

LIFE14 PRE UK 002
Coordinated Efforts for International Species Recovery
EuroSAP

Review of the EU European Turtle-dove
(*Streptopelia turtur*, subspecies *turtur*)
Management Plan



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Report commissioned by: The European Commission Directorate General for the Environment

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Geographic scope of the report

The scope of this report is the 25 European Union countries with significant European turtle-dove (*Streptopelia turtur*) populations (referred to in the rest of the report as turtle-dove). Finland, Ireland and Sweden do not have relevant actions from the Management Plan.

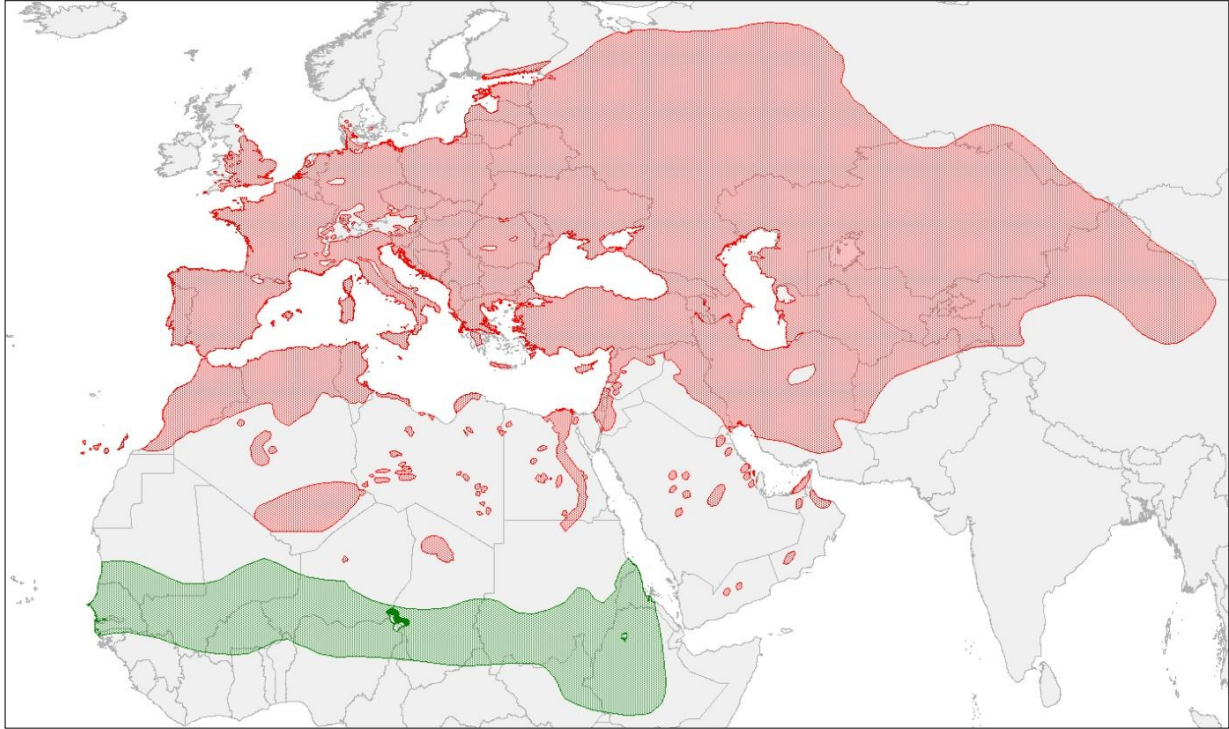


Figure 1. Map of breeding and wintering range states (BirdLife International, 2016)

Table 1. European Union Range States for the European turtle-dove

<i>Breeding</i>	<i>Migrating</i>	<i>Wintering</i>
<ul style="list-style-type: none"> • Austria • Belgium • Bulgaria • Croatia • Cyprus • Czech Republic • Denmark • Estonia • Finland (low numbers) • France • Germany • Greece • Hungary • Italy • Latvia • Lithuania • Luxembourg • Malta¹ • Netherlands • Poland • Portugal • Romania • Slovakia • Slovenia • Spain (and all Islands) • United Kingdom (England and Wales, Channel Islands, Gibraltar) 	<p>Autumn: August – November Spring: March – June</p> <p>The following EU countries have areas of particular importance for staging turtle-dove during migration :</p> <ul style="list-style-type: none"> • Cyprus • France • Greece • Italy • Malta • Portugal • Spain 	None in Europe

¹ There have been no confirmed breeding records of this species in Malta since 1956.

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0 - Introduction

This report is an update of the turtle-dove section in the 2014 Review of 13 species Management Plans (The N2K Group, 2014; specifically pages 98 to 108), and relates to the 2007-2009 Management Plan for Turtle-dove (Lutz 2007).

The 2014 review covered 19 Member States, and this update has been extended to include the remainder. Finland, Ireland and Sweden do not implement the Plan because of the very low numbers of turtle-dove that breed (in the case of Ireland, the species is a rare vagrant), and the United Kingdom information mainly concerns England, the species being rare and with no recent proved breeding in Scotland, Northern Ireland and Wales. The Member States added since 2014 to this report are: Austria, Cyprus, Estonia, Germany, Greece, and the United Kingdom.

The methodology is that of BirdLife (Gallo-Orsi 2001) which follows three steps:

1. updating information contained in the descriptive part of the Management Plan;
2. assessing progress towards implementation of the actions and evaluation against the recovery targets set in the Management Plan;
3. estimating the overall effectiveness of the Management Plan to meet population recovery objectives, using the latest available population estimates and trends.

This review addresses point 2. A Species Status Report (Fisher *et al* 2016) produced separately addresses points 1 and 3. Both documents will feed into the development of an International Single Species Action Plan for the turtle-dove. Detailed references, explanation, and background can be found in the Species Status Report.

Information on progress towards Management Plan objectives was collected using a questionnaire sent to the members of the Expert Group on the Birds and Habitats Directive (NADEG), and if required, to a country's BirdLife Partner. During the consultation, 202 experts and government representatives were sent the questionnaire and/or draft report, with a total of 43 responses from 28 Member States (25 government representatives from 22 Member States, 18 NGO/other organisation staff, from 15 Member States).

