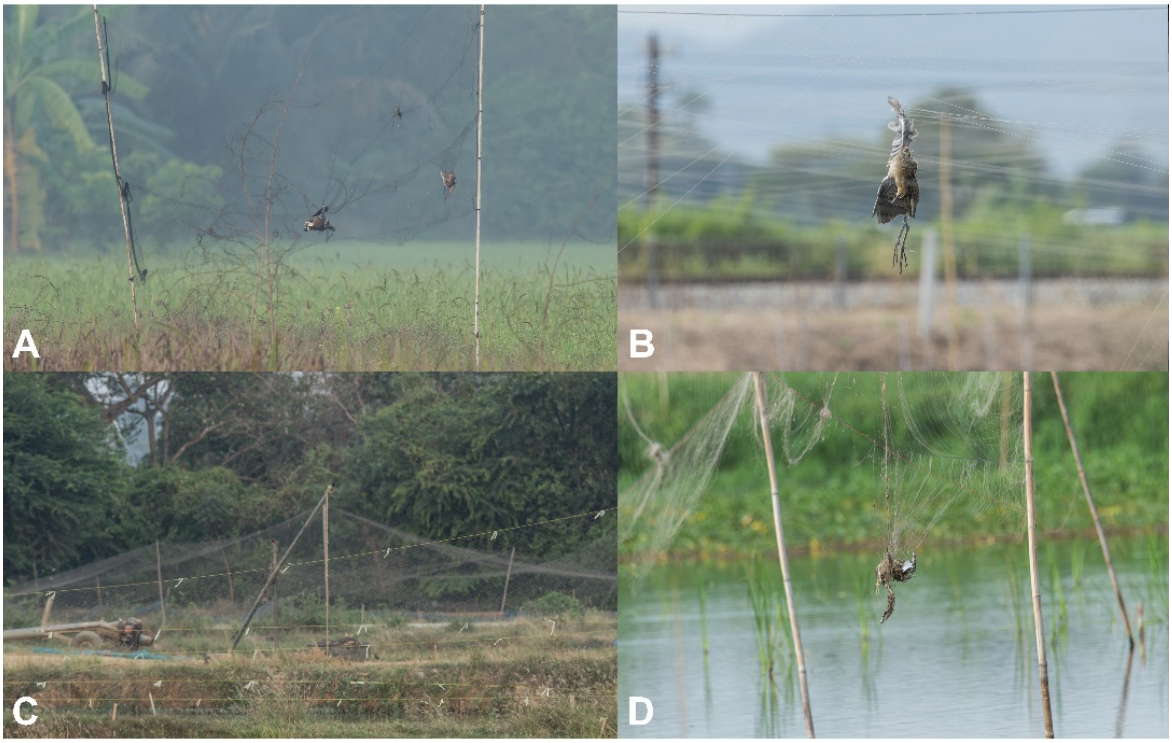


Figure 3. Examples of net types found within the study area: mist-net (A); fishing lines set parallelly (sometimes crossed, forming large mesh nets) above aquaculture ponds (B); fishing nets covering the surface of ponds (C); and vertically set fishing nets (D).

3. Results

3.1 Overview of standardized survey questionnaire responses

We received completed responses to the questionnaires from 107 respondents, with at least one respondent from each country across three regions of Asia. Ninety-six (96) respondents indicated that nets are still being used in their countries (14 countries in total), with respondents from eight (8) countries reporting that nets have been used 'frequently' to 'very frequently' in recent years (Table 2, Figure 4). Respondents from Cambodia, China, India, Indonesia, Lao PDR, Myanmar, Thailand, and Viet Nam reported that nets are very frequently used by farmers and aquaculture operators for protecting crops and aquaculture ponds stocked with fish and shellfish. There are still multiple activities involving the use of nets to hunt and trap birds for human consumption in Cambodia, India, Indonesia, Lao PDR, Myanmar, Nepal, Pakistan, and Viet Nam. Additionally, in Indonesia, Malaysia, and Viet Nam, the responses indicated that nets are frequently being used to trap birds for the pet or songbird trade. Nets are also used to capture group-living species (e.g., weavers, munias) for sale for merit-release (religious releases of wildlife) in Cambodia, India, Myanmar, and Thailand (not frequently but still known in Thailand), and for release during special events, such as wedding ceremonies in Sri Lanka. Regarding the main sources (origins) of these nets used in their respective countries, respondents indicated that fishing nets are mostly locally made, while specialized mist-nets are mainly produced in China, Viet Nam, and Thailand and exported to other nearby countries (Figure 5). These mist-nets are also widely available on online shopping platforms.

3.2 Activity levels vs economic income

In testing our hypothesis on the influence of income on mist-net use, we found no correlation between socio-economic status and the frequency of net use (β = -0.148, SE = 0.167, 95% CIs = -0.475 to 0.179).

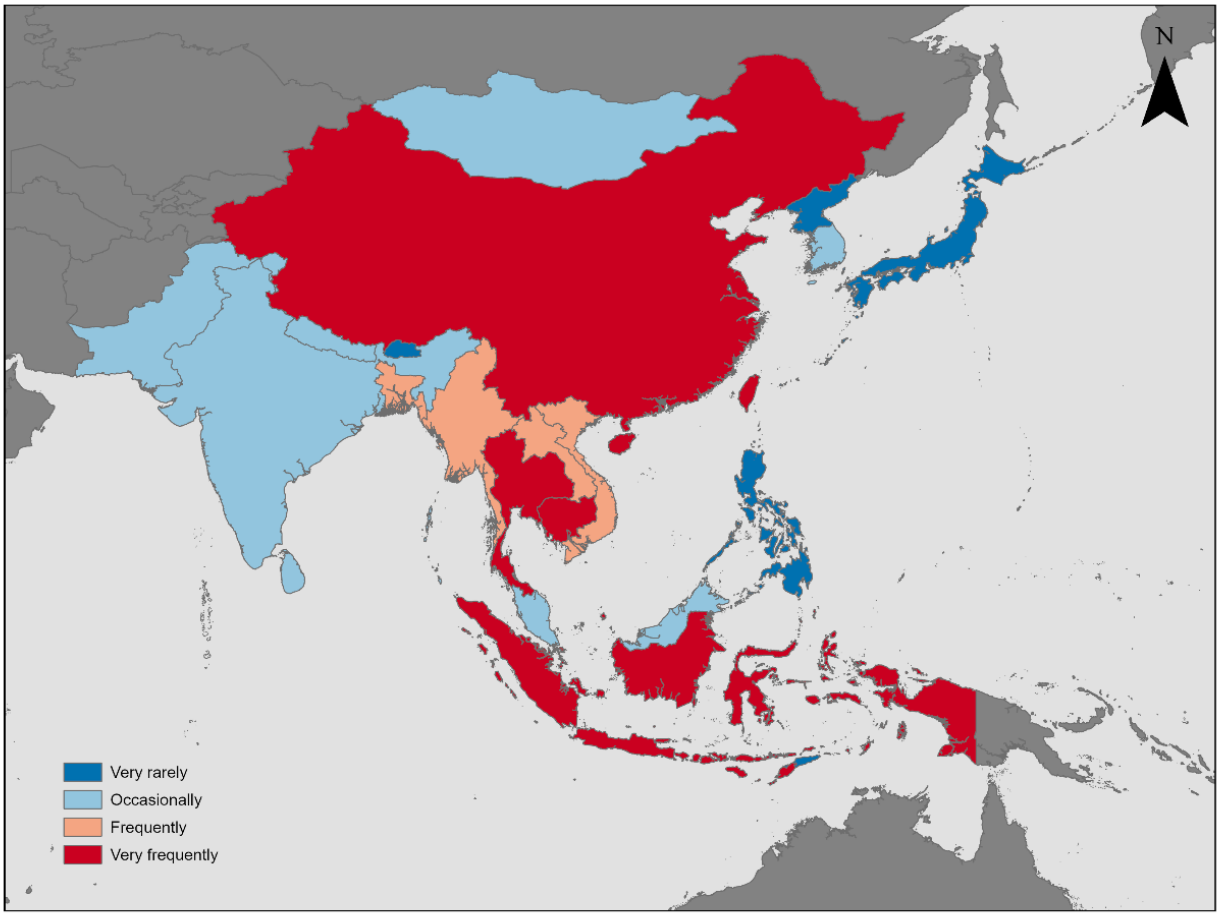


Figure 4. Maps showing responses from the online questionnaire survey regarding the extent of net use (for non-scientific purposes) in each respondents' respective countries within the past 10 years (2015–2025).



Figure 5. Examples of nets designed for entangling birds that were made in Indonesia, China, Viet Nam, and Thailand (as suggested by the language of the printed text) are available on online shopping platforms based on our trawls of the social media.

Table 2 Summary of online survey results (n = 107) on the extent of net use in each country for different purposes, and the main sources of mist-nets sold in their respective countries. Mode values are presented for each country; for countries with only a few respondents, the median was used instead.

Country	Overall	Protecting crops	Protecting aquaculture	Consumption	Recreational trapping of birds	Pet trade	Minimizing disturbances around residential areas	Other purposes	Main source of the mist-net
Bangladesh	Frequently	Very frequently	Frequently	Occasionally	Occasionally	Rarely	Rarely	NA	Locally made and imported from China
Bhutan	Very rarely	Rarely	Rarely	Not at all	Not at all	Not at all	Rarely	NA	Mostly imported from other countries
Brunei Darussalam	Occasionally	Occasionally	Rarely	Rarely	Occasionally	Rarely	Occasionally	NA	Mostly imported from other countries
Cambodia	Very frequently	Occasionally	Rarely	Frequently	Frequently	Occasionally	Rarely	Merit release, Snacks for tourists, catching flying fox	Mostly imported from other countries
China	Very frequently	Frequently	Frequently	Frequently	Rarely	Occasionally	Rarely	Selling as specimens, airports to prevent bird collisions	Locally produced
India	Occasionally	Occasionally	Occasionally	Frequently	Rarely	Rarely	Rarely	Merit release, Nets are used to trap boar and hare but peacock and quails get caught accidentally	Locally produced

Country	Overall	Protecting crops	Protecting aquaculture	Consumption	Recreational trapping of birds	Pet trade	Minimizing disturbances around residential areas	Other purposes	Main source of the mist-net
Indonesia	Very frequently	Frequently	Occasionally	Very frequently	Very frequently	Very frequently	Rarely	Protecting military airfields	Mostly imported from other countries
Japan	Very rarely	Rarely	Rarely	Rarely	Rarely	Not at all	Rarely	NA	Mostly illegally imported from other countries
Lao PDR	Frequently	Frequently	Occasionally	Very frequently	Frequently	Occasionally	Rarely	Catching bats	Mostly imported from other countries
Malaysia	Occasionally	Frequently	Rarely	Frequently	Occasionally	Frequently	Occasionally	Merit release but rarely	Mostly imported from other countries
Mongolia	Occasionally	Occasionally	Occasionally	Occasionally	Rarely	Occasionally	Not at all	NA	Mostly imported from other countries
Myanmar	Frequently	Frequently	Frequently	Very frequently	Rarely	Occasionally	Rarely	Merit release	Mostly imported from other countries
Nepal	Occasionally	Rarely	Rarely	Frequently	Rarely	Occasionally	Rarely	Catching bats	Locally made
Democratic People's Republic of Korea	Very rarely	NA	NA	NA	NA	NA	NA	NA	NA
Pakistan	Occasionally	Rarely	Rarely	Frequently	Frequently	Occasionally	Rarely	NA	Locally made
Philippines	Very rarely	Rarely	Rarely	Rarely	Rarely	Rarely	Not at all	NA	Mostly imported from other countries

Country	Overall	Protecting crops	Protecting aquaculture	Consumption	Recreational trapping of birds	Pet trade	Minimizing disturbances around residential areas	Other purposes	Main source of the mist-net
Republic of Korea	Occasionally	Frequently	Frequently	Rarely	Rarely	Rarely	Occasionally	NA	Mostly imported from other countries
Sri Lanka	Occasionally	NA	NA	NA	NA	NA	NA	NA	Mostly imported from other countries
Thailand	Very frequently	Frequently	Very frequently	Occasionally	Occasionally	Rarely	Occasionally	Merit release (not frequent), catching bats	Locally made
Timor-Leste	Very rarely	Rarely	Rarely	Rarely	Rarely	Rarely	Not at all	NA	Mostly imported from other countries
Viet Nam	Frequently	Frequently	Occasionally	Very frequently	Frequently	Frequently	Not at all	NA	Mostly imported from other countries

3.3 Results from other data sources

We incorporated data from three sources; a systematic review of the literature (together with targeted searches of the grey literature), systematic searches guided by search terms on social media platforms (i.e. YouTube videos) and the *iNaturalist* database, to build a body of evidence on the extent and impact of mist-nets and other types of nets across the study area (details in Table 3). The different data sources queried under our systematic review provided a diverse array of evidence/information, revealing details of the differing aspects of net use.

From our review of the literature, we identified a total of 44 relevant studies, of which 13 specifically focused on the impacts of nets on wild birds, 28 studies incidentally mentioned nets as a threat to birds, while three studies assessing crop damage from birds noted or alluded to the use of nets as a deterrent for pests. Nets (no specific types indicated) were most commonly reported (n = 34) as a major hunting tool, particularly for passerines and flocking bird species such as shorebirds and weavers *Ploceus* spp. (e.g., Katuwal et al. 2023). This was followed by the use of nets as deterrence (to wildlife) to protect crops and farmed animals (from perceived pest birds and other wild species) (Angkaew et al. 2022; Liang et al. 2024). A few studies also reported non-target bycatch when fishing nets, abandoned in fields during high tide or while laid out to catch fish, unintentionally entrapped birds (e.g., Crighton 2016; Ibbett et al. 2019). Of the thirteen studies that directly addressed the impacts of nets, five were review papers (Yong et al. 2021), or short notes (Datta 2021), or perspective articles (Heim et al. 2021; Yong et al. 2022) highlighting the long-standing, indiscriminate use of nets in the region and identifying them as a significant threat to various bird species.

Slightly different and divergent patterns of net usage emerged from our video data gathered from a search of the YouTube platform, although these varied by country. Of the videos where the presumed primary purpose could be inferred or determined (from conservations in the video or accompanying text), 63% were related to hunting—whether for food (direct consumption), recreational activities, or trade. About 27% were associated with (bird or wildlife) deterrence, where nets were used to protect crops or farmed animals, while the remaining 10% involved bycatch, where birds became unintentionally entangled in various types of nets (Figures 6–8). Indonesia, Pakistan, and Lao PDR were the primary countries where nets were most frequently used for hunting.

In comparison, data available from the *iNaturalist* platform showed a contrasting use of nets with other data sources, with the majority of records (85%) submitted focused on nets as deterrents. However, in other continents (aside from Asia), most records involved bycatch from abandoned fishing gear.



Figure 6. Example of a video record from Thailand showing mist-nets set up for deterrence of species considered as pests in rice fields (https://www.youtube.com/watch?v=83KmCL4GlRA)



Figure 7. Workers in the Republic of Korea setting up mist-nets to hunt birds and uploading their activities on YouTube. Similar video clips were also shared by Lao and Cambodian

workers in other countries, such as Japan and the Republic of Korea. (https://www.youtube.com/watch?v=UGjbbluCViM)



Figure 8. Bird species, including Oriental Scops-owl *Otus sunia*, Common Snipe *Gallinago gallinago*, White-throated Kingfisher *Halcyon smyrnensis*, Cinnamon Bittern *Ixobrychus cinnamomeus*, tangled in fishing nets set by a hunter in rice fields. The hunter then mentioned that he would show the birds caught in the nets and the dishes made from them. (https://youtu.be/V7mjujmNJeI)

3.4 Affected species

Based on pooled data from the literature review (n = 44), video searches (n = 705 video clips assessed), and the *iNaturalist* database (n = 511 records), we documented at least 375 bird species entangled in nets (including mist-nets, fishing nets and other types of improvised nets; see Figure 3). Among these, approximately 211 species are known to be migratory (species that undertake migratory movements along the EAAF). While the majority of recorded species are Least Concern according to the IUCN Red List of Species (IUCN 2025), 45 species of conservation concern were also identified, including three Critically Endangered species; i.e., Bengal Florican *Houbaropsis bengalensis*, Spoon-billed Sandpiper *Calidris pygmaea*, and Yellow-breasted Bunting *Emberiza aureola* (Table 3, Appendix III). Of the total, 203 species are species not generally considered as pests[3] in rice fields, orchards, or aquaculture.

[3] The perceived 'pest' level was assigned to species based on expert opinion made by two technical experts (RA, GG) based on bird foraging guilds, the investigators' direct observations, and available diet data (e.g., Huang et al. 2022).

Table 2. Number of records gathered from each source of data, which we then classified into three categories based on the inferred purpose: (1) Hunting—nets used intentionally for hunting birds (for consumption, pets, trade, and other recreational purposes); (2) Deterrence—to protect crops, aquaculture and farmed animals; and (3) Bycatch—when nets are clearly used for other purposes, such as for fishing or were left in the area, and birds accidentally get entangled. 'Unknown' refers to records for which we did not have enough evidence to classify them into any of these three categories.

Country	Literature review (n = 44)			Video (n = 705)				iNaturalist database (n = 511)			
	Hunting	Deterrence	Bycatch	Hunting	Deterrence	Bycatch	Unknown	Hunting	Deterrence	Bycatch	Unknown
Bangladesh	2	1	1	5	2	-	-	-	-	-	2
Cambodia	4	2	2	15	-	1	-	17	1	-	-
China	5	4	3	29	12	8	4	3	7	-	1
India	-	2	2	24	2	6	2	-	2	-	-
Indonesia	4	-	-	132	8	3	-	-	-	2	-
Japan	-	2	-	4	19	3	-	-	-	-	-
Lao PDR	1	-	-	49	2	-	3	-	-	-	-
Malaysia	2	1	-	11	7	-	-	-	-	1	-
Mongolia	-	-	-	3	-	-	-	-	-	-	-
Myanmar	3	3	-	13	3	1	-	-	-	-	-
Nepal	3	-	-	-	-	-	-	-	-	-	-
Pakistan	3	-	-	68	2	-	-	-	-	-	-
Republic of Korea	1	-	-	4	26	29	-	-	-	-	-
Thailand	3	5	2	27	18	5	17	23	422	6	14
The Philippines	-	-	-	32	1	6	-	-	-	-	-
Viet Nam	3	2	-	16	83	-	-	1	-	7	1
Total	**34**	**22**	**10**	**432**	**185**	**62**	**26**	**44**	**432**	**16**	**18**

Table 3. List of species of conservation concern that are reported to be entangled in mist-nets and other types of nets (e.g., fishing net, gill nets) from 2015 to the present in the study area. Frequency counts were based on data gathered from three sources; (1) literature reviewed (list of selected references provided in Appendix II), (2) available videos from online platforms, (3) observations submitted to the citizen science database "Tangled & Trapped" project on *iNaturalist*. Conservation status provided is based on 2025 IUCN Red List (IUCN, 2025); NT: Near Threatened, VU: Vulnerable, EN: Endangered, CR: Critically Endangered. A full species list, including migratory type, active time, and pest level (determined based on field experience, feeding guilds and available diet data (e.g., Huang et al. 2022)), is provided in Appendix III.

Common Name	Scientific name	2025 IUCN Red List category	Literature review	YouTube video	iNaturalist	Frequency
Asian Golden Weaver	*Ploceus hypoxanthus*	NT	2	3	9	**14**
Red-breasted Parakeet	*Psittacula alexandri*	NT	0	13	0	**13**
Black-capped Kingfisher	*Halcyon pileata*	VU	1	1	8	**10**
Yellow-breasted Bunting	*Emberiza aureola*	CR	5	1	0	**6**
Red-necked Stint	*Calidris ruficollis*	NT	5	0	0	**5**
Black-tailed Godwit	*Limosa limosa*	NT	4	0	0	**4**
Dunlin	*Calidris alpina*	NT	4	0	0	**4**
Great Knot	*Calidris tenuirostris*	EN	4	0	0	**4**
Grey Plover	*Pluvialis squatarola*	VU	4	0	0	**4**
Spoon-billed Sandpiper	*Calidris pygmaea*	CR	4	0	0	**4**
Asian Dowitcher	*Limnodromus semipalmatus*	NT	3	0	0	**3**
Black-faced Spoonbill	*Platalea minor*	EN	3	0	0	**3**
Broad-billed Sandpiper	*Calidris falcinellus*	VU	3	0	0	**3**

Eurasian Curlew	*Numenius arquata*	NT	3	0	0	**3**
Ruddy Turnstone	*Arenaria interpres*	NT	3	0	0	**3**
Saunders's Gull	*Saundersilarus saundersi*	VU	3	0	0	**3**
Siberian Sand Plover	*Charadrius mongolus*	EN	3	0	0	**3**
Bar-tailed Godwit	*Limosa lapponica*	NT	2	0	0	**2**
Bar-winged Prinia	*Prinia familiaris*	NT	1	1	0	**2**
Bengal Florican	*Houbaropsis bengalensis*	CR	2	0	0	**2**
Blossom-headed Parakeet	*Himalayapsitta roseata*	NT	0	2	0	**2**
Blue-rumped Parrot	*Psittinus cyanurus*	NT	0	2	0	**2**
Curlew Sandpiper	*Calidris ferruginea*	VU	2	0	0	**2**
Far Eastern Curlew	*Numenius madagascariensis*	EN	2	0	0	**2**
Red Knot	*Calidris canutus*	NT	2	0	0	**2**
Ruby-throated Bulbul	*Rubigula dispar*	VU	0	2	0	**2**
Rustic bunting	*Emberiza rustica*	VU	1	1	0	**2**
Sharp-tailed Sandpiper	*Calidris acuminata*	VU	2	0	0	**2**
Alexandrine Parakeet	*Palaeornis eupatria*	NT	0	1	0	**1**
Black-legged Kittiwake	*Rissa tridactyla*	VU	1	0	0	**1**
Brown-cheeked Bulbul	*Alophoixus bres*	EN	0	1	0	**1**
Chinese Egret	*Egretta eulophotes*	VU	1	0	0	**1**
Christmas Island Frigatebird	*Fregata andrewsi*	VU	0	0	1	**1**

Fairy Pitta	*Pitta nympha*	VU	0	1	0	**1**
Greater Green Leafbird	*Chloropsis sonnerati*	EN	0	1	0	**1**
Grey-headed Parakeet	*Himalayapsitta finschii*	NT	0	1	0	**1**
Japanese Quail	*Coturnix japonica*	NT	1	0	0	**1**
Javan Myna	*Acridotheres javanicus*	VU	0	1	0	**1**
Lesser Adjutant	*Leptoptilos javanicus*	NT	1	0	0	**1**
Northern Lapwing	*Vanellus vanellus*	NT	0	1	0	**1**
Oriental Stork	*Ciconia boyciana*	EN	1	0	0	**1**
Sangkar White-eye	*Zosterops melanurus*	VU	1	0	0	**1**
Sichuan Jay	*Perisoreus internigrans*	NT	0	1	0	**1**
Spot-billed Pelican	*Pelecanus philippensis*	NT	1	0	0	**1**
Spotted Greenshank	*Tringa guttifer*	EN	1	0	0	**1**
Swinhoe's Storm-petrel	*Hydrobates monorhis*	NT	1	0	0	**1**

4. Discussion

The evidence gathered from our review showed that nets are regularly being used in at least 16 countries across Asia, whether for targeting hunting of birds and as a deterrence against pests (in agriculture and aquaculture). In the past 10 years, we found at least 375 identifiable species entangled in nets, confirming that the use of nets (often indiscriminate) affects a very broad range of bird species, of which approximately 90% are not typically targeted. Notably, over 10% of these species are of conservation concern (IUCN 2025) and netting has been reported as an important threat to various species, such as Oriental Stork (Matsumoto et al. 2024), Spoon-billed Sandpiper (Crighton 2016; Peng et al. 2017; Tang et al. 2023), and Yellow-breasted Bunting (Heim et al. 2021). Liang et al. (in press) indicated that for 11 species of shorebirds, mortality due to net entanglement along China's coast (in nets set up for both hunting and deterrence) during migration equated to between 1% and 10% of their total populations in the EAAF, based on available population estimates for each species. We caution that our estimates represent only a subset of the true toll of species impacted, given sampling gaps; the same underestimation applies to studies of mist-nets such as Liang et al. (2025), as not every individual killed may be accounted for.

Mist-nets, fishing nets and other improvised net-types, are primarily used for hunting and pest deterrence. These practices, as our data shows, impact species that are typically not intentionally targeted and highlight that regulation and management schemes must be designed at the national level to address the impact posed by the use of nets on wild birds.

4.1 Hunting

Although various hunting practices have been documented in Asia, mist-nets and other improvised fishing and gill nets are known to be widely used for bird hunting in the study region (Yong et al. 2022; Yong et al. 2023). Our data gathered from the social media platform, YouTube, showed that Indonesia, Pakistan, and Lao PDR were the countries where nets were most frequently used for poaching, particularly for recreational purposes and pet trade. However, when these data are complemented with data from our questionnaire surveys of experts, peer-reviewed and grey literature, such practices were also reported in several additional countries. Hunting of wild birds for consumption was found to be prevalent in Bangladesh, Myanmar, Lao PDR, China, Viet Nam, Malaysia, Nepal, Cambodia and Indonesia.

This showed that no single source of data on its own is necessarily fully indicative of the extent of net use in different parts of Asia. There may thus be (local) cultural norms involved in the strong representation of netting data (on some platforms) in specific countries.

Shorebirds and ducks were often hunted for consumption (e.g., in Cambodia, Bigant 2025; in Bangladesh, Datta 2021; in Myanmar, Htay et al. 2023; in China and Viet Nam, Tang et al. 2023), while weavers, munias, sparrows, and buntings were commonly netted in rice fields and wetlands commercially both for consumption and for merit release. In Nepal, buntings and weavers of several species were mist-netted and sold as a traditional food, valued for its taste and the belief from some local people that it helps keep the body warm during winter (Katuwal et al. 2023). It was estimated that over 100,000 individual birds were sold for food in a single season in Nepal. A study conducted in (central) Myanmar found that hunting pressure increases closer to water bodies or wetlands as hunters typically set up nets near wetlands to capture birds returning to roosting sites (Htay et al. 2023); hunters were presumably knowledgeable about the behaviors of wild bird species. Several video clips, particularly those from Lao PDR, show that while hunters wait for birds to become entangled in mist-nets, they also use guns, traps, and snares to hunt larger birds such as pigeons and pheasants. We also observed (from social media data) that many hunters brought their children to the field and trained them to hunt. In Pakistan, hunters often cover entire fields with nets and use dogs to chase birds into nets.

The use of playback calls and decoys has become increasingly common in recent years, as hunters often employ them to lure birds toward mist-nets, snares, spring traps, and other hunting devices (Yong et al. 2023). This is a frequently recorded hunting technique targeting White-breasted Waterhen *Amaurornis phoenicurus*, Watercock *Gallicrex cinerea*, and Barred Buttonquail *Turnix suscitator*, across many parts of Asia. In addition, observations submitted to the *iNaturalist* project namely “Wild Birds in Cages” (www.inaturalist.org/projects/wild-birds-in-cages), a citizen science project designed to collect data on the bird trade, reported that a significant number of birds are still being sold in Phnom Penh, Cambodia. Among the species suspected to have been caught using nets were the Edible-nest Swiftlet *Aerodramus fuciphagus*, Asian Green Bee-eater *Merops orientalis*, Oriental Reed Warbler *Acrocephalus orientalis*, Striated Grassbird *Megalurus palustris*, Chestnut-tailed Starling *Sturnia malabarica*, Black-collared Starling *Gracupica nigricollis*, Streaked Weaver *Ploceus manyar*, Chestnut Munia *Lonchura atricapilla*, Plain-backed Sparrow *Passer flaveolus*, and Yellow-breasted Bunting (Figure 10).



Figure 10. Observations submitted to the *iNaturalist* project "Wild Birds in Cages" reported birds being sold in Cambodia for merit release in 2023:
(A) the Critically Endangered Yellow-breasted Bunting *Emberiza aureola*, photo credit: Vincent Romera (https://www.inaturalist.org/observations/163111198); (B) Striated Grassbird *Megalurus palustris*, with the observer noting it was sold for KHR 3,000 per individual (equivalent to 0.75 USD), photo credit: Brindley De Zylva (https://www.inaturalist.org/observations/190640837); and (C) Oriental Reed Warbler *Acrocephalus orientalis*, photo credit: Yann Bigant (https://www.inaturalist.org/observations/149883232).

4.2 Deterrence

Another major reason for the widespread use of nets in Asia is deterrence against species both known and (presumed) pests to food crops as well as fish and shellfish aquaculture. Such practices are common in croplands (e.g., rice fields, watermelon fields, sunflower fields), fruit orchards, and aquaculture areas, both inland and in coastal mudflats (e.g., in Thailand, Angkaew et al. 2023; in Myanmar, Htay et al. 2023; in China, Liang et al. 2024; in Viet Nam, Nguyen et al. 2023; in Bangladesh and Malaysia, Yong et al. 2023). For example, a study

conducted in China estimated that over 10,000 individual shorebirds were entangled in nets at just two monitored sites where shellfish (i.e. razor clam and clam) is farmed in coastal mudflats within a two-month survey period (Liang et al. 2024). Moreover, according to our dataset, approximately 90% of the species killed in nets are either non-pest or low-level pest species, therefore highlighting the disproportionate levels of collateral impact on non-target bird populations. This aligns with the findings of Angkaew et al. (2022), which indicate that nets are largely ineffective as deterrents, yet result in significant mortality of non-target species. In addition to birds, various bat species have also been impacted by mist-nets, particularly when the nets are set in orchards (e.g., Oleksy et al. 2018).

Birds entangled in nets set with the intent of deterrence from crops may be subsequently exploited in different ways. In Thailand, birds are typically removed and/or discarded in the nets within rice fields and aquaculture ponds, and similarly for razor clam farms in China (Angkaew et al. 2022; Liang et al. 2024). In contrast, in Myanmar, Lao PDR, and Cambodia, entangled birds may be harvested for consumption or traded (traded for consumption and/or merit releases). In Indonesia, nets were found to be used to cover entire rice fields, and some of the birds are kept in cages as pets for farmers' children. This activity is considered as a traditional practice (see https://hive.blog/hive-174578/@rahmadantara/the-tradition-of-anticipating-bird-pests; Figure 11). In addition, several video clips we compiled from Indonesia showed that in some areas, farmers did not set up the nets themselves; instead, they enabled or allowed professional hunters to trap birds on their land, with the harvested birds (of target species) sold as pets or as food. Such a phenomena were also observed in Lao PDR (Yong, D.L. pers. obs.) during on-the-ground surveys with farmers, who sell harvested swallows to traders (for subsequent sale as food). In countries where mist-nets are either highly restricted or legally banned, such as in Japan (see section 5), bird-proofing nets (which differ structurally from mist-nets) are still used by farmers to cover entire crop fields, and occasional bird entanglement does occur. However, the frequency of such incidents is far lower than in Thailand, where mist-nets remain easily available both online and in local shops, and regulations on their use as deterrents are unclear. Although legal provisions in Thailand allow farmers to use nets for crop protection despite wildlife protection laws (with the vast majority of species known to occur in Thailand (>1,000 species) are listed as protected), the extent and enforcement of net-use regulations remains ambiguous (Yong et al. 2023).

Additionally, in most cases, nets were left open in fields after the harvest season (Liang et al. 2024; Nguyen-Nu et al. 2023; R. Angkaew pers. obs.) as there are no clear financial

incentives (for land owners or farmers) for them to be removed, against a backdrop of limited or no enforcement. Similarly, in China, the cost of hiring workers to remove nets reportedly exceeds the cost of replacing them (Liang et al. 2024).



Figure 11. In Indonesia, nets were stretched over entire rice fields to protect rice from pest birds. Some of the entangled birds were kept as pets for farmers' children. Pictures retrieved from https://hive.blog/hive-174578/@rahmadantara/the-tradition-of-anticipating-bird-pests.

4.3 Bycatch

In addition to their use for hunting and deterrence, the careless deployment of nets, especially fishing nets and associated gear, may pose a significant threat to birds by causing mortalities when birds are entangled and killed in the nets, even if there were no intention to target the species. Several studies demonstrated that fishing nets and gillnets, when deployed during high tide to target fish, inadvertently capture a substantial number of shorebirds and waterbirds (Aarif et al. 2021; Green et al. 2015; Ibbett et al. 2019; Maleko et al. 2024). Among these, migratory shorebirds account for a particularly high proportion of the entangled and injured birds. Without proper attention, such practices could adversely affect many threatened shorebird species, including the Critically Endangered Spoon-billed Sandpiper (Crighton 2016).

