

Compilation and analysis of Member State update on hunting and habitat management – Central-Eastern Flyway¹

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BACKGROUND

The European Commission services requested information in December 2023 about Member States' and stakeholders' activities carried out in 2023 in relation to the turtle dove. Questions aimed at obtaining information on the following aspects: hunting (14 questions), habitat management (3 questions), research programs (7 questions). See Annex 2 for full details on the questionnaire sent to the Member States.

We present here an overview and an assessment of the responses received from Member States situated in the Central-Eastern Flyway.

RESULTS

The Commission services received information from the following Member States: AT (2 regions), BG, CZ, EE, FI, GR, CY, HR, HU, IT (18 regions), LT, LV, MT, PL, SE and RO. A summary of the responses is compiled in Annex 1 in tables organized in the following sections: Hunting in 2023, Compliance and control mechanisms, Habitat Management and Research Programmes. Additionally, we provide below an overview of the responses.

HUNTING IN 2023

In March 2023, a technical recommendation for implementing a 0-quota for turtle dove in the central-eastern flyway was given to the Member States, due to the population decline observed in that flyway and the lack of information on demographic parameters, which prevents the implementation of a population model applicable for that area. Among the MS where turtle-dove is a huntable species (AT, GR, BG, CY, RO, IT, MT), TD hunting was authorised in all of them (except for the regions of Abruzzo, Bolzano and Trento in IT).

Hunting regulations largely varied among MS. RO had the highest daily quota, with 20 turtle doves per hunter. In BG there was a daily quota of 8, increasing to up to 24 for selected hunters. The quota was of 6 birds per excursion in GR, and of 6 birds per hunter in CY. Most regions of IT established a hunting quota of 5 TDs per hunter (12 regions out of 18, representing 67% of the total territory of IT). Many regions of IT also had a total annual quota per hunter, ranging from 10 to 15, as well as a total regional quota. As an exception, in Campania it was reduced to 3 turtle doves per hunter in Natura 2000 areas and near Vesuvius National Park, and in Lazio it was granted to anyone who requested it (1-2 in average). No daily hunting quota was established

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in MT, where a national quota was set, with a maximum of 1500 turtle doves during the spring hunting season and 500 during the autumn hunting season. A season quota of 12 birds per hunter was set in CY. Compared to the previous year, CY increased the daily quota. In BG, GR, and RO the daily quota remained the same. No daily quota was set in AT.

The outcomes of the TDs hunted in 2023 are presented in Table 1. The reported harvest was overall smaller than the baseline (2013-2018) values, although – importantly – the data for IT only covered a few regions (whereas the 2013-2018 baseline data contained a national estimate). The combined reported harvest in 2023 was overall similar to that in 2022, although there were regional variations: BG, RO and MT hunted more than in 2022, whereas CY and GR reduced their hunting pressure in relation to the previous year (see also Fig. 1). The lack of reporting from many IT regions did not allow reaching any robust conclusions about the level of hunting at flyway scale, or how this compared with previous seasons.

All countries had a **mandatory bag data reporting system**, whether through the keeping of an annual shooting record in AT, or an electronic system or app in BG, MT, CY, GR and some regions of IT. The total bag of the region or country was therefore a sum of all the daily logs reported via the app, website or other reporting system, whether it was in real time or not. This has the implicit assumption that all hunters reported their take. On the other hand, in AT, specifically in the region of Burgenland, pigeons and doves were reported as a combined sum, and the proportion of TDs within that group is unknown. Additionally, data from several IT provinces was entirely lacking, despite bag reporting being mandatory.

Table 1. Reported harvest of Turtle Doves for countries in central-eastern flyway.

	Baseline values (Average annual take 2013-2018)	Reported harvest 2021	Reported harvest 2022	Reported harvest 2023	Comparison 2023-baseline	Comparison 2022-2023
AT	7,800	>100 (only two regions reported)	Not reported (turtle doves reported with other pigeons, but scarce)	80 Lower Austria, unknown/1024* ² Burgenland	Not quantifiable	Not quantifiable
BG	134,455	82,486	50,599	65,037	-52%	+28%
CY	39,015	2,250	15,756	13,699	-65%	-13%
GR	285,600	109,860	120,000	96,198	-66%	-20%
IT	304,140	8,297*	19,929*	19,149*	Not quantifiable	Not quantifiable
MT	4,099	500	949 (816 spring; 133 autumn)	2,000 (1,500 spring; 500 autumn)	-51%	+110%
RO	21,616	22,376	0	1,710 ³	-92%	NA
Fly way	796,725	217 581*	207 233*	185 198*	-63+%	-5+%

² Not known, wild pigeons and doves are reported together. The proportion of turtle doves is unknown.

³ Hunting of turtle dove was prohibited from the 31st of August of 2023. This value represents the turtle doves hunted between August 15th and August 31st.

* Partial values, estimates available for some provinces only.

+ Calculation excluding IT, for which comparisons are not possible.

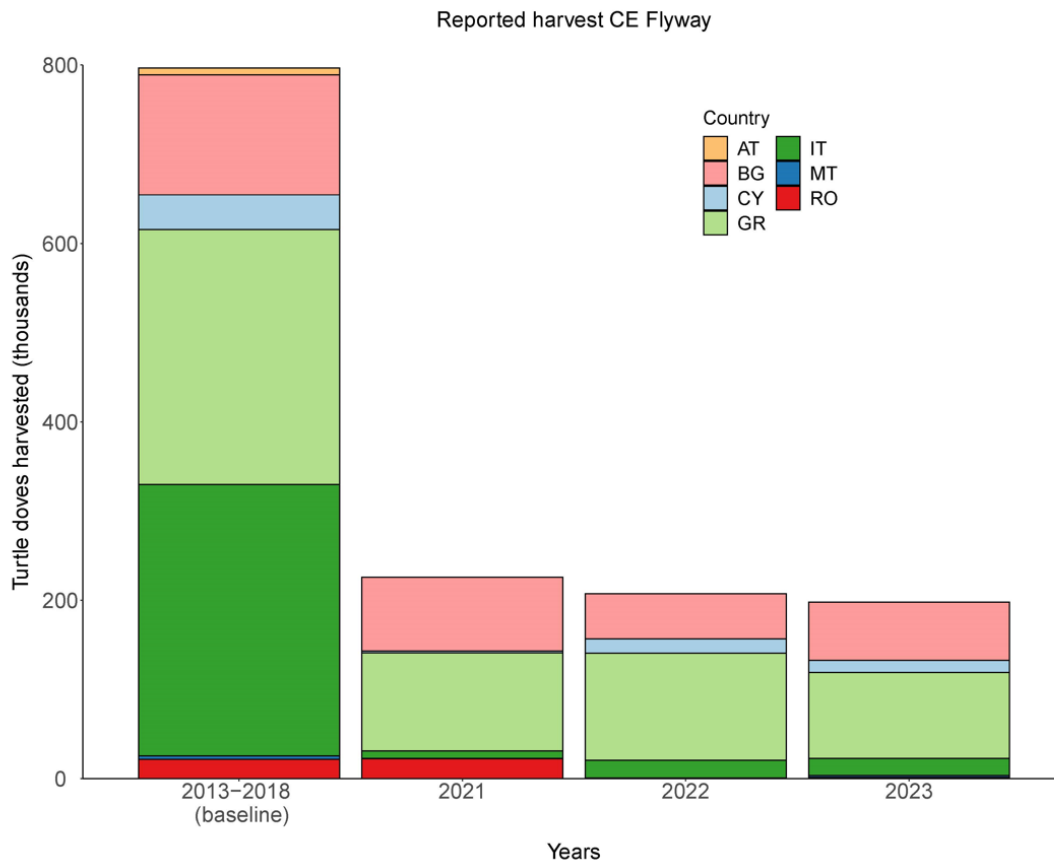


Figure 1. Comparison of reported harvest in 2021, 2022 and 2023 with respect to 2013-2018 period (baseline). Note that IT data are only partial (a few provinces).

