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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

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**ERADICATION OF THE RUDDY DUCK *OXYURA JAMAICENSIS* IN THE
WESTERN PALAEARCTIC:
A REVIEW OF PROGRESS AND A REVISED ACTION PLAN FOR 2021–2025**

*Report prepared by
Wildfowl & Wetlands Trust (WWT)*

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SUMMARY

- The Ruddy Duck became established in the wild in the Western Palaearctic following escapes from wildfowl collections. It is considered the greatest long-term threat to the White-headed Duck. The obligation to eradicate alien ruddy ducks is recognised by many international conservation conventions and agreements. An eradication plan has been developed under the Bern Convention and is updated every five years.
- A questionnaire was sent to 48 Western Palearctic countries to assess the status of Ruddy Ducks and progress against the 2016–2020 eradication plan. Some 19 Contracting Parties, including most of those with significant numbers of Ruddy Ducks currently or in the recent past, reported for the period summer 2016 to summer 2019.
- By 2019, there were around 250 Ruddy Ducks in Europe, with continuous presence in only four countries.
- France holds the largest numbers. Wintering totals declined from 256 in 2010/11 to 94 in 2018/19. France also reported the highest number of breeding pairs – fewer than 30 in 2019, a decline from the peak of 40–60 pairs.
- Numbers in the Netherlands have remained above 50 birds since 2011/12, increasing to 81 in 2018/19. Breeding pairs also increased recently, from a minimum of four in 2017 to a minimum of 12 in 2019.
- In the UK, wintering numbers declined from 189 in 2010/11 to 23 in 2018/19. Breeding pairs decreased from nine in 2012 to two in 2019. Neither pair was successful in 2019, the first time in 50 years that breeding has not occurred in the UK.
- In Belgium, numbers of Ruddy Ducks are highest during the summer months and fluctuate between years. Peak numbers have generally remained below 20 individuals (32 were recorded in 2016), but have generally declined, with only eight in 2019. Only a single pair of potential breeding birds was reported each year, with none seen in 2019.
- Sightings of single birds were reported by every year by Switzerland and the Slovak Republic, whilst Czech Republic, Denmark, Iceland, Poland and Portugal all reported sightings of very small numbers at some point.
- No Ruddy Ducks were reported by Andorra, Bulgaria, Croatia, Latvia, Liechtenstein, Malta, Norway and Spain.
- Of the 29 countries that did not respond, birds have previously been recorded in Austria, Finland, Germany, Hungary, Ireland, Italy, Morocco, Sweden and Slovenia.
- Monitoring schemes to survey Ruddy Ducks in the wild are considered adequate in the majority of countries, although less so for breeding birds compared with non-breeding, mainly due to a lack of coverage of potential breeding sites.
- Eradication programmes of resident Ruddy Duck populations were undertaken in Belgium, France, the Netherlands and the UK.
- In France, 100–200 birds were culled each year during the period. Eradication in France has two main difficulties: birds wintering on Lac de Grand-Lieu are extremely wary and difficult to approach, and birds disperse widely during summer making them difficult to locate.
- In the Netherlands, 23 were culled in 2017/18, and fewer than ten in other years. Barriers to controlling birds include: a lack of cross-border cooperation between provinces, each determining its own commitment and resources; eradication is a low priority among site managers of nature reserves; difficulty accessing Natura 2000 sites to control birds; and the anti-hunting sentiment amongst a large proportion of the public.
- The long-term eradication programme in the UK has reduced the number to fewer than 25 birds. Most are isolated, and the species may be functionally extinct in the wild by the end of 2020. The target date for eradication has been revised to 2023, as it is possible that some birds may live for a number of years and immigration from mainland Europe could be a potential problem.

- An eradication programme is in place in Belgium. The success of the programme is highly influenced by movement of birds from neighbouring countries, particularly the Netherlands, with most birds recorded in the north of the country next to the border.
- Several countries operate reactive control programmes, quickly targeting individuals that arrived from outside the country. One in Portugal was the only bird culled during the period outside Belgium, France, the Netherlands, and the UK.
- Few countries were able to report with certainty how many Ruddy Ducks are held in captivity, with only one (Liechtenstein) claiming to completely monitor numbers.
- France, Norway, Poland, Portugal, Slovak Republic, Spain and the UK indicated birds are actively being eliminated from captivity; however, this is mainly through allowing birds to die naturally and/or making permits and prevention measures for escape and breeding a requirement, with penalties for infringement, or prohibiting birds from being kept at all.
- Only two countries have set a target year for phasing out Ruddy Ducks in captivity: France (2025) and Portugal (2021).
- National working groups to guide the implementation of the eradication strategy have been established in Belgium, France, the Netherlands, Spain, Switzerland and the UK.
- Activities to increase the public's awareness for the need to control Ruddy Ducks have been implemented to various degrees in each country. Some countries, such as Belgium and the Netherlands, still encounter difficulties, such as anti-hunting sentiment and reluctance of reserve managers to allow control at sites.
- Considerable strides to control Ruddy Ducks since 1999 have shown that wide-scale control in Europe is a realistic goal. However, despite much activity and large numbers controlled by several Contracting Parties between 2010 and 2019, the overall status of Ruddy Ducks in the wild in 2019 is, for the most part, not significantly different to 2010. Many pairs continue to breed each year and national control programmes continue to be active, incurring time and expense.
- Adequate monitoring data from several countries have not been provided to the Convention in recent years. This prevents adequate assessment of the numbers of risks, with the absence of information from Germany a particular concern.
- It is clear that had concerted and timely effort been made as identified in Recommendation No. 149 (2010) and No. 185 (2016), the control programme would have been considerably further forward, if not already effectively completed.
- Whilst implementation has been insufficient to meet the international target, there is still good reason to believe that, with lessons learned from the last two decades, and positive experiences from the UK and Spain in particular, the eradication plan can be concluded within a reasonable timescale.
- The plan must be appropriately targeted and specific, with regular review and adaptive management. An overriding need is for actions have to be collective, coordinated and synchronous. Progress reports show that a delayed response in one location means the problem leaks to another.
- Little substantive progress has been made on the issue of captive birds. It is imperative that Bern Convention EU Parties move quickly to implement their obligations under the EU IAS Regulation for captive Ruddy Ducks in a robust way, and that non-EU Parties adopt equivalent measures.
- Each Contracting Party must not only undertake action within its own territory, but also encourage and support all others to collectively achieve the plan.
- With such an approach, and combining the many good aspects of progress to date, functional eradication in the wild is achievable by 2025. Recommendations and an action plan for 2021–2025 (see Annex 1) are designed to ensure that this target is reached.