1 - General observations

Most Member States do not have a specific Management or Action Plan for turtle-doves. In Luxembourg, a multi-species plan is under development and will include turtle-dove, and this was partially influenced by the Management Plan actions. While there has not been development of a National Plan in Romania and Malta, the former has integrated the Management Plan terms into Romania-specific legislation and this is still in effect, while the latter has implemented measures triggered by State obligations with respect to national and EU legislation, such as the Birds Directive and the Habitats Directive. In Cyprus, the Plan inspired additional measures, such as the creation of food plots, development of water points during the dry season, creation of no hunting areas, and limiting the number of hunting days. In the United Kingdom, the UK Biodiversity Action Plan for the turtle-dove was superseded by the inclusion of the species on Section 41 in England and Section 42 in Wales listing species considered by the governments as of "principal importance for the conservation of biodiversity". Six key actions were identified, which are periodically reviewed and updated by Natural England (in Wales there has been no confirmed breeding in recent years) and selected Partner organisations. Development of this work pre-dates the EU Management Plan.

For many Member States, few of the Management Plan's actions have been implemented completely. The reasons are varied, but include the following (and are not necessarily confined to the Range State that raised the issue): the acknowledgement that many of the main perceived threats are external to the

State, and while locally breeding habitat remains relatively unchanged, hunting and illegal killing elsewhere and loss of wintering ground habitat are considered to be having greater effect (Belgium, Hungary); the species is considered to be widespread and stable, and so no direct action is urgent (Slovakia); there is insufficient implementation of specifically targeted conservation measures and monitoring, both at both NGO and Government levels (Estonia, France, Germany, Luxembourg); there is no specific legislation that reflects international Action Plans as working documents for public administrators (Spain); the Management Plan is not widely known to state authorities, and both hunting and illegal killing are politically-charged issues (Greece); the Plan is not known by the Autonomous Regions that are responsible for taking measures (Spain); limited capacity for authority enforcement staff to enact hunting controls (Greece); lack of acceptance of ambitious Rural Development Plan measures for hedges and wooded farmland rotation, over-exploitation of water resources, and abandonment of traditional agricultural practices (Cyprus); lack of conservation action because the turtle-dove is a game species (Spain). Broadly, in many countries, particularly in central and eastern Europe, there is insufficient evidence to diagnose the cause or causes of the decline and, as a result, inadequate knowledge to develop effective evidence-based solutions.

Where significant implementation has taken place, this is often through the indirect effects of other actions - conservation of turtle-dove habitats is not the main focus of efforts (for example, protection of woodland edge and agricultural fields with hedges in Hungary, or regional limits on bag size and local restoration of farmland habitats in France, or controls on hunting and enforcement effort against illegal killing in Malta). However, given the current information on population trends, in Portugal a reduction in the daily bag limit for hunters has been implemented, from eight to six in 2016, five in 2017 and falling to four in 2018.

It is likely that the turtle-dove indirectly benefits from a range of other initiatives in many countries, including Agri-environment Schemes; promotion of organic farming; Rural Development Programmes; national legislation that protects important features, such as hedgerows and riparian galleries; management of sites for nature conservation, such as Special Protection Areas; and other species and habitat-based projects not aimed at turtle-dove. However, other policy and development areas have continuing negative effects, such as agricultural change. Urbanisation may also have an impact on the species, although until studied, it is unknown whether this may be positive or negative.

Information is sparse on whether or not the actions have globally contributed to improving the status of the turtle-dove, with long-running monitoring mostly absent or not specifically targeted to turtle-doves. In Luxembourg, conservation measures have been implemented too recently to be able to show significant effects. In the UK, there is considerable national action, although mainly implemented before the Management Plan, with the turtle-dove embedded in national legislation. However, targeted species-specific habitat management was not introduced until 2012, and even then, only on a pilot basis on selected sites in eastern England. Full roll-out via agri-environment schemes did not occur until the advent of Countryside Stewardship in 2015, and recruitment into the new scheme was initially slow. In addition, Operation Turtle Dove, a partnership between the Government and NGOs, is taking action for the species in the UK, as well as encouraging research into factors operating during migration and at wintering areas outside of the UK. However, there is consensus that isolated Member State activities are of insufficient scale to illicit a global-level response and there is a need for more diagnostic research and solution testing outside of the western flyway.

2 - Achievement of short-term objectives

Belgium, Denmark, France, Germany, Latvia, Malta, Romania, Spain and the United Kingdom out of the total 25 Member States with short-term objectives have made the most progress towards them (see Table 2). For individual Member State Implementation Scores that assess overall progress, see Annex I.

Table 2. Achievement of short-term objectives of the EU Management Plan for turtle-dove in relation to the implementation of relevant measures.

Member State	1. Improving management and restoration of breeding habitats (measure 1)	2. Collection of data on population, trend, ecology, in breeding and wintering areas (measures 6 to 10)	3. Analysis of competition between collared dove and turtle-dove (measure 10)	4. Collection of more robust data to understand better effects of hunting (measures 3 to 5)
AT	no	partially	no	no
BE	yes	partially	no	not relevant
BG	no	no	no	partially
CY	no	partially	no	partially
CZ	partially	partially	no	not relevant
DE	partially	yes	not relevant	not relevant
DK	not relevant	partially	not relevant	not relevant
EE	no	no	no	not relevant
EL	no	partially	no	partially
ES	no	yes	partially	partially
FI	not relevant	not relevant	not relevant	not relevant
FR	yes	yes	no	partially
HR	no	no	no	not relevant
HU	yes	partially	no	not relevant
IE	not relevant	not relevant	not relevant	not relevant
IT	no	partially	no	partially
LT	no	partially	no	not relevant
LU	yes	partially	no	not relevant
LV	yes	yes	no	not relevant
MT	not relevant	yes	yes	yes
NL	no	partially	not relevant	not relevant
PL	no	partially	no	not relevant
PT	no	partially	no	partially
RO	yes	partially	no	partially
SE	not relevant	not relevant	not relevant	not relevant
SI	partially	partially	no	not relevant
SK	no	partially	no	no
UK	yes	yes	partially	not relevant

Objective 1 - improving management and restoration of breeding habitats (review measure 1).

This objective is relevant to 23 Member States, with seven achieving the short-term goal, and another three with partial progress (overall, 43% making some positive change). Breeding numbers in Denmark are insufficient for this objective to be relevant, and turtle-doves have not bred in Malta since 1956.