The timing of the hunting season was variable depending on the country, generally from mid-August to October (see more details in Annex 1). The earliest opening of the hunting season was in Burgenland (AT) and BG on 12 August. In BG the hunting was restricted to Saturdays and in AT there was no restriction. MT was the only country to open hunting during the spring season (17 April to 30 April), which was against the technical recommendation and the conclusions of the TFRB and NADEG meetings. The longest open season was in Lower Austria, from 15 September until 31 January 2024.

COMPLIANCE AND CONTROL MECHANISMS

INSPECTIONS

Quantitative data about inspections being carried out were given by all hunting MS except RO and AT, which only provided qualitative information (that inspections are carried out by wardens). However, IT only provided detailed data for three provinces and qualitative data (“in the order of hundreds” or “carried out by provincial police forces”) for two others (see Table 2 for more detail on the regions/countries which specified quantitative data). Data for CY was also estimative. When specified, spatial distribution of these inspections reflected that it was carried out throughout the whole territory, although it was explained in detail only in GR, where it was also mentioned that the number of inspections had increased almost fourfold compared to last

year. In any case, in most MS information related to the whole hunting season (Sept to Jan), and was not specifically related to assess compliance with TD regulations.

Table 2. Regions and countries that indicated the number of inspections carried out in turtle dove hunting areas.

Country	Region	Number of inspections in TD hunting season	Number of inspections in TD areas during non-TD hunting season	N. inspections in total hunting season	Days of inspection
Greece				114,036	139
Bulgaria			29,122	55,672	x
Italy	Abruzzo		x	2,311	x
Italy	Marche		x	1,628	X
Italy	Sicilia		x	1,364	x
Cyprus		>300	>1500		x
Malta		851 field inspections, 648 spot-checks in spring hunting season (17-30 Apr). 376 spot checks on individual licenses, plus daily patrols (1-20 Sep).	360 field inspections and 282 spot-checks (10-16 Apr). 302 field inspections (1-8 May). 3404 spot-checks (21 Sep-31 Dec)		20 days of spot checks in hunting season. 116 days outside hunting season.

INFRINGEMENTS

Infringements were reported from almost all countries with inspections, mostly in low frequencies: in GR, 195 infringements were reported throughout the whole hunting period, representing 0.001% of all inspections (no specific information about TD provided); in BG, 89 infringements reported, 51 during the hunting season (representing <0.001% of inspections) and 38 outside the hunting season (0.001%), none related to TD); in IT, in the three regions with quantitative data about inspections, no infringements for TD were reported from two of them (Abruzzo and Marche), whereas in Sicilia 185 sanctions are mentioned (involving 13% of inspections made) although it is not clear whether they relate to TD or not; in CY 600 infringements were reported (representing up to 40% of inspections), with 28 occurring during the TD hunting season (up to 10% of inspections), although it is not mentioned specifically whether they refer to TD or not; in MT, 2 infringements related to TD were detected during the spring hunting season, and one during autumn hunting season (<0.002% inspections). AT was the only MS for which no infringements were reported.

Apps or patrol inspections were used to verify compliance with daily quotas, and no violations of such daily quotas were reported in IT, BG or CY (no specific information for RO, GR or AT)

The most common consequence for offenders were fines (IT, RO, GR, AT, CY). Prison sentences, detention, ancillary penalties were mentioned by GR and CY; and confiscation of illegal weapons, devices and ammunition by BG and IT.

ADDITIONAL COMPLIANCE PROMOTION MECHANISMS

Various compliance promotion mechanisms were put in place across different regions. In Lower Austria (AT), it was reported that rigorous education and examination processes were mandatory for hunters seeking licenses. The Eonian islands (GR) saw increased enforcement and education efforts directed towards hunters. In BG, before the hunting season, trainings and briefings were held throughout the territory. In IT, in the region of Basilicata, information was disseminated through social media and alerts, while in Puglia, regulations were published in official bulletins and websites. Toscana relied on sharing information through hunters' associations. In MT, prior to each hunting season, nationwide training sessions and briefings conducted by regional forest directorates were held. Enforcement officers received specialized training, and collaboration with NGO volunteers reportedly helped in enforcement efforts. MT also made use of SMS to inform hunters on regulations and other relevant information. CY also mentioned informing the public through public and social media.

HABITAT MANAGEMENT

All countries except for RO and LV reported having undertaken habitat management measures to favour TD. PL, HU, HR, GR, AT, CY, and CZ mentioned and benefited from the 2023-2027 CAP Strategic Plan, with different objectives and interventions that although not being specifically directed to turtle dove are likely to have a positive influence on the species. Private funding for some of these initiatives (from hunters, hunting associations and landowners) were mentioned in AT, CY, GR, BG, IT. Other European or regional funds were also mentioned. Many regions of IT provided information on the cost of the initiatives, but not the source in almost all cases. EE had not implemented any measure directed specifically to turtle dove, but some national grassland measures could benefit the species. In the case of SE, turtle dove is considered a rare visitor (probably less than five individuals), therefore no habitat management measures were implemented.

Common actions included the implementation of agri-environment measures, such as maintaining herbaceous vegetation below permanent crops, preserving high nature value grasslands, and habitat restoration projects in designated areas such as Natura 2000 sites. Some Member States, like CZ and GR, had specific interventions targeting the TD, including habitat improvement through artificial/natural water supply or planting of native perennial plant species. In BG, hunters contributed to creating and maintaining special areas for habitat improvement and food availability for the TD. While some regions in IT lacked specific habitat management measures for the TD, others focused on broader biodiversity preservation efforts, such as promoting organic farming, creating wildlife set-aside strips, and expanding grassland areas. MT's initiatives included dedicating non-productive areas for habitat and managing Natura 2000 sites.

Specific TD monitoring to assess the effect of those habitat management measures was lacking in many countries and regions, and no monitoring was mentioned in HU, FI, RO, SE, BG, MT, LV, CY and EE. Only CZ, AT, GR, HR, and some regions of IT mentioned some methods for assessing the efficacy of measures, but no further information was provided. Significant portions of regions in IT, totalling 77% (14 out of 18 regions), lack specific monitoring systems, indicating potential gaps in assessing the impact of implemented measures.

RESEARCH PROGRAMMES

While some countries established monitoring programmes integrated into broader bird census efforts, others relied on regional surveys or lacked specific initiatives altogether. See Table 3 for a summary on the carrying out of national turtle dove censuses, CMR programmes, and monitoring of productivity in the different countries.

Table 3. Countries with organized surveys, CMR programs or monitoring of productivity.

Country	National surveys 2023	National census planned for 2024	Ringling CMR ⁴ programs to estimate survival	Monitoring of productivity
CZ	Yes	Yes	No	No
AT	Yes ⁵	Yes	No	No
EE	No	No	No	No
GR	Yes	Yes	No	Yes
HR	Yes	Yes	No	No
HU	Yes	No	No	No
FI	No	No	No	No
PL	Yes	Yes	No	No
BG	Yes	Yes	No	Yes
RO	No	No	No	No
LV	No	No	No	No
SE	No	No	No	No
IT	No	No	No ⁶	No
MT	Yes	Yes	No	No
CY	Yes	Yes	No	Yes

No national survey or census was carried out in EE, FI (where very few individuals are detected by ornithologists annually), PL, RO, LV, SE or IT (where responsibility of bird monitoring lays on the regional governments).