4.4 Potential solutions and recommendations

Although several studies in Asia have reported that nets pose a significant threat to species of conservation concern, few have specifically addressed this issue in detail, with clear

recommendations to address this problem, and the conservation issues that may arise, especially human-wildlife conflict scenarios. To address this problem, we summarize the key recommended as follows:

- A major challenge posed by netting, as our review has documented, is the relatively easy availability of nets, including mist-nets in many Asian countries. Mist-nets and other types of nets are typically inexpensive (costing only 1–2 USD per net). The main manufacturers of netting originated from, or are presumed to be produced in China, India, Indonesia, Thailand, and Viet Nam. Mist-nets are effectively prohibited from use as a hunting tool in some countries in Asia, especially in the Republic of Korea, Japan, and China, but there is little detail regulating the use of nets in most other parts of Asia. Government authorities should regulate and restrict the production and sale of mist-nets, particularly in source countries of such nets.
- Easily accessible nets through online shopping platforms are a particular problem. Where possible, the sale of mist-nets should be banned on online platforms, with exceptions given only for licensed scientific research, given the difficulty to control or regulate sale and purchase. Mist-nets (and potentially, associated hunting equipment such as decoys) should not be classified or defined as legal hunting equipment under national laws on hunting and wildlife protection given their potentially destructive impacts on wild bird populations, and their use for hunting should be either highly restricted (by licensing schemes) or strictly prohibited, as it is difficult to control the species and number of animals they capture, given the contexts (legal or illegal) that they may be used under. Such regulations may be feasible, as demonstrated by their use in Japan, which has prohibited mist-nets since 1947 — a policy reflected in our findings, with mist-net use in Japan considerably lower than in other countries. In China, there has been concerted efforts to improve local awareness of nets (and their potential use as hunting tools) through legal guidance provided on shopping platforms such as ‘Alibaba’ and ‘Taobao’, as recommended by law enforcement offices. In Australia, there is specific guidance given to farmers on how nets should be used and what type of netting is permissible as a deterrence to minimize the risk and harm caused to wildlife in some states (e.g. Victoria; N. Crockford, in litt. 2025). It may be feasible to reduce entanglement associated with crop/ farm protection by promoting other deterrence practices and/ or specifying legal netting of appropriate thicker gauge and mesh size as well as specifying how such netting should be secured to minimize non-target bycatch and maximise visual and physical barrier effects

- Following suggestion from many references (e.g., Yong et al. 2023), the use of mist-nets and fishing nets for illegal hunting should be more strictly regulated and effectively enforced across all countries.

In addition, the evidence gathered from social media and our online questionnaire surveys with national experts showed that bird hunting using mist-nets and other equipment is increasingly practiced as a hobby or a recreational activity among rural communities with spare time and resources. This aligns with our analyses indicating the absence of a clear relationship between general socioeconomic indicators such as a country's gross domestic product and the intensity of mist-net use, and which is consistent with the conclusions of a study in Myanmar (Htay et al. 2023). As such, we recommend further, socioeconomic studies, including assessments of net economic losses that factor in ecosystem services provided by different species and the costs of net use, are essential to identify effective regulations and incentives to reduce bird mortality (Angkaew et al. 2022; Gallo-Cajiao et al. 2020; Liang et al. 2024; Nguyen-Nu et al. 2023; Yong et al. 2023).

Crop loss mitigation is essential for fostering better human–bird/wildlife coexistence, and non-lethal protection and deterrence methods should be actively explored in agriculture and aquaculture landscapes, given that the use of some kind of netting in agriculture as deterrence from animals considered as pests is legitimate. Huang et al. (2023) demonstrated that many non-lethal techniques, such as scaring devices and adjusting sowing practices, are more effective in averting or reducing crop losses as compared to methods such as the use of nets.

- In aquacultural areas, installing parallel cords—fishing lines suspended at regular intervals above aquaculture ponds—can significantly reduce cormorant predation on fish by physically hampering access to wild birds without causing direct harm, offering a far less lethal alternative to netting (Angkaew et al. 2022; Russell et al. 2012).
- Additional measures, including subsidies, compensation schemes, farm insurance, and the creation of alternative, high-quality foraging sites (e.g., through maintaining natural habitats within production landscapes or providing decoy crops; Lindell 2020; Linz et al. 2011), should also be explored and considered to support farmers and reduce reliance on netting practices. Future research should prioritize the development and assessment of practical alternatives, including optimal mesh sizes (see guidance from Victoria state, Australia; N. Crockford, in litt. 2025) and colors of nets in situations where nets are

widely used (and difficult to regulate) and assess the effectiveness of various deterrence methods (Liang et al. 2024), and potentially, impact on nocturnal species.

There is a need to monitor the use of nets in landscapes where they are used, using standardized sampling approaches and standardized metrics (to measure the extent of potential damage to wildlife), similar to how other protocols and approaches are used to actively monitor devices used to trap wildlife such as snares. SMART patrol approaches should aim to document nets in a more systematic fashion. Robust monitoring (coupled with enforcement activities identified above) can demonstrate if interventions were successful over time, and can be compared across different landscapes, and provide input and guidance to conservation intervention cycles. Finally, public awareness of the harmful impacts of netting on wild bird populations should be strengthened through local outreach, education programs, and social media campaigns. Conservation practitioners should work closely with local authorities to engage communities, particularly in unprotected areas and production landscapes, to address illegal and unsustainable hunting practices (Yong et al. 2022). These efforts should communicate the scale of the issue and highlight potential losses of ecosystem services from declining biodiversity (Angkaew et al. 2022; Katuwal et al. 2021). Successful models, such as the Amur Falcon conservation programme in Nagaland, India, demonstrate the effectiveness of community-based initiatives in reducing bird mortality and promoting long-term conservation (Kudalkar and Veríssimo 2024). In Pak Thale, Thailand, strong engagement with local communities and the demonstrated contribution of birdwatching and other forms of tourism to the local economy, is believed to have reduced hunting among local people (BCST *in litt*. 2025) and there are today very few incidents of hunting net use documented in the study area.

In Asia, wetlands, mudflats and open-country habitats, including grasslands, are inadequately represented inside (mainly forested) protected area networks. Establishing legal protection for key areas such as coastal wetlands that support threatened species should be considered to help reduce or limit hunting occurring in these sensitive habitats (Angkaew et al. 2022; Peng et al. 2017), in complement with strengthened enforcement of protected areas and legally protected species from hunting (whether involving nets or not).

4.5 Limitations

Our findings demonstrate that different data sources captured differing and complementary aspects of net use in Asia, shaped by the characteristics and motivations of the (data) contributors. Video data uploaded on social media primarily documented or showcased hunting activities, as most uploads were from hunters or presumed hunters (who were keen to showcase the success of their trapping techniques to other hunters, or simply as a source of entertainment), whereas *iNaturalist*, a platform used by mostly nature lovers, more often records nets being used for deterrence, reflecting its conservation-oriented user and audience base.

It should be noted that, due to time constraint, our sampling was limited to a single popular social media platform (YouTube.com) and within a narrow time frame, despite evidence that video content in different countries is frequently shared via other platforms such as Facebook and TikTok and has gradually accumulated over time since the mid-2010s. Consequently, some relevant data sources are likely to be overlooked in our review. We recommend that future studies expand searches across multiple platforms to improve sample coverage. Additionally, engaging native speakers to review video content would enhance content interpretation. Finally, systematic field surveys of the key non-forest habitats should be conducted to provide baseline data, allowing for direct comparisons with secondary data findings.

5. Legislative review of wildlife conservation laws in Asia

Hunting and trapping of birds affect hundreds of species across habitats as diverse as wetlands and forests to cultivated landscapes such as paddy fields that cover vast tracts of East, Southeast and South Asia (see previous section; also Angkaew et al. 2022; Katuwal et al. 2023), alongside natural landscapes outside of protected areas, many which supports biodiversity of high conservation value (Xayyasith et al. 2020; Zhang et al. 2025). In parts of Asia, the trapping of migratory birds with traditional methods and tools is associated with local hunting traditions, having persisted for decades across rural communities in the mountains of India and Myanmar to Indochina (Aiyadurai 2012; Naro et al. 2015; Thet Zaw Naing et al. 2017; Yong et al. 2022). In Nueva Ecija Province, Philippines, local hunters trap large numbers of migratory birds in the months of September-November using nets and lighted traps (Round & Allen 2010) while in Lao PDR in Xiengkhouang local people use a variety of traps to target the Barn Swallow, considered a local delicacy in some parts of the country (Evans et al. 2000). Large numbers of passerines are also directly trapped, often using netting, in several parts of rural Southeast Asia for merit releases (Gilbert et al. 2012). In all cases, the advent and wide availability of hunting tools such as snares, improvised traps and nets (see earlier sections) have made it increasingly accessible for hunters targeting species in large volumes (Gray et al. 2018; Ha & Phan 2016, Angkaew et al. 2022). Local demand for wild (bird) meat in many parts of the region has in large part, driven large-scale, commercial trapping of birds with mist-nets, and a substantial localised trade in birds.

The legality of bird hunting and the use of specific tools for hunting vary widely across the region, which is unsurprising given the diverse, and very different sets of regulations governing wildlife protection and hunting practices in the countries of Asia. As an example, the majority of bird species in Thailand is protected by the Wildlife Preservation and Protection Act (revised B.E. 2535) while in Bangladesh, the Wildlife (Conservation and Security) Act protects the majority of the country's species (578 species under Schedule I). By comparison, Indonesia's regulations on protected plant and animal species lists less than 800 of the mega-diverse country's 1,800+ species, even though the laws restrict the trapping of birds for sale in most circumstances. The situation is made more complicated by the fact that the same type of nets used widely to trap birds are also legitimate tools used to deter pest species from damaging

crops from fruit trees to rice. Gaps in legal protection documented earlier in Yong et al. (2024) highlight the need for reform and expansion of legal protection for wildlife in many Asian countries, while recognising the complex socio-cultural drivers for wildlife harvest by Indigenous Peoples and Local Communities in many parts of Asia.

In this section of the review, we assessed legislative frameworks and gaps on wildlife protection across Asia, with a particular focus on species protection and the use of hunting tools (such as nets), alongside the associated penalties from violations. The geographic scope of this legal review covers the majority of the countries of East, South and Southeast Asia.

5.1 Review of national legislation

We carried out a broad review of relevant national legislation on (1) wildlife and biodiversity protection, and (2) wetland and/or forest conservation, including selected directives and decrees. We checked for laws on wetlands conservation as several mainland Southeast Asia countries have separate sets of legislation on the protection and management of wetland resources and are often considered separately from laws on biodiversity (in forested landscapes). This list of legislation is not intended to be exhaustive at the country level, and we acknowledge that new policies and legislation relevant to wildlife protection and hunting management may emerge subsequent to this study. We also compiled schedules and lists of protected species attached to the relevant legislation. To this end, we searched legal documents and legislation from law databases. In addition, we compiled relevant legal documents such as summaries of the environmental legislation of each country, and peer-reviewed manuscripts on biodiversity conservation policy. The list of legislation and associated legal documents compiled was then re-checked with national experts familiar with biodiversity conservation legislation.

5.2 Southeast Asia

The degree and extent of legal regulation on the use of nets (including mist-nets) in relation to wildlife hunting and biodiversity conservation differs widely among 11 Southeast Asian nations. Broadly, they can be categorised into three categories:

Table 4. Legislation to address wildlife hunting in Southeast Asian countries.

Category	**Country**	**Relevant law, articles, sections and subsections**	**What do the laws regulate?**					
			Use	**Possession**	**Production**	**Transport**	**Import and Export**	**Sale**
Country has legal provisions specifically regulating nets for hunting	Cambodia	• Law on Forestry (2002) **Article 49** • Code on Environment and Natural Resources (2023) **Article 548 and 549**	✓	✓	✓	✓		
	Indonesia	• Government Regulation No. 13 of 1994 on Game Hunting Affairs **Article 9, 14, 17, 20** • Law No. 5/1990 on Conservation of Living Natural Resources and Their Ecosystems **Article 21, 33 and 36**	✓					
	Malaysia	• Wildlife Conservation Act 2010 Section 79 • Sabah Wildlife Conservation Enactment 1997 **Section 21 and 33** • Sarawak Wildlife Protection Ordinance 1998 **Section 24**	✓	✓				
Nation has laws and/or legal provisions	Brunei Darussalam	• Wildlife Protection Act (1984) Section 4(2)(b) • Forest Act (2013) Section 19(f)	✓	✓				

regulating hunting tools, but nets are not explicitly mentioned	Lao People's Democratic Republic	• Wildlife Law No. 42/NA (2023) **Article 17**	✓	✓	✓		✓	
	Thailand	• The National Park Act B.E. 2562 (2019) **Section 19**	✓	✓				
Country does not have laws and/or legal provisions regulating hunting tools/ nets	Myanmar	There are no laws or specific legal provisions on the use of nets for hunting of wildlife.						
	Philippines	There are no legal provisions on the use of nets for hunting of terrestrial wildlife. Hunting approaches are defined generally.						
	Timor-Leste	There are no legal provisions on the use of nets for hunting of terrestrial wildlife. Hunting approaches are defined generally.						
	Viet Nam	There are no legal provisions on the use of nets for hunting of terrestrial wildlife. Hunting approaches are defined generally.						

Our assessment of key hunting laws across Southeast Asia reveals a consistent pattern. In countries where nets are regulated for hunting, laws typically regulate the use and possession of nets. There are few countries with laws regulating the production, transport, sale, and import and export of nets. This is unsurprising given that nets are legitimately and legally used in fishing and crop protection. No countries in Southeast Asia currently have regulations on the sale of nets. Possible enforcement and deterrence are hence focused on the point of possession or use in Southeast Asia under specific contexts, for instance in trapping of protected species or trapping of species in protected areas. Unfortunately, this shows that net regulation in Southeast Asia remains limited, with few if any restrictions on the sale, import and distribution of nets.

5.2.1. Other potentially relevant legislation on net use

Aside from the legislation listed, it is important to note that there may be additional regulations on nets, particularly regarding fishing nets under relevant fisheries laws of each country, for instance the Fisheries Order (2009) for Brunei Darussalam. These laws may prescribe regulations on the types of nets allowed in-country and the minimum mesh sizes. Given that fishing nets are often used for hunting of terrestrial wildlife, especially birds, these clauses are relevant to the issue of wild bird take. Further consideration should be given to both existing and forthcoming regulations arising from the implementation of such relevant fisheries law(s).

5.2.2 Brunei Darussalam

Brunei Darussalam has one major law governing wildlife conservation and hunting practices, the Wildlife Protection Act (1984). The Forest Act (2013) contains additional legislation on hunting within protected areas such as nature reserves and national parks.

5.2.2.1 Highlights of relevant laws

The Wildlife Protection Act (1984) is the main legislation governing both wildlife conservation and hunting practices in Brunei. Highlights are:

- Section 2 which states that “"hunt", "kill", "capture", mean hunting, killing or capturing by any method, and includes attempts to kill or capture and the taking or disturbing of nests or eggs;
- Section 4(2) which states that “… no person shall in a Wild Life Sanctuary
    a) shoot, hunt, kill, capture or take any animal, bird, fish or reptile or take or disturb the nest or eggs of any bird;
    b) keep or carry any weapon or contrivance of any kind used for the taking, shooting, or killing of any animal, bird; fish or reptile;
    c) …”

- Section 7 which states that “No person shall hunt, kill or capture any protected animal otherwise than under and in accordance with the conditions of a licence issued under this Act…”. A list of Protected Animals is provided in the First Schedule.

Legislation governing the hunting of wildlife can also be found in the:

- Forest Act (2013), which provides legislation for the designation of reserved forests and prohibits hunting under Section 19(f) “… no person shall in a reserved forest poison or dynamite, water; or hunt, shoot, fish or set traps or snares”

5.2.2.2 Implications of relevant laws

Under the Wildlife Protection Act (1984) and Forest Act (2013), hunting is prohibited in protected areas (which in Brunei Darussalam includes protection forests, production forests, recreational forests, conservation forests and national parks). Although there are no sections explicitly regulating the use of nets, nets may be considered as a method of hunting, killing or capture under the definitions provided in Section 2 of the Wildlife Protection Act (1984), prohibiting their use in Wildlife Sanctuaries. Although the terms, ‘hunt’, ‘trap’ and ‘nets’ are not explicitly defined in the Forest Act (2013), the use or setting up of nets with the intent of trapping wildlife in any protected area clearly violates the Act and is illegal. The legality of net usage outside of protected areas is dependent on the species hunted. Under Section 7 of the Wildlife Protection Act (1984), only protected animals as defined in the First Schedule are protected from hunting outside of protected areas. This suggests that outside of protected areas, the take of wildlife species (not protected by law) using nets is not illegal.

5.2.2.3 Penalties

Penalties for infringement such as hunting, killing, capturing or take of protected species (with a net or not) without a license may result in prison terms of up to one year and a fine of up to BND 2,000, while other prohibited acts (e.g. hunting in protected areas) may result in a prison term of up to 6 months and a fine of up to BND 1,000.

5.2.2.4 Sources of relevant laws

- Wild Life Protection Act (1984)
- Forest Act (2013)

5.2.3. Cambodia

Cambodia has two major laws governing nature conservation and hunting, the Law on Forestry (2002) and the Code on Environment and Natural Resources (2023). The enforcing authority for the Law on Forestry is the Ministry of Agriculture, Forestry and Fisheries (MAFF) while the latter has jurisdiction from the Ministry of Environment (MOE). There were previously two other pieces of legislation for wildlife protection, namely the Law on Environmental Protection and Natural Resource Management (1996) and the Law on Protected Areas (2008), however these laws have been superseded by the Code on Environment and Natural Resources in 2024.

5.2.3.1 Highlights of relevant laws

Chapter 10 of the Law on Forestry contains provisions on wildlife protection. Highlights of the articles associated with wildlife hunting are:

- Article 48 of the Law on Forestry states that wildlife is divided into three categories of protection, ‘Endangered’, ‘Rare’ and ‘Common’ species
- Article 49 states that it is “prohibited to commit the following activities against rare and endangered wildlife species:
    a) Harass or harm any such species above or its habitat
    b) Hunt, net, trap or poison
    c) Possess, stock or maintain as a zoo or in a family house
    d) ….”
- Article 50 which states that it is “prohibited to commit the following activities against common wildlife species except by a permit issued by the Forestry Administration:
    a) Stock or maintain as a zoo or in a family house

b) Transport and Trade an amount exceeding that necessary for customary use"

The Code on Environment and Natural Resources (2023) (henceforth referred to as the 'Code') covers all activities related to the environment, natural resources, and heritage in the Kingdom of Cambodia. It contains provisions for biodiversity conservation and wildlife protection in the country's protected areas. The major articles relevant to hunting are:

- Article 384 'Prohibition of activities impacting natural resources' provides a list of prohibited activities in Cambodia's protected areas. This includes 'hunting, collecting eggs, and offspring of wildlife and birds in all forms', effectively outlawing hunting activities in the country's protected areas.
- Article 546's 'Wildlife categories' classify wildlife species into eight categories. Article 546 states that the definition and criteria for each category is based on the actual situation and determined through consultations with relevant stakeholders and technical experts. The categories under Article 546 closely mirror the IUCN Red List of Threatened Species and are,
    a) Category 1: Extinct (EX)
    b) Category 2: Extinct in the Wild (EW)
    c) Category 3: Critically Endangered (CR).
    d) Category 4: Endangered (EN)
    e) Category 5: Vulnerable (VU)
    f) Category 6: Near Threatened (NT)
    g) Category 7: Less Concern (LC)
    h) Category 8: Data Deficient (DD)"

- Article 548 'Prohibition of wildlife hunting' states that 'hunting, snaring, capturing, poisoning, killing, harassing, or destroying any wildlife' by any means and of the following species is illegal.
    a) Wildlife species listed in Category 2 to Category 6 as stated in Article 546 (Wildlife Categories).
    b) Wildlife species listed in Category 7 by using legally prohibited means.
    c) Hunting by local communities without a quota-assigning permit issued by the ministry responsible for environment and natural resources and subnational administrations.

d) Possessing, producing, keeping, transporting, or bringing wildlife hunting equipment, including but not limited to snares, traps, firearms, hand-made weapons, wire, bicycle or motorbike brake cable, electrocution equipment, nets, and other equipment
e) …"

- Article 549 'General Prohibition' which states that "Hunting, snaring, trapping, capturing, poisoning, killing, harassing, or destroying any wildlife by any means shall be prohibited for:
    a) Wildlife species listed in Category 2 to Category 6 as stated in Article 546 (Wildlife Categories), except for cases determined in compliance with the provisions of this Code.
    b) Wildlife species listed in Category 7 as stated in Article 546 (Wildlife Categories) by using legally prohibited means.
    c) Hunting by local communities without a quota-assigning permit issued by the ministry responsible for environment and natural resources and subnational administrations.
    d) Producing, processing, purchasing, trafficking, transporting, snaring, trapping, netting on the ground or in the air, using handmade weapons, explosives, poison, and other means
    e) …"
- Articles 565 to 570 states provisions for wildlife hunting permits which can be provided for wildlife listed in Categories 7 and 8 of Article 546

5.2.3.2 Implications of relevant laws

The use and possession of nets in protected areas is explicitly addressed under Cambodian law. Under articles 548 and 549 of the Code, the use, possession, purchase, trafficking and transport of nets is prohibited, with exemptions in some situations where wildlife hunting permits have been issued. However, there are no provisions explicitly prohibiting the sale or advertisement of nets generally, which may indicate an absence of legal basis to regulate or enforce restrictions on these activities.

Cambodia's legislation becomes less clear with regard to the species protected from hunting and netting. Within protected areas, the Code prohibits hunting of species in Categories 2-6 but

allows for hunting of species in Category 7 under some situations (e.g. hunting permits are obtained). Currently there are no sub-decrees defining the species in each of the eight categories. Article 546 explicitly states that "categories shall be determined according to the actual situation in consultation with relevant stakeholders and technical experts", indicating a possibly flexible interpretation of situations. As such, while provisions exist to protect species from hunting and netting in protected areas, in the absence of a judicial precedent, there remains uncertainty regarding which species are actually legally protected. Outside of protected areas, the level of protection a species is conferred depends on the category it is in according to Article 48 of the Law on Forestry. If a species is classified as Rare or Endangered in Prakas No. 020 (updated in Prakas No. 240 PRK.MAFF), the Law on Forestry is clear that hunting, netting or trapping will be prohibited. For species classified as Common, according to Article 49, it is not prohibited to hunt, net or trap them and the use of nets on such species outside of protected areas would presumably be legal.

5.2.3.3 Penalties

Under Cambodia's Code for Environment and Natural Resources, fines for serious environmental and natural resource violations (which can include hunting of protected species) ranges from KHR 10,000,000 to as much as KHR 2,000,000,000, while prison terms ranges from minimally one month to up to 30 years, depending on the severity of violations. Specific penalties for hunting-related crimes are as yet not clearly defined. Under the Law on Forestry, violations (related to wildlife hunting) are classified into three categories, and penalizable by prison terms of one to five years, and/or fined from KHR 10,000,000 to KHR 100,000,000.

5.2.3.4 Sources of relevant laws

- Law on Forestry 2002
- Prakas No. 020
- Prakas No. 240 PRK.MAFF
- Code on Environment and Natural Resources 2023

5.2.4 Indonesia

Indonesia has a complex legal framework governing wildlife protection and hunting and involves several laws. Although these laws are mainly enforced by the Ministry of Environment and Forestry, enforcement on the ground is often led by different agencies (including at the provincial and regency level) with potentially overlapping jurisdictions. Hunting and the use of mist-nets may be legal depending on who conducts the activity (e.g. traditional hunting by locals versus non-local hunters), where the activity is conducted (within protected areas versus outside of protected areas) and the species involved (protected species versus non-protected species).

Historically Law No. 4/1982 was used to govern the management of natural resources in Indonesia. This law was subsequently void and replaced by Law No. 32/2009, but the relevant regulations for hunting and trade were placed under other legislation. Currently, laws that govern hunting and mist-net use include Law No. 5/1990, Law No. 32/2024, Government Regulation No. 7 of 1999, Government Regulation No. 8 of 1999 and Government Regulation No. 13 of 1994 on Game Hunting Affairs. Ministerial regulations such as P.20/MENLHK/SETJEN/KUM.1/6/2018 and its subsequent amendments has added important information for species protection, for instance the species protected under this legislation. In addition, Law No. 41 of 1999 on Forestry contains relevant provisions that, when interpreted again the aforementioned laws, can contribute to a more comprehensive understanding of wildlife protection in Indonesia.

5.2.4.1 Highlights of relevant laws

Law No. 5/1990 on Conservation of Living Natural Resources and Their Ecosystems is the main legislation on wildlife conservation. It has since been updated and amended by Law No. 32 of 2024. The main clauses most relevant to wildlife hunting and net regulation are:

- Article 21 subsection 2 which states that “Any and all persons are prohibited from:
    a) hunting, capturing, injuring, killing, storing, possessing, keeping, transporting, and/or trading protected wildlife in a living state,
    b) storing, possessing, transporting, and/or trading protected wildlife in a dead state,
    c) storing, possessing, transporting, and/or trading specimens, parts, or items made from parts of protected wildlife,

d) …"

- Article 33 states that in Nature Conservation Areas, 'any and all persons are prohibited from (1) engaging in activities that may result in changes to the integrity of a Nature Conservation Area" and that, (2) 'Activities that may result in changes to the integrity of a Nature Conservation Area as referred to in paragraph (1) include: … taking and/or relocating any objects, whether living or non-living, that naturally exist within the Nature Conservation Area, except for habitat management activities'.
- Article 36 which states that the "Utilization of wild species of plants and animals may be carried out in the following forms: … (b) Breeding; (c) Hunting; … (h) Hobby"

Government Regulation No. 7 of 1999 on the Preservation of Plant and Animal Species provided the original protected species list for the Republic of Indonesia. However, this list has now been repealed and replaced by Ministerial regulation P.20/MENLHK/SETJEN/KUM.1/6/2018 which is amended in P.106/MENLHK/SETJEN/KUM.1/12/2018.

Government Regulation No. 8 of 1999 on Wild Fauna and Flora Utilization provides further details on the utilization of wildlife as stated in Article 36 of Law No. 5/1990. In particular,

- Article 17 states that 'hunting wild fauna species is conducted for sport hunting, hunting trophy, and traditional hunting by local community.'
- Article 18 states that 'wild flora and fauna which can be commercialized are not protected wild flora and fauna species.'
- Article 44 which state that 'The Government shall stipulate the quota of taking out and capturing each species and number of wild flora and fauna which can be taken or caught from the nature for each period of 1 (one) year.'

Government Regulation No. 13 of 1994 on Game Hunting Affairs defined several clauses on the regulation of hunting in Indonesia, including when and where hunting is allowed, the conditions that individuals must fulfil to obtain a hunting license, and the tools permitted. The most relevant articles include:

- Article 3 states that (1) 'Basically, game is wildlife which is not protected;" and (2) "In certain cases, the Minister may stipulate a protected animal as game'.

- Article 9 states that hunting paraphernalia includes “traditional hunting paraphernalia” (i.e. hunting tools) whose definition includes nets. The use of such tools may be ‘adjusted to the kind of game’ according to subsection 2 of Article 9.
- Article 17 states that “A hunter who has carried out hunting activities has the following obligations:
    a) possessing a hunting license;
    b) using the paraphernalia (i.e. hunting tools) specified in the hunting license;
    c) …”
- Article 14 which states that “Local people conducting traditional hunting need not possess a hunting act or a hunting guide and need not pay a levy on a hunting license”. Traditional hunting is defined as “The criteria for one to be a traditional hunter shall include among other things being domiciled in the sub-district around the hunting site, using the hunting yields for customary purposes and to meet daily necessities and using traditional hunting gear.”
- Article 20 which states that “Hunting may not be conducted by means of: … g) using a net/a trap and a trap hole”

Law No. 41 of 1999 on Forestry categorises forests based on their function and defines several regulations on permitted activities in each category. The most relevant clauses are:

- Article 6 “… Government shall stipulate forests based on their following main functions:
    a) conservation forests
    b) preservation forests, and
    c) production forests.”
- Article 7 “Conservation forests… shall consist of:
    a) Natural reserve forest area
    b) Natural conservation forest area, and
    c) Hunting Park
- Article 25 “Utilization of natural conservation and natural preservation forest areas as well as hunting park shall be regulated in accordance with the prevailing laws and regulations.”

5.2.4.2 Implications of relevant laws

Under Law No. 5/1990 (updated in Law No. 32 of 2024), regardless of a species' protected status, hunting is prohibited in all Nature Conservation Areas, defined to include National Parks ('Taman Nasional'), Grand Forest Parks (Taman Hutan Raya or 'Tahura') and Natural Recreation Parks ('Taman Wisata Alam'). Unequivocally, the use of nets for the intended trapping of wildlife would be strictly prohibited in such areas. Outside of protected areas, the level of protection a species is conferred is dependent on its protected status. According to Law No. 5/1990 (updated by Law No. 32 of 2024), hunting of protected species is prohibited, even outside of protected areas. However, if the Minister stipulates a protected species as game under Article 3 of the Government Regulation No. 13 of 1994, then hunting would be allowed but subjected to the articles of Government Regulation No. 13 of 1994 – the main points are summarised below.

If a species is unprotected by law or is stipulated as 'game', it may be hunted by local communities as part of 'traditional hunting' in government-designated hunting sites (which includes hunting parks, hunting grounds and hunting gardens). If the conditions for traditional hunting are met – according to Government Regulation No. 13 of 1994, Article 14 – because nets may be regarded as "traditional hunting gear", it may be legal for local communities to use nets to trap game. However, if the conditions for "traditional hunting" are not met, prospective hunters would have to apply for formal hunting licenses to operate in hunting sites, which may restrict the types of hunting tools (e.g. nets) for use. Outside of hunting sites, unprotected species can only be hunted if a quota has been issued so the use of nets to hunt species for which there is no quota for capture would be illegal.

5.2.4.3 Penalties

Under Law No. 5/1990 on Conservation of Living Natural Resources and Their Ecosystems, penalties for hunting and wildlife protection related crimes are spelled out under Chapter XII (Criminal Provisions), and especially under Article 40. Illegal hunting (of protected species, and in protected areas) may result in a prison term of up to 10 years and/or a maximum fine of IRP 200,000,000. Violations defined as 'negligent' are penalized less heavily, with smaller fines and jail terms.

5.2.4.4 Sources of relevant laws

- Law No. 5/1990
- Law No. 32/2024
- Government Regulation No. 7 of 1999
- Government Regulation No. 8 of 1999
- Government Regulation No. 13 of 1994 on Game Hunting Affairs
- Law No. 41 of 1999

5.2.5 Lao People's Democratic Republic

Lao People's Democratic Republic has several pieces of legislation governing the wildlife protection and the hunting of wildlife species. This includes the Wildlife Law No. 42/NA (2023), the Decree on Protected Areas No. 219/Government (2023), the Agreement on Approval Listed Prohibited Species and Managed Species No.08/ PMO (2021) and the Agreement on Approval Listed General Species No.2220/ MAF (2020).

5.2.5.1 Highlights of relevant laws

Wildlife Law No. 42/NA (2023), last revised in 2023 (hereafter as 'Wildlife Law'), is the main legislation for wildlife protection and hunting activities. It classifies wildlife species into three categories of hunting take levels, 'prohibited', 'managed' and 'general' – and provides clauses for their permitted use. Species classified as 'managed' and 'general' may be legally hunted. The most relevant articles of the Wildlife Law are:

- Article 16 states that all wildlife classified in Category I (prohibition category) cannot be hunted, while species classified in Category II (management category) may be hunted in specific areas, (hunting) seasons and only using 'non-destructive tools'. Wildlife classified in Category III (common or general category) may be hunted only in specific seasons and by using non-destructive tools (but with no restrictions of where they may be hunted). 'Non-destructive tools' is not clearly defined in this respect, however.

- Article 17 states that ‘individuals, legal entities or organizations aiming to produce, import and export, possess and use wild animal hunting tools must apply for authorization from the Agriculture and Forestry sector and comply with the regulations of the relevant sector’. However, the specific types of tools are not defined, creating a grey area for interpretation.

The Agreement on Approval Listed Prohibited Species (Appendix I) and Managed Species (Appendix II) No.08/ PMO (2021) and the Agreement on Approval Listed General Species (Appendix III) No.2220/ MAF (2020) provides further details on (protection) categories or levels and list of species within each category.

The Decree on Protected Areas No. 219/Government (2023) provides further regulations on hunting within protected areas. In particular, Article 28 states that wildlife within the strictly prohibited areas of protected forests cannot be hunted. However, hunting is not an explicitly mentioned prohibited activity in management or buffer zones of protected forests under Articles 29 and 30.