Habitat restoration has been carried out with improvement of hedges, wooded farmland, linear plantations, and alluvial forests, and while in most countries this work was not directed specifically at turtle-doves, the species has positively benefitted. Some of these improvements have come about through Member States' design and implementation of good agricultural practices and measures under

the Common Agricultural Policy (for example, support of organic agriculture and field edge schemes), and implementation of the Rural Development Plans. In the UK, France and Estonia, plans for the management of quarry sites have also been specifically designed to benefit turtle-dove. In Spain, a large part of the breeding population is found in Natura 2000 sites, with Management Plans that incorporate conservation of specific species, although none has habitat conservation targeted at turtle-dove. Outside of Government incentives, sympathetic habitat management has also been put in place by hunters and landowners to improve the ecological conditions for the species (see under Objective 4 for more detail).

In some countries, for example Germany, turtle-doves are the conservation target of a number of Special Protection Areas, so the management of these SPAs should also be of benefit to turtle-doves. In the United Kingdom, turtle-dove breeding habitats have been targeted by successive English agri-environment schemes, including improved management of nesting habitats (hedgerow, scrub and woodland edge) and the creation of suitable seed-rich, bare/sparsely vegetated foraging habitats on farmland. In addition, a specific management option designed to create suitable breeding season foraging habitats on arable land has been developed and is being implemented in areas of high turtle-dove abundance (notably in East Anglia). A small proportion of the population inhabits Sites of Special Scientific Interest designated, in part, for their scrub/woodland bird assemblages, and these sites are targeted by management that will maintain/restore their favourable condition for the breeding birds of woodland/scrub (including turtle-dove, where appropriate). In Belgium (Flanders), the NGO Natuurpunt has purchased Nature Reserves to be managed for the species.

Additional measures taken have been the restoration of hedges in agricultural areas in Belgium, adding the turtle-dove as a trigger species for several SPAs in Luxembourg, and limiting the bag limit in two Departments in France. In many Member States there are non-governmental projects that benefit turtle-doves, such as creation of reserves and local habitat restoration on a small scale.

Objective 2 - monitoring and research, including international cooperation (measures 6 to 10).

Of the 25 Member States for which this objective is relevant, six have made significant progress, and another 16 some progress (overall, 88% making some positive change).

Much of the research and monitoring on the species is carried out by NGOs and academic institutions, often in partnership with national or local authorities, for example: Operation Turtle Dove in the UK; research at Gießen University in Germany, Lisbon University in Portugal, Aristotle University of Thessaloniki in Greece, Polytechnic University of Madrid, and Instituto de Investigacion en Recursos Cinegeticos in Spain; monitoring in Hungarian National Parks by government staff; and trend/ecological studies and monitoring conducted by the French Office National de la Chasse et de la Faune Sauvage and Fédérations de Chasseurs (Network ONCFS-FNC-FDC "Oiseaux de passage") and the French Natural History Museum STOC network). In Spain, turtle-dove censuses are carried out in several of the autonomous regions. National and international schemes contribute to monitoring and research across Europe, including: Farmland Bird Index, Common Bird Monitoring, Breeding Bird Surveys, Nest Records, National Ringing Schemes, National and European Atlas projects.

Tracking studies are being carried out in France, Germany, and the United Kingdom, with plans to extend the work to Greece and Italy. Malta conducted nationwide migration studies for turtle-dove in autumn and in spring over a period of eight years and has implemented a legally binding real-time reporting obligation for small game, including turtle-dove.

Only France and the Czech Republic have projects to collect significant population data from outside of the EU. Populations outside the EU, in Russia and central Asia, are thought to have experienced severe declines (BirdLife International 2016).

Objective 3 - analysis of competition between collared dove and turtle-dove (measure 10).

This objective is potentially relevant for 22 countries, from which only Malta has carried out significant analyses, and these are not sufficient to draw conclusions. Hard evidence is lacking, and the degree to which competition may be a problem is unknown.

Competition between the species does not appear to be an obvious reason for the decline of the turtle-dove in Germany because the habitats used by the species are different (collared doves in inhabited areas, turtle-doves in open forests and forest edge with interspersed agricultural land) and because the population trend of the collared dove since 1990 is also negative. The same is true for Estonia where both species use different habitats. In the United Kingdom, although there is significant dietary overlap between all four UK farmland Columbidae species, the lowest overlap is between turtle-dove and collared dove, however there is still a degree of overlap. There is some disparity between their ecology, food and habitat requirements, so adverse impacts arising from indirect competition are likely to be limited in the UK. In north-eastern Greece, research on competition between turtle-dove and other Columbidae at different spatial scales is in progress, and it is expected to be completed in 2017. However, preliminary results show no inter-specific competition between turtle-dove and collared dove, due to differences in breeding sites, at least in north-eastern Greece. Anecdotal observations indicate little, if any, direct competition in the form of aggressive behaviours, nest site limitation. However, in the UK, areas where turtle-dove has been lost as a breeding species have lower densities of collared dove than areas where turtle-dove persists. In Spain, a study in Extremadura correlates the increase in collared doves to a decrease in the turtle-dove, but it does not verify any associations. Another study in Andalucía found no competition.

Objective 4 - collection of more robust data to understand the effects of hunting (measures 3 to 5).

This objective is relevant only to the 11 Member States where hunting is legal (Austria, Bulgaria, Cyprus, France, Greece, Italy, Malta, Portugal, Romania, Slovakia and Spain). Of these, nine have collected data, but only Malta has significantly fulfilled this objective (overall, 81% making some positive change). However, generally there is a lack of robust data, and the hunting bag statistics are unreliable in some Member States.

Little if any information has been collected from outside of the EU, and only Malta has made significant progress with long-term systematic analysis of migratory influx of the species and its correlation with hunting. In Spain, a PhD study is currently underway, which seeks to improve our understanding of the numbers and origins of turtle-doves shot in Iberia and the motivations of the hunters.

Almost all States have made progress towards ensuring that the hunting season does not overlap with spring migration and the breeding season, including late breeding birds. See Figure 2 for State-specific data, with the caveat that the breeding season information needs to be updated.