In CZ, AT or EE, turtle dove abundance is reported to be generally included in the bird surveys conducted by BirdLife partners and other programmes. GR conducted regional surveys to estimate TD breeding populations before the opening of the hunting seasons. HR and EE monitored TD population trends within farmland bird monitoring schemes. HU mentioned ongoing monitoring programs managed by national park directorates. CY carried out summer population surveys in July and August and planned to continue with this activity in 2024. BG conducted a comprehensive survey in 2023, detailing nesting density and migration patterns, with plans for a 2024 survey pending funding. Other countries like FI, PL, and LV lacked specific turtle dove surveys or censuses, while IT relied on regional efforts for monitoring. MT carried out studies since 2008 tracking migration, with plans for continued monitoring in 2024.

Most countries admitted not having a ringling Capture Mark Recapture (CMR) programme in place to estimate survival (CZ, AT, EE, HR, HU, FI, PL, RO, LV, SE, CY, MT). In IT, a CMR programme was in the process of being defined in the region of Puglia, and three stations were reported in

⁴ Capture Mark Recapture

⁵ Turtle dove is included in the National Common Bird Census carried out by BirdLife Austria

⁶ Three ringling stations in Umbria but no captures in 2023

Umbria, but with no captures in 2023. Only GR reported having a research project to assess survival of the species, carried out with the Aristotle University of Thessaloniki and hunting organizations, the Hunting Federation of Macedonia and Thrace, and the Hellenic Hunters' Confederation, although no detailed information was provided.

No monitoring of productivity occurred (or was reported) in CZ, AT, HR, HU, FI, PL, RO, SE nor IT (or in MT, where the species does not breed). Again, only GR reported a project to assess breeding success (not necessarily productivity), carried out with the Aristotle University of Thessaloniki and hunting organizations, the Hunting Federation of Macedonia and Thrace, and the Hellenic Hunters' Confederation. CY and BG mentioned monitoring the age ratio of hunted birds through collections of wings. However, it is important to stress that age ratio of hunted birds is not a good estimator of productivity in this species.

Other research programmes were mentioned in various MS. In GR, ongoing projects included the identification of the origin of harvested turtle doves and research on the suitability of habitat for the species. In BG, projects included monitoring of the breeding phenology. In CZ, a pilot study conducted between 2022-2023 focused on habitat preferences of turtle dove, establishing principles for monitoring conservation measures and identifying key biology gaps. HR initiated a pilot project aimed at assessing the impact of farmland landscape heterogeneity on farmland bird communities using remote sensing data, with expected outcomes including guidelines for conservation measures. BG had collected and analysed data on turtle dove habitats, submitted scientific manuscripts for review, and developed an extensive report on widespread bird species. In IT, in the region of Basilicata, research involved collecting data on the nesting populations of turtle doves (no details on objectives or methodology), while Puglia had begun a project to estimate the number of breeding pairs in the region using listening points. Many regions of IT lacked specific research plans or initiatives. CY mentioned the fitting of satellite transmitters on 8 birds to study migration routes and survival.

CONCLUSIONS

Our assessment reveals that there has been **little progress towards the development of credible regulatory and control/enforcement systems in place**, one of the conditions set by the AHM mechanism to allow resuming hunting. As a consequence, the systems currently in place appear **insufficient to guarantee the observance of necessarily reduced quotas**, at a time when hunting can be resumed.

As in the previous year, a reduction in hunting pressure compared with the baseline data was reported for the flyway, but **the recommended moratorium was not implemented** in any (in fact, RO, which had implemented a temporary suspension of hunting in the previous year, reopened hunting in 2023), and some of the MS increased hunting pressure in relation to 2022. This is **in stark contrast with the debate in the TFRB, its recommendations and the continued decline** of the species in this flyway.

Quantitative information about compliance and control mechanisms was provided for many MS, although in most of them the information was not specific about the turtle dove hunting season, but general for the whole hunting period. Infringements were rarely reported except in certain regions (e.g. Sicily in Italy) or MS (Cyprus), but as the information about inspections during the turtle dove hunting season were not specified in most MS, it is not possible to assess whether this low proportion is the result of compliance or of low inspections efforts at that time. Mechanisms to promote compliance (beyond controls) were mentioned in various MS, although further efforts would be required in this respect (e.g. campaigns to inform and promote hunting

reduction among hunters, beyond the reminder about legal regulations at the beginning of the hunting season sent through social media that is mentioned in various MS).

While **many countries mentioned having undertaken habitat management measures** for turtle dove, it must be stressed that **most of those actions were not specifically directed to turtle dove** but were part of multi-species programmes. Those measures could contribute to the maintenance of suitable habitats, which can positively impact turtle dove populations. On the other hand, a significant challenge lies in the **lack of robust monitoring mechanisms** to evaluate the effectiveness of these habitat management measures for the turtle dove, which may allow assessing whether general measures are sufficient as conservation targets for the species. Without comprehensive monitoring, it becomes **difficult to assess the true impact** of these initiatives on Turtle Dove populations and to refine conservation strategies accordingly.

Finally, **monitoring and research** efforts regarding Turtle Dove populations varied significantly across MS, but the overall conclusion is that most are still dedicating **insufficient efforts** in this respect. Abundance monitoring was carried out in many countries but **monitoring programmes for demographic variables (survival or productivity) are unfortunately still scant**, in spite of the repeated recommendations of the TFRB and the fact that no population model can be built in absence of such data, which in turn jeopardises the possibility for MSs to ensure compliance with Article 7 of the Birds Directive. Enhancing collaboration and expanding monitoring programmes would be essential for the long-term conservation of Turtle Dove populations throughout Europe.

Annex 1. Summary of responses by MS.

1. Hunting and hunting regulations (for MS where TURTLE DOVE (TD) is a huntable species).

Member State	Hunting season (from/till) in 2023	Legal hunting days	Daily quota per hunter	Other relevant regulations
Cyprus	3 September to 24 September	22	6 birds	Season quota: 12 birds per hunter
Austria	Burgenland: 12 August to 31 October; since 13 December no hunting takes place. Lower Austria: 1 January until 31 January and 15 September until 31 December	In Burgenland: 81 In Lower Austria: no restriction within the hunting season	None	In Burgenland: the hunting regulation was changed to provide there is no hunting in 2024. In Lower Austria: clutches of feathered game (nests and eggs) are generally protected all year round.
Greece	From 20 August to 14 September hunting of TD is allowed in passage zones (25% of the country). From 15 September to 20 February it is allowed throughout the territory, except for the restricted areas (13% of the territory). Hunting of TD ends in the second 10 days period of October (15 October).	All days of the week	Daily bag limit of 6 birds per excursion. National harvest limit of 120,000 birds, reduced by more than 50% compared to the years 2013-2018.	Hunting is only allowed to take place between half an hour (30 minutes) before sunrise and half an hour (30 minutes) after sunset. Hunting is prohibited under different conditions, such as vineyards in a specific timeframe, within unreaped meadows, within cultivated areas or orchards from flowering to fruit harvesting, within cities, towns, villages, or settlements, inside wildlife refuges, inside the core of National Parks, in adverse weather conditions, in a zone 500 meters wide along land borders and 300 meters from the coast into the sea.
Bulgaria	12 August to 30 November	Every Saturday	Up to 8 TD per hunter (national hunters) and up to 24 pcs. for OHT hunters	N/A
Romania	15 August to 30 September	47 days	20 TDs per day per hunter.	The harvest quota is established by the Law no. 407/2006 on hunting and the protection of the hunting fund