5.2.5.2 Implications of relevant laws

In protected areas, hunting of all wildlife species is strictly prohibited only within ‘prohibited areas of protected forests’, but not in areas zoned for other uses. Outside the ‘prohibited areas’, (e.g. in management or buffer zones) hunting is not prohibited, and the use of traps such as nets to hunt wild birds not fully protected is not illegal. Wildlife species classified under Category I (prohibited species) cannot be hunted but the provisions for species in Category II (managed species) and III (general species) allows for legal hunting although there are restrictions on the use of ‘non-destructive tools’. What exactly constitute such tools is not defined. Outside of Lao PDR’s protected areas, the level of protection a species is conferred is dependent on its protected status under Wildlife Law No. 42/NA (2023).

More broadly, Lao PDR’s legislation provides some basis for the oversight and control of the use of nets in hunting. Notably, Article 17 of the Wildlife Law No. 42/NA (2023) includes provisions addressing the production, import, and use of tools for hunting, which can include nets. However, Article 17 does not consider the regulation of the sale of hunting tools nets, and thus there are no prohibitions on the sale and purchase of nets.

5.2.5.3 Penalties

Under Wildlife Law No. 42/NA (2023), penalties for hunting and wildlife protection related crimes may result in a prison term of three months to five years. Fines are calculated based on the estimated monetary value (of the species hunted or 'damage incurred', usually exceeding 200,000 LAK, and/or the category of the wildlife (e.g. managed, prohibited species) and are typically calculated at twice the value of the damage for first-time infringements.

5.2.5.4 Sources of relevant Laws

- Wildlife Law No. 42/NA (2023)
- Decree on Protected Areas No. 219/Government (2023)
- Agreement on Approval Listed Prohibited Species (Appendix I) and Managed Species (Appendix II) No.08/ PMO (2021)
- Agreement on Approval Listed General Species (Appendix III) No.2220/ MAF (2020)

5.2.6 Malaysia

The Wildlife Conservation Act 2010 (amended in 2022) is the main legislation governing wildlife protection and hunting in Peninsular Malaysia and the Federal Territory of Labuan. Other relevant laws in Peninsular Malaysia are the National Parks Act 1980, which governs activities within national parks (e.g. Taman Negara) and several protected areas such as wildlife reserves. Hunting in the Malaysian Borneo states of Sabah and Sarawak are governed by two different laws, the Sabah Wildlife Conservation Enactment 1997 and the Sarawak Wildlife Protection Ordinance 1998, respectively.

5.2.6.1 Highlights of relevant laws

The Wildlife Conservation Act 2010 (amended 2022) contains several clauses on hunting prohibitions in Peninsular Malaysia. Wildlife species in Peninsular Malaysia are broadly

defined as ‘protected’ and ‘totally protected’. In the 2022 amendment, penalties for offences (inclusive of fines and jail terms) increased substantially. Jail terms for major offences such as hunting of protected species increased to up to 15 years (over 10 years), while definitions on offences were made more specific. Overall, the most relevant sections of the Wildlife Conservation Act 2022 are:

- Section 9, subsection (1) which states that unless a license has been granted under the Act, “no person shall:
    a) hunt or keep any protected wildlife,
    b) take or keep any part or derivative of any protected wildlife,
    c) …”
- Section 11 subsection (1) states that unless a special permit has been granted under the Act, “no person shall:
    a) hunt or keep any totally protected wildlife or take or keep any part or derivative of any totally protected wildlife;
    b) …;
    c) hunt any protected wildlife during the close season;
    d) …”
- Section 49 subsection (1) states that “No person shall in a wildlife reserve and wildlife sanctuary — (a) hunt any wildlife, animal or bird; …”
- Section 51 subsection (1) states that “Notwithstanding anything in this Act, an aborigine may hunt any protected wildlife as specified in the Sixth Schedule for his sustenance or the sustenance of his family members.”. This provides for hunting of wildlife species for local subsistence for members of Malaysia’s indigenous peoples.
- Section 79 subsection (1) which states that “Any person who, whether he is a licensed hunter, a holder of a special permit or otherwise, sets, places or uses any … net for the purpose of hunting any wildlife commits an offence…”
- Section 80 which states that “Any person, whether he is a licensed hunter, a holder of a special permit or otherwise, who hunts any wildlife with any arms or traps other than prescribed commits an offence…”

The National Parks Act (1980) contains additional provisions to enhance protections for wildlife. In particular, section 11 of the Act states that “The Minister may … make regulations … as to any or all of the following matters, namely —… (b) the prohibition of the killing, maiming, trapping, capturing or impounding of any wild life within a National Park and the

disposal of such wild life killed, maimed, trapped, captured or impounded; …". Outside of Peninsular Malaysia, the Sabah Wildlife Conservation Enactment 1997 and the Sarawak Wildlife Protection Ordinance 1998 are the main laws regulating hunting in Sabah and Sarawak respectively.

The most relevant provisions in the Sabah Wildlife Conservation Enactment 1997 are:

- Section 11 states that hunting cannot be undertaken in 'the area of a proposed Wildlife Sanctuary'.
- Section 20 provides for native or traditional rights to be exercised in a proposed Wildlife Sanctuary when specified in the proposal.
- Section 21 states in subsection (2) that "hunting and the carrying of firearms and other means of hunting …" are controlled in a Conservation Area, although what constitute 'other means' are not defined herein.
- Section 25 which states that (1) "No person shall hunt any animal of a species listed in Part I of Schedule 1" and (2) "No person shall hunt
    a) an animal of a species listed in Part I of Schedule 2 or Schedule 3 without a licence;
    b) …"
- Section 33 which states that "No person, except with the authorisation of the Director, shall … employ or have in his possession for such employment for the purposes of hunting – … any traps, snares, gins, nets, deadfalls, fixed stakes or the like, pits or set guns or any contrivance likely to endanger human life or cause bodily harm to any person …"

The most relevant provisions in the Sarawak Wildlife Protection Ordinance 1998 are:

- Section 24 subsection (2) which states that "No person shall in a Wildlife Sanctuary—
    a) hunt, kill or capture any animal;
    b) keep or carry any weapon, contrivance or material of any kind used for the taking, shooting or killing of any animal;
    c) be in possession of, or use, any form of trap, snare, net or other contrivance for trapping or snaring animals; the only exception are nets being used for fishing by people with subsisting rights or privileges. It is therefore clear that the use of nets for hunting in Sarawak's protected areas is illegal.
    d) …"

- Section 28 subsection (1) which states that “Where the Minister is of the opinion that any area of land is of special interest by reason of its wild life or geological or physiographical features, he may order the owner or occupier of the land—… (c) not to hunt, kill, trap, snare or capture any wild animal, …” Subsection (2) further states that “Such order may relate to – … the prohibition, restriction or control of hunting, killing,
  capturing, shooting, netting, trap ping, snaring, fishing or taking of any wild animal …”. In this case, government ministers in Sarawak have the powers to restrict hunting activities on a case by case basis.
- Section 29 which states in subsection (1) “Any person who hunts, kills, captures, sells, offers for sale or claims to be offering for sale, imports, exports, or is in possession of, any totally protected animal or any recognizable part or derivative thereof, or any nest thereof, except in accordance with the permission in writing of the Controller for scientific or educational purposes or for the protection and conservation of such totally protected animal, shall be guilty of an offence…” and in subsection (2) that “Any person who hunts, kills, captures, sells, offers for sale or claims to be offering for sale, imports, exports, or is in possession of, any protected animal or any recognizable part or derivative thereof, or any nest thereof, except under and in accordance with the terms and conditions of a licence issued under this Ordinance, shall be guilty of an offence”

5.2.6.2 Implications of relevant laws

In protected areas such as wildlife reserves, national parks and conservation areas (for Sabah) across Malaysia, hunting of wildlife is prohibited under most situations, with exemptions for indigenous people. By extension, the use of nets for hunting is generally prohibited (see also section 24 of the Sarawak Wildlife Protection Ordinance 1998). In Sarawak, under Section 28 of the Sarawak Wildlife Protection Ordinance 1998, wildlife may also be protected in ‘special areas recognized for their wildlife value’, even if they are not formally designated or gazetted, and in such cases, landowners or tenants may be prohibited from hunting. Malaysia’s laws contain provisions for indigenous hunting, for example, a member of the Bateq may hunt monkeys or pheasants in a protected area such as Taman Negara (protected under the National Parks Act) only if the wildlife hunted is for subsistence. Outside of protected areas, the level of protection a species is conferred is dependent on its protected status. In Peninsular Malaysia

and the Federal Territory of Labuan, protected and totally protected species (which covers the majority of bird species) cannot be hunted without a permit. In Sarawak, hunting permits may be issued for protected species in some exceptions while the hunting of totally protected species is strictly prohibited in all situations. Similarly in Sabah, permits cannot be issued for species listed in Part I of Schedule 1, so they are protected even outside of protected areas. On the other hand, permits can be granted for species Part I of Schedule 2 or Schedule 3. Notably, hunting for species that are not listed under any schedule for protection, would presumably be legal to hunt even without licenses. The legality of net use in such cases is further elaborated in the next session.

The use and possession of nets for hunting is highly restricted in Peninsular Malaysia and Sabah. Under section 79 of the Wildlife Conservation Act 2010, nets cannot be used even if hunters have a permit/licenses to hunt, and regardless of a wildlife species' protection status. In Sabah, the Sabah Wildlife Conservation Enactment prohibits the use of nets under section 33. The use of nets for hunting is less clear in Sarawak.

5.2.6.3 Penalties

Under Malaysia's Wildlife Conservation Act, hunting or the keeping of protected wildlife species without a licence may result in fines of up to 50,000 MYR and/or a prison term of up to two years. Hunting of female (or young) individuals of a protected species results in heavier penalties with fines of up to 100,000 MYR. The hunting and possession of totally protected wildlife species, as are the possession of traps and snares, may result in a fine of up to 100,000 MYR and/or a prison term of up to three years.

5.2.6.4 Sources of relevant laws

- Wildlife Conservation Act 2010 (Act 716)
- Wildlife Conservation (Amendment) Act 2022
- National Parks Act 1980 (Act 226)
- Sabah Wildlife Conservation Enactment 1997
- Sarawak Wildlife Protection Ordinance 1998

5.2.7 Myanmar

The foundational law for wildlife protection in Myanmar is the Protection of Wildlife and Conservation and Protection of Natural Areas Law (1994), which was recently updated with the adoption of the Conservation of Biodiversity and Protected Area Law (2018).

5.2.7.1 Highlights of relevant laws

The Protection of Wildlife and Conservation and Protection of Natural Areas Law (1994) and the Conservation of Biodiversity and Protected Area Law (2018) includes several provisions for the protection of wildlife in Myanmar. It categorises wildlife into three categories – completely protected, normally protected and seasonally protected – and defines legal protections from hunting. The most relevant are:

- Section 24 which states that "The Director General may grant a hunting license, by stipulating conditions, to a person to hunt any wild animals, other than completely protected wild animals and wild animals within protected area"
- Section 36 which states penalties for any person who "kills, hunts, wounds or raises a seasonally protected wild animal without permission during the close season…"
- Section 40 which states penalties for any person who "hunting, selling normally protected wild animals or possessing… without permission…"
- Section 41 which states penalties for any person who "killing, hunting, wounding, collecting, selling, or transferring a completely protected wild animal or animal regulated or international trade… without permission…"

In addition to these laws, Notification No. 690/2020 provides a detailed list of the species under each of the three categories.

5.2.7.2 Implications of relevant laws

Hunting within protected areas is strictly prohibited under the Conservation of Biodiversity and Protected Area Law (2018), regardless of tool type used. However, like many other countries, the situation becomes more complex outside of Myanmar's protected area network. Hunting of 'normally protected' and 'seasonally protected' species is legal if permits are obtained and hunting is conducted during the defined hunting season, although the legislation does not specifically restrict the use of any particular tool for hunting. There are no clauses banning the possession or use of nets, so it is legal to use them, as long as the hunter has a permit to hunt.

5.2.7.3 Penalties

Under Myanmar's Protection of Wildlife and Conservation and Protection of Natural Areas Law, the hunting or keeping of protected wildlife species without a licence (or in infringement of license terms) may result in fines of up to 10,000 MMK and/or a prison term of up to three years. The killing or hunting of a protected species (e.g. completely protected, normally protected) may result in fines of a fine up to 50,000 MMK and/or a prison term of up to seven years.

5.2.7.4 Sources of relevant laws

- The Protection of Wildlife and Conservation and Protection of Natural Areas Law (1994)
- The Conservation of Biodiversity and Protected Area Law (2018)
- Notification No. 690/2020

5.2.8 Philippines

There are two major legislations in the Philippines which governs biodiversity conservation and hunting, the Wildlife Resources Conservation and Protection Act of 2001 (i.e. Republic Act No. 9147 (2001) and the National Integrated Protected Areas System (NIPAS) Act of 1992 Republic Act No. 7586 (1992). However, the Indigenous Peoples' Rights Act (Republic Act No. 8371 (1997) is also notable as it has additional provisions for the use of natural resources by indigenous peoples in the Philippines.

5.2.8.1 Highlights of relevant laws

The Wildlife Resources Conservation and Protection Act of 2001 is the main legislation for wildlife protections in the Philippines. The most relevant articles are under the Act are,

- Section 18 states that, 'the (DENR) Secretary, within one (1) year after the effectivity of this Act, shall establish a list of 'economically important' species. A population assessment of such species shall be conducted within a reasonable period and shall be regularly reviewed and updated by the Secretary. The collection of certain species shall only be allowed when the results of the assessment show that, despite certain extent of collection, the population of such species can still remain viable and capable of recovering its numbers. For this purpose, the Secretary shall establish a schedule and volume of allowable harvests. Whenever an economically important species becomes threatened, any form of collection shall be prohibited except for scientific, educational or breeding/propagation purposes, pursuant to the provisions of this Act."
- Section 23 states that, 'The collection of threatened wildlife, as determined and listed pursuant to this Act, including its by-products and derivatives, shall be allowed only for scientific, or breeding or propagation…', and is tightly regulated under Philippine law.
- Section 27 states that "Unless otherwise allowed in accordance with this Act, it shall be unlawful for any person to wilfully and knowingly exploit wildlife resources and their habitats, or undertake the acts which include,
    a) killing and destroying wildlife species, except in the following instances;
        i. when it is done as part of the religious rituals of established tribal groups or indigenous cultural communities,
        ii. when the wildlife is afflicted with an incurable communicable disease,

iii. when it is deemed necessary to put an end to the misery suffered by the wildlife,

iv. when it is done to prevent an imminent danger to the life or limb of a human being,

v. when the wildlife is killed or destroyed after it has been used in authorized research or experiments.

b) …

f) collecting, hunting or possessing wildlife, their by-products and derivatives;

g) …"

The National Integrated Protected Areas System (NIPAS) Act of 1992 (Republic Act No. 7586) provides further clauses on prohibitions and regulation of hunting in protected areas. The most relevant section is Section 20 which states that "Except as may be allowed by the nature of their categories and pursuant to rules and regulations governing the same, the following acts are prohibited within protected areas: a. Hunting, destroying, disturbing, or mere possession of any plants or animals or products derived therefrom without a permit from the Management Board; …"

The most relevant sections in the Indigenous Peoples' Rights Act (Republic Act No. 8371 (1997) are:

- Section 7 which states that "… The rights of ownership and possession of indigenous cultural communities (ICCs) and indigenous peoples (IPs) to their ancestral domains shall be recognized and protected. Such rights shall include:
    a) Right of Ownership – The right to claim ownership over lands … traditionally and actually occupied by ICCs/IPs… traditional hunting and fishing grounds…
    b) Right to Develop Lands and Natural Resources. - Subject to Section 56 hereof, right to develop, control and use lands and territories traditionally occupied, owned, or used; to manage and conserve natural resources within the territories and uphold the responsibilities for future generations; to benefit and share the profits from allocation and utilization of the natural resources found therein; the right to negotiate the terms and conditions for the exploration of natural resources in the areas for the purpose of ensuring ecological, environmental protection and the conservation measures, pursuant to national and customary law….

c) …"

- Section 58 which states that "Environmental Considerations. - Ancestral domains or portions thereof, which are found to be necessary for critical watersheds, mangroves, wildlife sanctuaries, wilderness, protected areas… as determined by appropriate agencies with the full participation of the ICCs/IPs concerned shall be maintained, managed and developed for such purposes. The ICCs/IPs concerned shall be given the responsibility to maintain, develop, protect and conserve such areas with the full and effective assistance of government agencies…"

5.2.8.2 Implications of relevant laws

Hunting of all wildlife species in protected areas is effectively prohibited, as stated in Republic Act No. 7586 (1992), with no exceptions of hunting type or approach (including through the use of nets). Outside of the Philippines' network of protected areas, unless a species is identified as economically important, or in any context under Section 27 (a) of Republic Act No. 9147 (2001), all wildlife species are effectively protected from hunting. There are no clauses or articles that provide details or exemptions on the prohibition of net use, and as such, the use of nets for trapping birds is illegal under most contexts except when hunting is conducted for traditional use. Hunting, including with mist-nets, can take place if undertaken for customary reasons or subsistence (i.e. not for trade) by Indigenous Peoples and Local Communities.

5.2.7.3 Penalties

Under the Philippine's Protection of Wildlife and Conservation and Protection of Natural Areas Law, the hunting or keeping of protected wildlife species without a licence (or in infringement of license terms) may result in fines of up to 10,000 MMK and/or a prison term of up to three years. The killing or hunting of a protected species (e.g. completely protected, normally protected) may result in fines of a fine up to 50,000 MMK and/or a prison term of up to seven years.

5.2.8.3 Sources of relevant laws

- Wildlife Resources Conservation and Protection Act of 2001 (Republic Act No. 9147
- National Integrated Protected Areas System (NIPAS) Act of 1992 (Republic Act No. 7586 (1992)
- Indigenous Peoples' Rights Act (Republic Act No. 8371 (1997)

5.2.9 Timor-Leste

The main legislation in Timor-Leste for wildlife conservation and the regulation of hunting activities is Decree-Law 6/2020 - Legal Regime for the Protection and Conservation of Biodiversity. Decree-Law 6/2020 effectively supersedes UNTAET Regulation No. 19 (2000) as the main legislative framework for biodiversity conservation in Timor-Leste.

5.2.9.1 Highlights of relevant laws

Decree-Law 6/2020 - Legal Regime for the Protection and Conservation of Biodiversity was adopted in 2020 and came into force in February 2020 as the main legal framework for biodiversity conservation, replacing UNTAET Regulation No. 19 with an associated list of protected species. The most relevant sections are:

- Under Article 30 on Protection and conservation of protected species, 'hunting, fishing, killing, trapping, harvesting, uprooting, cutting, destroying or removing all or part of protected species' and 'disturb protected species during the time of gestation, rearing of young, migration and hibernation, including the degradation in any way of the breeding and resting area' is strictly prohibited.
- Exceptions are given for subsistence, as noted 'shall not prejudice the cutting, hunting or fishing of protected species', in Article 30, and in the case of scientific research.
- Annex I defines the list of protected bird species, which currently number 81 species.
- Traditional use of natural resources based on local customary practices under 'Tara bandu' is provided under Article 8.

5.2.9.2 Implications of relevant laws

Under Decree-Law 6/2020, there are no clauses regulating the possession and use of species hunting tools (e.g. nets). Protected species, are however, protected from being hunted and killed, unless an animal is killed for subsistence reasons.

5.2.9.3 Penalties

Under Decree-Law 6/2020 - Legal Regime for the Protection and Conservation of Biodiversity, violations may result in administrative penalties such as fines (undefined). Criminal penalties are governed by the Timor-Leste Penal Code, which may involve a fine or prison terms of up to three years.

5.2.9.4 Sources of relevant laws

- UNTAET Regulation No. 19 (2000)
- Decree-law 6 Legal Regime for the Protection and Conservation of Biodiversity

5.2.10 Thailand

Thailand has two major legislations governing hunting, the Wildlife Conservation and Protection Act B.E. 2562 (2019) and the National Park Act B.E. 2562 (2019). The Wildlife Conservation and Protection Act has some of the most comprehensive (species) coverage for protection for bird species in Asia, offering legal protection to nearly every (native) species known to occur in Thailand, also some species were recently removed from the protected species list (e.g. Red-whiskered Bulbul *Pycnonotus jocosus*).

5.2.10.1 Highlights of relevant laws

The Wildlife Conservation and Protection Act B.E. 2562 (2019) establishes several levels of protection for wildlife, namely "conserved, protected, controlled and dangerous". Hunting of wildlife is regulated through several clauses, of which the most relevant are:

- Section 12 states that, 'a person shall not hunt conserved wild animals or protected wild animals'.
- Section 54 states that, 'within a wild animal varieties preservation zone, a person shall not hunt wild animals…'
- Section 67 which states that "Upon issuance of a Notification of the Minister for designating a wild animal hunting prohibited zone for wild animals of any kind or type, a person shall not perform any of the following acts: (1) hunting wild animals of such kind or type or collecting or injuring nests or dens of such wild animals …"

The National Park Act B.E. 2562 (2019) has additional provisions on the regulation of hunting within national parks. The most relevant sections are:

- Section 19 which states that "Within a national park, a person shall not carry out any of the following acts: … (3) luring or taking wild animals away or injuring wild animals in any manner; … (7) bringing into it tools for hunting animals or catching animals or any weapons; …"

5.2.10.2 Implications of relevant laws

Thailand's laws protect almost every native bird species from being hunted, regardless of context (i.e. bird hunted outside of protected areas), meaning that the hunting and trapping of wild birds using any mean (and tools), including nets, is effectively illegal. A small subset of species such as the Red-whiskered Bulbul *Pycnonotus jocosus* and Zebra Dove *Geopelia striata* is not protected by law. Thailand's laws however do not control or regulate the possession and use of nets for contexts other than hunting, and for that matter, nets such as mist-nets are widely used as a deterrent in agricultural areas and fishponds to exclude perceived pest species.

5.2.10.3 Penalties

Thailand's Wildlife Conservation and Protection Act B.E. 2562 impose significant penalties for wildlife-related violations, including the hunting of protected and preserved species without permits. Under Section 89 of the Act, offenses involved hunting and harming of protected species may result in a fine of up to 1,000,000 THB and/or a prison term of up to 10 years. There are also steep penalties for the unauthorised possession of protected wildlife, with a prison term of up to five years and/or fines reaching 500,000 THB.

5.2.10.4 Sources of relevant laws

- Wildlife Conservation and Protection Act B.E. 2562 (2019)
- National Park Act B.E. 2562 (2019)

5.2.11 Viet Nam

Viet Nam has a complex framework of environmental legislation for biodiversity protection and hunting involving several laws and decrees. The two main laws are the Law on Forestry No. 16/2017/QH14 (2017) and the Law on Biodiversity No. 20/2008/QH12 (2018). These are supported (or tied to) several government decrees such as Decree 160/2013/ND-CP (2013) which lists endangered, precious and rare species (>100 species of wildlife but less than 30 species of birds), Decree 06/2019 (2019), and Decree 84/2021/ND-CP (2021). The passing of Directive 04/CT-TTg 2022, 'urgent tasks and solutions to conserve wild and migratory birds' provides the mandate to strengthen existing regulations nationally and provincially for the protection of migratory species.

In 2025, Law No. 86/2025/QH15 superseded Law No. 100/2015/QH13, which mandated stricter penalties for hunting, particularly of endangered and rare species. Penalties are spelled out under the Criminal Code (Criminal Code No. 100/2015/QH13 of 27 November 2015) which describe specific criminal offences and the associated penalties for illegal hunting and other infringements of wildlife protection regulations.

5.2.11.1 Highlights of relevant laws

The Law on Biodiversity No. 20/2008/QH12 (2018) is the main legislation for biodiversity protection and management in Viet Nam. The most relevant articles are:

- Article 7 states that the following activities are prohibited:
    - "Hunting, fishing and exploiting wild species in strictly protected sections of conservation areas …"
    - "Hunting, fishing, exploiting bodily parts of, illegally killing, consuming, transporting, purchasing and selling species on the list of endangered precious and rare species prioritized for protection ..."

The criteria used to determine the list of endangered, precious and rare species is defined in Decree 160/2013/ND-CP (2013). The list has subsequently been updated in Decree 06/2019 (2019) which was amended more recently by Decree 84/2021/ND-CP (2021). There are less than 30 bird species considered as 'endangered', ''precious' and 'rare', including Edward's Pheasant *Lophura edwardsi*, Spoon-billed Sandpiper *Calidris pygmaeus* and Black-faced Spoonbill *Platalea minor*, all globally threatened species.

The Law on Forestry No. 16/2017/QH14 (2017) classifies forests into 3 types, 'special-use forests', 'protection forests' and 'production forests'. 'Special-use forests' include areas such as national parks, nature reserve areas and habitat conservation zones etc. The Law has several clauses regulating activities on the use and management of forests. The most relevant articles on hunting are:

- Article 9 which includes "Hunting, capturing, raising, confining, killing, storing, transporting and trading in wild animals…" as one of the prohibited acts in forestry activities. It also prohibits the act of "Bringing … tools and means into the forest against the law...", however there is no definition for "tools and means" in the legislation.
- Law No. 86/2025/QH15 which amended Law No. 100/2015/QH13 specifically mandates stricter penalties on hunting by amending Article 244. In particular, the minimum and maximum penalties for illegal hunting of a species classified as 'endangered' or 'rare' has doubled for both individual offenders and commercial organisations.

5.2.11.2 Implications of relevant laws

Hunting of all (bird) species is prohibited within the strictly protected zones of conservation areas, regardless of tool type used. However, outside of these zones, only the hunting of endangered, precious and rare (bird) species such as several phasianids (e.g. Crested Argus *Rheinardia ocellata*) and large waterbirds (e.g. Black-faced Spoonbill *Platalea minor*) is prohibited while many other species may be hunted. There is a strong focus on forest species. There are no specific provisions on the use of nets or 'tools and means' of hunting as mentioned in Article 9 of the Law on Forestry No. 16/2017/QH14 (2017), therefore leaving a grey area in hunting in conservation areas. Outside of protected areas, for instance in production landscapes, 'endangered, precious and rare' species cannot be hunted, but other species not protected can be hunted (using an undefined, range of means).

5.2.11.3 Penalties

The hunting, killing, trade and possession of protected species (including species identified under the Law on Biodiversity) are considered as criminal offences in Viet Nam's Criminal Code. Penalties for illegal hunting can be expected to result in fines ranging from VND 500,000,000 to as much as VND 2,000,000,000, alongside prison terms of one to up to five years. Penalties may be more severe (longer prison terms) for additional considerations, including the use of banned hunting tools and traps. For less severe infringement of other regulations, administrative fines may be applied.

5.2.11.4 Sources for relevant laws

- Law on Forestry No. 16/2017/QH14 (2017)
- Law on Biodiversity No. 20/2008/QH12 (2018)
- Decree 160/2013/ND-CP (2013)
- Decree 06/2019 (2019)
- Decree 84/2021/ND-CP (2021)
- Law No. 100/2015/QH13

- Law No. 86/2025/QH15

5.3. East Asia

Legislation for wildlife protection across the five countries of East Asia are diverse but generally afford a high degree of protection to wildlife (and most bird) species with detailed provisions and restrictions on the use of nets for both hunting activities and research, in the case of the Republic of Korea and Japan specially, and China. The use of nets for hunting is generally banned in these three countries. Mongolia's wildlife protection laws regulate hunting activities of mammals and a few bird species but provides little details on the use of hunting tools except guns. Laws on wildlife protection in the region is most ambiguous in the Democratic People's Republic of Korea (North Korea), where protections to species is clearly defined in forest land and protected areas, but not in other land use types.

Table 5. Legislation to address wildlife hunting in East Asian countries.

Category	**Country**	**Relevant law, articles, sections and subsections**	**What do the laws regulate?**					
			Use	**Possession**	**Production**	**Transport**	**Import and Export**	**Sale**
Country has legal provisions specifically regulating nets for hunting	Japan	• Wildlife Protection and Hunting Management Act • Act for the Conservation of Endangered Species of Wild Fauna and Flora • Animal Protection Act	✓	✓				

	Republic of Korea	• Wildlife Protection and Management Act (amended 2022) • Cultural Heritage Protection Act (amended 2015) • Animal Protection Act (2017)	✓	✓				
	China	• Wildlife Protection Law **Articles 23 and 24** • Wetland Protection Law • Ecological Red Line Policy	✓	✓				
Country has laws and/or legal provisions regulating hunting tools, but nets are not explicitly mentioned	Mongolia	• Law on Animals	✓					
Country does not have laws and/or legal provisions regulating hunting tools/ nets	Democratic People's Republic of Korea	• Forest Law • Environmental Protection Law						

5.3.1 Republic of Korea

The Republic of Korea (South Korea) has one major law governing wildlife protection and hunting, the Wildlife Protection and Management Act (or the 'Wildlife Act'), last revised in 2022 with amendments taking effect in 2023. The Act offers broad provisions for the protection and management of wildlife in the Republic of Korea and explicitly aims to provide

‘coexistence between biodiversity and people’. Under the Wildlife Act, hunting is only allowed in designated areas and must be established by local authorities; there are also controls on the use of firearms in hunting, together with other types of hunting tools. Wildlife species and their habitat may also receive protection under the Cultural Heritage Protection Act, given that several species are designated as ‘cultural heritage’ or ‘national monuments’, such as various species of cranes and birds-of-prey under Republic of Korea’s Cultural Heritage Administration (CHA). Addition protections for animals from abuse is offered by the Animal Protection Act (2017).

5.3.1.1 Highlights of relevant laws

The Wildlife Protection and Management Act establishes several categories for species receiving protections, such as Class I and Class II endangered wildlife, controls on international trade and hunting of endangered species. Hunting of wildlife is regulated through several clauses, of which the most relevant are articles 10, 14, 19, 23, 42 and 57. Notably,

- Article 10 defines prohibitions against snares, traps and nooses. It states that ‘No one shall make, sell, carry or keep snares, traps, nooses, or other implements by which wild animals can be captured’
- Article 14 defines prohibitions against the capture and collection of endangered species, ‘No one shall capture, collect, release, naturalize, process, distribute, keep, export, import, remove, bring in (including dead animals in cases of processing, distribution, keeping, exporting, importing, removing, or bringing in), damage, or defoliate (hereinafter referred to as "capture, collect, etc.") endangered wildlife’, with exemptions under certain scenarios.
    - Laying or using explosives, snares, traps, nooses, pitfalls, electric power, and nets are all prohibited from use in capturing ‘endangered wildlife’ species.
- Article 19 states that, ‘No one shall capture, collect, or defoliate any species prescribed by Ordinance of the Ministry of Environment (excluding the marine life, the only habitat of which is the ocean, and limited to species cleared from endangered wild life status in cases of plants; hereafter the same shall apply in this Article) among the wildlife not amounting to endangered wildlife’. This article provides guidance on the take and trapping of non-endangered species and prohibits the use of specific traps

under part (3), ‘Laying or using explosives, snares, traps, nooses, pitfalls, electric power, and nets’.

- Article 42 makes exemptions for situations where hunting may be permitted, through the designation of hunting grounds. Part (2) of Article 42 notes that: ‘No one shall hunt wild animals in a place other than hunting grounds’. However, hunting activities in ‘hunting grounds’ requires a license that is issued by the competent authorities.
- Article 57 list prohibitions on hunting tools and approaches in relation to Article 19. It notes that ‘a person who has captured, collected, or killed wildlife, in violation of Article 19, or ‘has laid or used explosives, snares, traps, nooses, pitfalls, electric power or nets, or has scattered or injected poisonous objects, agrochemical, or similar objects in order to capture, collect, or kill wildlife’.

Through the Framework Act on Korea Heritage of 2023, species designated as ‘natural monuments’ (which includes a suite of species considered to be of cultural significance such as storks, cranes and birds-of-prey) is considered as state-designated heritage and are protected by law. An animal species protected as a natural monument may not be captured or collected in an area designated or provisionally designated as a scenic area or natural monument, or its protection zone without the necessary permits. Animal species may also be designated as natural heritage or ‘monuments’ at the city or province level.

5.3.1.2 Implications of relevant laws

Regulations on hunting and wildlife protection in the Republic of Korea is among the strictest in Asia. Hunting is generally prohibited under most circumstances, including outside of protected areas, and most wildlife species are protected by law. Hunting of wildlife may be possible at designated ‘hunting grounds’ and in specific time windows with licenses. Specific traps such as nets are strictly prohibited and thus the use of nets for hunting birds is effectively illegal.

5.3.1.3 Penalties

The Wildlife Protection and Management Act impose stiff penalties for infringements. Under Article 68, penalties for hunting violations, including for the use of illegal hunting methods involving the use of snares, traps, nooses and nets, may be penalised by a fine of at least KRW 3,000,000, and no more than KRW 30,000,000, alongside a prison term of up to three years, with labour. Repeated violations are expected to result in heavier penalties. The hunting of 'endangered wildlife species' may be penalised by a prison term of up to five years imprisonment and/or a fine of up to KRW 30,000,000.