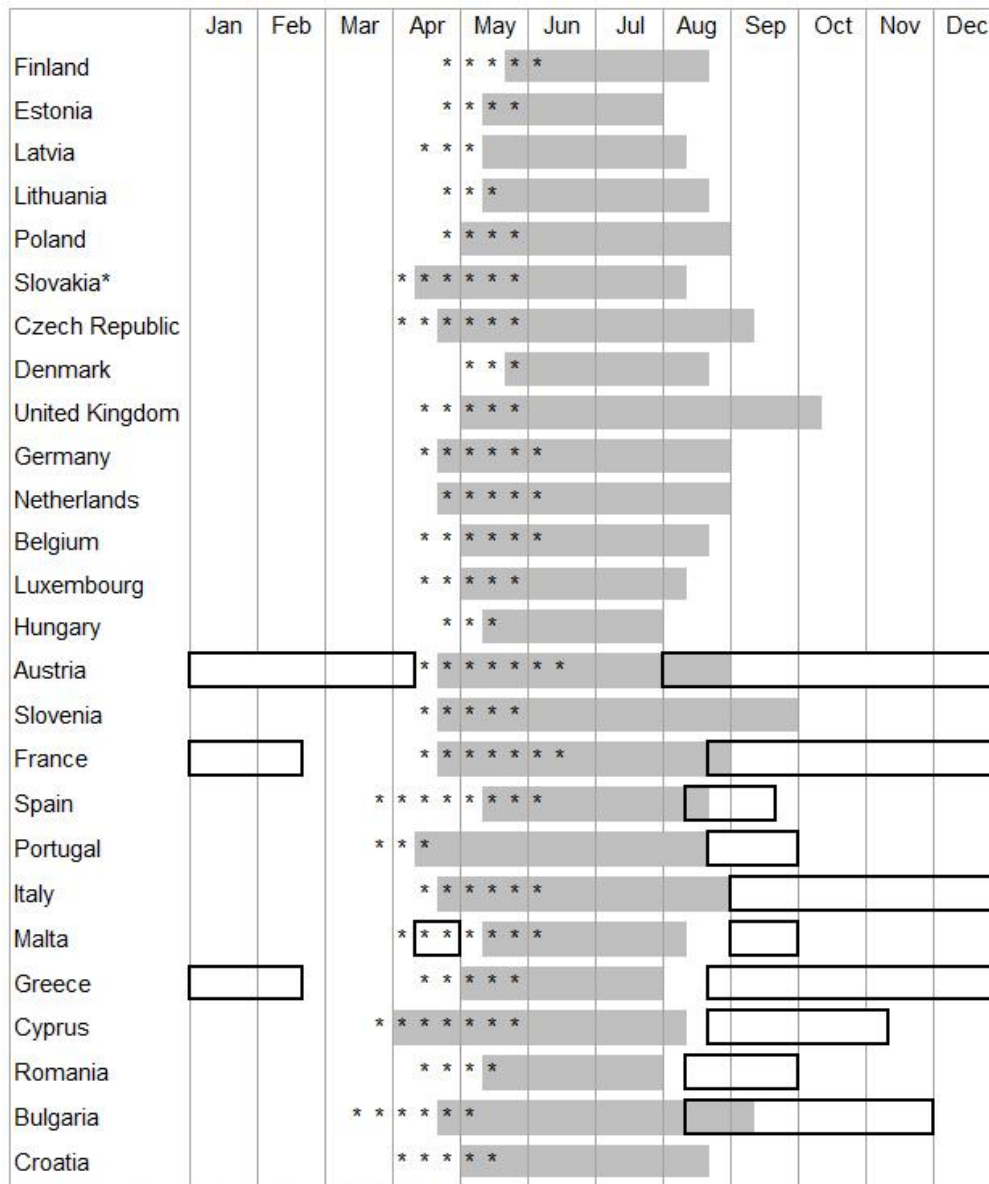


Figure 2. Overlap of hunting season (outlined) with spring migration (starred) and breeding period (shaded) for the turtle-dove in EU Member States (EU 2008). It is acknowledged that the breeding period data need to be updated in a systematic way to reflect changes in arrival and departure dates since 2008 (for example, the species now arrives in Hungary in mid-April).

Hunting season details and other mechanisms, such as bag limits and restrictions, are detailed below for each relevant Member State.

Austria has hunting in three counties, each with separate seasons: 'Wien (1st September to 10th April), Burgenland (31st July to 31st October), and Lower Austria (15th September to 31st January). Burgenland and Lower Austria hold about 95% of the national turtle-dove population. Statistics only report 'wild doves', with the total figure 14,650 for the whole of Austria for 2014.

In Bulgaria, the turtle-dove hunting season was set in 2009 by the National Hunting and Game Protection Act, and runs from the second Saturday in August to the 30th of November. Since 2003, there has been a daily limit of 10 turtle-doves per Bulgarian hunter, and 30 for organised hunting tourism. Hunting statistics are collected by the Executive Forest Agency. The total bag in 2014/15 was 145,672.

The hunting season in Cyprus starts in mid August, running to the end of October. Hunting areas include significant parts of the uplands, with 5 hunting days (Sundays), and in the south-southeast, it is permitted daily. From 2010 to 2016, the annual take ranged from 44,578 to 20,215 birds annually.

In France, the general season runs from mid-September in southern France and from late September in the north, closing in the second week of February. However, some Departments have an earlier opening date of the last Sunday in August. Two Departments apply a bag limit - Deux-Sèvres (5 five per day), and Charente Maritime (10 per day) and other departments may apply a bag limit. Total recorded take in 2013/14 was 91,704.

In Greece, the turtle-dove hunting season within restricted “passage zones of migrating birds”) which cover approximately 25.3% of national territory) starts on the 20th August and ends on the 14th September. From the 15th September, it continues until the 20th February in all Hunting Areas (86.3% of the national territory). Hunting is permitted only under license, and with specific types of gun, during daylight hours, with a daily limit of 12 individuals per hunter. The season and the quota system are officially approved each year by the Government, after a report provided by the Hunter’s Confederation. Annually 300,000 to 600,000 birds are taken.

In Italy, the general season runs from the third Sunday of September to the 31st of December. However, in many regions it starts on the 1st of September and is allowed for 1-5 fixed days (three in many regions), until the third Sunday. Between 250,000 and 350,000 are reported taken annually.