<p>Italy</p>	<p>The species was not huntable in the 2023-2024 hunting season in the regions of Abruzzo, Bolzano and Trento.</p> <p>The hunting period is highly variable among regions. A few hunting days were open in early September (1-3 days) in Basilicata, Calabria, Lazio, Marche, Molise, Sicilia, Puglia, Sardegna, Toscana, Umbria, Veneto. Some of these regions also opened hunting from September 17 to 30 September and up to the 15 October. This period was also open to hunting in Campania, Lombardia (until 31 December). In Emilia-Romagna, hunting was allowed only from September 3 to September 14. And in Friuli-Venezia Giulia, hunting was allowed from September 1 to December 10.</p>	<p>Basilicata and Friuli-Venezia Giulia allow hunting for three days per week, while Calabria permits hunting for 23 days. In Emilia-Romagna, hunters are allowed to hunt three days a week, specifically on Thursdays and Sundays. Lombardia offers the most extensive hunting allowance with 76 days available. Marche designates fixed hunting days on Wednesday, Saturday, and Sunday. Puglia allows hunting for three days, Sardegna for two, and Sicilia offers three days per week, giving hunters the choice of Monday, Wednesday, Thursday, Saturday, or Sunday. Toscana and Umbria allow hunting for only one day, while Veneto permits hunting for 12 days.</p>	<p>Most regions implemented a quota of 5 TDs per hunter (Basilicata, Campania, Emilia-Romagna, Lombardia, Marche, Molise, Puglia, Sardegna, Sicilia, Toscana, Umbria, Veneto).</p> <p>In Campania hunting of TD in Natura 2000 areas and Vesuvius NP, is limited to 3 TDs per hunter.</p> <p>Friuli-Venezia Giulia: 25 TDs per hunter. An exception is Lazio, where quota was assigned to each individual who requested (average 1-2 TDs per hunter).</p>	<p>In Basilicata, a Digital Regional Hunting Card was used, using the Xcaccia app for real-time monitoring of withdrawals. This app was also used in Calabria.</p> <p>Campania specified in this question that there is a total quota of 10 TDs per hunter, and that it is mandatory to specify when printing the regional hunting card, the option "hunting under TD management" and to annotate digitally on the "campania-caccia" website, the animals shot within 24h.</p> <p>Emilia-Romagna specified a total quota of 15 TDs per hunter. Total regional harvest: maximum quota of 4.693 heads (50% of the average harvest in the last 5 years). Daily reporting of culls through regional web portal "Gestione interventi di caccia e controllo".</p> <p>In Lazio, the maximum quota was 5.534 TDs. The monitoring was done through an application form in the institutional websites. The territorial hunting areas, based on the number of applications received, assigned the max number of heads to each interested hunter. The hunters shall report the kills (even if 0) to the relevant territorial hunting area.</p> <p>In Lombardia, 465 TDs are huntable, with a total quota of 15 TDs per hunter.</p> <p>In Marche, 6.300 TDs are huntable, with a total quota of 15 TDs per hunter. The access is only authorized to hunters through the app Xcaccia, reporting culling in real-time.</p> <p>In Molise, there is a total quota of 10 TDs per hunter. Hunters who shot TD must deliver to the THA both wings of the specimens taken.</p> <p>In Puglia, 3.029 TDs are huntable, with a total quota of 10 TDs per hunter. Harvest is only allowed until 12:00 noon, and using the app Xcaccia and the regional hunting card.</p> <p>In Sardegna, there is an annual quota per hunter of 10. The maximum regional quota is 50% of the average killed in the last 5 years (2.121 animals). They have a special application and email for the communication of hunted TDs.</p>
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Malta	<p>The spring hunting season was open from 17 April to the 30 April, both dates included, from two (2) hours before sunrise until noon.</p> <p>The autumn hunting season was limited to September only. The quota of 500 Turtle-doves was reached on the 20th September and thus the season was closed on this day.</p> <p>There were certain permitted hours when hunting of TD was allowed</p>	<p>13 days during the spring hunting season, 30 days during the autumn hunting season.</p>	<p>No daily quota was applied.</p> <p>Spring hunting season quota of 1,500 TDs and quota of 500 TDs for the autumn hunting season</p>	<p>In Malta hunting is regulated by the Conservation of Wild Birds Regulations (S.L.549.42), which declares all species of naturally occurring birds as protected [Regulation 4(1)] and establishes general parameters regulating hunting and taking of birds, lays down general prohibitions, lists avian species subject to the highest level of protection (Schedule I and Schedule IX species), areas where hunting is not allowed and other restrictions.</p>

2. Outcomes of hunting regulations

Member State	Total turtle doves hunted in the MS/region in 2023 (please include uncertainty about the estimate when relevant)	Method for estimating national bag	Was there a mandatory bag data reporting system or a voluntary system?
Austria	80 in Lower Austria. Not known for the region of Burgenland. In 2023, 1024 wild pigeons and doves were reported as being hunted. Proportion of TDs unknown.	In Lower Austria, through the shooting list made by hunters.	Mandatory. There is a mandatory keeping of an annual shooting list by the person entitled to the hunting right.
Cyprus	13,699 TDs hunted.	Phone application with mandatory reporting.	Mandatory. Every hunter must report hunting immediately through mobile phone application.
Greece	The total number of TDs harvested was 96.198 birds.	QR code and mobile app for daily harvest reporting.	Mandatory (Description is given in detail above). The Hellenic Hunters Confederation continues to select voluntary bag data through the project "ARTEMIS I" for the period 2023-2024.
Bulgaria	65,037 TDs for the entire territory of the Republic of Bulgaria	Through hunting permits	Mandatory. An electronic system for electronic permits has been developed and is being tested in one region of the country. An amendment to the legal framework is pending, with the aim of introducing the electronic system.
Romania	The hunting of this species was prohibited from the 31 August 2023. Between August 15-31, a number of 1710 TDs were hunted throughout the country.	Reporting the number of specimens collected by each manager.	Mandatory. It is a contractual obligation for game fund managers to report hunted specimens.
Italy	<p>The number of TDs hunted was not reported in Abruzzo, Bolzano, Trento (regions where hunting was not permitted) and Campania, Molise (regions where hunting was permitted)</p> <p>TDs hunted: 137 in Basilicata, 79 in Calabria (partial data), 2.318 in Emilia-Romagna, 267 in Friuli-Venezia Giulia, 3.127 in Lazio, 35 in Lombardia (excluding Brescia), 2.440 in Marche, 267 in Puglia, 1.089 in Sardegna, 1.846 in Sicilia, 4.992 in Toscana, 2.432 in Umbria, 120 in Veneto.</p> <p>Total of IT: 19,149</p>	Regions that have authorized hunting have previously set a maximum harvest limit equal to half of those taken on average over the past 5 years	Mandatory bag data

<p>Malta</p>	<p>Hunting quota of 1,500 TDs in spring. It was reached on the last day of the season (30 April). Hunting quota of 500 TDs in autumn. It was reached on the 20 September. The season was closed on this day. A total 2,000 TDs were hunted in 2023.</p> <p>This total quota represents less than 1% of the total annual mortality of Malta's EU reference population.</p>	<p>The "small numbers" criteria and 1% mortality rate is used to determine Malta's yearly quota. For 2023, calculations were made and a total of 2,536 TDs. Thus, Malta set a 1,500 quota during Spring hunting season and 500 quota during Autumn season.</p>	<p>Mandatory. The Wild Birds Regulation Unit (WBRU) monitors the national quota uptake during the hunting season in real time through the Game Reporting System (GRS). Hunters were legally obliged to immediately report TDs using the GRS. WBRU also monitors the total number of birds reported caught per species at any given time. All data is compiled in a database which generates a report. The GRS is closely monitored throughout the season, with a view to keeping track of several variables, including the total number of birds per species caught per day and the national bag limits.</p>
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3. Compliance and control mechanisms.