5.3.1.4 Sources of relevant laws

- Wildlife Protection and Management Act
- Framework Act on National Heritage

5.3.2 Democratic People's Republic of Korea

The Democratic People's Republic of Korea (North Korea) has no specific laws governing wildlife protection and hunting (McCarthy et al. 2021). However, there are legislation and decrees relevant to wildlife protection, directly or indirectly. The Environmental Protection Law of 2014 provides the principles, regulations and provisions on protected areas in the Democratic People's Republic of Korea. The Decision of the Cabinet on the Protection of Useful Animals and Plants, passed in the 1950s, has led to the establishment of protected areas such as nature reserves and migratory bird reserves. As of 2014, 24 migratory bird reserves have been designated to protect habitat for waterbirds across the country (NEASPEC 2014). The Forest Law of the Democratic People's Republic of Korea (2015) provides general provisions and regulations on the protection and use of forest resources and lays out rules on the protection of wildlife (in forests) under Chapter III's articles.

5.3.2.1 Highlights of relevant laws

The Environmental Protection Law of 2014 provides the principles and provisions on environmental protection in the Democratic People's Republic of Korea, including the mandate for protected areas such as nature reserves and special protection zones.

- Article 11 of the Environmental Protection Law states that, 'nature reserves and special protection zones such as biosphere reserves, primeval forest reserves, animal shelter reserves, plant reserves, scenic protection areas, and fisheries reserves shall be determined for the protection of the natural environment.'
- Article 16 prohibits the catching or gathering of animal and plant species considered as endangered or rare in Democratic People's Republic of Korea. Species that are protected by law (whilst not clearly defined) may not be hunted without authorization of the land environmental protection institution. If the law is violated as defined under Article 57, penalties will be meted under the Criminal Law.

Under the Forest Law, forests are effectively state-owned resources. Articles 27 and 28 defines the role of state institutions and citizens in protecting forest resources, including animal and plant species. Article 37 on the hunting of mountain animals and mountain birds, indicates that institutions and citizens that seek to hunt wildlife in the mountains must seek and receive permissions from the land environmental protection institutions, and abide by rules under a hunting order.

5.3.2.2 Implications of relevant laws

The Democratic People's Republic of Korea's two main relevant laws, the Forest Law and the Environmental Protection Law, broadly provide protection for wildlife species (species undefined) in protected areas of several categories, as well as in the country's forest estate. Wildlife in protected areas are generally protected by law although they may be hunted with permits from state institutions. Wildlife in production landscapes such as farms may not be legally protected. There are no specific articles or clauses under any of the legislations regulating the use of specific hunting tools, nets included, and animal species are not specifically listed or defined in any of the laws.

5.3.2.3 Sources of relevant laws

- Forest Law
- Environmental Protection Law

5.3.3 Japan

Japan has several laws governing wildlife protection and hunting, the most important being the Wildlife Protection and Hunting Management Act which offers comprehensive provisions for the protection and management of wildlife in Japan, licensing arrangement for hunting under different scenarios, definitions of huntable species (or game species) and hunting seasons, and controls on hunting tools. As with wildlife protection laws in the region, the Act lists specific bird species that may be hunted under permit during a defined 'hunting season' (typically in winter months when species are not breeding), with the relevant central authorities or prefectural governments having the power to prohibit or restrict hunting. Protected areas at the national and prefectural levels, including 'temporary' protected areas are also defined and listed under this Act. The Act for the Conservation of Endangered Species of Wild Fauna and Flora provides further protections for threatened species at the national and international level (listed under CITES) through its protections for several species, and controls on trade. Animal species may also receive protection under the Act on Welfare and Management of Animals. Addition protections for animals from abuse is offered by the Animal Protection Act.

5.3.3.1 Highlights of relevant laws

The Wildlife Protection and Hunting Management Act (hereafter as 'Wildlife Act') was enacted to protect wildlife (defined to include birds and mammals) in Japan, manage populations of a subset of species of birds and mammals, and to control 'pest species' through wildlife protection projects and hunting controls, and has undergone several revisions. It provides specific legal provisions on managing damage caused by wildlife to agriculture, forestry, fisheries and other human activities, with clear guidance on licensing hunting targeted at managing wildlife species.

- The act provides strict restrictions on hunting methods and approaches, with few exemptions.
    - The use of mist-nets, together with other hunting approaches considered to be harmful, such as large-calibre firearms and toxic chemicals is prohibited under the act.
    - (Legal) hunting requires specific licenses on the use of nets, traps (e.g. snares) and guns (i.e. charge guns and air guns) under Article 39. Licenses may not be given to applicants under several scenarios. Article 39 to Article 54 (section 2) defines different categories of licenses for hunting using specific tools. Any individual who intends to hunt must be granted a hunting license issued by the governor of the prefecture, alongside a registration in the prefecture.
- Under the Wildlife Act, hunting is prohibited in areas designated by the relevant government agencies, prefectural governors, or other government bodies. Such sites may include either permanent or temporary wildlife protection areas (such as nature reserves), public roads, and parks.
- Restrictions on species
    - Selected species of birds, defined as ‘game birds’ under the Wildlife Act, may be hunted under license. This includes 29 species, including Green Pheasant (*Phasianus colchicus*), Copper Pheasant (*Syrmaticus soemmerringii*), shorebirds (Common Snipe *Gallinago gallinago*), several duck and rail species (e.g. Common Moorhen *Gallinula chloropus*). The designated hunting season is 15 November to 15 February, though this may vary by region across the country.
- Hunting of wildlife species is strictly prohibited in Wildlife Protection Areas and Designation of Special Wildlife Protection Areas.
- In special wildlife protection areas, the approval of the Director-General of the Agency or prefectural governors must be obtained before reclaiming wetlands, cutting trees, or constructing any structures.
- The use of nets, even for trapping wildlife for research purposes, is highly regulated.

5.3.3.2 Implications of relevant laws

Protection of wildlife from hunting in Japan is among the strictest in Asia. Hunting is generally prohibited under most circumstances. Most bird species are protected with the exception of 29 species of designated ‘game birds. The use of nets, including mist-nets is tightly regulated under all circumstances, including even for scientific research. Using mist-nets for hunting is strictly prohibited under Japan’s laws.

5.3.3.3 Penalties

Violations of Japan’s Wildlife Protection and Hunting Management Act, including hunting without permits, breaches of restrictions (hunting seasons, locations) and conditions listed in hunting permits may result in a prison term and labour of up to six months, or a fine of up to JPY 500,000. Cases involving prohibited hunting methods can result in similar penalties. Hunting of protected wildlife species can be penalised by a prison term of up to one year and a fine reaching JPY 1,000,000.

5.3.3.4 Sources of relevant laws

- Wildlife Protection and Hunting Management Act

5.3.4 China

The main legislation for species protection in China is the Wildlife Protection Law which offers broad provisions for the protection and management of wildlife (including all major wildlife groups such as birds, mammals, amphibians, reptiles, fish and insects). The Wildlife Protection Law was last revised in 2022 at the 13th National People’s Congress. As the main legal instrument for nature conservation in China, the Wildlife Protection Law explicitly aims to ‘preserve biodiversity and ecological balance’, in alignment with the national concept of an ‘ecological civilisation’. In 2007, China adopted the idea of ‘ecological civilisation’, a policy

framework that emphasises the national importance of environmental protection and nature conservation (Tian et al. 2024), and which marked a major shift in public attitudes to nature and biodiversity, given that wildlife was widely perceived as a resource (to be harvested for food and other uses). At that point, the Wildlife Protection Law was strengthened, and greater efforts was invested to protect threatened species. The use of mist-nets and net-like tools for trapping wildlife is widespread in China (Liang et al. 2024), but public awareness of the issue has led to stronger enforcement of laws on both the use of nets (for hunting), and the sale of nets on various shopping platforms. The Wetlands Conservation Law of 2022 is designed to strengthen wetland protection and maintain their biodiversity and also contain relevant clauses on the take of wildlife species in China's wetlands under Article 30. China's Ecological Red Line policy adds another layer of ecological and biodiversity protection on top of areas that are already protected by law by restricted several types of land use activities for designated areas.

5.3.4.1 Highlights of relevant laws

The Wildlife Protection Law (hereafter as 'Wildlife Law') provides broad provisions on the protection of wildlife in China, including state ownership of wildlife and the roles and responsibilities of organisations and individuals to protect wildlife, including the different levels of government. Wildlife is defined broadly under this Law as 'rare and endangered terrestrial and aquatic wildlife', alongside ''terrestrial wildlife that has important ecological, scientific and social value'. Under the Law, (illegal) hunting, transport, trade, possession and consumption of wildlife is regulated, and forbidden in many cases.

- Article 10 of the Law differentiates the level of protection for rare and endangered wildlife species, with species under national protection classified into 'Class I' and 'Class II' protected species (or state key protected species). Hunting and killing of wildlife species under national key protection (for both classes) is strictly prohibited unless in special circumstances (e.g. for research, disease monitoring), from where special hunting licenses are required from China's State Council (Class I species) and from provincial governments (Class-II species). There are other hunting exemptions for wildlife species under scenarios for research, but this is regulated by licenses, and strict observations of quotas and other hunting limits.

    - 1,028 species of birds are protected under the Wildlife Protection Law as Class I and Class II species, or well over 80% of bird species known from China (>1,400 species).
- Article 19 contains provisions for situations where economic losses (including the loss of crop and property) is suffered by individuals as a result of wildlife protection, including the payment of compensations to farmers who has lost livestock, or have crops damaged by wildlife.
- Article 20 under the Law's chapter on wildlife management defines prohibitions on hunting and activities that may harm wildlife in protected areas (such as nature reserves) and during the migration period for species. Hunting is also prohibited during periods when wildlife species are on migration or during the breeding season. The Law delegates responsibility to local governments on wildlife protection during the migration period.
- Article 23 defines regulations on hunting practices. Regulations (for hunting licenses) define the quantities, limits, places (of hunting), tools and methods, and the time windows where and when hunting can be carried out (for huntable species). However, only accredited bodies and individuals may be licensed to hunt wildlife under key national protection.
- Article 24 contains provisions on the types of tools that may be used for hunting. Herein, tools such as poisons, explosives, electronic shocks or electronic trap devices, snares, bird nets and firearms are prohibited. The types of banned hunting tools may also be defined by the county government.
- Additionally, the Law also defines prohibitions on the use of specific hunting tools (see Article 24). Article 32 indicates prohibitions on the 'publication of sale, purchase of wildlife', and prohibited hunting tools. As such, online shopping platforms (e.g. Taobao and Alibaba) are prohibited from displaying, undertaking transactions, or provide consumer services for the sale of wildlife and hunting tools that are prohibited. Penalties for violations of Article 32 is captured under the Advertising Law.
- Penalties for illegal hunting is defined under Article 49 – including penalties for hunting wildlife species with important ecological value, hunting in protected areas (or outside of the hunting season), hunting without the necessary permits or violation of permit conditions, and the use of prohibited hunting tools.

China's Wetlands Conservation Law also outline regulations on the hunting of wildlife species in wetlands and complements the Wildlife Protection Law. Under Article 30 of the Wetlands Law, 'it is prohibited to engage in activities that endanger the survival or reproduction of waterbirds, such as fishing, digging and trapping benthic organisms, picking up bird eggs or destroying bird nests in protected areas or other important habitats for waterbird protection.' Responsibility to enforce the law, and 'enhance the conservation of wetlands' is delegated to the government at the county level, or levels above.

5.3.4.2 Implications of relevant laws

Hunting in China is highly regulated by the State, and in most instances and circumstances, hunting is illegal. The Wildlife Protection Law contains articles that regulates and limit activities from hunting (Articles 20-24, including hunting using prohibited tools such as nets) to the trade (Article 28), transporting (Article 34) and consumption/use of wildlife (wildlife in the broad sense, as it is not specifically distinguishing into animal groups; Article 31), as well as the sale and possession of prohibited hunting tools (Articles 32, 33). All violations are heavily penalised; for instance fines may range from 10,000 and 100,000 RMB, or up to 20 times the value of the hunting spoil (Article 48). Species under state key protection receives the highest levels of protection and may be hunted with licenses issued by the Central Government but only for specific purposes such as research and disease monitoring. Under the Wildlife Protection Law, the use of mist-nets (and other forms of nets) to hunt wildlife is considered as illegal in all contexts, together with the use of other tools such as snares and makeshift guns. In addition, it is illegal to advertise the sale of hunting tools that are prohibited by law, including nets to trap birds.

5.3.4.3 Penalties

Violations of China's Wildlife Protection Law, including hunting wildlife without a valid permit, using prohibited hunting tools, hunting in protected areas and the hunting and trapping of species with state key protection may result in fines that are commensurate with the value of the species involved (estimated as one to ten times the value of the hunted wildlife), or in cases where no wildlife in possession, a fine of up to 20,000 RMB. Alongside this, hunting

tools are expected to be confiscated, while any existing hunting permit may be revoked. Criminal infringement of the Wildlife Protection Act may be punishable under the Penal Law, which spells out the specific prison terms and fines. Hunting or killing of wildlife species under *national* key protection may typically result in a prison term of up to five years.

5.4.4.4 Sources of relevant laws

- Wildlife Protection Law of the People's Republic of China
- Wetland Conservation Law of the People's Republic of China

5.4.5 Mongolia

The main legislation for wildlife protection in in Mongolia is the Law on Animals (also referred to as the 'Animals Law'), passed in May 2012. The Law on Animals addresses the protection, breeding and proper use of wildlife species as defined in the Law on Environmental Protection, whose articles define general measures on environmental protection and the use of natural resources. The Law on Animals appears to have been periodically updated, with the last revisions dated June 2022. Other relevant legislation with implications for wildlife protection is the Law on Special Protected Areas, and Law on Environmental Protection. The Law on Special Protected Areas establishes four categories of protected areas, these include 'Strictly Protected Areas' (or 'SPA'), 'National Conservation Parks', 'Nature Reserves', and 'Other Protected Areas'. Hunting (regardless of the type of hunting tool used) is generally prohibited in protected areas in Mongolia.

5.4.5.1 Highlights of relevant laws

The Law on Animals is the main legislative instrument that regulates wildlife hunting in Mongolia, while providing key provisions on the protection of wildlife under different circumstances.

- Article 7 of the Law defines 'rare' or 'extremely rare' species. Species classified as 'extremely rare' may not be hunted or trapped but there are special exemptions for scientific research; in such cases a permit issued by the authorities is required. Five bird species are considered 'extremely rare' and are prohibited from being hunted, namely, White-headed Duck *Oxyura leucocephala*, Short-toed Snake-eagle *Circaetus gallicus,* Greater Spotted Eagle *Clanga clanga*, Pallas's Fish-eagle *Haliaeetus leucoryphus* and Relict Gull *Larus relictus.* 'Rare' species can be hunted or trapped under permit under specific conditions i.e. research, cultural and artistic uses, and where permits and licenses have been secured.
- Article 9 defines the open and closed hunting periods, which is specific to game species. Hunting of Hazel *Tetrastes bonasia* and Black Grouse *Lyrurus tetrix*, Daurian *Perdix daurica* and Chukar Partridge *Alectoris chukar*, Pallas's Sandgrouse *Syrrhaptes paradoxus*, for example is prohibited from 15 March to 31 October (during the breeding season of these species). Meanwhile, hunting of waterfowl or 'game birds of swamps' such as geese, ducks and other species, is prohibited from 20 April to 31 August and 20 October to 31 March of the next year. The list of birds approved for hunting as game species is decided in consultation with relevant experts.
- Article 10 of the Law outlines permitted and prohibited methods of hunting, with clause 10.1.8 indicating that non-hunting guns are prohibited (i.e. it must be a sporting weapon). However, there is no mention of mist-nets, glue sticks, snares or scissor traps that may be used for trapping birds.
- Article 11 defines prohibitions on some hunting and trapping activities in specific circumstances, for instance the ambushing of animals at springs, ponds and marshes (see 11.1.2.) while 11.1.3. outlines prohibitions on the hunting or trapping of animals that 'relocate to other areas', suggesting controls on hunting of migratory species.
- Under a permit, animals can be collected and exported for the purposes of science and knowledge, this includes the take of specimens for taxidermy, hides, bones, other items (Article 20. Animal Collection. 20.1-3)
- Article 21 outlines the involvement and obligations of Mongolian citizens, partnerships, professional and non-governmental animal protection organisations in animal resources protection. The state can delegate certain aspects of animal protection to NGOs and fund activities defined under Article 32 of the Law on Environmental Protection.

- Article 26 establishes hunting quotas for species, and the government bodies with the authority to do so
- Article 28 outlines the concept of household level hunting (for subsistence purposes). 28.3. states that a citizen of Mongolia can purchase a time limited (3-5 day) permit that allows them to hunt the following species such as Hazel Grouse (10 birds), Daurian partridge and other game species.
- Article 29 defines hunting and trapping for special purposes and the licensing requirements thereof.
- Article 37 outlines the compensation and penalties associated with illegal hunting. The penalty for illegal hunting is twice the state calculated ecological and economic value of the illegally hunted animal species. As such, penalties for illegal bird hunting are low.

5.4.5.2 Implications of relevant laws

Hunting laws in Mongolia have a strong focus on the hunting of game species of large-bodied birds and mammals. For birds, this largely refers to several species of waterfowl (ducks, geese), grouses and phasianids such as partridges. There are some prohibitions on the use of hunting tools such as guns, but the use of nets is not defined as one of these. It is illegal to hunt or trap species that are considered as ‘rare’ or ‘very rare’ unless for scientific research, but the list of such species is limited (and focused on) a few species of ducks and raptors that are red listed globally. Although the use of mist-nets and nets to trap birds is not generally considered to be a major threat to birds in Mongolia, it should be noted that under many circumstances, the trapping of birds (outside of protected areas) is not regulated by hunting season, quotas, the use of a variety of hunting tools, and species, and thus may not be considered as illegal.

5.3.5.3 Penalties

Under Mongolia’s Criminal Code, hunting wildlife without permits, during prohibited seasons and the use of prohibited weapons and hunting methods is punishable with fines that are calculated using the minimum monthly salaries as a baseline (fines may reach as much as 200 times of monthly salaries). Prison terms may vary from 3-6 months to as much as three years.

If endangered species are involved, penalties may be stiffer, with prison terms teaching five years. Hunting of species defined as ‘rare’ without the necessary licenses may result in administrative penalties of MNT 20,000 to MNT 50,000 under the Animal Law.

5.4.5.4 Sources of relevant laws

- Law on Animals

5.5 South Asia

There is some variation in the legal regulation on the use of nets as a hunting tool among the six South Asian nations. Although nets are mentioned in the legislation of Nepal, Bangladesh and India for instance, there are no provisions or regulations specific to the use and possession of nets.

Table 6. Legislation to address wildlife hunting in East Asian countries.

Category	**Country**	**Relevant law, articles, sections and subsections**	**What do the laws regulate?**					
			Use	**Possession**	**Production**	**Transport**	**Import and Export**	**Sale**
Country has laws and/or legal provisions regulating hunting tools, but nets are not explicitly mentioned	Nepal	• National Parks and Wildlife Conservation Act (1975); Article 6 (1) (b)	✓					
	Bangladesh	• Wildlife (Conservation and Security) Act 2012	✓					
	India	• Wildlife (Protection) Act of India 1972	✓	✓				
	Pakistan	• The Pakistan Wildlife Ordinance (1971); but each province, territories, or capital area has its own law.	✓	✓				

	Sri Lanka	• Fauna and Flora Protection Ordinance (1993)	✓	✓				
Country does not have laws and/or legal provisions regulating hunting tools/ nets	Bhutan	Hunting of all wildlife is prohibited.						

5.5.1 Nepal

Nepal has one major law governing wildlife protection and hunting, the National Parks and Wildlife Conservation Act, which was passed in 1975, and has gone through several legislative amendments since, most recently in 1992. Supporting legislation with provisions on wildlife protection and regulation on hunting include (The) Control of International Trade of Endangered Wild Fauna and Flora Act, 2017 and the National Parks and Wildlife Conservation Rules, 2030 (1974).

5.5.1.1 Highlights of relevant laws

Nepal's National Parks and Wildlife Conservation Act define hunting as the 'means the act of chasing, capturing, torturing or killing of any wildlife by any means or attempting to do so or extracting any part of its body or eliminating it or taking out or destroying its eggs or taking out, destroying or disturbing its nest'. Wildlife is specifically defined to include mammals, birds, reptiles, amphibians and other groups but excluding domesticated animals; eggs of wildlife is also defined as such.

Under the Act,

- Hunting of wildlife species is highly regulated, 'no person shall be permitted to hunt wildlife without obtaining a license.'

- The government authorities may prescribe a hunting prohibited period and areas where hunting is prohibited through the Nepal Gazette.
- At sites where hunting is permitted, an annual quota of wildlife species that may be hunted inside the hunting reserve in a year may be determined on the basis of wildlife censuses conducted from time to time.
- Protected wildlife species is defined under Schedule I, and which includes nine bird species.
    - Under Sub section 4 of the Act, any person who hunts and kills or injures protected birds (of nine listed species) may be fined (up to 10,000 NRP, or imprisoned up to two years)
    - Under Sub section 5, a person who hunts and kills or injures birds other than protected birds inside protected areas, which includes national parks, strict nature reserves or wildlife reserves without obtaining a license may be fined (up to 10,000 NRP, or imprisoned)
- Under chapter 3, article 6, 'Without the written order of the Chief any person shall not hunt a wildlife or birds by using the following techniques: using any type of trap like *darjan*, *damal* (tying rope), *Jaal* (Net), *Dharap* (obstacles), *Khor* (cage) or *Paso* (hanging rope) …'

5.5.1.2 Implications of relevant laws

Hunting within Nepal's protected areas is strictly prohibited under the National Parks and Wildlife Conservation Act, regardless of tool type or method used. Outside of Nepal's protected area network, hunting of any bird species require licenses (see sub-section 5 of the National Parks and Conservation Act) although exceptions may be made for scientific research. Hunting of species not listed in Schedule I protected species (mostly mammal species, with a few bird species) is legal if permits are obtained and during the defined hunting season and sites (where hunting is permitted), although the legislation does not specifically restrict the use of any particular tool for hunting. The use of nets as a hunting tool is regulated by the government.

5.5.1.3 Penalties

Under Nepal's National Parks and Wildlife Conservation Act, hunting of protected bird species may result in fines of Rs 500 to up to Rs 10,000 and/or a prison term ranging from three months to two years. Hunting of other species of birds without a license may incur slightly less severe fines: Rs 200 to Rs 10,000 and/or a prison term of up to two years. Other relevant violations of the Act may result in fines of up to Rs 10,000.

5.5.1.4 Sources of relevant laws

- National Parks and Wildlife Conservation Act

5.5.2 Bhutan

The Kingdom of Bhutan has one major law governing wildlife protection and hunting, the Forest and Nature Conservation Act of 2023, first passed in 1995. Supporting legislation with provisions on wildlife protection and regulation on hunting include the Bhutan Forest and Nature Conservation Rules and Regulation 2023.

5.5.2.1 Highlights of relevant laws

Bhutan has among the strictest laws on wildlife protection in South Asia. The Forest and Nature Conservation Act of 2023 does not provide any provisions for legal hunting (through hunting licenses, unlike other parts of the region) and hunting in most circumstances is illegal.

- Under the Act, wild fauna is defined to include mammals, birds, reptiles, amphibians, fishes and invertebrates that are 'not domesticated'.
- 'Any wild flora and fauna in Bhutan are protected; killing, injuring, destroying, capturing, collecting, possessing, breeding, raising, cultivating, and trading of any wild flora and fauna specimen or product whether or not in State Reserved Forest Land is prohibited unless permitted by this Act'.

- 228 species of birds protected under Bhutan's Schedules I, II and III.

5.5.2.2 Implications of relevant laws

Under Bhutan's Forest and Nature Conservation Act, the hunting of wildlife (defined as 'wild fauna') is illegal in most circumstances although species may be taken from the wild on the basis of research, monitoring, or if an animal poses an imminent threat to people. By extension, any use of nets for trapping birds is illegal. Any killing of species under Schedules I, II and III is considered an offence, with moderate fines.

5.5.2.3 Penalties

Under Bhutan's Forest and Nature Conservation Act, the killing of fully protected wildlife species listed under Schedule I is punishable by a prison term ranging from three to nine years, as defined under the Penal Code, while the illegal collection of Schedule I species may be penalised with a prison term of three to five years. Killing of species in other schedules may result in fines. Confiscation of the illegally harvested animal(s) and financial compensation may be required (from the offender). Infringements involving the laying of traps and snares to hunt and capture wildlife may result in fine amounts scaled up from the national daily wage as a baseline, while hunting equipment is expected to be confiscated.

5.5.2.4 Sources of relevant laws

- Forest and Nature Conservation Act of 2023

5.5.3 India

India's main law governing wildlife protection and hunting, is the Wildlife (Protection) Act of India, first passed in 1972 and most recently amended in 2022. There are no supporting pieces

of legislation. India's bird species receive protection under two Schedules (I, II) of the Act, and which collectively cover the majority of the country's species, and the broader protections offered to the country's large network of protected areas.

5.5.3.1 Highlights of relevant laws

India's Wildlife (Protection) Act provides broad definitions on what constitutes wildlife hunting although it does not go into details on the hunting tools and approaches used. For instance, the Wildlife Act defines hunting as the (a) killing or poisoning of any wild animal or captive animal and every attempt to do so; (b) capturing, coursing, snaring, trapping, driving or baiting any wild or captive animal and every attempt to do so (which would apply to the use of nets for hunting birds by extension); (c) injuring or destroying or taking any part of the body of any such animal or, in the case of wild birds or reptiles, damaging the eggs of such birds or reptiles, or disturbing the eggs or nests of such birds or reptiles. The species protected under the law are listed in Schedules I to IV and occur in the wild state.

- Under the Wildlife Act, hunting of any wild species specified in Schedules I, II, III, and IV is largely prohibited, with exceptions provided for under section 11 and section 12. Section 11 of the Act, for example states that the Chief Wildlife Warden may permit hunting or killing of a wild animal if it poses a threat to human life (and would naturally apply to large mammals), or if the animal is severely diseased. Another example is for research purposes, as defined under Section 12.
- India's laws provide broad protections for most species of birds, with over 1,300 species listed under Schedules I and II, which indicates that hunting is illegal under most circumstances for the majority of species. Hunting in protected areas and listed species under Schedules I and II is generally illegal.

5.5.3.2 Implications of relevant laws

Under India's Wildlife Act, the hunting of bird species and other wildlife (defined as 'wild animals') is illegal and prohibited under most circumstances given that the vast majority of species (>90% of bird species listed in India) are either Schedule I or II protected species. The

Act identifies nets as “weapons” and prohibits entry into sanctuaries with a weapon. The act does not specifically mention mist-nets. As with most parts of Asia, hunting within protected areas such as wildlife sanctuaries, tiger reserves and national parks is generally considered as illegal. There are no provisions under India’s laws on the sale and ownership of hunting tools such as mist-nets and snares. India however makes exemptions for indigenous peoples, for example, indigenous peoples (defined under the rights of Scheduled Tribes) in parts of the country such as the Andaman and Nicobar Islands – retain special hunting rights for subsistence.

5.5.3.3 Penalties

Section 51 of India’s Wildlife (Protection) Act defines the penalties for violations, including illegal hunting, possession, and trade. Hunting of species is listed under Schedules I or II may result in a fine of at least INR 25,000 and a prison term of three to seven years. Hunting of other species under Schedule III and IV may be punishable by a prison term of up to three years and a fine of up to INR 100,000. Hunting and hunting associated infringements inside protected areas such as tiger reserves are heavily penalised, with a prison term of three to seven years, and a fine of INR 50,000 to up to INR 200,000. Repeat offenders are expected to be penalised more heavily.

5.5.3.4 Sources of relevant laws

- Wildlife (Protection) Act

5.5.4 Bangladesh

Bangladesh’s main legislation for wildlife protection is the Wildlife (Conservation and Security) Act (2012), which provides comprehensive provisions on wildlife protection and the hunting of wild animals. It defines where (locations) wildlife hunting is strictly prohibited, hunting seasons, and the issuance of hunting licenses. Other relevant legislations with

implications on bird hunting is Bangladesh's Biological Diversity Act (2017), Forest Act (1972) and Special Powers Act, 1974.

5.5.4.1 Highlights of relevant laws

Under the Wildlife (Conservation and Security) Act, most of Bangladesh's bird species are protected under Schedule I (578 species) and II (44 species), with species in Schedule I having stronger protections as 'fully protected' species.

- Hunting in protected areas (e.g. wildlife sanctuaries and national parks) is strictly prohibited and may be penalised with fines of up to 100,000 BDT, and imprisonment terms of a maximum of two years.
- Specific penalties are defined for the hunting of 'migratory species', as well as the sale and purchases of parts and bodies of migratory bird species, with fines of up to 100,000 BDT and a jail term of a year.

The Biological Diversity Act of 2017 contains provisions to restrict activities deemed to have negative impacts on threatened species and ecosystems, and natural resources. Penalties for violations under the Biological Diversity Act include progressively heavy fines of up to 200,000 BDT for repeated offences. The Forest Act of 1972 prohibits 'activities that damage forests', including the hunting of wildlife. Penalties are relatively less severe compared to the two preceding laws, with fines between 5,000 and 50,000 BDT.

5.5.4.2 Implications of relevant laws

Bangladesh has strict regulations on the hunting of birds with stiff penalties for infringements but defines hunting approaches and tools (including nets) less clearly. Under Bangladesh's Wildlife (Conservation and Security) Act, the hunting of bird species and other wildlife (defined as 'wild animals') is illegal and prohibited under most circumstances given that the vast majority of species (>90% of bird species listed) are either Schedule I or II protected species. There is only a small subset of species (in Schedule I) that may be hunted under license. The Act recognises migratory species specifically with specific penalties defined for the hunting of migratory species, as well as the trade of migratory bird species. However, the Act

does not specifically list the types of tools used for hunting and makes no mention of nets and mist-nets. Hunting within protected areas such as wildlife sanctuaries and national parks is generally illegal, with few exceptions.

5.5.4.3 Penalties

Section 38 of Bangladesh's Wildlife Conservation and Security Act define the penalties for hunting and killing of protected bird species, including species listed in Schedules I and II. Violations involving the illegal killing of birds may be punishable by a prison term of up to one year and a fine of up to BDT 100,000. Penalties are doubled for repeat offenders with a possible prison term of up to two years. Possession or (trade) of wildlife species without a permit may be penalised by a prison term of up to six months and a fine reaching BDT 30,000.

5.5.4.4 Sources of relevant laws

- Wildlife Conservation and Security Act

5.5.5 Sri Lanka

The Fauna and Flora Protection Ordinance, most recently updated in 1993, is Sri Lanka's key legislation for the protection of wildlife, with regulations on hunting activities. It defines and identifies eight types of protected areas (Strict Nature Reserves, National Parks, Nature Reserves, Jungle Corridors, Marine National Parks, Marine Reserves, Buffer Zones, and Sanctuary/Managed Elephant Reserve), within which there are strict prohibitions and regulations on hunting.

5.5.5.1 Highlights of relevant laws

Under the Fauna and Flora Protection Ordinance, hunting of wildlife species in Sri Lanka's protected areas are highly regulated, although there are few specific provisions of hunting types

and tools. Hunting of wildlife using guns is clearly defined under the Ordinance, i.e. ‘no person shall shoot at any animal from any position in or on any moving or stationary vehicle of any kind’ but there are no comparable clauses or provisions on other hunting approaches including the use of nets. Hunting of wildlife may take place if licenses are obtained

- Licenses for hunting wildlife may be obtained at the discretion of the “The Director or any officer empowered to issue a licence or permit under this Ordinance or any regulation made thereunder”
- Seven species of birds are protected under Schedule II
- Hunting in any of Sri Lanka’s protected areas is considered as illegal. Hunting take of wildlife species in a Strict Natural Reserve, National Park, Nature Reserve, Jungle Corridor, Refuge for instance, may incur penalties including fines of 20,000 LKR or imprisonment of up to five years.
- Prohibitions on the hunting of birds outside protected areas and the use of nets for hunting are defined under Section 31. It is illegal if one , ‘takes or destroys the eggs or nest of any such bird; uses any boat, or any lime, snare, net, spear, trap, gun, rod, line, or hook with any access of…' or bait or explosives of any description or other instrument for the purpose of killing, wounding, injuring or taking any bird; or has in his possession or under his control, any bird killed or taken, or the skin of any bird killed or taken, or the feather or any other part of any bird killed or taken, or the eggs of any bird; or exposes or offers for sale, any birds or any part of any bird’. Penalties include fines of 10,000 LKR and/or imprisonment of up to five years.