Malta's autumn hunting season was reduced in 2016 to cover September only. During the season, hunting is allowed from 2 hours before sunrise to 2 hours after sunset, on weekdays and Saturdays. On Sundays and Public Holidays, hunting stops at 1pm. On weekdays between 15th September and 30th September hunting after 7pm is not allowed. From 2016, the authorities also imposed a maximum autumn quota of 7,000 turtle-doves. Licensed hunters are legally required to register birds caught via a telephone reporting system before leaving the hunting area, and can only take species listed in their licence category. They are legally bound to adhere to a number of conditions set out in the Conservation of Wild Birds Regulations. These conditions include: maximum cartridge load of firearms used for hunting; limit on lead-shot gauge; and obligation to duly report any shot game with respect to quantities shot, date and location, as well as other restrictions pertaining to time and space. The Regulations list a number of bird sanctuaries where hunting is prohibited all year round. The authorities monitor uptake of the season’s quota in real time through an electronic system. In parallel, on an annual basis the authorities conduct an independent scientific study to estimate migratory influx of the turtle-dove on the basis of direct observations during spring and autumn migration seasons. The results of such studies are subsequently analysed in conjunction with hunting data. A large complement of enforcement officers is deployed in the field to ascertain compliance through systematic inspections of hunting grounds and spot checks on individual hunters. In 2015 the recorded take was 5,709 birds.

Hunting in the spring of 2008 and 2009 in Malta was completely prohibited. Following the judgment of the Court of Justice of the European Union (CJEU) in Case C-76/08 Commission vs Malta of 10 September 2009, Malta applied derogations for limited hunting of the species under strictly supervised conditions in the spring all years from 2010 to 2015. The conditions are stipulated in the Conservation of Wild Birds Regulations (Framework for allowing a derogation opening a Spring Hunting season for Turtle-dove and Quail, S.L. 504.94) which establishes the parameters for the application of a derogation, including provisions related to individual, seasonal and national bag limits, obligations concerning enforcement, reporting requirements and other conditions. Furthermore, the Framework Regulations dictate that a Spring Hunting Season for this species will not be opened if the previous autumn hunting bag exceeds 11,000 specimens. Bag statistics are published annually. In April 2016, a spring hunting derogation was applied for a period of two weeks during which turtle-dove hunting was allowed until 12pm subject to restrictions and conditions stipulated in a special license, including a maximum national bag limit of 5,000 turtle-doves (corresponding to less than 1% of annual mortality rate of reference populations), a daily bag limit of two birds and an individual season’s bag limit of four birds per hunter. However, in May 2016, the

Maltese government imposed a moratorium on the future of applying a spring hunting derogation for the turtle-dove, which shall remain in force until the maintenance of the population of the species at a satisfactory level is ascertained at EU level.

In Portugal, the season starts on the third Sunday of August, and ends on the 30th September. Given the current information on population trends in 2015, the daily bag limit was reduced from 8 to 6, and this is reducing further in 2017 to 5, and in 2018 to 4. Annually 190,000 birds are shot.

The Romanian hunting season runs from the 15th August to the 30th September, with an annual quota officially approved each year by the Government. At the recent request of the Government, the end of the hunting period was shortened from the 18th of February to the 30th September. An estimated 30,000 individuals are taken yearly.

In Spain, the hunting season varies between regions, but is generally from the 15th of August to the 15th of September. There is some variation (for example, Castilla-La Mancha runs from the 21st of August for a month). Hunting is only permitted on Thursdays, Saturdays and Sundays. A procedure for listing the species in the list of threatened species has been initiated by the Spanish Ministry of the Environment. The listing of the species would entail strict protection, the obligation to approve a national strategy, regional conservation plans, and the ban of hunting. The procedure has been initiated by an SEO/BirdLife application.

Although hunting turtle-doves is illegal in Denmark, the collared dove hunting season now takes place later (01/11 to 31/12 instead of 01/10 to 30/11) to ensure that there are no cases of misidentification of the species by hunters (there were only two turtle-doves reported in Denmark in October 2015).

Under EU law, turtle-doves are not hutable in Germany. However, in the Federal Hunting Law of Germany (1952), all wild species of pigeons and doves are classed as hutable species, while Federal regulation on hunting seasons (1977) stipulates open hunting seasons for only two species of pigeons and dove that do not include the turtle-dove. This means that nationally the turtle-dove in Germany is formally a hutable species, but has no open hunting season. In addition, regional hunting legislation supersedes Federal legislation if it is newer, which is the case in several regions (Länder). However, in none of these does the turtle-dove have an open hunting season.

In several Member States, hunters have been involved in implementation of turtle-dove conservation measures. In Belgium, some area WBEs (local hunting units) help restore hedges and woodland, and in Cyprus hunters have, mainly under their own initiative, been undertaking habitat improvement, such as planting habitat plots, and clearing springs. The ban on hunting turtle-doves in Lithuania was supported by hunters.

In Portugal, the hunting community has been involved in the definition of regulation on hunting season and bag limits, while in Malta, hunters participate on the Malta Ornithology Committee and in bilateral co-operation with the Maltese authorities. Representatives regularly participate in decision-making concerning all measures of the Management Plan that Malta is implementing. Hunting organisations were requested to provide guidance to their members on how to report hunting bags correctly on the forms provided by the Wild Birds Regulation Unit, and in 2016 this requirement shifted to a telephone-based system, with immediate reporting from the field of birds taken. Maltese hunting associations have also supported the government in declaring a moratorium on spring derogation involving the turtle-dove. Maltese hunting organisations also collaborate with the authorities on enforcement during hunting seasons by designating voluntary hunting marshals. Hunting organisations also conduct studies on turtle-dove migration. Malta's largest hunting federation (FKNK) has also prepared a project proposal concerning captive breeding of the turtle-dove and introduction into the wild to supplement and augment the wild migratory population. This project is presently pending consideration by the Maltese government.

In France, two Departments have instigated bag limits under their own initiative (Deux-Sèvres and Charente Maritime), although there is no request from the French authorities to expand this to other areas. Many Departmental/Regional hunting federations collect bag data on an annual basis (eg Vendée and Pays de Loire). French hunters are also involved in undertaking a wide range of habitat-based actions for huntable (and non-huntable) species, some of which are considered favourable for turtle-dove. These include the creation or management of hedges, groves and ponds.

Greek hunting organisations run a monitoring project for turtle-doves, handing out questionnaires to hunters, while scientists from Aristotle University of Thessaloniki have carried out DNA-related research and a study on the sustainability of hunting. Hunting organisations, in cooperation with forest guardians from the Forest Service, also control illegal killing activities and legal compliance. Where political pressure is sufficient, game guards will arrest and control poachers that practice spring hunting. Hunting licences contribute to all of the costs of €7 million annually, including the salary of 400 game guards.