Member State	Number of inspections during the (turtle dove) hunting season	Number of inspections outside the TD hunting season	Spatial distribution of those inspections	Outcome of those inspections (infringements)	Consequences for offenders	Estimation of the proportion of hunters exceeding the daily quota	Any other applied compliance promotion mechanism (e.g. public information campaigns)
Austria	Number of inspections is not specified. No pre-defined days for inspections.	Number of inspections is not specified. No pre-defined days for inspections.	In Burgenland, 2 mandatory gamekeepers per the first 1000 ha of hunting area, and one more for each additional 500 ha. In Lower Austria, inspections are carried out per hunting territory (at least 114ha)	No infringements found.	Fines	No daily quotas specified for any region.	In Lower Austria, strict and detailed education and examination of hunters to acquire a hunting license.
Cyprus	More than 300 consisting of 2 wardens.	More than 1500	Most of the inspections were carried out within the area that hunting for the species is allowed (4.6% of the total available area in which Cyprus exercises effective control)	600 infringements found. 28 of those were reported during the Turtle Dove hunting season.	Fines and penalty points. Hunting is seized until fine is paid. Imprisonment and removal of hunting rights in some cases.	From patrol inspections, no violation of quota was detected	Informing the public through public and social media
Greece	From 20 August to 6 January, 114.036 controls by 265 Gamekeepers were carried out.	x	During the hunting period and during the spring safeguarding is intensified in the islands Strofadia, Zakynthos, Paxos - Antipaxos, and Othonos. The country attached	195 infringements (hunting outside the passage zones, exceeding daily bag limit)	The penalties include: prison sentences and detention, financial penalties and fines, as well as ancillary penalties	x	It was mentioned in the TFRB meeting “welcomed positive developments in Greece (Eonian islands), and increased enforcement and education efforts towards hunters”.

			maps that show the network of Wardens of the Greek Public Forest Service and the Gamekeepers of the Hunting Organizations in the country.				
Bulgaria	55,672, including the inspection for illegal hunting of small game (including grouse).	29,122	The control is carried out on the territory of all Regional Directorates of Forestry, State Forestry and Hunting Farms	During the hunting season, 51 violations were detected, 42 were detected, for which criminal acts were drawn up, only 6 were undetected. None of these cases were related to illegal trespassing on Turtle Doves. 38 violations found outside the hunting season.	8 legally owned weapons, 17 illegal devices, 31 ammunition were confiscated.	During the hunting season, inspections are carried out jointly with all interested parties, including the Ministry of Internal Affairs and various non-governmental organizations	Every year, before the start of the hunting season, before the start of hunting trips for gourd and waterfowl, trainings and briefings are held, led by experts from the regional forest directorates, which are 16 in number and cover the territory of the entire country, distributed on a territorial basis.
Romania	Not specified	Not specified		It's not necessary	Fines	It's not necessary	It's not necessary
Italy	2.311 in Abruzzo, 1.628 in Marche. Nothing specified in this section for Bolzano, Calabria, Campania, Emilia Romagna, Friuli-Venezia Giulia, Lazio, Molise, Puglia, Sardegna, Trento, Veneto. Umbria mentioned they do not own a compliance and control structure.	Toscana did not give a specific value but mentioned "In order of thousands"	Mentioned in Basilicata, Marche, Toscana, the entire regional territory. Sicilia mentioned that 406 inspections were carried out in central-south and 958 in the south-east.	No illegal killing of wild turtle dove detected in Abruzzo, Marche. One administrative sanction in Basilicata (Matera) for failure to record the animals hunted. In Sicilia, 44 administrative sanctions; 30 criminal sanctions; 105 seizures of rifles and	Mainly sactions. Basilicata: administrative sanction €154,00	Hunters are notified through the app Xcaccia when they reach the maximum quota (mentioned for Basilicata, Marche, Puglia). In the case of Lazio, the hunters should report to the THA. In Veneto, daily monitoring is ensured by a	In Basilicata, information is given through social media and alerts. In Puglia, regulations are published in the Official Bulletin of the region, in websites of the THAs and of the competent regional section. In Toscana, information is given among hunters associations.

	<p>Lombardia provided no data but mentioned that data is being collected by provincial police forces.</p> <p>Sicilia mentioned data is not available for their region.</p> <p>Toscana mentioned “in order of hundreds”.</p>			ammunition; seizures: 2 ferrets, 3 acoustic calls, batteries, loudspeakers, nets, cages, traps used illegally.		software platform.	
Malta	<p>Field officers from the Environment Protection Unit (EPU) and Gozo police carried out 851 field inspections / patrols and 648 spot-checks on individual hunters. The Compliance Team of the Wild Birds Regulation Unit carried out 37 joint inspections with EPU. A total of 376 spot checks on individual licensees were carried out from the 1st September till the 20th September. In addition to spot-checks, daily patrols throughout all regions were conducted.</p>	<p>Field inspections and spot-checks were carried out between the 10th and 16th April. During these days, 360 field inspections and 282 spot-checks were conducted. Between the 1 May and 8 May, police carried out 302 field inspections / patrols (274 in Malta and 28 in Gozo). From the 21 September till the 31 December 3404 spot-checks on individual hunters were carried out.</p>	<p>Field officers from the EPU and Gozo police are distributed throughout the 6 regions in Malta and the 4 regions in Gozo respectively. Detected offences and reports by the public about illegalities occurring in any of these regions are dealt with by the officers assigned for that region. In addition, police also ensure presence and monitoring of priority surveillance areas, particular hotspots known for targeting of protected birds, bird roosting sites, and hunting grounds.</p>	<p>During the spring hunting season, two infringements related to the Turtle-dove were detected;</p> <ul style="list-style-type: none"> • Illegal trapping for Turtle-doves. Charges were issued against the individual. Case is still sub judice. • Use of cage trap for Turtle-doves. Culprit remained unknown and no further action could be taken. Cage trap destroyed by enforcement personnel. 	<p>Throughout 2023, there was one (1) individual charged with offences related to Turtle-dove and the case is still sub judice.</p>	N/A	<p>Prior to commencement of each hunting season, enforcement officers receive specialised training. Collaboration with the numerous NGO volunteers who were present in the countryside during the season, for aiding enforcement. All hunters in possession of a hunting licence were periodically reminded of their legal obligations through SMS mail shots sent on the mobile number registered with the Wild Birds Regulation Unit during the hunting seasons.</p>

4. Habitat management.

Member State	Description of initiatives implemented, (restoration measures, maintenance measures, Agrienvironment measures, contribution of hunters to habitat management, measures targeting turtle dove) including spatial scope,	Funding of those initiatives (including in the context of Common Agricultural Policy)	Monitoring carried out to assess effects – please describe monitoring method as well as results
Czechia	In 2023, Turtle Dove could profit from some agro-env-climate measures on arable land (e.g. biozones, protection of Lapwing nesting grounds) and grasslands (diversified care). Moreover it could profit from the protection of wetlands and on keeping unproductive areas on arable land (assumption of direct payment). To fulfill cross-compliance requirements, landscape features, such as solitary trees and groups of trees are protected. Eco-scheme payments is also in place.	EU CAP funds.	No Turtle Dove specific monitoring to test the efficacy of the measures is carried out. However all of the above-mentioned measures are subject to mandatory external evaluation where their efficacy is evaluated at a sample of areas.
Austria	There are habitat management measures within the framework of the CAP. Initiatives by local hunters for biodiversity (set aside areas for the benefit of game species) in Burgenland. Initiatives for biodiversity by the hunting association of Lower Austria.	EU CAP funds. Private initiatives by local hunters are mostly funded on a private basis by landowners and persons holding hunting rights.	Nothing specified for Burgenland. In Lower Austria, the development of wild animal populations is monitored by hunters and the trend is used for the use of the populations. The land owner or person entitled to the hunting right reports that he has taken a measure and the funding agency checks whether the measure has actually been taken.