5.5.5.2 Implications of relevant laws

Sri Lanka’s legislation strictly prohibits the hunting of birds, regardless of hunting approach used, in all classes of its protected areas although exceptions may be made if a hunting license is issued. Unlike most South Asian countries, Sri Lanka’s ordinance defines the use of ‘nets’ to wound, kill or injure birds to be illegal, and it is penalised with fines and imprisonment.

5.5.5.3 Penalties

Section 31 of Sri Lanka's Fauna and Flora Protection Ordinance define the violations related to birds outside protected areas, including but not limited to the killing and taking of any bird (species under Schedule I), and the use of specific instruments (including nets) to kill and take birds. Infringements may result in a fine of LKR 10,000 to LKR 20,000 and/or a prison term of two to five years. General regulatory breaches (including the breaches of permit conditions) may result in a fine of LKR 2,000 to LKR 5,000 and/or a prison term of one to two years. Under Section 36, temporal protection may be afforded to birds from being hunted and killed in designated areas, and infringements may be punished by a fine of up to Rs 10,000 and/or a prison term of one to two years.

5.5.5.4 Sources of relevant laws

- Fauna and Flora Protection Ordinance

5.5.6 Pakistan

Pakistan has some of the most complex regulations and laws for wildlife protection and hunting in Asia. Unlike other South Asian countries, Pakistan's seven provinces, territories and capital areas (Sindh, Baluchistan, Khyber Pakhtunkhwa, Punjab, Azad Jammu and Kashmir [Pakistan-controlled Kashmir], Northern Region, Islamabad) each have their own wildlife legislation. Depending on region, there are varying regulations on what (game) species may be taken legally with permits, hunting seasons, prohibited hunting methods etc. Some provinces protect the majority of bird species while others protect a smaller subset of species. The Pakistan Wildlife Ordinance of 1971 provides broad provisions for legislations in the country, which then take shape differently in each province. Legislation in several provinces also define migratory species (e.g. Sindh, Baluchistan) specifically.

Table 7. Summary of legislation on wildlife protection and hunting in Pakistan at the national and subnational levels.

Name of main legislation	The Pakistan Wildlife Ordinance

Year of publication	1971
Provincial legislations and supporting legislations	• Sindh Wildlife Protection Ordinance (1972) • Balochistan Wildlife Protection Act (1974) • Balochistan Wildlife Protection Rules (1975) • Punjab Wildlife Act and Rules (1974) • Azad Jammu and Kashmir Wildlife Act (1975) • Azad Jammu and Kashmir Wildlife Rules (1985) • Northwest Frontier Province Wildlife Act (1975) • Northwest Frontier Province Wildlife Rules (1977) • Northern Areas Wildlife Preservation Act (1975) • The Islamabad Nature Conservation and Wildlife Management Act 2024
Legislation updates	• Sindh Wildlife Protection, Preservation, Conservation and Management Rules 2022. • The Balochistan (Wildlife Protection, Preservation, Conservation and Management) Act 2014 • The Punjab Wildlife (Protection, preservation, Conservation and Management) (Amendment) Act 2025 • The Azad Jammu & Kashmir Wildlife (Protection, Preservation, Conservation and Management) Ordinance 2011 • Azad Jammu and Kashmir Wildlife (Protection, Preservation, Conservation and Management) Act, 2014 (Act IV of 2015) • Khyber Pakhtunkhwa Wildlife and Biodiversity (Protection, Preservation, Conservation and Management) Act, 2015 (*This is the update for the North West Frontier Province Wildlife Act 1975*)

5.5.6.1 Highlights of relevant laws

The Pakistan Wildlife Ordinance provides definitions of what constitute a wild animal (which includes all birds species), and the action of ‘hunt’. Species defined as ‘game animals’ may be

hunted with a permit while hunting of ‘protected animals’ (under the Third Schedule of the ordinance) is mostly prohibited. It is useful to note,

- Section 2(e) ‘Wild Animal’ means any vertebrate creature other than human beings and animals of usually domesticated species or fish and includes the eggs of birds and reptiles. The term includes wild animals kept or born in captivity.
- Section 2(o) "Hunt" means any act immediately directed to the killing or capturing of an animal or the taking of nests or eggs.
- Section 5(a) The wild animals specified in the First Schedule to this Ordinance shall be known as "Game Animals" and shall not be hunted, killed or captured, save under and in accordance with the terms of a permit issued under this Ordinance. *Note: First Schedule in Provincial Acts are very similar.*
- Section 5(b) The wild animals specified in the Third Schedule to this Ordinance shall be known as "Protected Animals" and shall not be hunted, killed or captured, save as otherwise expressly provided in this Ordinance. *Note: Third Schedule in Provincial Acts are very similar.*
- Section 22 provides the provincial government with the authority to declare wildlife sanctuary, national park, or game reserve.
- Section 26 (1) (i) contravenes or attempts to contravene the provision of section 5,7,9,10,11,12,13,14 and 22 of this Ordinance shall be punished with imprisonment which may extend to one year or with fine which shall extend to one thousand rupees, or both along with the cancellation of his licence under this Ordinance for a specified period;
- Section 24: An abetment of any offence under this Ordinance shall be punishable as the main offence.

5.5.6.2 Licensing and regulations on hunting

In Sindh and Azad Kashmir, hunting (defined to including shooting, killing, trapping, snaring, poisoning) in protected areas is prohibited unless licenses are obtained. In Punjab, only species defined as ‘game species’ may be hunted with a permit, including in protected areas. In Baluchistan, the hunting of wildlife (including game animal species) is prohibited from protected areas. Hunting methods and tools in most provinces of Pakistan (e.g. Baluchistan, Khyber-Pakhtunkhwa, Punjab) are also highly regulated, including the use of nets. In all cases,

it is illegal to ‘hunt any wild animal by means of a set gun drop spear, deadfall, explosive, gun trap, explosive projectile, bomb, grenade, baited hook, net, snare or any other trap, an automatic weapon…’. In Punjab and Azad Kashmir, it is prohibited to ‘use or have in his possession any net, snare, *bhagwa*, poison or like injurious substance for the purpose of hunting a game animal’.

5.5.6.3 Categories of wildlife protection

The bird species which are protected by law or may be hunted as game species under some circumstances (under Schedules I, II, III) vary greatly across Pakistan. Sindh’s schedules protect all waterbirds, raptors, owls, woodpecker, cranes, bustards, pigeons, starlings, four species of ducks, and some parakeets and phasianids. In Baluchistan, game species is defined to include pigeons, Houbara Bustard, most shorebirds and ducks, while most other bird species are protected (under Schedules II or III). In Punjab, the majority of bird species are protected under Schedules II and III with the exception of species of munia and weavers perceived to be damaging to crops. Many more species may be hunted in Azad Kashmir compared to other provinces. In Islamabad Capital Territory, the majority of non-passerine birds are protected by the law under Schedule I, which includes most waterbirds, raptors, woodpeckers, parakeets, cranes, bustards, and pigeons.

5.5.6.4 Penalties

Generally, fines of up to 30,000 PKR and prison terms may be meted out for offences involved with wildlife hunting. The hunting of protected bird species, in general, may be penalised by a fine of up to 20,000 PKR or 45,000 PKR, with variation across Pakistan’s different regions, and a prison term of up to a year. To illustrate this complexity, Khyber Pakhtunkhwa’s Wildlife and Biodiversity (Protection, Preservation, Conservation and Management) Act 2015 differentiate infringements by species (and which schedule a species is listed under). Infringement involving large birds such as cranes and raptors may be punished by a fine of up to 45,000 PKR and/or a prison term of one year. Offences involving other protected bird species may result in a fine of as little as 3,000 PKR and a week’s imprisonment, or both.

5.5.6.5 Sources of relevant laws

- Pakistan Wildlife Ordinance

6. Illegal use of nets for the take of wild birds in the Mediterranean/West Asia

6.1 Methods

6.1.1 Questionnaire Structure

To investigate the illegal use of nets for taking wild birds in the Mediterranean/West Asia region, we developed a structured questionnaire aimed at gathering detailed information on the practice. For the purposes of this study, we employed a broad definition of "nets" that encompassed any form of trap incorporating flexible netting. This definition specifically excluded other trapping methods such as nooses, snares, and lime sticks to ensure clarity and consistency in the responses.

The questionnaire was divided into three sections, comprising a total of 22 questions. The first section focused on the practical aspects of net use in the illegal take of birds. Respondents were asked to provide estimates on the numbers of birds trapped, commonly targeted species, techniques used, and motivations behind using nets for take. The second section addressed the sourcing and manufacturing of nets, seeking to understand where and how the nets were produced and purchased. The final section explored legal and regulatory dimensions, including the frameworks in place to govern net use, and the mechanisms of enforcement and monitoring of illegal net use. Finally, participants were asked to rank various actions that could help reduce the use of nets for illegal taking of birds.

The structure of the questionnaire was designed to elicit both qualitative and quantitative insights, providing a comprehensive understanding of how and why nets are used illegally. The questions were open-ended, where appropriate, to allow for detailed responses, while also including specific prompts to ensure comparability across expert responses from different countries.

6.1.2 Questionnaire Participants

To ensure a broad regional representation, we selected an expert each from eight Mediterranean countries to participate in the questionnaire, divided between the three main geographic areas of the region. These included Egypt, Tunisia, and Morocco from North Africa; the Syrian Arab Republic and Lebanon from the Middle East; and Italy, Cyprus, and Malta from Europe.

The countries chosen were identified as having high levels of illegal bird killing through trapping, as reported in prior studies by Brochet et al. (2016, 2019). These studies provided estimates of birds taken using various trapping methods, including nets, snares, and lime sticks. Based on the assumption that the number of birds caught using nets would be proportional to the broader trapping figures, we prioritized those countries with the highest estimated totals. Although several other European countries (such as Greece, France, and Croatia) also had high levels of illegal bird trapping, we opted to only include the three EU countries stated earlier as the legislation related to net use is broadly similar across all EU member countries.

6.1.3 Popularity Scores

For each quantitative question, we converted ranks into a *Borda score* to standardise results across participants. This enables meaningful comparisons across all studied countries as well as the amalgamation of rankings. A Borda score was calculated for each ranked category for a given country using the formula:

$$Borda\ score = \frac{(N - r) + 1}{N}$$

where r is the rank assigned to a category (with 1 being most popular) and N is the total number of categories that were ranked, excluding unranked categories, by a given country. All unranked categories were subsequently given a Borda score of 0.

If a country expert ranked three categories as 1, 2 and 3. The category ranked as 1 would have a Borda score of 1, the category ranked 2 a Borda score of 0.667 and the category ranked 3 a

Borda score of 0.333. This approach ensures that higher scores correspond to more popular items (i.e., lower ranks). Finally, we calculated the average Borda score for each category across all studied countries to produce an overall popularity ranking. An overall popularity score of 1 would indicate every single country expert ranked the category as 1.

6.2 Results

6.2.1 The scale of net use and the species caught *(questions 1-5).*

The use of nets for the illegal take of wild birds remains a significant conservation concern in the Mediterranean region. Estimates suggest that more than one million birds are illegally taken annually using nets in Egypt, Lebanon, and the Syrian Arab Republic (see Figures 1 and 2). This figure represents a substantial proportion of the estimated 11 to 36 million birds illegally killed or taken each year across the Mediterranean basin (Brochet et al., 2016). Notably, in every country surveyed, the scale of illegal bird capture using nets exceeded that of legal capture (Figures 1 and 2). This is unsurprising given that the use of nets for legally capturing wild birds is only permitted in half the countries assessed (Egypt, Malta, Morocco and Tunisia)

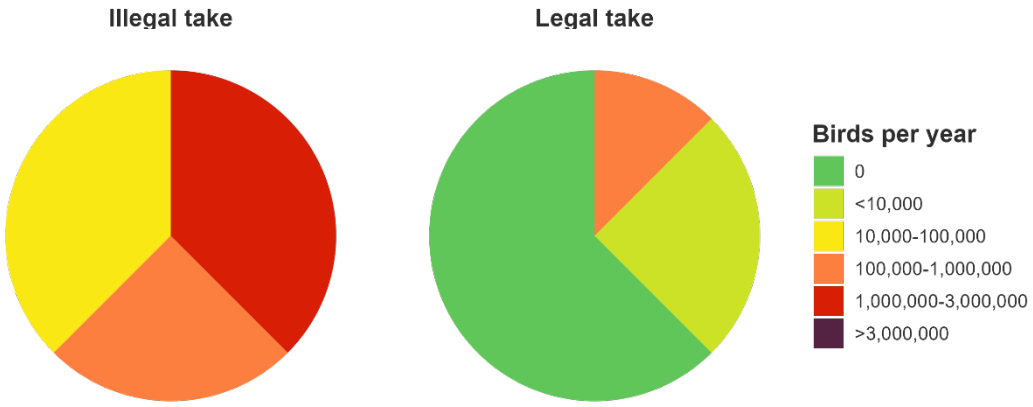


Figure 1. Estimated number of wild birds taken annually using nets across the studied mediterranean countries, divided into legal and illegal take. Each pie chart represents the proportion of countries within each take category based on estimated annual bird take. The left chart shows the distribution of countries (n = 8) by levels of *illegal* take, while the right chart shows the same for *legal* take, which includes taking under derogation.

The species most commonly targeted by illegal netting were migratory and resident passerines, along with gamebirds and pigeons & doves (Figure 3). Migratory passerines were identified as key targets across all studied countries. Among the species frequently captured were the Eurasian Blackcap *Sylvia atricapilla*, Willow Warbler *Phylloscopus trochilus*, Lesser Whitethroat *Sylvia curruca*, Golden Oriole *Oriolus oriolus*, and Ortolan Bunting *Emberiza hortulana*. The Eurasian Blackcap was especially prominent, ranked as the primary target species in Lebanon, Cyprus, and the Syrian Arab Republic. In these countries, illegally captured Eurasian Blackcaps are commonly sold to restaurants for human consumption[4].

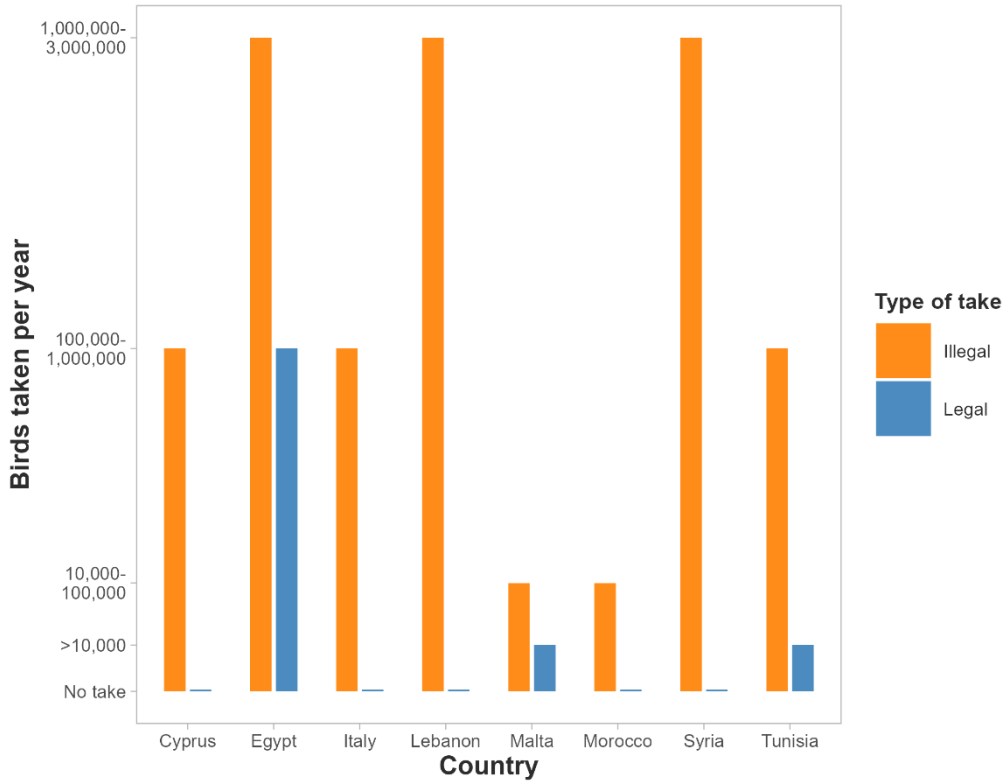


Figure 2. Estimated number of wild birds taken annually using nets for each of the studied mediterranean countries, divided into legal and illegal take. Legal take includes taking under derogation. Note: we used the midpoints of each category to scale the y axis.

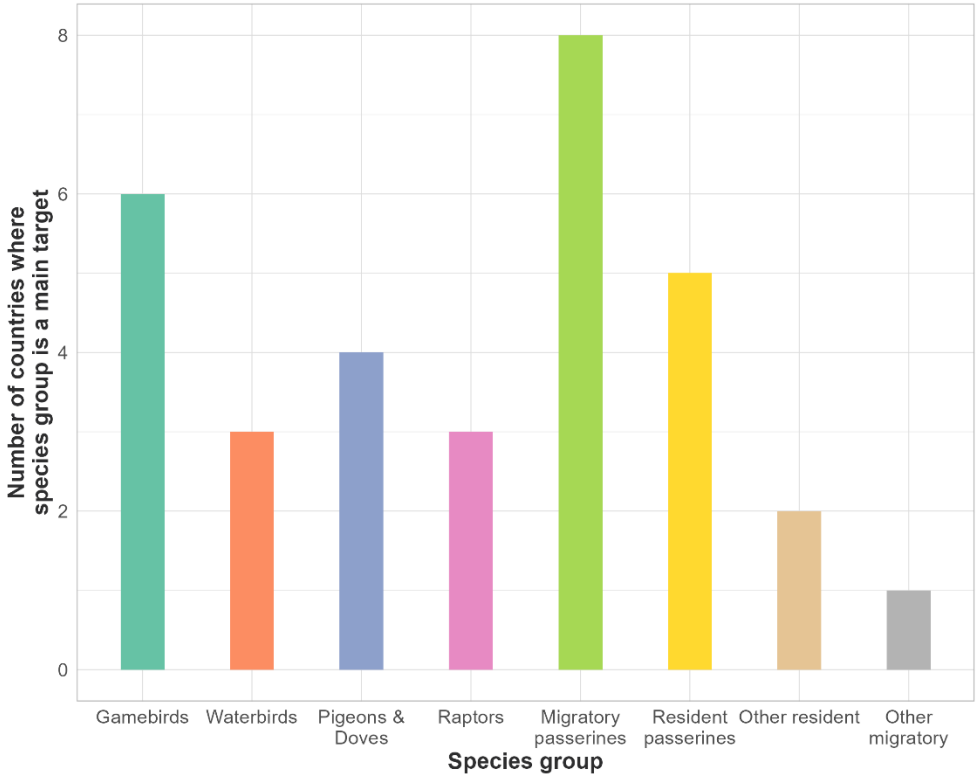
Five country experts indicated that gamebirds were a main target of illegal net use and in all instances, this related to take of the Common quail *Coturnix coturnix*. In Egypt, the quail was

[4] https://birdlifecyprus.org/wp-content/uploads/sites/3/2020/10/BirdLife-Cyprus_Winter-2019-20_Trapping-report-FINAL-For-Publication.pdf

ranked as the number one target species. These birds were typically caught for sale as food and also used as live decoys in hunting practices.

Resident passerines were main targets for illegal take in five countries (Egypt, Italy, the Syrian Arab Republic, Morocco and Tunisia). The European Goldfinch *Carduelis carduelis* was the most commonly trapped species within this group, often kept and traded as a caged ornamental songbird. Other frequently captured finch species included the Eurasian Siskin *Spinus spinus*, Common Linnet *Linaria cannabina*, European Greenfinch *Chloris chloris*, and European Serin *Serinus serinus*. Additional resident passerines targeted in various countries included the House Sparrow *Passer domesticus*, European Robin *Erithacus rubecula*, Eurasian Starling *Sturnus vulgaris*, and Eurasian Chaffinch *Fringilla coelebs*. These species are mostly sold for food in many countries and in the case of House Sparrows they can be falsely sold in Lebanon as Eurasian Blackcaps that have a higher demand in restaurants.

Lastly, pigeons and doves were reported as main targets in four countries. Of particular concern is the illegal take of the European Turtle Dove *Streptopelia turtur*, a species classified as globally Vulnerable. In Malta, European Turtle Dove are primarily used as live decoys during the hunting season. In Morocco, illegal capture of pigeons and doves includes a broader range



of species such as the Feral Pigeon *Columba livia domestica* and the Common Wood Pigeon *Columba palumbus*.

Figure 3. Number of countries in which each bird species group is identified as being a primary target of illegal take using nets. Seabirds were also included as a species group in the questionnaire but were not a primary target in any country.

Experts were also asked about any non-target bycatch species that were caught in nets. For many countries bycatch constituted similar species groups to the target species. Many experts suggested that warbler or finch species were caught as bycatch when targeting specific species, such as targeted take of Eurasian Blackcap or Eurasian Goldfinch. Many predatory bird species were also often bycatch in Cyprus and Tunisia, presumably caught in nets while hunting many of the target species or by trying to take birds already caught in nets. This included predators such as Cyprus Scops Owl *Otus cyprius*, Eurasian Sparrowhawk *Accipiter nisus*, Eurasian Kestrel *Falco tinnunculus,* Western Marsh Harrier *Circus aeruginosus* and Little Owl *Athene noctua*. Interestingly Malta and Lebanon suggested that bycatch of non-avian taxa was a problem during the take of wild birds. In Malta this included Algerian Hedgehog *Atelerix algirus*, Western Whip Snake *Hierophis viridiflavus* and Mediterranean Chameleon *Chamaeleo chamaeleon* that are all ground dwelling species that often become entangled in clap nets.

6.2.2 How nets are used in practice (questions 7-8) Plots of most used net types

Mist-nets were the most widely used type of net across the surveyed countries, consistently ranking first or second in terms of frequency of use for all countries (Figure 4). The only exception was Lebanon, where nets covering bushes (known locally as Eb or Munsaab nets) were the sole net type reported. In many countries, a variety of net types were employed, with all four net types included in the questionnaire being reported from the Syrian Arab Republic and Egypt. In Egypt, hunters frequently use more than one net type at a single site. For instance, trammel nets are typically set along the coast, while mist-nets paired with electronic calling devices are placed slightly further inland to reduce interference from wave noise. Behind these, clap nets (also known as Filets metoles) are deployed specifically to catch falcons. Fishing nets

were only the fourth most popular net types and used regularly in Egypt, Syria and Tunisia. Interestingly in the Syrian Arab Republic fishing nets were the most popular net types.

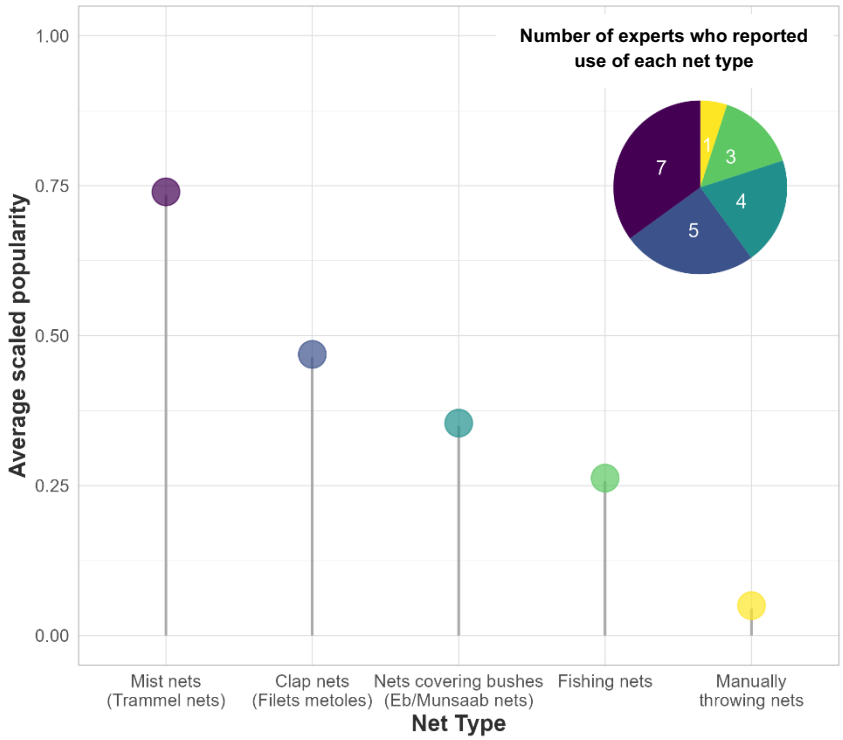


Figure 4. Average scaled popularity of different net types used in illegal bird take and the number of experts reporting the use of each net type. The main plot shows the mean scaled popularity for five net types. The inset pie chart displays the number of country experts reporting use of each net type. Colours in the pie chart correspond to those used in the main plot.

Electronic calling devices were the most commonly used method across all studied countries for attracting birds to nets (Figure 5). These devices were employed in more than 50% of trapping instances and were used alongside all net types in every surveyed country. Live lures were the second most common attraction method. While less prevalent than electronic calls, live lures were still used in approximately 25–50% of netting instances (Figure 5). Although they were often used with mist-nets, live lures were more commonly associated with clap nets. In fact, every country expert that reported using clap nets also reported using them in combination with live lures, with the exception of Lebanon.

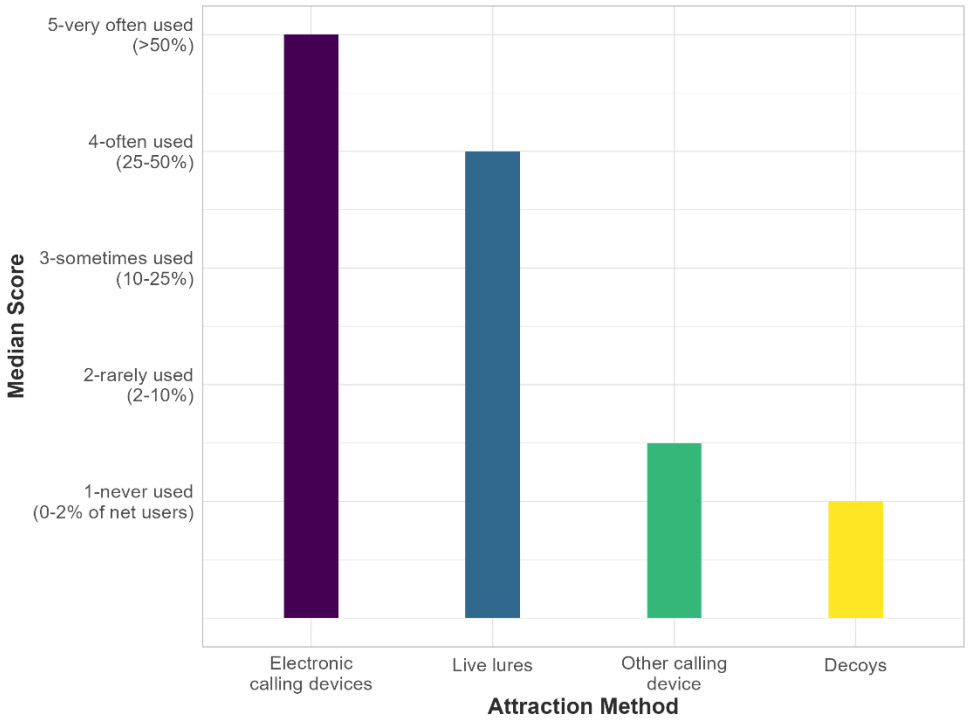


Figure 5. The frequency of use for different bird attraction methods employed in the illegal take of wild birds using nets. The bar chart presents the median score for four attraction methods, electronic calling devices, live lures, decoys, and other calling devices, based on a five-point ordinal scale of usage frequency.

6.2.3 The drivers of net use *(questions 6, 9-10).*

The primary motivation for the illegal use of nets, cited across all surveyed experts, was the sale of birds for food to generate profit (see Figure 6). This was followed by capture for the pet trade and finally, consumption as a delicacy and adherence to traditional practices. Two of these highly ranked motivations are related to the consumption of birds from large-scale targeting of mainly migratory passerines and Common Quail in the Mediterranean (see Figure 3). Lower-ranking motivations were more localized, often mentioned by only a single expert, indicating their limited prevalence across the region. Egypt, for instance, exhibited the most diverse range of motivations and the respective expert was one of the only few to report subsistence food collection, falconry, predator control, and taxidermy as reasons for illegal bird take in nets (Figure 7). These motivations, while not widespread, illustrate the complexity of drivers behind illegal capture in certain cultural and socioeconomic contexts.

In addition to direct motivations, several enabling factors were identified. In many countries, including Egypt, Morocco, Malta, Lebanon and Tunisia, limited enforcement of regulations and cultural acceptance of bird trapping were cited as important contributors. While not direct motivations themselves, these factors facilitate ongoing illegal activity by reducing the perceived risk of social or legal consequences.

Motivations varied notably between countries. The capture of birds for food, whether for sale or consumption as a delicacy, was a major driver in five countries: Cyprus, Egypt, Italy, Lebanon, and the Syrian Arab Republic (see Figure 7). In contrast, Malta and Morocco displayed different patterns. In these countries, food-related motivations were less dominant; instead, bird trapping with nets was primarily motivated by pet trade, cultural practices, and tradition. For example, Morocco has an active trade in live European Goldfinches, while in Malta, live birds are frequently trapped for use as decoys in hunting practices. Variation in motivation was also observed within individual countries, although not fully captured in the survey data. For instance, in Egypt's northwest coastal region, traditional practices and delicacy consumption were the primary drivers, while in the northern Delta, motivations centred more around subsistence and commercial sale.

The use of nets over other trapping methods, such as lime sticks, shooting, or various other trap types, is primarily driven by three key factors: best capture method, low costs, and easy to purchase (see Figure 8). Nets were widely regarded by respondents as the most effective method for capturing target bird species. Many of the most commonly targeted species are migratory passerines (see Figure 3), which often move in flocks or large numbers during migration and are highly susceptible to mass capture using nets. In the case of finches destined for the caged bird trade, the use of nets presents an additional advantage: birds are less likely to be killed or injured during capture compared to shooting or the use of lime sticks and so the economic value of the birds is maintained. Much of this capture of migratory passerines and finches is for onwards sale so that fact that nets are comparatively cheaper and easier to acquire than other methods mean trappers can increase efficiency and profitability.

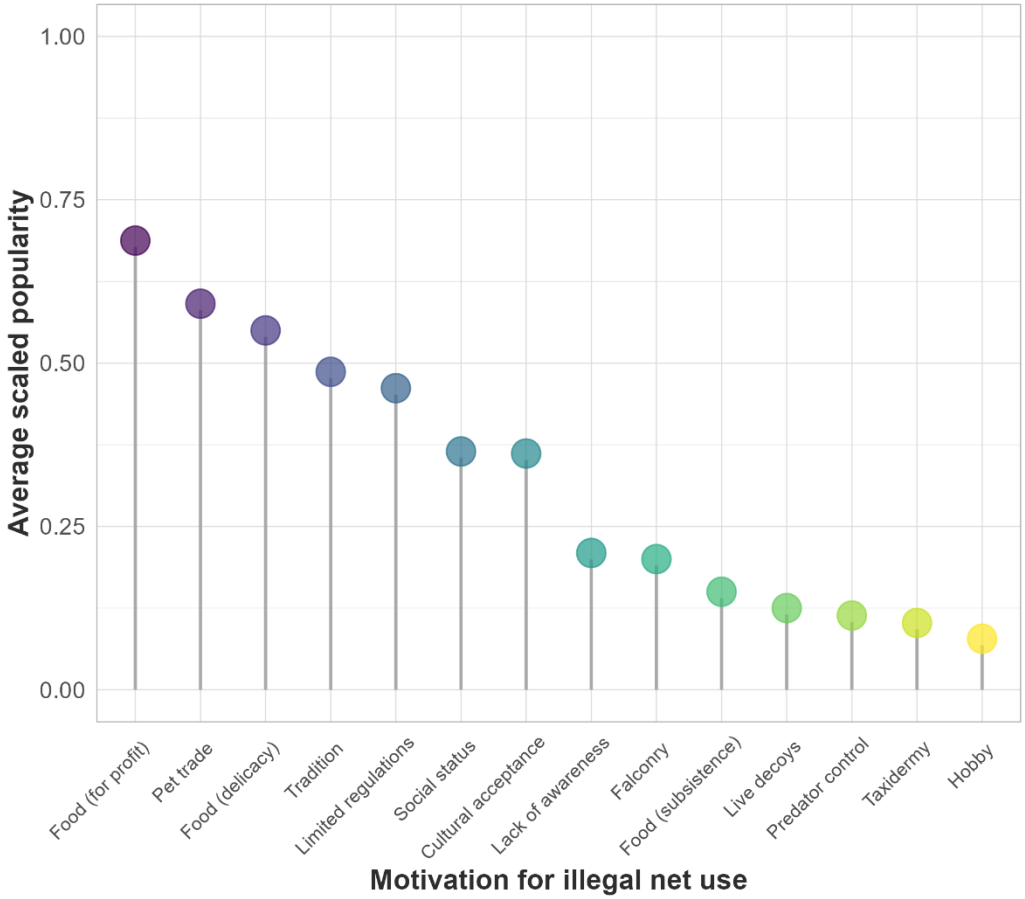


Figure 6. Average scaled popularity of reported motivations for illegal use of nets for the take of wild birds. Each dot represents a different motivation, plotted by its average scaled popularity across all surveyed countries. Motivations with higher popularity scores were ranked lower (i.e. more important) by experts. The colour gradient from purple to yellow corresponds to decreasing popularity values.