For more than 12 years, local hunting associations in Greece have been making small-scale habitat improvement actions all over Greece, particularly in Northern Greece (Thrace and Macedonia Region) by planting sunflowers and other favourable crops for turtle-dove. However, in recent years, due to changes in agricultural policy, field sizes have increased and are cultivated with intensive bio-fuel crops. Many hunting associations provide water points for bird populations in general that help to provide more attractive conditions for staging and breeding birds.

Italian hunters are involved in specific habitat creation measures such as planting set-aside bird crops (sunflowers or wheat or sorghum). In some cases, these are for turtle-dove, while in others they are planted for resident and migratory species in general. Such actions are carried out with funds coming from fees from hunting departments, or private funds in private hunting areas. Italian hunters are also involved in the creation of hedgerows and small woodland habitats.

In Spain, some hunters carry out management measures to benefit the turtle-doves on their properties. However, these actions are not coordinated, and hunting groups systematically oppose requests from environmental NGOs to implement the Management Plan.

3 - Implementation of the Plan

Scoring progress

The evaluation of progress against the Management Plan follows the methodology and scoring system developed by BirdLife (Gallo-Orsi 2001).

The priority of each action in the Management Plan is expressed as a *Priority Score* (PS):

4	Essential or Critical
3	High
2	Medium
1	Low

Experts from each Member State evaluate an *Implementation Score* (IS), measuring progress towards the target:

4	Action fully implemented (except for continuation of ongoing work)
3	Significant progress (51-75%), but target not yet reached

2	Some action (11-50%), but no significant progress yet
1	Little or no action (0-10%)
0	Action not needed/not relevant

Two metrics are then calculated from these values. The *Action Priority Index* (API) measures progress against an action across all Member States, while the *National Implementation Score* (NIS) measures progress against all actions within a Member State.

National Implementation Score (NIS)

The *NIS* expresses progress against all actions by a Member State. The range of scores is between 1 and 4, with 1 representing little or no implementation, and 4 representing full implementation.

National Implementation Score (NIS) =

$$\text{Sum [Priority Score (PS) x Implementation Score (IS)] / Sum [Priority Score (PS)]}$$

Zero scores are excluded from the calculations. The *NIS* values for each Member State can be seen in the final row of the table in Annex I.

Action Priority Index (API)

The *API* expresses the need for further action for a target. A high priority target (high *PS*) with a low level of implementation (low *IS*) will have a high value *API*, indicating a priority area for action. A low priority target (low *PS*) with a high level of implementation (high *IS*) will have a low value *API*, indicating a lower priority area for action. Targets with fully implemented actions have an *API* of 0, so no further work is required.

$$\text{Action Priority Index (API) = Priority Score (PS) x [4 - Average Implementation Score (AIS)] / 3}$$

Zero scores are excluded from the calculations. The *API* values for Management Plan actions can be seen in the final column of the table in Annex I.

Results

The Management Plan overall has a poor implementation (Average *NIS* = 1.9), with most progress made in Malta, the United Kingdom, and France (Figure 3). Of the 25 Member States where these measures are relevant, only eight (32%) are over a third of the way to achieving the full score (1 = little or no implementation; 4 = full implementation). Only France, Malta and the United Kingdom are over half way (2.5 or greater).

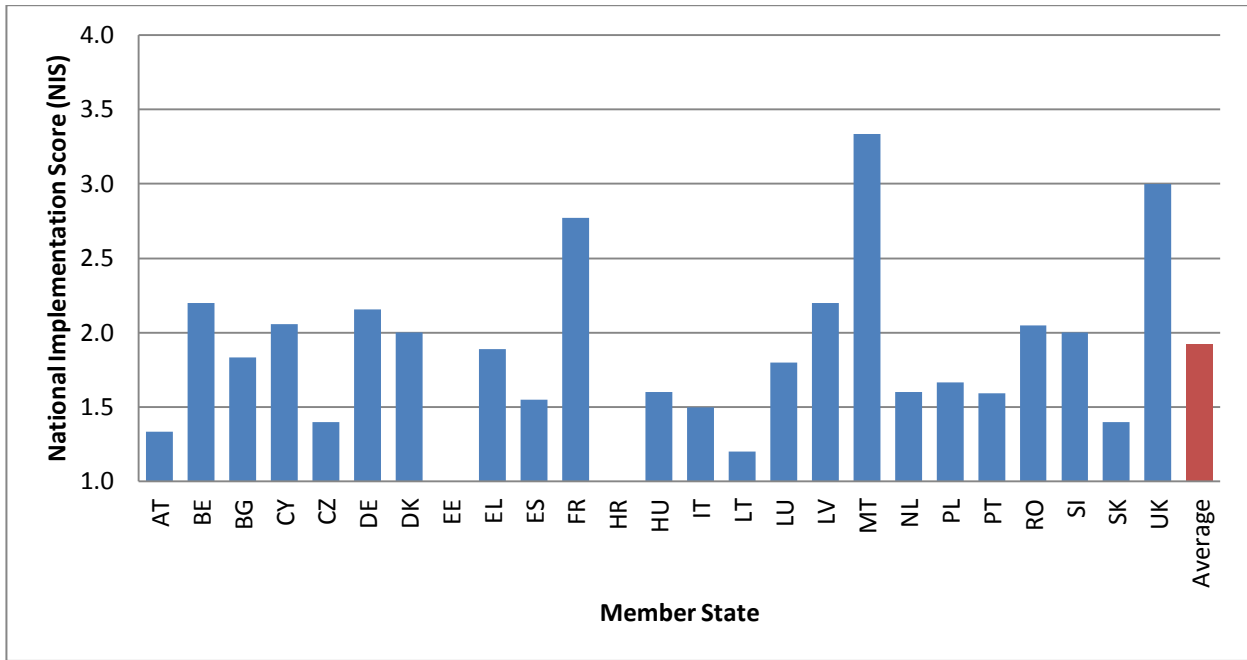


Figure 3. National Implementation Score (NIS) for each Member State (FI, EI, SE excluded as NIS not relevant), and the average score across all States.

The Average Implementation Score (AIS) shows progress against each action (a higher value indicates more progress made) (Figure 4). See Annex I for the long description of each action, and Table 3 for short descriptions.