Cyprus	Actions such as establishing food plots and maintaining water sources. They apply the new CAP with several measures to enhance habitats for TDs and other species. Including traditional husbandry to combat land abandonment, banning herbicides and insecticides in Natura 2000 areas, regulating cereal crop harvests, protecting riparian vegetation, preserving nesting sites, and installing water reservoir rafts. Additionally, the contribution of hunters to habitat management varies across districts, potentially leading to varied harvest quotas based on habitat conservation efforts.	Hunting licenses, government contribution. EU CAP funds. Budget of the Game and Fauna Service (Ministry of Interior) and the private initiatives of Hunting clubs through the Cyprus Hunting Federation and Wildlife Conservation.	x
Estonia	No special measures for Turtle Dove. There are national measures for organic farming land and farming land (e.g. grassland measures).	x	x
Greece	2023-2027 CAP Strategic Plan. The intervention serves the following objectives: 1. To maintain and increase good quality habitat, with available and accessible water and food in the breeding grounds. 2. Maintain and increase good quality habitat, with available and accessible water and food at key staging and wintering sites. The following categories (axes) of actions will be carried out: A. Preparation of an Integrated Management Plan. B. Improvement of the habitat of the turtle Dove (<i>Streptopelia turtur</i>) by: artificial water supply, natural water supply, planting of native perennial plant species to create linear vegetation barriers, special seeding zones. Farmers are using cultivations which favour the habitats of TD, like cereals and legumes. Energy crops, like sunflower, are also increased in Greece. C. Scientific monitoring of the population status of TD and other wildlife species.	EU CAP funds. The funding of the above-mentioned initiatives was carried out by the European Agricultural Guarantee Fund and the European Agricultural Fund for Rural Development, and Greek Payment Authority of Common Agricultural Policy Aid Schemes (OPEKEPE), Hellenic Hunters Confederation respectively.	The monitoring and the efficacy of the measures is carried out by the Greek Payment Authority of Common Agricultural Policy Aid Schemes (OPEKEPE) through the regional departments and through the local Forest Service.

	D. Surveillance – Guarding. E. Project promotion activities - Public awareness activities.		
Croatia	<p>Within the “Rural Development Programme of the Republic of Croatia for the Period 2014-2020” several agri-environment measures, that may also benefit Turtle Dove are available. Measures are implemented on national level, in the entire range of the Turtle Dove distribution.</p> <p>The measures are: grassing of permanent crops, sowing specific types of grass that can tolerate pressure from tractor wheels should maintain a favourable soil structure, keep the inter row area covered. Preservation of high nature value grasslands such as mountain and perymountain calcareous grasslands.</p>	EU CAP funds.	<p>Monitoring has been done within the common farmland bird monitoring scheme in Croatia since 2015. Bird counting is conducted using the point-transect method. Within a radius of 100 meters from each point, the proportion of agricultural land implementing a specific type of agri-environmental measure is analyzed.</p> <p>The population trend for the Croatian breeding population of TD shows an overall decline for the 9-year period 2015-2023. The monitoring did not detect alterations in habitat quality or any other factors affecting the species that could account for the observed negative population trend.</p>
Hungary	<p>The country designated 28 High Nature Value Areas in 2023. These 28 sites show a large overlap with protected/Natura 2000 areas, but some of them are not or not fully protected.</p> <p>Several subschemes are implemented for other species such as Great Bustard or Red-footed falcon, that can also benefit TD.</p> <p>Habitat restoration projects are carried out with EU co-financing by national park directorates in Natura 2000 sites as well as in nationally protected areas.</p>	EU CAP funds.	Not relevant
Finland	The country is preparing a biodiversity action plan mentioning the needs to support activities in other countries and a recommendation to maintain enough trees and bushes in farmland landscapes.	x	x

Poland	CAP Strategic Plan for 2023-2027: farmers will be able to develop “commitments” and eco-schemes (e.g. winter catch crops, favourable crop structure, mid-field afforestation, agro-forestry systems) or agrienvironment-climate interventions (e.g. preservation of traditional orchards, protection of valuable habitats and endangered species in Natura 2000 areas and outside Natura 2000, perennial flower strips) can be carried out.	EU CAP funds.	Monitoring and evaluation of the effects of the implementation of the plan, including the interventions in question, will be carried out through the product and result indicators specified in the Strategic Plan.
Romania	x	x	x
Latvia	No initiatives specific for Turtle Dove or multispecies initiatives with significant benefit	No initiatives specific for Turtle Dove	No specific research or monitoring activities regarding the Turtle Dove
Sweden	TD is a rare visitor in Sweden. In 2023 only observations of single birds. Probably <5 ind.		
Bulgaria	I. Schemes with beneficial effect on the nesting population of the TD reported to be put in place in 2023: Eco-scheme for maintaining and improving biodiversity and the ecological infrastructure (increasing the quality and quantity of green infrastructure in agriculture lands e.g. hedges, wetlands, shelter belts), Eco-scheme for reducing pesticides, Eco-scheme for maintaining and improving biodiversity in forests ecosystems, Eco-scheme for diversification of cultivated crops. II. Contribution from hunters. In each hunting ground, special areas are created and maintained to ensure food availability and to improve the habitats. These areas are designed in the 10-year hunting management plans and are mandatory. If they are not fulfilled, the game management contract for the specific hunting ground may be terminated.	I. EU CAP Budget II. The financing of the areas under point II is carried out by the hunting associations and other legal entities that manages the game populations in the hunting grounds in Bulgaria.	N/A