Although the relative ease of avoiding detection when using nets was mentioned across all experts as a factor, it was ranked as less influential than the practical and financial advantages listed above. However, in specific contexts, such as Morocco, legal hunting of pigeons requires a series of permits, including a hunting license and a license to carry firearms, as well as adherence to regulations regarding location, season, and quotas. In such instances, illegal net use may seem appealing, especially in densely populated areas, as it avoids bureaucratic restrictions and is less likely to attract unwanted attention from both local communities and authorities, compared to illegal hunting with firearms.

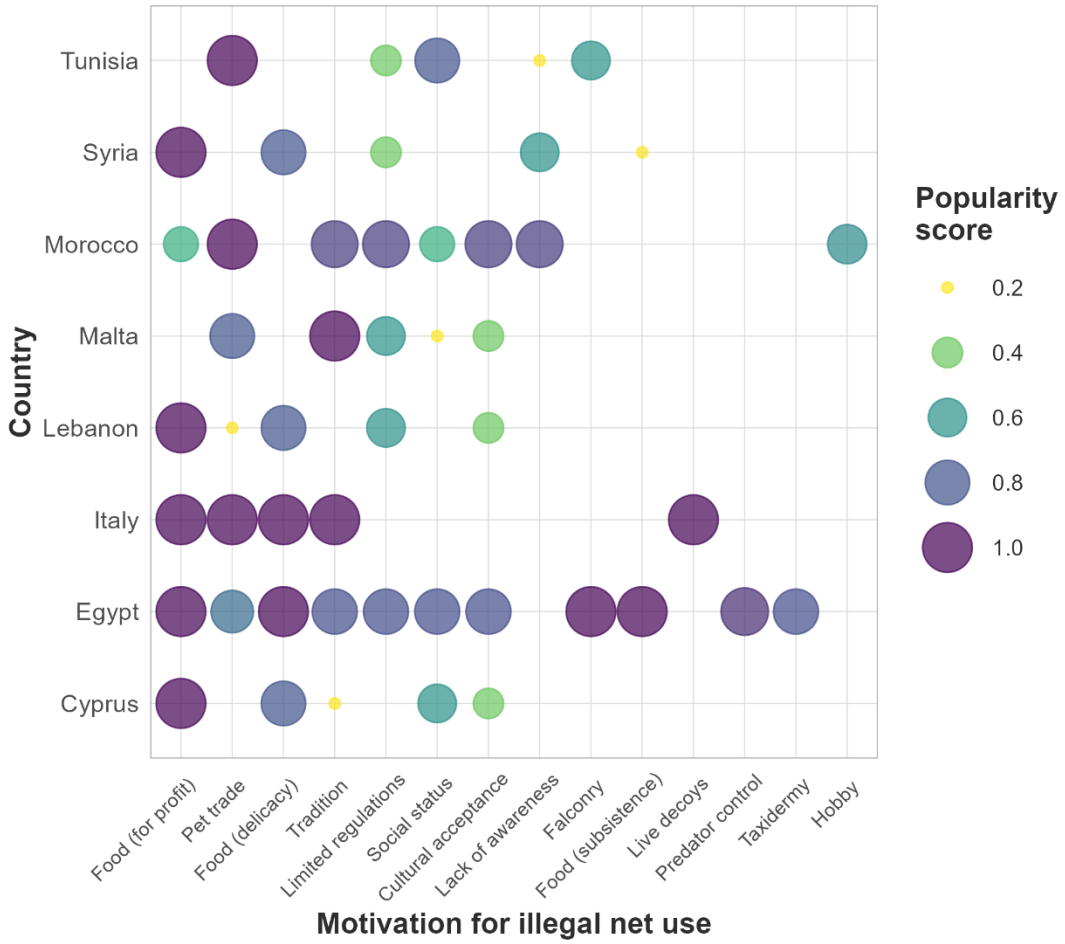


Figure 7. Popularity scores (Borda scores) of different motivations for illegal use of nets for the take of wild birds. Each dot represents a different motivation within a given country. Motivations with higher popularity scores were ranked lower (i.e. more important) by experts.

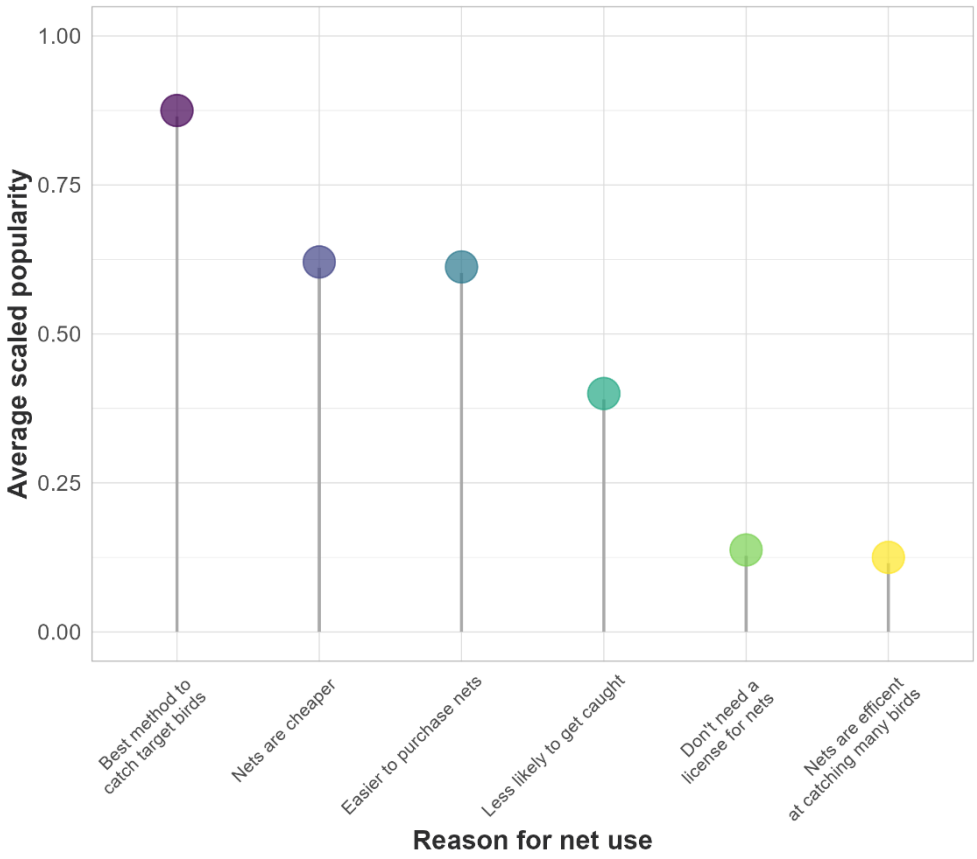


Figure 8. Average scaled popularity of reported reasons for illegal use of nets for the take of wild birds over other methods of take, e.g. shooting, lime sticks and traps. Reasons with higher popularity scores were ranked lower (i.e. more important) by experts. The colour gradient from purple to yellow corresponds to decreasing popularity values.

6.3.4 Sourcing of nets *(questions 11-13)*

The primary method of acquiring nets in the Mediterranean region is through physical vendors, such as shops and market stalls (Figure 9). This pattern was consistent across most country experts surveyed, with the notable exception of Cyprus. In Cyprus, online purchases, particularly through international e-commerce platforms, were the predominant method of acquisition. Reports of physical stores selling nets in Cyprus were minimal and largely unconfirmed. In Italy, hunters used both physical vendors and online platforms equally when purchasing nets. In contrast, online platforms were used only occasionally in Malta, Egypt, Lebanon and Tunisia, where physical sales dominated. In the Syrian Arab Republic and Morocco, the use of online platforms for purchasing nets appeared negligible.

In Egypt, Lebanon, Malta, Morocco, the Syrian Arab Republic and Tunisia the majority of hunters are buying nets from physical vendors, i.e. shops and market stalls. These vendors either buy the raw materials to produce different net types or often, in the case of mist-nets, they import nets from abroad. Raw materials and entire mist-nets were seemingly imported from China for most countries that knew the source. Often mist-nets are easily available for purchase through online shopping platforms such as Ali-Express, Amazon, eBay, noon, and Alibaba. In Tunisia, while some nets were important from Asia, China in particular, there is also official import of hunting equipment from EU countries, such as Spain, France and Italy. Direct online purchases by hunters, as observed in Cyprus and Italy, primarily involve mist-nets imported from China. In Cyprus, mist-nets are often marketed on platforms such as Temu, SHEIN, and Joom under categories like “garden pest protection” and are delivered directly to buyers without intervention from customs authorities. In Italy, mist-nets are easily found on mainstream platforms such as Amazon and eBay.

In some cases, hunters may produce nets themselves using raw materials, although this practice was only reported in Egypt. The relatively small price difference between finished nets and raw materials (in Egypt, 1 kg of nets = 850–950 EGP; 1 kg of raw materials = 600–700 EGP), coupled with the easy availability of ready-made nets, suggests limited incentive for self-manufacturing.

In the Syrian Arab Republic, detailed information on net sourcing and pricing was limited due to a lack of data from local non-governmental organizations (NGOs). However, fishing nets, identified as the most commonly used type, are likely sourced through general commercial channels. A similar situation exists in Egypt and Tunisia, where fishing nets are frequently repurposed for bird trapping and are available from small to medium-sized fishing gear retailers. We did not question NGOs on how much fishing nets cost or where they are manufactured.

In general, nets are relatively inexpensive, though prices vary depending on country of purchase and manufacturing origin (see Table 1). For instance, in Italy, a locally manufactured

net may cost around €2 per square meter, whereas a Chinese-manufactured net of similar size may cost as little as €0.80 per square meter. In Cyprus, historical data suggests that a 12-meter long mist-net purchased 5-10 years ago would cost approximately €50. In contrast, similar nets sourced today from Chinese suppliers online can be acquired for as little as €3 to €10, depending on dimensions. Overall, the affordability of Chinese-manufactured nets, combined with the ease of international online purchase and limited customs enforcement, has likely contributed to the widespread and persistent availability of mist-nets in the region.

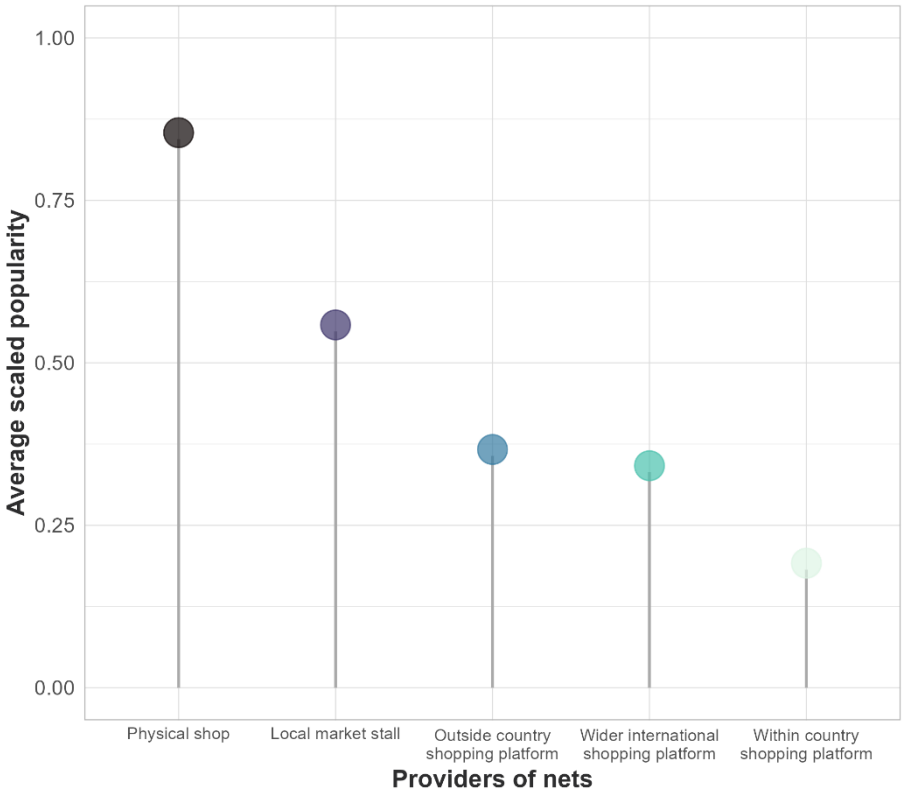


Figure 9. Average scaled popularity of different sources for acquiring nets used in illegal take of wild birds. The chart displays the relative prominence of five purchasing channels based on average scaled popularity: physical shops, online platforms (both international and national), and local market stalls.

Table 1. Price of mist-nets in Mediterranean countries. If multiple prices were provided, then we present the cheapest option that would be available to hunters. For a typical 12mx2.5m mist-net that total cost would be €15 if the price per m2 is €0.5

Country	Price per m^2 of net
Cyprus	€0.33
Egypt	€0.45
Italy	€0.8
Lebanon	€0.66
Malta	€1.57
Morocco	€0.6
Syrian Arab Republic	NA
Tunisia	NA

6.3.5 Laws and regulation on the use of nets *(question 14-16)*

The use of nets to capture wild birds is strictly prohibited under all circumstances in the Syrian Arab Republic, Cyprus, Italy, and Lebanon. In these countries, such bans fall under broader legislation that outlaws all indiscriminate bird capture methods, including mist-nets, lime sticks, and various types of traps. This prohibition typically extends to both the use and possession of nets, as explicitly stated in the legal frameworks of Cyprus, Italy. Exemptions are provided in Cyprus, Italy, and Lebanon for the scientific ringing of birds, allowing net use under strict permit systems. In Lebanon, for instance, such permits are issued by the Ministry of the Environment. It is unclear whether the Syrian Arab Republic has a similar exemption.

In Malta and Morocco, all net types used for bird trapping are banned, except for clap nets. This exception applies only to the use and possession of nets as the purchase of nets is not controlled since nets may have other lawful applications. In Malta, clap nets are tightly regulated and may be used only during officially designated trapping seasons. In Morocco, their legal use is limited exclusively to the capture of the European Goldfinch, but this type of derogation is still being implemented and permits for the possession, transporting, and use of clap nets need developing. In Tunisia, all hunting with nets is illegal, with one exception: the traditional capture of Sparrowhawks for falconry around the Cap Bon region. This legal practice is limited to a two-month period (March and April) during which Sparrowhawks are caught using nets as part of a long-standing cultural tradition. However, during this time, dozens of kilometres of nets remain deployed day and night. As a result, while the intended species is targeted, thousands of other migrating birds are also trapped and taken illegally. By contrast, Egypt presents a markedly different legal landscape as the use and possession of nets

for taking wild birds is legally permitted. Figure 2 shows that the estimated annual legal take ranges from 100,000 to 1,000,000 individuals.

In Malta and Morocco, specific government bodies, Malta's Wild Bird Regulation Unit and Morocco's National Agency for Water and Forests, oversee net use and issue permits. In Malta, individuals must hold a personal license, register their trapping site, and operate only during regulated seasons. In Morocco, permits are required for transporting and using nets, and they specify the individual authorized, the location, and the exact trapping dates. The licences and permits issued in Malta and Morocco are related to the use and possession of nets but currently the purchase is unregulated in both countries. In Tunisia, authorisation is required to capture Sparrowhawks as part of legal hunting activities, but the wider possession or purchase of nets is not regulated with no permits or licenses required.

In Egypt national regulations primarily focus on fishing nets and do not explicitly address bird hunting nets in terms of material, size, or sale. General hunting laws outline when and where hunting is permitted and there are set rules on the height of trammel nets and how far they must be from the coastline. Hunters must obtain permits from both the local municipality's environment office and the Coast Guard to set nets along the northern coast. In more remote inland areas, nets are sometimes set without permits. The Coast Guard and Environment Agency conduct checks, but enforcement is limited due to the vastness of the northern coast and Western Desert.

6.3.6 How illegal net use is detected/monitored and by whom *(questions 17-18)*

Across all surveyed countries, NGOs were the primary actors involved in monitoring and detecting the illegal capture of wild birds using nets, followed by the police and members of the public (Figure 10). The only country where NGOs were not a key actor was the Syrian Arab Republic, where NGOs are not currently engaged in such activities. Due to ongoing political instability and conflict (at the time of writing), there is minimal capacity for police, rangers, or NGOs in the Syrian Arab Republic to monitor and detect illegal net use. In Cyprus, the local police is typically involved in enforcement but is not directly involved in IKB monitoring;

instead, this responsibility falls to the Game and Fauna Service and the Sovereign Base Area (SBA) Police, both categorized as other enforcement authorities. In all countries examined, members of the public played some role in identifying and reporting illegal activity.

In many contexts, detection of illegal net use is led by NGOs and members of the public, who then report findings to police or other enforcement agencies. This has fostered collaborative relationships between civil society organizations and enforcement bodies in several countries. NGOs often play a leading role in this cooperation, particularly in Cyprus, Malta, Lebanon and Tunisia, and an equally significant role alongside authorities in Italy. In Lebanon, the Anti-Poaching Unit, operated by NGOs, is responsible for much of the on-the-ground detection, with 90% of bird-related cases handled by the Internal Security Forces originating from NGO reports. In Cyprus, the partnership between the SBA Police and NGOs such as BirdLife Cyprus, the RSPB, and the Committee against Bird Slaughter (CABS) has been notably effective, leading to a marked decline in bird trapping incidents within the SBA territories over the past 5–10 years. In Malta, officers from the Environmental Protection Unit conduct countryside patrols to detect illegal trapping activities, verify trapper licences, and carry out nighttime checks for electronic callers used to trap Golden Plover *Pluvialis apricaria*. However, active patrolling remains limited and largely dependent on the initiative of individual officers. In most cases, convictions are directly linked to reports made by NGOs in Malta to national authorities.

In contrast, NGOs in Morocco and Egypt play a more limited role, ranking below park rangers, police, and other enforcement agencies in terms of involvement. In Morocco, forestry rangers take the lead, notifying the Royal Gendarmerie of illegal activities. In Egypt, park rangers from the Ministry of Environment conduct one patrol per season, though this is insufficient to cover all hunting areas due to financial constraints. Despite their secondary role, NGOs in both countries still contribute to detection and cooperate with enforcement bodies. For instance, the Egyptian NGO Nature Conservation Egypt prepares hunting activity reports for the Ministry of Environment and monitors illegal bird hunting reported on social media platforms.

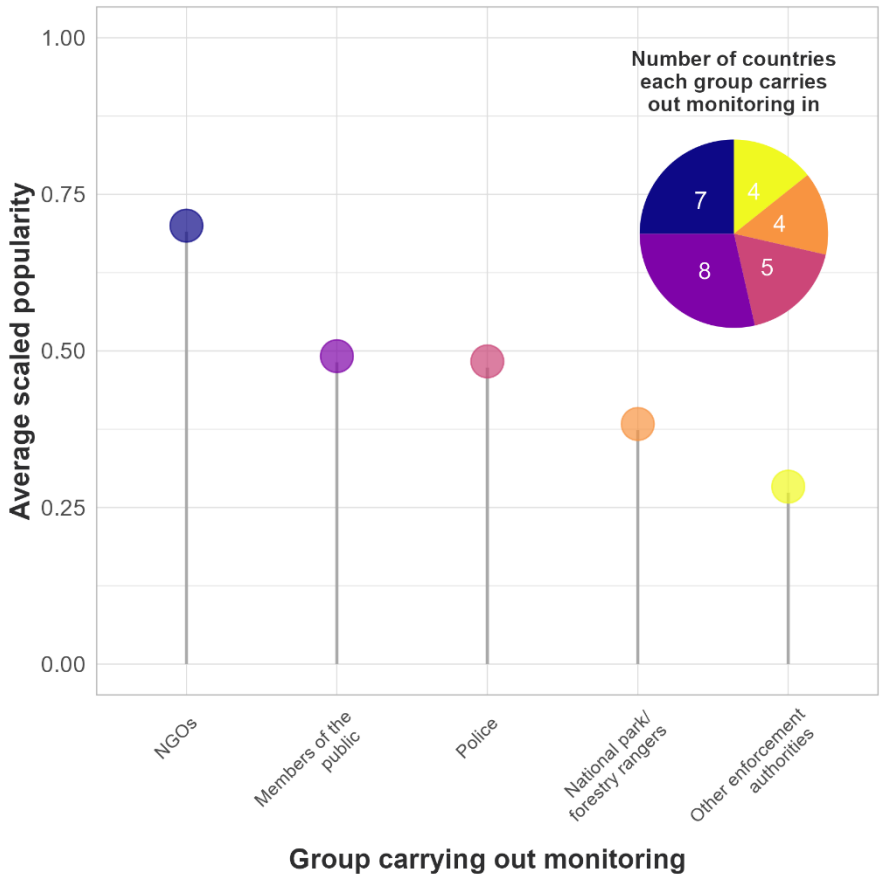


Figure 10. Average scaled popularity of different groups that carry out monitoring or detection of illegal bird take using nets. The main plot shows the mean scaled popularity for five different groups. The inset pie chart displays the number of countries where each groups plays some role in monitoring or detection. Colours in the pie chart correspond to those used in the main plot.

6.3.7 What happens when illegal net use is discovered *(questions 19-21)*

The handling of illegal net use cases for taking wild birds varies significantly across countries, both in terms of the percentage of cases where further action is taken and the type of enforcement applied. As illustrated by Figure 11, NGOs tend to take follow-up actions for a slightly higher proportion of reported cases than national authorities, with the majority of NGO-involved cases falling into the 50–90% and >90% categories. National authorities, on the other hand, show a more mixed response: while a substantial portion of cases also fall into the >50% action range, a notable segment sees little to no action taken, some less than 5%. In Cyprus, Italy, Malta and Morocco national authorities and NGOs actually both follow up on the same high percentage of cases, 50-90% in Italy and >90% in Cyprus, Morocco and Malta.

The pattern described above is driven by NGOs following up on more cases than national authorities in Egypt (50-90% vs 20-50%), the Syrian Arab Republic (5-20% vs <5%) and Tunisia (20-50% vs <5%).

National responses to illegal net use detection differ widely by country. In the Syrian Arab Republic, illegal net use is not a priority and receives virtually no attention from any authority. In Morocco, when cases are detected by national authorities, they are almost always brought to court. Cyprus presents a well-established cooperative approach: BirdLife Cyprus typically does not investigate detected illegal net use further but refers cases to enforcement agencies. Meanwhile, a different NGO in Cyprus, CABS, takes a more hands-on approach, often conducting night surveillance and calling in enforcement once trappers are observed in the act. National authorities in Cyprus do act on most reported mist-netting cases, often issuing on-the-spot fines, though over 40% of these fines go unpaid and lead to court cases. In Egypt, enforcement is minimal; most action involves confiscation of trapping tools rather than legal proceedings. In Lebanon, offenders are often fined or required to sign a pledge not to repeat the offense, with court cases initiated only if the pledge is broken. In Italy, court action is theoretically mandated for all detected cases, even if the offender is unknown, but there is no available data to confirm how often this occurs in practice.

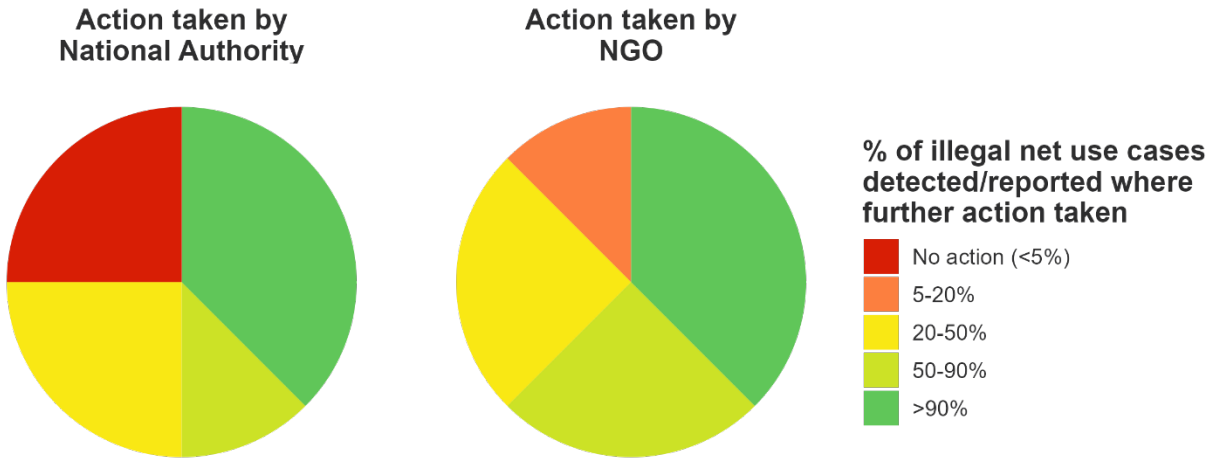


Figure 11. The percentage of detected or reported illegal bird take cases using nets where further action is taken. The percentage of cases where further action is taken is divided into action taken by *national authorities* (left chart) and action taken by *NGOs* (right chart). Each pie chart represents the proportion of countries ($n = 8$) within each percentage of cases category.

With regard to the prosecution of illegal net use, the surveyed countries can be broadly divided into two groups. In Morocco, Cyprus, and Malta, the majority of detected cases are reportedly taken to court, although limited information was provided beyond this. In contrast, in Egypt, Lebanon, and the Syrian Arab Republic, most cases of illegal net use are never prosecuted (Figure 12). Tunisia was the only country that fell in the middle with 10-50% of detected cases being taken to court. Italy did not supply official data on this matter; however, in principle, any confirmed case of illegal net use should be referred to the courts. In Lebanon and the Syrian Arab Republic, responses suggest that little enforcement action is typically taken, and prosecutions are especially rare. In Egypt, cases are also seldom brought to court; instead, when authorities detect illegal net use, they typically confiscate the nets and related equipment on site without further legal proceedings.

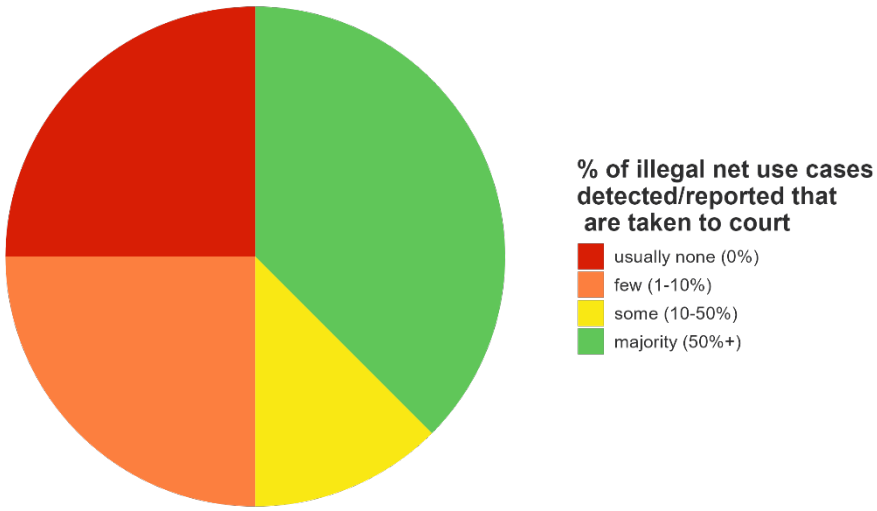


Figure 12. The percentage of detected or reported illegal bird take cases using nets that are taken to court. The pie chart represents the proportion of countries ($n = 8$) within each of the four percentage of cases categories.

Confiscation of trapping equipment and monetary fines emerged as the most widely applied and popular penalties for the illegal use of nets across the surveyed countries (Figure 13). These two punitive measures were implemented in all countries, consistently ranking first or second in severity. The only exception was Egypt, where confiscation was the most commonly applied penalty, followed by loss of licence, with fines coming in third. In most cases, fines and confiscation were used in tandem. For example, Italy and Morocco ranked both confiscations and fines jointly as the most significant responses to illegal net use. In Egypt and Morocco, authorities typically confiscate equipment as an immediate measure, with fines issued to be paid at a later stage.

The size of fines can vary significantly depending on the nature and severity of the offense. Cyprus provided the most detailed breakdown: a base fine of €2000 is issued for the first mist-net, with each additional net incurring a further €500. The use of electronic calling devices adds another €500, while the presence of trapped birds leads to an additional €1000 fine for the illegal possession of protected species. Depending on the species and number of birds found, this fine could increase further. Notably, if the offense occurs during the breeding season, rather than the designated hunting period (late August to the end of February), the minimum fine increases sharply to €8000. In other countries fines are perhaps less variable, for example in Morocco fines can vary between 1600-4500 MAD (€154-€431).

Loss of licence was a penalty used by five countries and was generally ranked lower in severity compared to other punitive measures. In Malta, Egypt and Tunisia, where licensed legal net hunting exists, the loss of licence likely pertains specifically to these regulated activities. Although the same penalty was reported in the Syrian Arab Republic and Cyprus, respondents did not clearly explain the nature of the licences in these contexts. In the Syrian Arab Republic, it is possible the licences were related to other forms of legal hunting, e.g. shooting. Often, loss of licence is part of a broader suite of penalties that also includes equipment confiscation and monetary fines.

Prison sentences were the least commonly used penalty, reported in only four countries: Egypt, Italy, the Syrian Arab Republic, and Morocco. These were generally ranked lower than other

penalties, suggesting they may be applied less frequently, although the survey responses did not definitively confirm this. Where prison sentences are used, they tend to be short. In Morocco and the Syrian Arab Republic, for example, incarceration for offenses would not exceed three months.

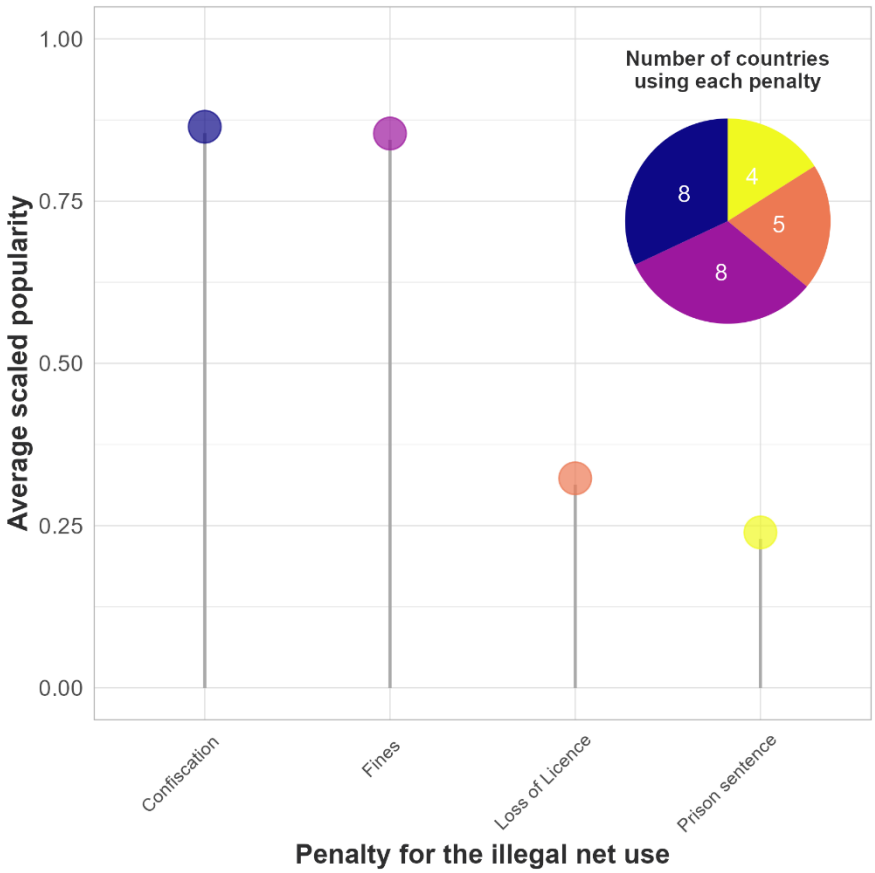


Figure 13. Average scaled popularity of different penalties imposed on detected cases of illegal net use to take wild birds. The main plot shows the mean scaled popularity for five different penalties. The inset pie chart displays the number of countries where each penalty is used. Colours in the pie chart correspond to those used in the main plot.