1	Habitat management
2	Hunting season
3	Bag statistics
4	Hunting information from outside EU
5	Predictive model (hunting)
6	Population monitoring
7	Ringling analyses
8	Breeding success estimates
9	Information on Turkey/Russia/Africa
10	Research

Table 3. Short description of Management Plan actions.

The most progress has been made on ensuring that the hunting season does not overlap with the turtle-dove breeding season (2), annual hunting bag data collection (3), and population monitoring (6). The least progress has been made on collecting hunting data from non-EU countries (4) and the high priority action to carry out predictive modelling (5).

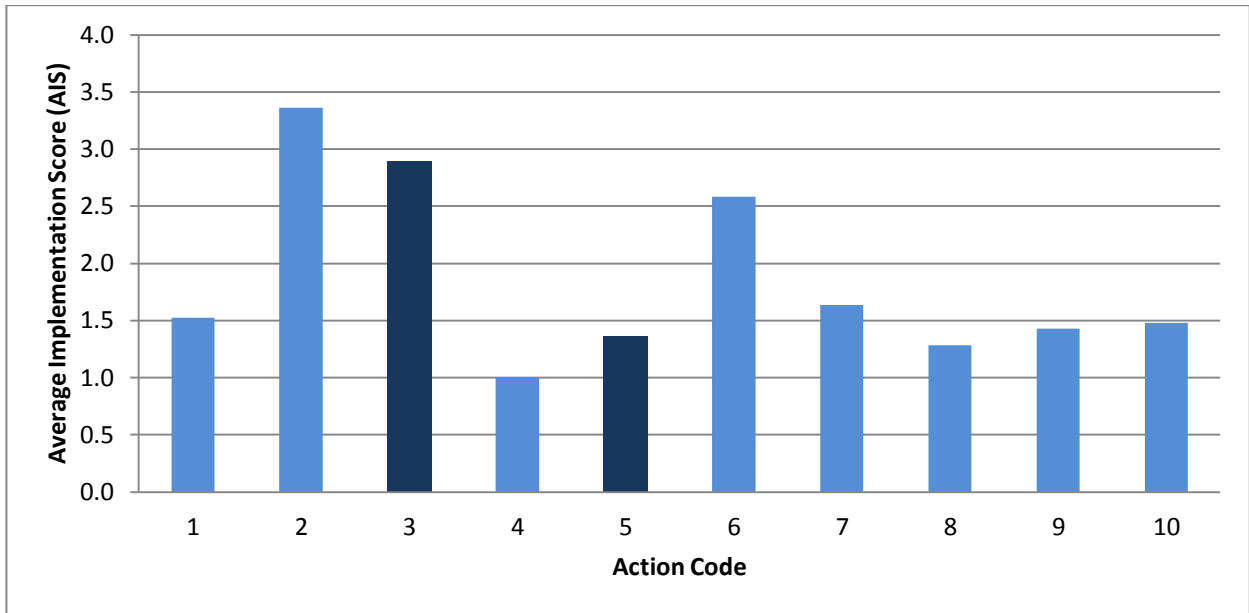


Figure 4. Average Implementation Score (AIS) for each action within the Management Plan, across all relevant Member States. All actions are Priority 2 (Medium) except 3 and 5 which are Priority 3 (High, darker shaded on graph).

Looking at the Action Priority Index (API) that combined progress with importance (Figure 5), the actions that are shown to be of highest priority to address are 5 (predictive modelling), 4 (collecting hunting data from non-EU countries), and 8 (estimates of breeding success), with 2 and 6 being the least important, having been significantly addressed to-date (hunting season overlap with breeding season, and population monitoring).

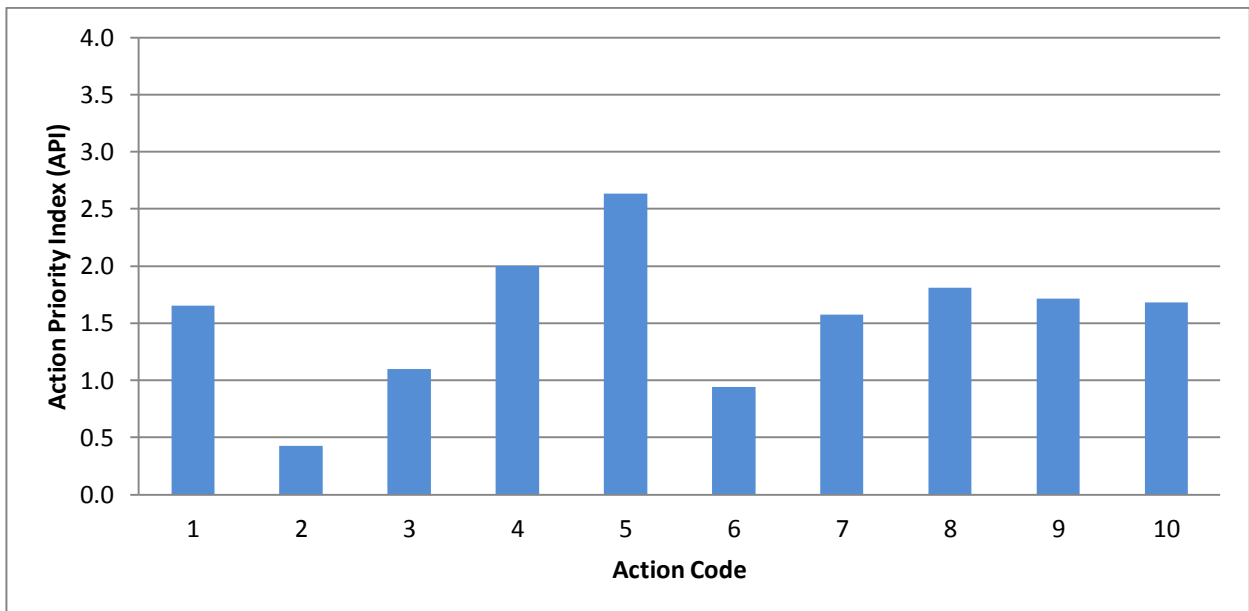


Figure 5. Action Priority Index (API) for each action within the Management Plan, across all relevant Member States.