<p>Italy</p>	<p>No habitat management measures were mentioned for Bolzano, Calabria, Campania, Molise, Toscana and Trento. Lombardia states that data is under collection.</p> <p>In Abruzzo, efforts include implementing dedicated crops, integrated production, reduced tillage techniques, and maintaining extensive grazing areas. Basilicata focuses on biological agriculture, disposable crops, constructing field hedges, and promoting crop heterogeneity. Emilia-Romagna's priorities lie in preserving and enhancing ecosystems related to agriculture and forestry, with a focus on biodiversity preservation and improved water resource management. Friuli-Venezia Giulia and Umbria emphasize environmental improvement activities specified in the CAP 2021-2027 Strategic Plan. Lazio reports environmental restoration, maintenance, agri-environmental measures and disposable crops; without giving much detail. Marche undertakes measures such as maintaining groves and herbaceous fallow land, organic farming, and expanding grassland areas. Puglia's initiatives involve renouncing stubble burning, creating wildlife set-aside strips, disposable crops, and field hedges. Sardegna concentrates on maintaining herbaceous fallow land, promoting biological agriculture, and expanding grassland areas. Sicilia notes the expiration of agri-environmental measures and provides data on areas covered by such measures until 2022. Veneto prioritizes the maintenance of ecological infrastructures, uncultivated herbaceous strips, interventions favouring crop diversity, organic farming, and extending grassland areas.</p>	<p>Quantity of funding is indicated for Abruzzo, Basilicata, Marche, Sicilia, and Umbria but not the source.</p> <p>Funding is not mentioned for Bolzano, Calabria, Campania, Friuli-Venezia Giulia, Lombardia, Molise, Toscana, Trento.</p> <p>EAFRD funding is mentioned in Emilia-Romagna, Sardegna,</p> <p>PSR is mentioned in Lazio.</p> <p>Regional funding in Emilia-Romagna, Puglia.</p> <p>THAs funds in Puglia, Abruzzo.</p>	<p>No monitoring system is reported in Abruzzo, Basilicata, Bolzano, Calabria, Campania, Friuli-Venezia Giulia, Lazio, Lombardia, Marche, Molise, Sardegna, Toscana, Trento and Umbria (77% of the regions).</p> <p>Basilicata explains the census methodology through listening points. Similarly, Emilia-Romagna reported indirect monitoring is implemented through spot checks. Veneto mentions that the trend of the breeding population can be calculated from the data of the Mito200 project.</p> <p>Puglia mentions audits done by THAs.</p>
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<p>Malta</p>	<p>The CAP Strategic Plan for Malta includes implementing Good Agricultural and Environmental Conditions (GAEC) such as dedicating a minimum of 4% of land on farms over 10 hectares to non-productive areas for habitat and prohibiting shrub and tree pruning during bird breeding seasons. Statutory Management Requirements (SMRs) are mandated across all agricultural activities to protect natural habitats and trees, benefiting species like the TD. Efforts extend to managing Natura 2000 sites with habitat restoration and conservation measures aimed at maintaining or improving the conservation status of habitats and species. Malta commits to ongoing improvement and expansion of habitat-related measures within and beyond the Natura 2000 network, supported by contributions from the Federation for Hunting and Conservation of Malta (FKNK) through afforestation, cleanup projects, and volunteer work in reserves.</p>	<p>The execution of terrestrial Natura 2000 management plans and site-specific conservation objectives in Malta is financed through Management Agreements, supported by the Environment and Resource Authority in accordance with the Flora, Fauna, and Natural Habitats Protection Regulations, 2006. These agreements facilitate cooperation with NGOs, including those focused on the conservation of wild birds and sustainable hunting, to implement targeted conservation measures. To further aid these efforts, Malta has established a dedicated Conservation of Wild Birds Fund, which biennially allocates financial support for projects aimed at habitat improvement, such as afforestation.</p>	<p>N/A</p>
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5. Research programs (1).

Member State	National survey or census carried out in 2023	National survey census planned for 2024	Ringling Capture Mark Recapture programs to estimate survival (where, since when, number of birds marked, etc.)
Czechia	Breeding Bird Census Programme (JPSP), Breeding Bird Survey Czechia (LSD)	Breeding Bird Census Programme (JPSP), Breeding Bird Survey Czechia (LSD)	No
Cyprus	Summer population surveys are carried out every year in July-August	Summer population surveys are carried out every year in July-August	No. Satellite transmitters fitted onto 8 birds.
Austria	The Turtle Dove is included in the national Common Bird Census carried out by BirdLife Austria. No census in Lower Austria.	The Turtle Dove is included in the national Common Bird Census carried out by BirdLife Austria	x
Estonia	x	x	x
Greece	Regional survey is conducted from the Hunting Federation of Macedonia Thessaly in order to estimate the breeding population of TD before the start of the hunting season in the Prefecture of Macedonia and Thrace.	Same as previous year.	X
Croatia	TD population trend is being monitored within the common farmland bird monitoring scheme in Croatia since 2015.	Continuation of the common farmland bird monitoring scheme	No
Hungary	The Common Bird Census has been running since 1999 TD. A new monitoring program was launched in 2015 by the Ministry of Agriculture, whereby national park directorate staff collect data about breeding population of TD. The program is continued in 2023 and is planned to continue further.	No such monitoring takes place or is planned.	No research is known on these topics.
Finland	Annually found (very few) individuals have been observed by ornithologists and reported in national data bases	x	No ringing after 2012
Poland	TD is included in the state monitoring of the species. There is no national census of the species and there are no plans for it in the following years since the species is too widely distributed in Poland to be covered by the means of a census. No additional research and monitoring activities were undertaken in 2023.		There are no dedicated ringing programmes focusing on survival estimation of the Turtle Dove

Bulgaria	A national survey, including a census, was conducted in 2023 to determine the nesting density, fledgling arrival, hatching, and fledging periods of the European Turtle dove in Bulgaria. The survey covered 17 study areas, utilizing 503 counting points and resulted in 6 reports during the nesting period, establishing an average nesting density of 10.9 birds per 100 hectares. Additionally, the study documented the timings of migration and breeding phenology for the period 2014-2023, with findings published. The 2023 data confirmed that the mass flight of the species begins in early April, while breeding starts in early May, aligning with recent years' observations. Detailed dynamics of nesting density for 2023 were also presented in an accompanying table.	A national survey in 2024 will be conducted if funding is secured to monitor the species.	There is no species-specific national ringing program and no Capture Mark Recapture survival assessment has been done.
Romania	There is no monitoring programme for survey or census		
Latvia	No species-specific survey	Not planned	No specific measures specific for the Turtle Dove
Sweden	No program	No survey	No ringing
Italy	No national survey or census has been carried out in 2023 because the responsibility lies with the regions/provinces.	No national survey or census has been planned for 2024 because the responsibility lies with the regions/provinces.	In the process of being defined in Puglia. Ringing in three stations of Umbria: no captures in 2023. Previous captures: San Vito in Monte 14/04/2021 and Trasimeno 14/05/2022 and 27/08/2022.

<p>Malta</p>	<p>Since 2008, Malta has conducted monitoring studies to analyse the migratory influx of Turtle-doves, employing physical observations to estimate total migratory numbers and understand migration patterns and spatial distribution. These efforts are part of Malta's commitment to the Birds Directive Article 12, providing population estimates of Turtle-doves migrating over the islands. In the spring of 2023, from March 15 to May 15, observations recorded 608 Turtle-doves, with the highest daily count of 57 on April 20 and 23. Autumn counts from September 1 to 30 recorded 118 Turtle-doves, with a peak of 13 on September 10. Additionally, from September 2023, data on the age structure of harvested TDs indicated that 57% were juveniles and 43% adults.</p>	<p>Malta will again conduct monitoring studies during the Spring and Autumn seasons by executing physical observations to estimate migratory influx of the TD.</p> <p>During the breeding season of 2024, Malta will also be implementing a monitoring study targeting common birds including farmland birds which will then feed in the Common Bird Index.</p>	<p>FKNK and KSU, two Maltese hunting organizations, have embarked on research projects tracking TD migrations through satellite tagging. Since 2017, FKNK has also run a captive breeding program, releasing TDs, including six with satellite tags in 2022; three of these were tracked spending the breeding season in Sicily, Bulgaria, and Kosovo, while the other three failed to transmit GPS data. KSU, supported by the government's Conservation of Wild Birds Fund, has tagged a total of 21 Turtle-doves between 2021 and 2023. These tagged birds have been monitored spending breeding seasons across various countries.</p>
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6. Research programs (2).