6.3.8 Recommendations for reducing illegal net use *(question 22)*

To effectively reduce the illegal use of nets in the taking of wild birds, the overall results across studied countries suggest that enforcement-related actions are considered the most impactful. According to the Figure 14, *Improve enforcement* received the highest average score, followed closely by *Raise public awareness of impacts on birds* and *Increase penalties*. These actions reflect a strong consensus on the importance of deterrence and education in combating illegal

practices. On the other end of the spectrum, *Increase publicity of court cases*, *Increase production rates* and *Reduce net availability with sellers* scored lowest, suggesting the changes related to court prosecution and market-based interventions are generally seen as less effective or harder to implement at scale, though these actions may still be critical in specific national contexts. In the case of reducing the availability of nets, many country experts indicated that the purchase and possession of nets is completely legal. Therefore, a change in legislation and regulation might be needed prior to any efforts to reduce the availability of nets either from physical vendor or online platforms.

Country-specific considerations further emphasize the need for tailored approaches (see Figure 15). In Malta, for example, improving legislation, specifically by ending trapping derogations, could yield substantial reductions in illegal activity. The high support for this action in Malta partly reflects its unique regulatory situation. In Cyprus, illegal mist-netting often operates through organized groups, with enforcement efforts hindered by fear of retaliation. This highlights the need for stronger institutional protection, commitment to law enforcement and prosecution of offenders. Meanwhile, in Egypt, economic factors are central. Here, strategies like poverty reduction and alternative livelihood programs, despite ranking low overall, are essential for reducing reliance on illegal netting. Italy, by contrast, shows high support for all interventions, indicating that a holistic and concurrent application of all strategies is favoured to tackle the problem comprehensively.



Figure 14. Average scaled popularity of different actions that could be taken to reduce the illegal use of nets to take wild birds. Each dot represents a different action, plotted by its average scaled popularity across all surveyed countries. Actions with higher popularity scores were ranked lower (i.e. more important) by country experts. The colour gradient from blue to yellow corresponds to decreasing popularity values.

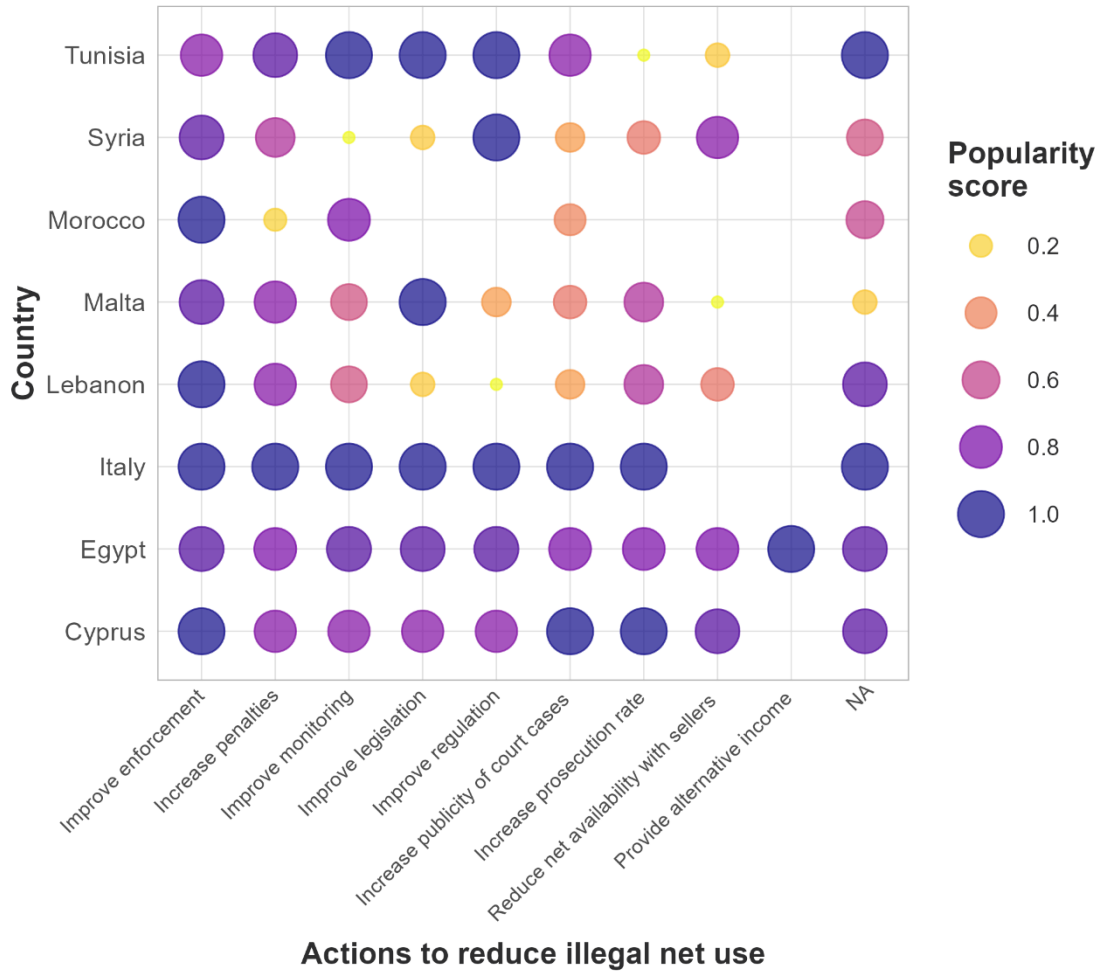


Figure 15. Popularity scores of different actions that could be taken to reduce the illegal use of nets to take wild birds. Each dot represents an action for one of the surveyed countries. Actions with higher popularity scores were ranked lower (i.e. more important) by country experts.

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Appendix I. Example of online survey form for consulting experts and conservationists in the study region.

Quantifying the pressure of mist-netting on birds in wetlands and human-modified landscapes in Asia

Netting has long been indiscriminately used especially in Asia to trap wild birds for various purposes such as the management of bird pests, consumption, deterring noise and other disturbances caused by birds, or for recreation. However, this practice has resulted in the trapping of numerous bycatch species and poses a significant threat to bird populations.

The effects of netting on wild birds have been rarely assessed and are likely underestimated. Therefore, in this study, we aim to establish quantitative baseline data on bird mortalities in mist-nets in human-modified landscapes and wetlands across the Oriental region. Our findings will be used to guide policymaking and conservation actions for addressing this emergent threat to bird populations, in collaboration with BirdLife International, the Convention on Migratory Species and other conservation stakeholders.

As part of this work, we will search for available information in the grey literature, including news articles, YouTube, Facebook, and TikTok on the use of nests to trap wild birds, and bird bycatch. Using relevant keywords in both English and local languages, we will collect data on species, the equipment or types of tools used, and the presumed primary purposes of netting, as extracted from these sources.

We would like to invite you to participate in this survey to help us identify the most effective keywords for data collection from video-sharing platforms (e.g., YouTube, Facebook). Additionally, we welcome you to share your experiences and insights from your country.

Thank you for your contributions in helping us understand this important threat to wild birds in your country.

Best regards,

Rongrong Angkaew

(on behalf of the research team: Ding Li Yong, Shelby Wee, and George A. Gale)

Postdoctoral researcher

Conservation Ecology Program, King Mongkut's University of Technology Thonburi, Thailand

Please feel free to skip questions or indicate "N/A" if you are not confident in providing an answer.

***Privacy Note:*

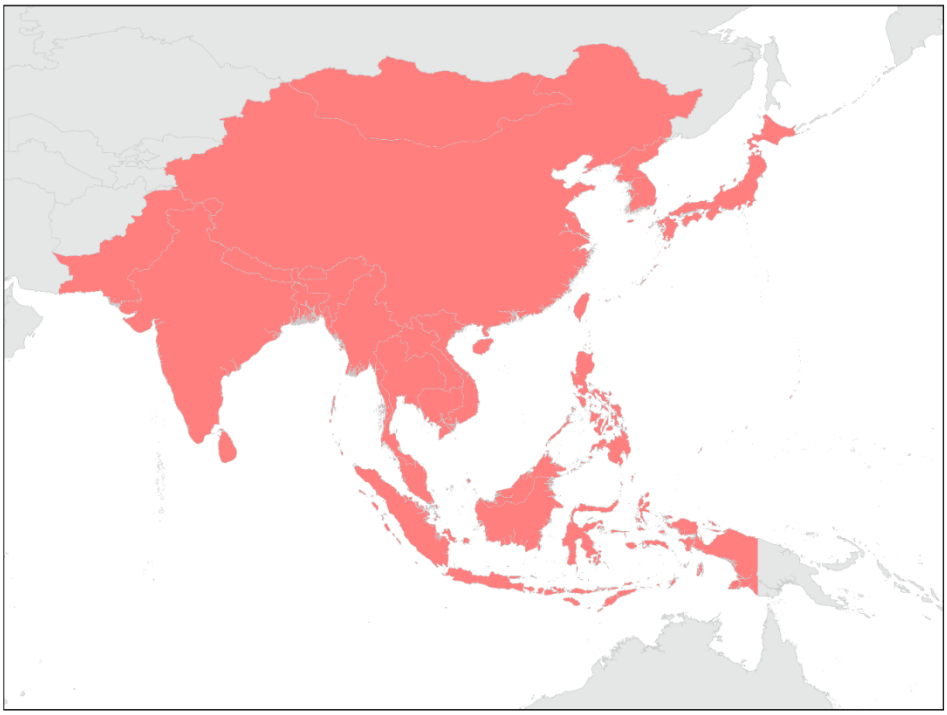
Your name and personal information will remain confidential and will not be included in any published materials.

Study area

Southeast Asia: Indonesia, Viet Nam, Laos, Brunei, Thailand, Myanmar, the Philippines, Cambodia, Malaysia, Singapore and Timor-Leste.

East Asia: China, Japan, Mongolia, the Democratic People's Republic of Korea, Republic of Korea, and Taiwan, Province of China

South Asia: Bangladesh, Bhutan, India, Nepal, Sri Lanka, and Pakistan



Name-Surname	Click or tap here to enter text.
Email address	Click or tap here to enter text.
Organization	Click or tap here to enter text.

Country (If you have data for additional countries, please submit a separate form(s) for each)

Click or tap here to enter text.

1. What are some suggested keywords (in your local language(s)) that you would recommend for us to search for information on bird hunting and the use of mist-nets on video-sharing platforms?

For example, our search terms in English include:
Mist-netting, net, trap bird, catching bird, bird trap

Search terms in Thai: ตาข่ายดักนก, ดักนก, จับนก

Click or tap here to enter text.

2. On a scale of 1-5 (1 being the least frequent, and 5 being the most), how frequently do you think nets have been used (for non-scientific purpose) in your country in recent years (not more than 10 years)?

Very Rarely	1	2	3	4	5	Very frequently
	☐	☐	☐	☐	☐	

3. On a scale of 1-5, to what extent are nets used in your country for the following purposes? (for other purposes, please specify in the next question)

	Not at all	Rarely	Occasionally	Frequently	Very frequently
3.1 Protecting crops (such as in fruit orchards and rice fields)	☐	☐	☐	☐	☐
3.2 Protecting aquaculture	☐	☐	☐	☐	☐
3.3 Consumption	☐	☐	☐	☐	☐
3.4 Recreational trapping of birds	☐	☐	☐	☐	☐

3.5 Keeping birds as pets (using nets to trap birds for personal use or the pet trade)	☐	☐	☐	☐	☐
3.6 Reducing disturbances caused by birds (e.g., protecting your house from feral pigeons)	☐	☐	☐	☐	☐

4. Please specify any other purposes for which nets are used in your country, and indicate how frequently this purpose is used.

Click or tap here to enter text.

5. Are there any species targeted by the use of mist-nets in your country?

Click or tap here to enter text.

6. What is the main source of this mist-net?
(e.g., locally made in your country, imported from another country [please specify if possible], etc.)

Click or tap here to enter text.

7. Would you be open to being contacted if we need to set up a Zoom call to learn more from you?

☐ Yes ☐ No

Thank you so much for your contributions

Appendix II. List of selected publications and scientific reports that are reviewed in full.

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
Zhong et al. (2025)	Hungry wintering birds and angry farmers: Crop damage and management implications in a protected wetland in China	Original research	China	0	0	1	0	1	0
Matsumoto et al. (2024)	Anthropogenic threats to the reintroduced population of Oriental Storks in Japan: analysis of the causes of injury and death of 153 storks from 2005 to 2021	Original research	Japan	0	1	0	0	1	0
Katuwal et al. (2024)	Knowledge, attitudes, and conservation challenges for the Lesser Adjutant in Nepal	Original research	Nepal	0	1	0	1	0	0
Liang et al. (2024)	Assessing shorebird mortalities due to razor clam aquaculture at key migratory stopover sites in southeastern China	Original research	China	1	0	0	0	1	0
Saikia et al. (2024)	A drastic decline in avian diversity in and around the Bordoibam-Bilmukh Bird Sanctuary, Lakhimpur, Assam, India	Original research	India	0	1	0	0	0	1
Maleko et al. (2024)	Threats to shorebirds, particularly Spotted Greenshank *Tringa guttifer*, along the Inner Gulf of Thailand	Forum	Thailand	0	1	0	0	1	0
BirdGuides (2024)	Largest known Yellow-breasted Bunting roost found in Myanmar	News	Myanmar	0	1	0	1	0	0
Htay et al. (2023)	Social and ecological drivers of illegal bird hunting in the Indawgyi wetland ecosystem in Myanmar	Original research	Myanmar	1	0	0	1	1	0

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
Tang et al. (2023)	Identifying the wetlands of international importance in Beibu Gulf along the East Asian – Australasian Flyway, based on multiple citizen science datasets	Original research	China	0	1	0	1	0	0
		Original research	Viet Nam	0		0	1	0	0
Nguyen-Nu et al. (2023)	Livelihoods and human impacts in Tan Thanh mudflat, Tien Giang Province, Vietnam	Original research	Viet Nam	0	1	0	0	1	0
Suroso et al. (2023)	Bird population and bird hunting in the rural ecosystem of Cijambu, Sumedang, West Java, Indonesia	Original research	Indonesia	0	1	0	1	0	0
Katuwal et al. (2023)	Illegal trapping and local trade of farmland birds in Madhesh Province, Nepal	Original research	Nepal	1	0	0	1	0	0
Nguyen et al. (2023)	The present status and distribution of the Critically Endangered Spoon-billed Sandpiper *Calidris pygmaea* in Vietnam	Original research	Viet Nam	0	1	0	1	0	0
Yong et al. (2023)	Bird hunting in mainland Southeast Asia. Situation analysis and recommendations for conservation action.	Report	Bangladesh	1	0	0	1	1	1
		Report	Cambodia		0	0	1	0	0
		Report	Lao People's Democratic Republic		0	0	1	0	0

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
		Report	Malaysia		0	0	1	1	0
		Report	Myanmar		0	0	1	1	0
		Report	Viet Nam		0	0	1	1	0
		Report	Thailand		0	0	1	1	0
Chellappan et al. (2023)	Bird pests: damage and ecofriendly management	Review	India	0	0	1	0	1	0
Angkaew et al. (2022)	Collateral damage from agricultural netting to open-country bird populations in Thailand	Original research	Thailand	1	0	0	1	1	0
Adhikari et al. (2022)	Raptors at risk: Attributes of mortality within an anthropogenic landscape in the mid-hills region of Nepal	Original research	Nepal	0	1	0	1	0	0
Htay et al. (2022)	Promoting bird conservation in wetland-associated landscapes: Factors influencing avian crop damage and farmers' attitudes	Original research	Myanmar	1	0	0	0	1	0
Yong et al. (2022)	The specter of empty countrysides and wetlands—Impact of hunting take on birds in Indo-Burma	Perspective	Thailand	1	0	0	1	1	1
Datta (2021)	Status of illegal bird hunting in Bangladesh: Online news portal as the source	Note	Bangladesh	1	0	0	1	0	0
Furqan and Ali (2022)	Feeding ecology, threats and conservation management of Kalij Pheasant (*Lophura leucomelanos*) in Azad Jammu and Kashmir, Pakistan	Original research	Pakistan	0	1	0	1	0	0

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
Sovannary et al. (2022)	The effectiveness of bengal florican (*Houbaropsis bengalensis*) conservation in Cambodia	Original research	Cambodia	0	1	0	1	0	0
Yong et al. (2021)	The state of migratory landbirds in the East Asian Flyway: Distributions, threats, and conservation needs	Review	East Asian Flyway	1	0	0	1	1	1
Aarif et al. (2021)	The costs of migration: Injuries in migratory waterbirds along the west coast of India	Original research	India	1	0	0	0	0	1
Hakim et al. (2019)	Impact of agricultural crop type and hunting on bird communities of two villages in Bandung, West Java, Indonesia	Original research	Indonesia	0	1	0	1	0	0
Deguchi et al. (2020)	Ponds support higher bird diversity than rice paddies in a hilly agricultural area in Japan	Original research	Japan	0	1	0	0	1	0
Gallo-Cajiao et al. (2020)	Extent and potential impact of hunting on migratory shorebirds in the Asia-Pacific	Policy analysis (Review)	EAAF	0	1	0	1	0	0
Choi and Nam (2020)	Small-scale songbird trapping and consumption revealed as ‘grilled sparrow’ food on internet posts in Korea	Original research	Republic of Korea	1	0	0	1	0	0
Heim et al. (2021)	East Asian buntings: Ongoing illegal trade and encouraging conservation responses	Perspective	China	1	0	0	1	1	0
Ibbett et al. (2019)	Conserving a globally threatened species in a semi-natural, agrarian landscape	Original research	Cambodia	0	1	0	1	1	1
Putra et al. (2019)	Spoon-billed Sandpiper: a new species for Indonesia	Short communication	Indonesia	0	1	0	1	0	0

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
Wang et al. (2018)	Population trends, threats, and conservation recommendations for waterbirds in China	Review	China	0	1	0	0	0	1
Umar et al. (2018)	Ecological concerns of migratory birds in Pakistan: A review	Review	Pakistan	0	1	0	1	0	0
Govind and Jayson (2018)	Crop damage by wild animals in Thrissur District, Kerala, India	Original research	India	0	0	1	0	1	0
Yi and Mohb-Azlan (2018)	Preliminary analysis on the hunting activities in selected areas in interior Sarawak	Original research	Malaysia	0	1	0	1	0	0
Peng et al. (2017)	The intertidal wetlands of southern Jiangsu Province, China - Globally important for Spoon-billed Sandpipers and other threatened waterbirds, but facing multiple serious threats	Rapid communication	China	0	1	0	1	0	1
Dai and Hu (2017)	Hunting strategies employed by bird hunters with economic pursuit in the city of Guiyang, Southwest China	Original research	China	0	1	0	1	0	0
Crighton (2016)	Bird mortality in fish nets at a significant stopover site of the Spoon-billed Sandpiper *Calidris pygmaea* in the Yellow sea, China	Original research	China	1	0	0	0	0	1
Martinez (2016)	Massive loss of wetland habitat and rampant illegal mist netting observed near Wenling city, Zhejiang province, China	Report	China	0	1	0	0	1	0
Iskahdar et al. (2016)	The local knowledge of the rural people on species, role and hunting of birds: Case study in Karangwangi Village, West Java, Indonesia	Original research	Indonesia	0	1	0	1	0	0

Reference	Title	Publication type	Country	Focus on impact of nets	Incidentally mentioned	Crop damage mitigation	Nets used for Hunting	Deterring	By catch
Khan et al. (2015)	A comparative study on the population and habitats of the Grey Francolin *Francolinus pondicerianus* and Black Francolin *Francolinus francolinus* in Mang Game Reserve, Haripur, Pakistan	Original research	Pakistan	0	1	0	1	0	0
Green et al. (2015)	The ecology and economics of shorebird conservation in a tropical human-modified landscape	Original research	Thailand	0	1	0	0	1	1
Kamp et al. (2015)	Global population collapse in a superabundant migratory bird and illegal trapping in China	Original research	China	0	1	0	1	0	0
Ibbett (2015)	Understanding the impact of local people on Bengal florican populations in central Cambodia	Thesis	Cambodia	0	1	0	1	1	1

Appendix III. List of species reported to be entangled in mist-nets and other types of nets (e.g., fishing net, gill nets) from the study region from 2015 to the present. Data gathered from three data sources; (1) systematic review of the literature (including the grey literature; list of selected literature provided in Appendix II), (2) systematic searches on social media platforms (i.e. online videos), (3) observations submitted to the citizen science database "Tangled & Trapped" project on *iNaturalist*. Conservation status provided based on 2025 IUCN Red List category (IUCN 2025); LC: Least Concern, NT: Near Threatened, VU: Vulnerable, EN: Endangered, CR: Critically Endangered.

See attached Excel file

Appendix III. List of species reported to be entangled in mist-nets and other types of nets (e.g., fishing net, gill nets) from the study region during 2015 and present. Data gathered from three dat sources; (1) literature review (list of selected literature provided in Appendix II), (2) available videos from online platforms, (3) observations submitted to the citizen science database "Tangled & Trapped" project on iNaturalist. Conservation status provided based on 2024 IUCN Red List category; LC: Least Concern, NT: Near-threatened, VU: Vulnerable, EN: Endangered, CR: Critically Endangered.

Common Name	Scientific name	Migratory type (EAAFP only)	Active time	Pest level	2024 IUCN Red List	Literatur review	Video search	iNaturalist	Bangladesh	Cambodia	China	India	Indonesia	Japan	Lao PDR	Malaysia	Mongolia	Myanmar	Nepal	Pakistan	Philippines	Republic of Korea	Singapore	Thailand	Viet Nam	Total
Zebra Dove	*Geopelia striata*	Sedentary	Diurnal	Ricefield (low)	LC	3	84	9	0	5	0	0	27	0	2	2	0	0	0	0	0	0	0	18	42	**96**
Scaly-breasted Munia	*Lonchura punctulata*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	3	34	15	0	0	0	0	8	0	1	1	0	1	1	0	3	0	0	17	20	**52**
Common Quail	*Coturnix coturnix*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	Ricefield (low)	LC	0	42	0	1	0	0	13	0	0	0	0	0	0	0	28	0	0	0	0	0	**42**
Eastern Spotted Dove	*Spilopelia chinensis*	Sedentary	Diurnal	Ricefield (low)	LC	3	33	6	1	2	6	0	6	0	0	3	0	2	0	0	0	0	0	17	5	**42**
White-throated Kingfisher	*Halcyon smyrnensis*	Sedentary/dispersal	Diurnal	Aquaculture (low)	LC	3	18	19	0	1	2	2	0	0	1	0	0	0	0	1	0	0	0	21	12	**40**
Red Collared-dove	*Streptopelia tranquebarica*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	2	23	10	0	5	1	0	0	0	0	0	0	0	0	1	3	0	0	13	12	**35**
Cinnamon Bittern	*Ixobrychus cinnamomeus*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low)	LC	2	13	19	0	2	0	0	1	0	0	0	0	0	0	0	1	0	0	26	4	**34**
Eurasian Tree Sparrow	*Passer montanus*	Sedentary	Diurnal	Ricefield (low)	LC	2	30	2	0	1	4	0	0	3	1	0	1	0	0	0	0	20	0	4	0	**34**
Common Moorhen	*Gallinula chloropus*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	Ricefield (low)	LC	0	31	0	0	0	1	0	10	0	0	0	0	0	0	0	19	0	0	0	1	**31**
Greater Painted-snipe	*Rostratula benghalensis*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No	LC	3	21	7	0	1	0	1	10	0	0	0	0	0	0	1	4	0	0	10	4	**31**
Grey Francolin	*Ortygornis pondicerianus*	Sedentary	Diurnal	No	LC	1	29	0	0	0	0	5	0	0	0	0	0	0	0	25	0	0	0	0	0	**30**
Rock Dove (feral)	*Columba livia domestica*	Sedentary/dispersal	Diurnal	Ricefield (high)	LC	2	18	9	0	2	7	2	0	1	0	0	0	0	0	1	1	1	0	14	0	**29**
Black Drongo	*Dicrurus macrocercus*	Latitudinal (partial)	Diurnal	No	LC	5	9	14	1	0	0	1	2	0	1	0	0	0	0	0	0	0	0	20	3	**28**
Yellow-vented Bulbul	*Pycnonotus goiavier*	Sedentary	Diurnal	Orchard (low)	LC	2	25	0	0	1	0	0	21	0	0	3	0	0	0	0	0	0	0	1	1	**27**
Red-wattled Lapwing	*Vanellus indicus*	Sedentary/dispersal	Diurnal/Crepuscular/Nocturnal	No	LC	2	1	22	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	24	0	**25**
Yellow Bittern	*Ixobrychus sinensis*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	Aquaculture (low)	LC	2	6	17	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	19	3	**25**
Sooty-headed Bulbul	*Pycnonotus aurigaster*	Sedentary	Diurnal	Orchard (low)	LC	2	22	0	0	1	0	0	18	0	0	0	0	0	0	0	0	0	0	2	3	**24**
Pink-necked Green-pigeon	*Treron vernans*	Sedentary	Diurnal	Orchard (low)	LC	2	11	9	0	0	1	0	8	0	0	1	0	0	0	0	0	0	0	11	1	**22**
White-breasted Waterhen	*Amaurornis phoenicurus*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	3	19	0	0	2	0	0	7	0	0	0	0	0	0	1	9	0	0	2	1	**22**
Barn Swallow	*Hirundo rustica*	Latitudinal (full)	Diurnal	No	LC	4	17	0	0	1	1	0	0	0	14	0	0	1	0	0	0	0	0	2	2	**21**
Baya Weaver	*Ploceus philippinus*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	2	13	6	0	0	0	0	4	0	0	1	0	0	1	0	0	0	0	11	4	**21**
Great Myna	*Acridotheres grandis*	Sedentary	Diurnal	Orchard (low)	LC	2	5	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	**19**
Red-whiskered Bulbul	*Pycnonotus jocosus*	Irruptive/nomadic	Diurnal	Orchard (low)	LC	0	18	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	1	8	**18**
Black-crowned Night Heron	*Nycticorax nycticorax*	Latitudinal (partial)	Crepuscular/Nocturnal	Aquaculture (low)	LC	3	4	10	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	12	0	**17**
Asian Golden Weaver	*Ploceus hypoxanthus*	Irruptive/nomadic	Diurnal	Ricefield (high)	NT	2	3	9	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	12	1	**14**
Black Francolin	*Francolinus francolinus*	Sedentary	Diurnal	No	LC	1	13	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	**14**
Black-crested Bulbul	*Rubigula flaviventris*	Sedentary/dispersal	Diurnal	Orchard (low)	LC	0	14	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	6	**14**
Common Kingfisher	*Alcedo atthis*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	Aquaculture (low)	LC	2	3	9	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	9	1	**14**
Common Snipe	*Gallinago gallinago*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	0	7	7	0	0	3	0	1	0	0	0	0	0	0	1	0	0	0	8	1	**14**
Asian Barred Owlet	*Glaucidium cuculoides*	Sedentary	Crepuscular/Nocturnal	No	LC	0	10	3	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	3	2	**13**
Red-breasted Parakeet	*Psittacula alexandri*	Irruptive/nomadic	Diurnal	Orchard (low), Crop (high)	NT	0	13	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	12	**13**
Watercock	*Gallicrex cinerea*	Latitudinal (partial)	Diurnal/Crepuscular	Ricefield (low)	LC	2	8	3	0	1	0	0	4	0	0	0	0	0	0	0	1	0	0	5	2	**13**
Black-winged Stilt	*Himantopus himantopus*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	3	0	9	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	11	0	**12**
Little Egret	*Egretta garzetta*	Latitudinal (partial)	Diurnal/Crepuscular	Aquaculture (low)	LC	3	2	7	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	8	0	**12**
Western Koel	*Eudynamys scolopaceus*	Latitudinal (partial), dispersal	Diurnal/Crepuscular	Orchard (low)	LC	2	7	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	8	2	**12**
Common Myna	*Acridotheres tristis*	Sedentary	Diurnal	Orchard (low)	LC	2	5	4	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	8	0	**11**
Javan Munia	*Lonchura leucogastroides*	Sedentary, dispersal	Diurnal	Ricefield (high)	LC	1	10	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	**11**
Lesser Whistling-duck	*Dendrocygna javanica*	Latitudinal (partial)	Crepuscular/Nocturnal	Ricefield (med)	LC	3	4	4	0	0	0	0	2	0	1	0	0	1	1	0	0	0	0	6	0	**11**
Little Grebe	*Tachybaptus ruficollis*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	Aquaculture (high)	LC	2	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	**11**
Long-tailed Shrike	*Lanius schach*	Latitudinal (partial), dispersal	Diurnal	No	LC	2	7	2	0	0	2	0	5	0	0	0	0	0	0	0	0	0	0	2	2	**11**
Stripe-throated Bulbul	*Pycnonotus finlaysoni*	Sedentary	Diurnal	Orchard (low)	LC	0	11	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	4	**11**
White-rumped Munia	*Lonchura striata*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	0	8	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	4	5	**11**
Black-capped Kingfisher	*Halcyon pileata*	Latitudinal (full)	Diurnal	Aquaculture (low)	VU	1	1	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	**10**
Bronze-winged Jacana	*Metopidius indicus*	Sedentary, dispersal	Diurnal	No	LC	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	**10**
Kentish Plover	*Charadrius alexandrinus*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No	LC	7	0	3	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	3	1	**10**
Little Ringed Plover	*Charadrius dubius*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	1	0	9	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	8	0	**10**
Ruddy-breasted Crake	*Zapornia fusca*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No	LC	0	10	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	1	**10**
Asian Glossy Starling	*Aplonis panayensis*	Sedentary, dispersal	Diurnal	Orchard (med)	LC	0	9	0	0	0	0	0	2	0	0	7	0	0	0	0	0	0	0	0	0	**9**
Cattle Egret	*Bubulcus ibis*	Latitudinal (partial)	Diurnal	No	LC	2	6	1	2	1	3	0	0	0	0	0	0	0	1	0	0	0	0	1	1	**9**
Oriental Scops-owl	*Otus sunia*	Latitudinal (partial)	Nocturnal	No	LC	1	6	2	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	2	1	**9**
Whiskered Tern	*Chlidonias hybrida*	Latitudinal (full)	Diurnal	Aquaculture (med)	LC	2	2	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	7	0	**9**
Asian Green Bee-eater	*Merops orientalis*	Sedentary, dispersal	Diurnal	No	LC	0	3	5	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	1	**8**
Brown Shrike	*Lanius cristatus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	5	3	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	3	1	**8**
Brown-eared bulbul	*Hypsipetes amaurotis*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	1	7	0	0	0	0	0	0	5	0	0	0	0	0	0	0	3	0	0	0	**8**
Buff-banded Rail	*Hypotaenidia philippensis*	Sedentary, dispersal	Diurnal/Crepuscular	No	LC	0	8	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	0	**8**
Chestnut Munia	*Lonchura atricapilla*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	0	6	2	0	0	0	1	3	0	0	0	0	0	0	0	2	0	0	2	0	**8**
Oriental Pratincole	*Glareola maldivarum*	Latitudinal (full)	Diurnal/Crepuscular	No	LC	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	**8**
White-headed Munia	*Lonchura maja*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	0	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	**8**
House Sparrow	*Passer domesticus*	Sedentary	Diurnal	Ricefield (med)	LC	2	3	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	5	0	**7**
Little Cormorant	*Microcarbo niger*	Sedentary, dispersal	Diurnal	Aquaculture (high)	LC	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	**7**
Marsh Sandpiper	*Tringa stagnatilis*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	4	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	2	**7**
Oriental Magpie-robin	*Copsychus saularis*	Sedentary	Diurnal	No	LC	1	6	0	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	1	1	**7**
Pheasant-tailed jacana	*Hydrophasianus chirurgus*	Latitudinal (partial)	Diurnal	No	LC	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	**7**
Streak-eared Bulbul	*Pycnonotus blanfordi*	Sedentary	Diurnal	Orchard (low)	LC	1	4	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	**7**
Thai Pied Starling	*Gracupica floweri*	Sedentary	Diurnal	Orchard (low)	LC	1	1	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	**7**
Asian Azure-winged Magpie	*Cyanopica cyanus*	Sedentary, dispersal	Diurnal	Orchard (med)	LC	0	6	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3	0	0	0	**6**
Black-browed Reed-warbler	*Acrocephalus bistrigiceps*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	2	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	**6**
Chestnut-headed Bee-eater	*Merops leschenaulti*	Latitudinal (partial)	Diurnal	No	LC	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	**6**
Collared Kingfisher	*Todiramphus chloris*	Sedentary, dispersal	Diurnal	No	LC	1	3	2	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	2	1	**6**
Common Greenshank	*Tringa nebularia*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	5	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1	0	0	2	**6**
Common Pheasant	*Phasianus colchicus*	Sedentary	Diurnal/Crepuscular	No	LC	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	0	0	**6**
Edible-nest Swiftlet	*Aerodramus fuciphagus*	Sedentary, dispersal	Diurnal	No	LC	0	5	1	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	**6**
Greater Sandplover	*Charadrius leschenaultii*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	6	0	0	0	0	4	1	0	0	0	0	0	1	0	0	0	0	0	0	0	**6**
Indian Cormorant	*Phalacrocorax fuscicollis*	Sedentary, dispersal	Diurnal	Aquaculture (high)	LC	2	1	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	**6**
Indian Nightjar	*Caprimulgus asiaticus*	Sedentary	Nocturnal	No	LC	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	**6**
Little Spiderhunter	*Arachnothera longirostra*	Sedentary	Diurnal	No	LC	0	6	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	**6**
Oriental Turtle-dove	*Streptopelia orientalis*	Latitudinal (partial)	Diurnal	Ricefield (low)	LC	1	5	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4	0	0	0	**6**
Paddyfield pipit	*Anthus rufulus*	Sedentary, dispersal	Diurnal	No	LC	1	3	2	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1	**6**
Spotted Owlet	*Athene brama*	Sedentary	Crepuscular/Nocturnal	No	LC	1	2	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	**6**
White-browed Crake	*Amaurornis cinerea*	Sedentary, dispersal	Diurnal	No	LC	2	4	0	0	1	0	0	1	0	0	2	0	0	0	0	0	0	0	2	0	**6**
Yellow-breasted Bunting	*Emberiza aureola*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (med)	CR	5	1	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	1	0	**6**
Black-naped Oriole	*Oriolus chinensis*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	5	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	2	0	**5**
Collared Scops-owl	*Otus lettia*	Sedentary	Nocturnal	No	LC	0	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	**5**
Common Redshank	*Tringa totanus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	4	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	2	0	**5**
Freckle-breasted Woodpecker	*Dendrocopos analis*	Sedentary, dispersal	Diurnal	No	LC	0	2	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0	**5**
Green-backed Heron	*Butorides striata*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low)	LC	0	3	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	1	**5**
Grey-capped Emerald Dove	*Chalcophaps indica*	Sedentary, dispersal	Diurnal	No	LC	0	5	0	0	1	0	0	0	0	1	2	0	0	0	0	1	0	0	0	0	**5**
Japanese Sparrowhawk	*Accipiter gularis*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	0	4	1	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	1	0	**5**
Red-necked Stint	*Calidris ruficollis*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	5	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	1	**5**
Vinous-breasted Myna	*Acridotheres leucocephalus*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	**5**
White-cheeked Starling	*Spodiopsar cineraceus*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	**5**
Zitting Cisticola	*Cisticola juncidis*	Sedentary, dispersal	Diurnal	No	LC	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Barred Buttonquail	*Turnix suscitator*	Sedentary, dispersal	Diurnal/Crepuscular/Nocturnal	Ricefield (low)	LC	0	4	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	**4**
Black-headed Bulbul	*Brachypodius atriceps*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	**4**
Black-tailed Godwit	*Limosa limosa*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**4**
Blue-eared Kingfisher	*Alcedo meninting*	Sedentary, dispersal	Diurnal	No	LC	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	**4**
Bluethroat	*Luscinia svecica*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	**4**
Brown-cheeked Fulvetta	*Alcippe poioicephala*	Sedentary	Diurnal	No	LC	0	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	**4**
Cave Swiftlet	*Collocalia linchi*	Sedentary	Diurnal	No	LC	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Common Barn-owl	*Tyto alba*	Sedentary	Nocturnal	No	LC	1	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	**4**
Dunlin	*Calidris alpina*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Eurasian Coot	*Fulica atra*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	0	4	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	**4**
Great Knot	*Calidris tenuirostris*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	EN	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**4**
Grey Heron	*Ardea cinerea*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	1	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	**4**
Grey Plover	*Pluvialis squatarola*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	VU	4	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Olive-backed Pipit	*Anthus hodgsoni*	Latitudinal (full)	Diurnal	No	LC	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	**4**
Olive-backed Sunbird	*Cinnyris jugularis*	Sedentary	Diurnal	No	LC	0	3	1	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Olive-winged Bulbul	*Pycnonotus plumosus*	Sedentary	Diurnal	Orchard (low)	LC	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Pied Kingfisher	*Ceryle rudis*	Sedentary, dispersal	Diurnal	Aquaculture (low)	LC	0	1	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	**4**
Pin-tailed Snipe	*Gallinago stenura*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	**4**
Purple Heron	*Ardea purpurea*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	**4**
Redpoll	*Acanthis flammea*	Latitudinal (partial)	Diurnal	Crop (low)	LC	0	4	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	**4**
Red-rumped Swallow	*Cecropis daurica*	Latitudinal (partial)	Diurnal	No	LC	0	4	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	**4**
Siberian Rubythroat	*Calliope calliope*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	1	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**4**