4 - Summary

Overall implementation of the Plan has been poor, with some notable exceptions. The most progress has been made with measures to mitigate hunting effects (non-overlap of hunting and breeding seasons), to collect hunting information, and to monitor populations. There has been little progress with predictive modelling owing to a lack of robust data, and with working outside of the EU - more information is needed on the eastern European breeding population, its migratory routes and where it winters in sub-Saharan Africa. However, most Member States have carried out some form of habitat conservation work.

A limited number of the activities carried out for turtle-dove seem to have been triggered by the Management Plan, while most of the conservation measures have been taken regardless of the Plan, under the framework of a wide range of different instruments: legislative, regulatory, planning, programmatic and financial. Many of the actions are carried out by academic institutions and NGOs, and hunting organisations have contributed to implementation of some of the activities, including habitat management.

Hard data to support effectiveness of the Plan are generally lacking, and in some countries, engagement is low because the species is seen to be abundant. Data are also generally lacking on the pressures and threats affecting turtle-dove.

5 - References

A full set of references for the latest status of the turtle-dove can be found in Fisher *et al* 2016. Most of the information collated in this report is from questionnaires.

BIRDLIFE INTERNATIONAL (2016) Species factsheet: *Streptopelia turtur*.

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Prepared for the European Commission, Directorate General Environment, B3 Unit in the framework of the Service Contract N° 070307/2012/635359/SER/B2.

6 - Annexes

Annex I - Member State Implementation Scores

Management Plan measures

1	Wooded farmland, hedges and other habitats important for breeding are maintained and better protected.
2	Hunting seasons do not involve the breeding period (as defined in "Period of reproduction and prenuptial migration of Annex II bird species in the EU"), and hunting does not affect late breeding birds and birds during spring migration.
3	Annual bag statistics are available (where hunting is allowed).
4	Hunting bags information is collected from key countries outside the EU where European populations pass on migration and winter (especially Maghreb and Sub-Saharan countries).
5	A predictive model is developed to help determine what annual bag would be sustainable (where hunting is permitted).
6	From the existing monitoring schemes, common guidelines for monitoring the species are agreed and used to monitor populations (can be included in a pan-European monitoring scheme for common birds).
7	National ringing activities and analyses of existing ringing data to estimate mortality and identify population units is supported.
8	Annual estimate of breeding success is provided on breeding grounds.
9	Accurate information is gathered: - on the breeding population size and trend in Turkey and Russia - on numbers, distribution and ecology of wintering populations in West Africa.
10	Research on reproduction, mortality and feeding ecology targeted at assessing which components of agricultural intensification and habitat modification have significant adverse effects, and research to determine which management is most effective, including reviews of existing pilot studies etc. is supported. Potential competition with Collared Dove also needs to be more investigated.

Abbreviations

PS - Priority Score

AIS - Average Implementation Score

API - Action Priority Index

Member State data

#	Action/Result	PS	Member State - Implementation Score (IS)																								AIS	API	
			AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FR	HR	HU	IT	LT	LU	LV	MT	NL	PL	PT	RO	SI	SK			UK
1	Habitat management	2	1	3	1	1	1	2		1	1	1	3	1	2	1	1	2	2		1	1	1	3	2	1	2	1.5	1.7
2	Hunting season	2	1		4	4		4			4	1	4			3				4			4	4		?		3.4	0.4
3	Bag statistics	3	1		4	4					2	2	4			2				4			2	4		?		2.9	1.1
4	Hunting information from outside EU	2						1				1	1			1				1			1	1		?		1.0	2.0
5	Predictive model	3	1		1	1		1			2	1	1			1				4			1	1		?		1.4	2.6
6	Population monitoring	2	4	2	1	2	2	4	2	1	1	4	4	1	2	3	2	4	3	4	4	1	2	2	4	3	4	2.6	0.9
7	Ringling analyses	2	1	2	1	1	1	3		1	1	2	3	1	2	1	1	1	2	4	1	4	1	1		1	3	1.6	1.6
8	Breeding success estimates	2	1	2	1	2		1		1	2	1	3	1	1	1	1	1	2		1	1	1	1	1	1	3	1.3	1.8
9	Information on Turkey/Russia /Africa	2					2	1					3			1				1		1	1					1.4	1.7
10	Research	2	1	2	1	1	1	3		1	2	1	2	1	1	1	1	1	2	4	1	2	2	1	1	1	3	1.5	1.7
National Implementation Score (NIS)			1.3	2.2	1.8	2.1	1.4	2.2	2.0	1.0	1.9	1.6	2.8	1.0	1.6	1.5	1.2	1.8	2.2	3.3	1.6	1.7	1.6	2.1	2.0	1.4	3.0		

PRIORITY SCORE (PS)

1 - low
2 - medium
3 - high
4 - essential

SCORE²

4 - fully implemented
3 - significant progress
2 - some action
1 - little or no action

² Greyed out, blank cells represent where an action has been stated as not relevant/not needed.

Annex II - European Union Member State codes

AT	Austria	Österreich	Republic of Austria
BE	Belgium	Belgique/België	Kingdom of Belgium
BG	Bulgaria	България	Republic of Bulgaria
CY	Cyprus	Κύπρος	Republic of Cyprus
CZ	Czech Republic	Česká republika	Czech Republic
DE	Germany	Deutschland	Federal Republic of Germany
DK	Denmark	Danmark	Kingdom of Denmark
EE	Estonia	Eesti	Republic of Estonia
EL	Greece	Ελλάδα	Hellenic Republic
ES	Spain	España	Kingdom of Spain
FI	Finland	Suomi/Finland	Republic of Finland
FR	France	France	French Republic
HR	Croatia	Hrvatska	Republic of Croatia
HU	Hungary	Magyarország	Hungary
IE	Ireland	Éire/Ireland	Ireland
IT	Italy	Italia	Italian Republic
LT	Lithuania	Lietuva	Republic of Lithuania
LU	Luxembourg	Luxembourg	Grand Duchy of Luxembourg
LV	Latvia	Latvija	Republic of Latvia
MT	Malta	Malta	Republic of Malta
NL	Netherlands	Nederland	Kingdom of the Netherlands
PL	Poland	Polska	Republic of Poland
PT	Portugal	Portugal	Portuguese Republic
RO	Romania	România	Romania
SE	Sweden	Sverige	Kingdom of Sweden
SI	Slovenia	Slovenija	Republic of Slovenia
SK	Slovakia	Slovensko	Slovak Republic
UK	United Kingdom	United Kingdom	United Kingdom of Great Britain and Northern Ireland