Member State	Monitoring of productivity (method used, spatial and temporal scale, results available)	Monitoring of hunting bags (e.g. piloting of electronic systems for real time data)	Quantification of illegal killing	Any other research programs
Czechia	no	no	no	The 2022-2023 pilot study on Czech TDs revealed that forests or solitary trees significantly influence habitat preferences. It also established principles for monitoring conservation measures, evaluated data usability, identified biology gaps, highlighted similar endangered bird species, and specified national conservation objectives.
Cyprus	Estimation of age of hunted birds from wing clippings. From analysing 220 wing clippings, 37.7% were from adult birds and 62.3% from Juveniles.	Both, but mainly relying on reporting through the application	X	Satellite transmitters were fitted on 8 birds to study migration routes and survival. None of the tagged birds have fled into any MS. Half of the birds stayed in Turkey for breeding and the rest flow from Turkey to Ukraine through the Black Sea.
Austria	None	No research	None	None
Estonia	Monitoring through common bird monitoring scheme (PECBMS). The Centre of Estonian Rural Research and Knowledge will continue the monitoring of farmland birds. TD is scarce breeder in Estonia. They report it is important to collect information from casual observations.	x	x	x

Greece	Several projects in Greece aim to study and conserve the TD population. The Aristotle University of Thessaloniki leads a project with governmental and hunting organizations focusing on population dynamics and habitat suitability, including actions like demographic research and the development of a national action plan. Additionally, the Hunting Federation of Macedonia and Thrace collaborates with a university department to estimate breeding populations. The Hellenic Hunters' Confederation conducts ongoing monitoring of game species, including turtle doves, indicating stable population ratios over time.	The Hellenic Hunters Confederation will integrate/implement a pilot collection of harvest data for the program Artemis I, on an online platform in order to have real-time harvest data.	There has been a reduction illegal killing of birds, particularly in Greece's Eonian islands, as reported by the EU TFRB ⁷ . Hunters undergoing the hunting license issuance process now receive additional preventive education to deter illegal killings, while gamekeepers provide further preventive information. Enforcement efforts have also intensified. Birdlife acknowledges these positive developments, highlighting fewer instances of illegal killing and increased enforcement and education efforts directed at hunters.	x
Croatia	No	No	No	A pilot project was launched to assess the impact of farmland landscape heterogeneity on farmland birds. Using remote sensing data, specifically landscape metrics, to offer additional insights into the ecological needs of farmland bird communities. Anticipated outcomes include guidelines for developing conservation measures to address the potential impact of upcoming agriculture intensification projects. The results will be available by the end of 2024.
Hungary	No research is known on these topics.	Not relevant	Not relevant	No research is known on these topics

⁷ Task Force for the Recovery of Birds

Finland	TD is marginal species in FI. Population size is annually ca. 1-4 pairs.	x	No observations of any illegal killing	x
Poland	There is no monitoring of productivity of TD	Not applicable	There are no known cases of illegal killing of TD.	There are no plans for scientific research on TD currently.
Bulgaria	Performance monitoring conducted from 2014 to 2023 utilized two approaches: tracking nesting phenology and analyzing wings from hunted TD to determine surviving young.	Hunting bag reporting is done through hunting permits, with a mandatory electronic hunting bag reporting system to be introduced and pilot tested in 2023.	The total number of inspections carried out during the 2023 hunting season on the territory of the Republic of Bulgaria by the authorized bodies is 55,672, including for illegal hunting of small game (including grouse). No cases of illegal killing of Turtle Dove have been found.	Information on the habitats of the barn owl in Bulgaria has been collected and analyzed, and several scientific manuscripts have been submitted and are awaiting review by reviewers. An analysis of the relationship between nesting density and nesting and feeding sites in the habitats of the species was also carried out. In addition, the Bulgarian Society for the Protection of Birds, which is a member of the European Bird Monitoring Program (PECBMS), developed and presented an extensive report on the status of widespread bird species in Bulgaria.
Romania	There is no monitoring programme for productivity			
Latvia	No specific measures specific for the TD	Not applicable	Not applicable	Species specific research not planned yet
Sweden	N/A	N/A	No quantification, presumably no illegal killing	None
Italy	Nothing specified for Abruzzo, Basilicata, Bolzano, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Molise, Sardegna, Toscana, Trento, Veneto. In Lombardia, it is reported that there is monitoring of the breeding population of TD. In Marche, The region has commissioned Terre.it for a	Nothing specified for Abruzzo, Bolzano, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Marche, Molise, Sardegna, Toscana, Trento. In Basilicata, a compulsory app is used	Nothing specified for any of the Italian regions.	Nothing specified for Abruzzo, Bolzano, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Marche, Molise, Sardegna, Sicilia, Toscana, Trento, Umbria, Veneto. In Basilicata, collection and analysis of the numerical consistency and distribution data of the nesting populations of the turtledove species in sample areas of the Lucanian territory, as well as the realization of scientific ringing activities on the European turtle doves breeding populations.

	<p>monitoring project to assess the breeding population trend of Wild TD in representative sample areas. Puglia and Sicilia mention the Farmland Bird Index project to calculate population trends. Sicilia also mentions wing collection by the Hunting Federation.</p> <p>In Umbria, a regional survey is carried out in spring, showing a declining trend from 2001 to 2023.</p>	<p>for real time reporting of hunting bags. In Lombardia, monitoring is implemented by mailing. Puglia, Veneto and Umbria indicate an electronic system for real time data. In Sicilia, registration through a webpage.</p>		<p>In Puglia, DiSSPA (University of Bari) started a project with listening points (Preliminary estimate of maximum number of pairs in the region of a number not exceeding 6,000)- this study will continue in 2024.</p>
Malta	<p>The Turtle-dove is not known to breed in Malta and so data on breeding population size and survival rates cannot be collected.</p>	<p>Game Reporting System, which was firstly a telephonic system, has since 2021 become an app for mandatory hunting bag reporting. Notifications are given to the users by SMS.</p>	<p>The country is currently going through available literature and analysing enforcement statistics, once in place the NAP will assist in the quantification and tackling of IKB.</p>	<p>Not applicable</p>

Annex 2. Questionnaire sent to MS.

	Member State:	
	Region (if relevant):	
1. Hunting		
	Hunting season (from/till) in 2023	
1.1 Hunting regulations as published in official bulletins		
	Legal hunting days	
	Daily quota per hunter	
	Other relevant regulations	
1.2 Outcome		
	Total turtle doves hunted in the MS/region in 2023 (please include uncertainty about the estimate when relevant)	
	Method for estimating national bag	
	Was there a mandatory bag data reporting system or a voluntary system?	
1.3 Compliance and control mechanisms		
	Number of inspections carried out in turtle dove hunting areas during the turtle dove hunting season (or the time when hunting season would normally take place, in the case of countries with temporary moratoriums)	
	Number of inspections carried out in turtle dove hunting areas outside the turtle dove hunting season	
	Spatial distribution of those inspections within the country/regions	
	Outcome of those inspections (number of infringements found, type of infringements) (please differentiate during and outside the hunting season)	
	Consequences for offenders (enforcement and sanctions)	
	If daily quotas are in place, estimation of the proportion of hunters exceeding the daily quota (please also specify assessment method and associated uncertainty)	
	Any other applied compliance promotion mechanism (e.g. public information campaigns)	
1.4 Habitat management carried out in 2023		
	Description of initiatives implemented, (restoration measures, maintenance measures, Agrienvironment measures, contribution of hunters to habitat	

	management, measures targeting turtle dove) including spatial scope,	
	Funding of those initiatives (including in the context of Common Agricultural Policy)	
	Monitoring carried out to assess effects – please describe monitoring method as well as results	
1.5 Research programs (mark all that apply and provide details)		
	National survey or census carried out in 2023	
	National survey census planned for 2024	
	Ringling Capture Mark Recapture programs to estimate survival (where, since when, number of birds marked, etc.)	
	Monitoring of productivity (method used, spatial and temporal scale, results available)	
	Monitoring of hunting bags (e.g. piloting of electronic systems for real time data)	
	Quantification of illegal killing	
	Any other research programs	