Spoon-billed Sandpiper	*Calidris pygmaea*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	CR	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	4
Spotted Redshank	*Tringa erythropus*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	2	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	4
Swinhoe's White-eye	*Zosterops simplex*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
White-rumped Shama	*Copsychus malabaricus*	Sedentary	Diurnal/Crepuscular	No	LC	1	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
Wood Sandpiper	*Tringa glareola*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	2	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0	0	4
Yellow-browed Warbler	*Phylloscopus inornatus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	2	2	0	0	2	0	0	1	0	0	0	0	0	0	0	1	0	0	4
Yellow-throated Bunting	*Emberiza elegans*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	2	2	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	4
Asian Dowitcher	*Limnodromus semipalmatus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3
Asian Openbill	*Anastomus oscitans*	Irruptive/nomadic	Diurnal	Ricefield (low)	LC	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
Black-faced Spoonbill	*Platalea minor*	Latitudinal (full)	Diurnal	Aquaculture (low)	EN	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	3
Black-naped Monarch	*Hypothymis azurea*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	3
Broad-billed Sandpiper	*Calidris falcinellus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	VU	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	3
Burmese Shrike	*Lanius collurioides*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No	LC	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
Chinese Blackbird	*Turdus mandarinus*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	Orchard (low)	LC	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Chinese Pond Heron	*Ardeola bacchus*	Latitudinal (full)	Diurnal	Aquaculture (low)	LC	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
Common Iora	*Aegithina tiphia*	Sedentary	Diurnal	Orchard (low)	LC	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	3
Common Sandpiper	*Actitis hypoleucos*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	1	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3
Common Teal	*Anas crecca*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low), ricefield (low)	LC	1	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	3
Eurasian Bullfinch	*Pyrrhula pyrrhula*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	1	2	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	3
Eurasian Curlew	*Numenius arquata*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	3	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Greater Coucal	*Centropus sinensis*	Sedentary	Diurnal/Crepuscular/Nocturnal	No	LC	0	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3
Javan Pond Heron	*Ardeola speciosa*	Sedentary, dispersal	Diurnal	Aquaculture (low)	LC	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
Laced Woodpecker	*Picus vittatus*	Sedentary	Diurnal	No	LC	0	2	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
Large-tailed Nightjar	*Caprimulgus macrurus*	Sedentary	Nocturnal	No	LC	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	3
Light-vented Bulbul	*Pycnonotus sinensis*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	3	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3
Lineated Barbet	*Psilopogon lineatus*	Sedentary	Diurnal	Orchard (low)	LC	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
Long-toed Stint	*Calidris subminuta*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	1	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3
Mallard	*Anas platyrhynchos*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low), ricefield (low)	LC	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Orange-headed Thrush	*Geokichla citrina*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Oriental Reed-warbler	*Acrocephalus orientalis*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
Plain Prinia	*Prinia inornata*	Sedentary	Diurnal	No	LC	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	3
Plaintive Cuckoo	*Cacomantis merulinus*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No	LC	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
Puff-throated Bulbul	*Alophoixus pallidus*	Sedentary	Diurnal	No	LC	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	3
Red-throated Flycatcher	*Ficedula albicilla*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	1	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Ruddy Turnstone	*Arenaria interpres*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	NT	3	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Sanderling	*Calidris alba*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Saunders's Gull	*Saundersilarus saundersi*	Latitudinal (full)	Diurnal	No	VU	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Siberian Sand Plover	*Charadrius mongolus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	EN	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Streaked Weaver	*Ploceus manyar*	Irruptive/nomadic	Diurnal	Ricefield (high)	LC	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3
Sunda Pied Fantail	*Rhipidura javanica*	Sedentary, dispersal	Diurnal	No	LC	0	3	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
Terek Sandpiper	*Xenus cinereus*	Latitudinal (full)	Diurnal	No	LC	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Tibetan Sand Plover	*Charadrius atrifrons*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	3	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	3
Whimbrel	*Numenius phaeopus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	3	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Ashy Drongo	*Dicrurus leucophaeus*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Bank Myna	*Acridotheres ginginianus*	Sedentary	Diurnal	Orchard (low)	LC	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Bar-tailed Godwit	*Limosa lapponica*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Bar-winged Prinia	*Prinia familiaris*	Sedentary	Diurnal	No	NT	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Bengal Florican	*Houbaropsis bengalensis*	Latitudinal (partial)	Diurnal	No	CR	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Besra	*Accipiter virgatus*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Black Bittern	*Ixobrychus flavicollis*	Latitudinal (partial)	Crepuscular/Nocturnal	Aquaculture (low)	LC	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Black-headed Gull	*Larus ridibundus*	Latitudinal (full)	Diurnal	Aquaculture (low)	LC	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Black-rumped Flameback	*Dinopium benghalense*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Blossom-headed Parakeet	*Himalayapsitta roseata*	Irruptive/nomadic	Diurnal	Orchard (low), Crop (high)	NT	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Blue-crowned Hanging-parrot	*Loriculus galgulus*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Blue-rumped Parrot	*Psittinus cyanurus*	Sedentary, dispersal	Diurnal	Orchard (low)	NT	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Blue-tailed Bee-eater	*Merops philippinus*	Latitudinal (partial)	Diurnal	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Blue-winged Pitta	*Pitta moluccensis*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2
Brambling	*Fringilla montifringilla*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Carrion Crow	*Corvus corone*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Cerulean Kingfisher	*Alcedo coerulescens*	Sedentary	Diurnal	Aquaculture (low)	LC	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Chestnut Bunting	*Emberiza rutila*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Chinese Hwamei	*Garrulax canorus*	Sedentary	Diurnal	No	LC	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Common Hoopoe	*Upupa epops*	Latitudinal (partial)	Diurnal	No	LC	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Common Kestrel	*Falco tinnunculus*	Latitudinal (partial)	Diurnal	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Common Rosefinch	*Carpodacus erythrinus*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
Curlew Sandpiper	*Calidris ferruginea*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	VU	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Dusky Thrush	*Turdus eunomus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Orchard (low)	LC	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Eurasian Bittern	*Botaurus stellaris*	Latitudinal (partial)	Crepuscular/Nocturnal	Aquaculture (low)	LC	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Eurasian Collared-dove	*Streptopelia decaocto*	Sedentary, dispersal	Diurnal	Ricefield (low)	LC	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Eurasian Magpie	*Pica pica*	Sedentary	Diurnal	Orchard (low)	LC	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Eurasian Skylark	*Alauda arvensis*	Latitudinal (partial)	Diurnal	No	LC	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Eurasian Sparrowhawk	*Accipiter nisus*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Eurasian Wryneck	*Jynx torquilla*	Latitudinal (full)	Diurnal/Crepuscular	No	LC	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
Far Eastern Curlew	*Numenius madagascariensis*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	EN	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Great Crested Grebe	*Podiceps cristatus*	Latitudinal (partial)	Diurnal/Crepuscular	Aquaculture (high)	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Great White Egret	*Ardea alba*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Greater Racquet-tailed Drongo	*Dicrurus paradiseus*	Sedentary	Diurnal/Crepuscular	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Grey-faced Buzzard	*Butastur indicus*	Latitudinal (full)	Diurnal	No	LC	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Grey-tailed Tattler	*Tringa brevipes*	Latitudinal (full)	Diurnal/Creousular (Nocturnal migrant	No	LC	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Himalayan Cuckoo	*Cuculus saturatus*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Indian Pond Heron	*Ardeola grayii*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Indochinese Bushlark	*Mirafra erythrocephala*	Sedentary, dispersal	Diurnal	No	LC	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Moustached Babbler	*Malacopteron magnirostre*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Pallid Scops-owl	*Otus brucei*	Latitudinal (partial)	Nocturnal	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Pied Triller	*Lalage nigra*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Pin-tailed Parrotfinch	*Erythrura prasina*	Irruptive/nomadic	Diurnal	No	LC	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Plain-backed Sparrow	*Passer flaveolus*	Sedentary, dispersal	Diurnal	Ricefield (low)	LC	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
Racquet-tailed Treepie	*Crypsirina temia*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Red Avadavat	*Amandava amandava*	Irruptive/nomadic	Diurnal	Ricefield (low)	LC	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Red Junglefowl	*Gallus gallus*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Red Knot	*Calidris canutus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Red-billed Blue Magpie	*Urocissa erythrorynchа*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	2	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Ruby-throated Bulbul	*Rubigula dispar*	Sedentary	Diurnal	Orchard (low)	VU	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Rufous-tailed Tailorbird	*Orthotomus sericeus*	Sedentary	Diurnal	No	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Rustic bunting	*Emberiza rustica*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	VU	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Scarlet Minivet	*Pericrocotus flammeus*	Sedentary	Diurnal	No	LC	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Sharp-tailed Sandpiper	*Calidris acuminata*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	VU	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Shikra	*Accipiter badius*	Latitudinal (partial)	Diurnal	No	LC	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Spectacled Bulbul	*Ixidia erythropthalmos*	Sedentary	Diurnal	Orchard (low)	LC	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Stork-billed Kingfisher	*Pelargopsis capensis*	Sedentary, dispersal	Diurnal	Aquaculture (low)	LC	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Striated Grassbird	*Megalurus palustris*	Sedentary, dispersal	Diurnal	No	LC	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Temminck's Stint	*Calidris temminckii*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Varied tit	*Sittiparus varius*	Sedentary, dispersal	Diurnal	No	LC	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
White's Thrush	*Zoothera aurea*	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
White-winged Tern	*Chlidonias leucopterus*	Latitudinal (full)	Diurnal	Aquaculture (high)	LC	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Yellow-bellied Tit	*Pardaliparus venustulus*	Sedentary, dispersal	Diurnal	No	LC	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Alexandrine Parakeet	*Palaeornis eupatria*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (high)	NT	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Ancient Murrelet	*Synthliboramphus antiquus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Arctic Herring Gull	*Larus smithsonianus*	Latitudinal (full)	Diurnal	Aquaculture (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Arctic Loon	*Gavia arctica*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Ashy Minivet	*Pericrocotus divaricatus*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Ashy-throated Parrotbill	*Suthora alphonsiana*	Sedentary	Diurnal	No	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Asian Blue Quail	*Synoicus chinensis*	Sedentary, dispersal	Diurnal/Crepuscular/Nocturnal	Ricefield (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Banded Woodpecker	*Chrysophlegma miniaceum*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Barred Rail	*Hypotaenidia torquata*	Sedentary, dispersal	Diurnal/Crepuscular	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Black Bulbul	*Hypsipetes leucocephalus*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Black-and-red Broadbill	*Cymbirhynchus macrorhynchos*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Black-breasted Thrush	*Turdus dissimilis*	Latitudinal (partial)	Diurnal/Crepuscular	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Black-headed Bunting	*Emberiza melanocephala*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

Black-legged Kittiwake	*Rissa tridactyla*	Latitudinal (full)	Diurnal	No	VU	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Black-tailed Gull	*Larus crassirostris*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Black-throated Laughingthrush	*Pterorhinus chinensis*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Black-winged Kite	*Elanus caeruleus*	Sedentary, dispersal	Diurnal/Crepuscular	No	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Blue-and-White Flycatcher	*Cyanoptila cyanomelana*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Blue-throated Barbet	*Psilopogon asiaticus*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Blue-throated Bee-eater	*Merops viridis*	Latitudinal (partial)	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Blue-winged Leafbird	*Chloropsis moluccensis*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Brahminy Kite	*Haliastur indus*	Sedentary, dispersal	Diurnal	Aquaculture (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Brown Booby	*Sula leucogaster*	Latitudinal (full)	Diurnal	No	LC	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Brown-breasted Kingfisher	*Halcyon gularis*	Sedentary	Diurnal	Aquaculture (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Brown-cheeked Bulbul	*Alophoixus bres*	Sedentary	Diurnal	Orchard (low)	EN	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Brown-throated Sunbird	*Anthreptes malacensis*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Bull-headed Shrike	*Lanius bucephalus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Caspian Tern	*Hydroprogne caspia*	Latitudinal (full)	Diurnal	Aquaculture (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Chestnut-flanked White-eye	*Zosterops erythropleurus*	Latitudinal (full)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Chestnut-winged Cuckoo	*Clamator coromandus*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Chinese Egret	*Egretta eulophotes*	Latitudinal (full)	Diurnal	No	VU	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Chinese Grosbeak	*Eophona migratoria*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Chinese Penduline-tit	*Remiz consobrinus*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Christmas Island Frigatebird	*Fregata andrewsi*	Latitudinal (full)	Diurnal	No	VU	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Citrine Wagtail	*Motacilla citreola*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Clamorous Reed-warbler	*Acrocephalus stentoreus*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Coal Tit	*Periparus ater*	Sedentary, dispersal	Diurnal	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Collared Sand Martin	*Riparia riparia*	Latitudinal (full)	Diurnal	No	LC	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Common Chaffinch	*Fringilla coelebs*	Latitudinal (full)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Common Gull-billed Tern	*Gelochelidon nilotica*	Latitudinal (full)	Diurnal	No	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Common Starling	*Sturnus vulgaris*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Common Tailorbird	*Orthotomus sutorius*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Common Tern	*Sterna hirundo*	Latitudinal (full)	Diurnal	Aquaculture (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cotton Pygmy-goose	*Nettapus coromandelianus*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Crescent-chested Babbler	*Cyanoderma melanothorax*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Crested Bunting	*Emberiza lathami*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Crested Myna	*Acridotheres cristatellus*	Sedentary	Diurnal	Orchard (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Crimson-breasted Flowerpecker	*Prionochilus percussus*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Daurian redstart	*Phoenicurus auroreus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Demoiselle Crane	*Anthropoides virgo*	Latitudinal (full)	Diurnal	Ricefield (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Dusky Warbler	*Phylloscopus fuscatus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Eastern Spot-billed Duck	*Anas zonorhyncha*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Ricefield (low), Aquaculture (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Eurasian Jay	*Garrulus glandarius*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (low)	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Eurasian Wigeon	*Mareca penelope*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	Ricefield (low), Aquaculture (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Eurasian Woodcock	*Scolopax rusticola*	Latitudinal (full)	Crepuscular/Nocturnal	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
European Goldfinch	*Carduelis carduelis*	Latitudinal (partial)	Diurnal	Sunflower (low)	LC	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Eyebrowed Thrush	*Turdus obscurus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Orchard (low)	LC	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Fairy Pitta	*Pitta nympha*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	VU	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Fire-capped Tit	*Cephalopyrus flammiceps*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Great Tit	*Parus major*	Sedentary, dispersal	Diurnal	No	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Greater Green Leafbird	*Chloropsis sonnerati*	Sedentary	Diurnal	Orchard (low)	EN	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Green-billed Malkoha	*Phaenicophaeus tristis*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grey Wagtail	*Motacilla cinerea*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grey-backed Thrush	*Turdus hortulorum*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Orchard (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grey-breasted Prinia	*Prinia hodgsonii*	Sedentary	Diurnal	No	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Grey-cheeked Fulvetta (Hutei)	*Alcippe morrisonia hueti*	Sedentary	Diurnal	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grey-cheeked Green-pigeon	*Treron griseicauda*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grey-eyed Bulbul	*Iole propinqua*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grey-headed Lapwing	*Vanellus cinereus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Grey-headed Parakeet	*Himalayapsitta finschii*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (high)	NT	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Hair-crested Drongo	*Dicrurus hottentottus*	Latitudinal (partial)	Diurnal	No	LC	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hawfinch	*Coccothraustes coccothraustes*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
House Swift	*Apus nipalensis*	Sedentary, dispersal	Crepuscular	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Indian Pied Starling	*Gracupica contra*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Indian Scops-owl	*Otus bakkamoena*	Sedentary	Nocturnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Intermediate Egret	*Ardea intermedia*	Latitudinal (partial)	Diurnal	No	LC	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Island Thrush (Wallacean)	*Turdus poliocephalus schlegelii*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Japanese Grosbeak	*Eophona personata*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Japanese Quail	*Coturnix japonica*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	Ricefield (low)	NT	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Japanese Robin	*Larvivora akahige*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Japanese Scops-owl	*Otus semitorques*	Sedentary	Nocturnal	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Javan Myna	*Acridotheres javanicus*	Sedentary	Diurnal	Orchard (low)	VU	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Jungle Babbler	*Argya striata*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Jungle Myna	*Acridotheres fuscus*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Kalij Pheasant	*Lophura leucomelanos*	Sedentary	Diurnal	No	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Lapland Longspur	*Calcarius lapponicus*	Latitudinal (full)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Large-billed Gerygone	*Gerygone magnirostris*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Lesser Adjutant	*Leptoptilos javanicus*	Latitudinal (partial)	Diurnal	Aquaculture (low)	NT	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Lesser Coucal	*Centropus bengalensis*	Latitudinal (partial)	Diurnal/Crepuscular	No	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Lesser Sand Plover*	*Charadrius mongolus/atrifrons*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Little Bunting	*Emberiza pusilla*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Little Stint	*Calidris minuta*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	LC	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Little Tern	*Sternula albifrons*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Meadow Bunting	*Emberiza cioides*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Mountain Imperial-pigeon	*Ducula badia*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Mountain White-eye	*Zosterops japonicus*	Latitudinal (partial)	Diurnal	Orchard (low)	LC	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Narcissus Flycatcher	*Ficedula narcissina*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Naumann's Thrush	*Turdus naumanni*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Northern Boobook	*Ninox japonica*	Latitudinal (partial)	Nocturnal	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Northern Lapwing	*Vanellus vanellus*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Northern Pintail	*Anas acuta*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	Ricefield (low), Aquaculture (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Orange-bellied Flowerpecker	*Dicaeum trigonostigma*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Orange-flanked Bush-robin	*Tarsiger cyanurus*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Oriental Dollarbird	*Eurystomus orientalis*	Latitudinal (partial)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Oriental Greenfinch	*Chloris sinica*	Latitudinal (partial)	Diurnal	Sunflower (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Oriental Stork	*Ciconia boyciana*	Latitudinal (partial)	Diurnal	Aquaculture (low)	EN	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Osprey	*Pandion haliaetus*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pacific Golden Plover	*Pluvialis fulva*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pacific Reef-egret	*Egretta sacra*	Sedentary, dispersal	Diurnal	No	LC	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pallas's Bunting	*Emberiza pallasi*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pallas's Grasshopper-warbler	*Helopsaltes certhiola*	Latitudinal (full)	Diurnal/Crepuscular (Nocturnal migrant	No	LC	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Peregrine Falcon	*Falco peregrinus*	Latitudinal (partial)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Pied Avocet	*Recurvirostra avosetta*	Latitudinal (partial)	Diurnal/Crepuscular	Aquaculture (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pied Harrier	*Circus melanoleucos*	Latitudinal (full)	Diurnal/Crepuscular	No	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pine Bunting	*Emberiza leucocephalos*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Pin-striped Tit-babbler	*Mixornis gularis*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Plumbeous Water-redstart	*Phoenicurus fuliginosus*	Latitudinal (partial)	Diurnal	No	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Plum-headed Parakeet	*Himalayapsitta cyanocephala*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (high)	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Puff-throated Babbler	*Pellorneum ruficeps*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Purple Swamphen	*Porphyrio porphyrio*	Latitudinal (partial)	Diurnal/Crepuscular	Ricefield (low)	LC	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Purple-backed Starling	*Agropsar sturninus*	Latitudinal (full)	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Rain Quail	*Coturnix coromandelica*	Sedentary, dispersal	Diurnal/Crepuscular	Ricefield (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Red-billed Leiothrix	*Leiothrix lutea*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Red-vented Bulbul	*Pycnonotus cafer*	Sedentary	Diurnal	Orchard (low)	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Rose-ringed Parakeet	*Alexandrinus krameri*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (high)	LC	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Rufous Treepie	*Dendrocitta vagabunda*	Sedentary, dispersal	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rufous-winged Buzzard	*Butastur liventer*	Latitudinal (partial)	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Sangkar White-eye	*Zosterops melanurus*	Sedentary	Diurnal	Orchard (low)	VU	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Saunders's Tern	*Sternula saundersi*	Latitudinal (partial)	Diurnal	Aquaculture (low)	LC	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Savanna Nightjar	*Caprimulgus affinis*	Sedentary	Nocturnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Scarlet-headed Flowerpecker	*Dicaeum trochileum*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1

Shining Flycatcher	*Myiagra alecto*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Short-billed Minivet	*Pericrocotus brevirostris*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Siberian Long-tailed Rosefinch	*Carpodacus sibiricus*	Latitudinal (partial)	Diurnal	Sunflower (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Sichuan Jay	*Perisoreus internigrans*	Sedentary	Diurnal	Orchard (low)	NT	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Slaty-breasted Rail	*Lewinia striata*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Spangled Drongo	*Dicrurus bracteatus*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Spot-billed Pelican	*Pelecanus philippensis*	Latitudinal (partial)	Diurnal	Aquaculture (med)	NT	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Spotted Greenshank	*Tringa guttifer*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	EN	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Streak-breasted Scimitar-babbler	*Pomatorhinus ruficollis*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sunda Pygmy Woodpecker	*Picoides moluccensis*	Sedentary	Diurnal	No	LC	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sunda Scops-owl	*Otus lempiji*	Sedentary	Nocturnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Swinhoe's Storm-petrel	*Hydrobates monorhis*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No	NT	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Taiwan Barbet	*Psilopogon nuchalis*	Sedentary	Diurnal	Orchard (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tiger Shrike	*Lanius tigrinus*	Latitudinal (full)	Diurnal (Nocturnal migrant)	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Tristram's Bunting	*Emberiza tristrami*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Vinous-throated Parrotbill	*Suthora webbiana*	Sedentary, dispersal	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
White-bellied Munia	*Lonchura leucogastra*	Sedentary, dispersal	Diurnal	Ricefield (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
White-eyed Buzzard	*Butastur teesa*	Sedentary, dispersal	Diurnal	No	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White-rumped Shama (White-crowned)	*Copsychus malabaricus stricklai*	Sedentary	Diurnal/Crepuscular	No	LC	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yellow Bunting	*Emberiza sulphurata*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yellow-bellied Prinia	*Prinia flaviventris*	Sedentary, dispersal	Diurnal	No	LC	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yellow-browed Bunting	*Emberiza chrysophrys*	Latitudinal (full)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yellowhammer	*Emberiza citrinella*	Latitudinal (partial)	Diurnal (Nocturnal migrant)	Ricefield (low)	LC	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Unidentified *Coturnix* quail	*Coturnix* sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Ricefield (low)		0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Unidentified swan	*Cygnus* sp.	Latitudinal (partial)	Diurnal/Crepuscular	Aquaculture (low)		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Unidentified waterfowl	*Anatidae* sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture		7	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	7				
Unidentified grebe	Podicipedidae sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (high)		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Unidentified *Caprimulgus* nightjar	*Caprimulgus* sp.	Latitudinal (partial)	Nocturnal	No		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1				
Unidentified rail	Rallidae sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
Unidentified bittern	*Botaurus/Ixobrychus* sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low)		2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2				
Unidentified pond heron	*Ardeola* sp.	Latitudinal (partial)	Diurnal	Aquaculture (low)		3	7	18	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	4	28						
Unidentified egret	*Egretta/Ardea* sp.	Latitudinal (partial)	Diurnal	Aquaculture (low)		3	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3						
Unidentified heron	Ardeidae sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (low)		3	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	8						
Unidentified pelican	*Pelecanus* sp.	Latitudinal (partial)	Diurnal	Aquaculture (med)		0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified cormorant	Phalacrocoracidae sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture (high)		2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	8						
Unidentified sandplover	*Anarhynchus mongolus/atrifrons*	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified *Anarhynchus* plover	*Anarhynchus* sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified plover	*Anarhynchus/Thinornis/Charadr*	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No		3	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4						
Unidentified curlew	*Numenius* sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified godwit	*Limosa* sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2						
Unidentified *Calidris* sandpiper	*Calidris* sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3						
Unidentified snipe	Gallinago sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		4	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	5						
Unidentified *Tringa* sandpiper	*Tringa* sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		1	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4						
Unidentified scolopacid	Scolopacidae sp.	Latitudinal (full)	Diurnal/Crepuscular/Nocturnal	No		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified shorebird	Charadriiformes (shorebird) sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	No		9	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	13						
Unidentified gull	Larinae sp.	Latitudinal (partial)	Diurnal	Aquaculture (low)		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified tern	Sterninae sp.	Latitudinal (partial)	Diurnal	Aquaculture (low)		2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2						
Unidentified waterbirds		Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal	Aquaculture		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified scops owl	*Otus* sp.	Latitudinal (partial)	Nocturnal	No		0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2						
Unidentified *Buteo* buzzard	*Buteo* sp.	Latitudinal (partial)	Diurnal	No		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified hawk	Accipitriformes sp.	Latitudinal (partial)	Diurnal/Crepuscular	No		0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2						
Unidentified kingfisher	Alcedinidae sp.	Latitudinal (partial)	Diurnal	No		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified *Psilopogon* barbet	*Psilopogon* sp.	Sedentary	Diurnal	Orchard (low)		1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2						
Unidentified Asian parakeet	*Himalayapsitta/Psittacula/Alexar*	Sedentary, dispersal	Diurnal	Orchard (low), Crop (high)		0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	3						
Unidentified minivet	*Pericrocotus* sp.	Latitudinal (partial)	Diurnal	No		0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2						
Unidentified paradise-flycatcher	*Terpsiphone* sp.	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No		0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified tit	Paridae sp.	Latitudinal (partial)	Diurnal	No		0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified bulbul	Pycnonotidae sp.	Latitudinal (partial)	Diurnal	Orchard (low)		1	6	0	1	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7						
Unidentified white-eye	*Zosterops* sp.	Latitudinal (partial)	Diurnal	Orchard (low)		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified starling	Sturnidae sp.	Latitudinal (partial)	Diurnal	Orchard (low)		1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified *Cyornis* flycatcher	*Cyornis* sp.	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No		0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified bush-robin	*Tarsiger* sp.	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified *Ficedula* flycatcher	*Ficedula* sp.	Latitudinal (partial)	Diurnal (Nocturnal migrant)	No		0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2						
Unidentified wheatear	*Oenanthe* sp.	Latitudinal (full)	Diurnal (Nocturnal migrant)	No		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified weaver	*Ploceus* sp.	Sedentary, dispersal	Diurnal	Ricefield (high)		1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4						
Unidentified *Lonchura* munia	*Lonchura* sp.	Sedentary, dispersal	Diurnal	Ricefield		4	2	0	0	0	0	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	6						
Unidentified *Passer* sparrow	*Passer* sp.	Latitudinal (partial)	Diurnal	Ricefield (low)		1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2						
Unidentified *Motacilla* wagtail	*Motacilla* sp.	Latitudinal (partial)	Diurnal	No		1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified bunting	*Emberiza* sp.	Latitudinal (partial)	Diurnal (Nocturnal migrant)	Ricefield		0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1						
Unidentified songbird	Oscines sp.	Latitudinal (partial)	Diurnal/Crepuscular (Nocturnal migrant)			1	5	4	0	1	5	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	10						
Unidentified landbird		Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal			1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1						
Unidentified bird	Aves sp.	Latitudinal (partial)	Diurnal/Crepuscular/Nocturnal			0	48	36	1	1	17	3	2	2	0	0	0	1	0	0	0	2	0	39	16	84												
		Total				**352**	**1210**	**511**	**19**	**54**	**254**	**54**	**280**	**41**	**96**	**43**	**11**	**35**	**13**	**87**	**53**	**76**	**1**	**674**	**282**	**2073**												

* Recent taxonomic changes at the time of publication, but the Siberian Sand Plover is the most likely speices