1. INTRODUCTION

Ruddy duck *Oxyura jamaicensis* is common and widespread in its native range in North America although the size and trend of the overall population is currently unknown (Wetlands International 2020).

In the late 1940s, ruddy ducks were introduced into private wildfowl collections in the UK and a naturalised population soon became established as a result of a small number of escapes of offspring from these collections. Numbers in the UK increased rapidly through the mid-1960s into the 2000s and the population was thought to be the main source of birds in Spain where they were threatening the globally endangered white-headed duck *Oxyura leucocephala* with extinction through hybridisation and competition (Green & Hughes 1996, Hughes et al. 1999). Through the 1990s, the European ruddy duck population gradually expanded eastwards and northwards across Europe, and south into North African countries. By the early 2000s, key concentrations had become established in northern parts of Belgium and the Netherlands, northeast France and southern Spain.

In recognition of the need to eradicate ruddy ducks, the Council of Europe commissioned ‘The status of the ruddy duck (*Oxyura jamaicensis*) in the Western Palaearctic and an Action Plan for eradication, 1999-2002’ (Hughes et al. 1999) under the Bern Convention. The Action Plan was revised following recommendations presented in a review against progress in 2010 (see Cranswick & Hall 2010 and Council of Europe 2010), and similarly again in 2016 when a further review was undertaken and a revised Action Plan for eradication was developed and accepted by the Bern Convention (see Hall 2016 and Council of Europe 2016).

The objective of this report is to summarise progress against actions and targets set in the Action Plan for Eradication, 2016–2020 (Council of Europe 2016).

2. METHODS

2.1. Questionnaire

This review was based largely on information collated through a questionnaire and email correspondence with country representatives. The questionnaire was sent to Bern Convention national representatives, who in some cases passed it on to a more appropriate person to complete. The questionnaire was designed to collate information from each country on current policies and legislation concerning ruddy duck, the status of the species, both in the wild and captivity, and progress against targets set in the 2016 Action Plan for the eradication of ruddy duck (Council of Europe 2016).

The questionnaire was divided into three sections each with a set of questions (see Appendix 2):

1. Actions: included questions on policy and legislation, public awareness, monitoring of wild birds and monitoring of birds in captivity.
2. Targets: included questions on progress against eradication targets, improving public understanding and barriers preventing progress.
3. Status of ruddy duck: information was requested on numbers of non-breeding birds (wintering and summering), numbers of breeding birds, numbers of birds in captivity and numbers of birds controlled (for the period winter 2010/11 to summer 2019). A quality score for was also requested for any data provided (see Tables 1, 2 and 5 for details).

For a number of questions, the questionnaire prompted respondents to provide one of a set of predetermined answers. An additional comments field was provided for respondents to provide clarification or information as appropriate (see Appendix 1).

The questionnaire was similar to that circulated in 2016 and also to a number of countries in 2013 and 2014 when similar reviews of progress against the 2010 Action Plan were undertaken. Where a country had already provided information on the status of ruddy duck for any of the previous reviews, the respondent’s most recent answers were included in the 2019 questionnaire. The contacts were asked to update the answers if any changes had occurred.

The 2019 questionnaire was followed up with a much simplified set of questions that was aimed at those countries where the national representative may have thought the main questionnaire to be irrelevant if no ruddy duck had occurred in the wild nor in captivity in their country since 2010. The questions simply asked about the presence or absence of ruddy ducks in the wild and in captivity, as it is important to have an understanding of where birds are not present as well where birds occur, as well as whether monitoring schemes and control measures (if needed) were in place (see Appendix 1).

3. RESPONDING COUNTRIES

The questionnaire was sent to 48 Western Palearctic countries. A response was received from 19 countries.

The following 15 countries completed or partly completed the questionnaire: Belgium, Croatia, Czech Republic, France, Iceland, Liechtenstein, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Switzerland and the United Kingdom (UK).

The following four countries provided answers to the simplified questions: Andorra, Bulgaria, Denmark and Latvia.

Two countries also provided a brief response in addition to completing the questionnaire/short set of questions. The responses have been copied verbatim below:

- Malta: Malta has no wild ruddy duck populations and/or populations in captivity, and current monitoring actions by Malta indicate the species is only an occasional vagrant. In this respect, barring aspects linked with legislation and awareness, most issues are not applicable to Malta; in this respect, spreadsheet 4 was not filled in due to time constraints, since the entries on numbers would be NIL.
- Denmark: We do not have a reproducing population of Ruddy duck in Denmark and have had 4 observations in the wild since 2016, when the EU-regulation on invasive alien species entered into force. We do not have any knowledge of ruddy ducks held in captivity in Denmark and only monitor commercial owners. There is no official monitoring scheme for private owners in Denmark, but the impression of the Danish Environmental Protection Agency is that there are no private owners of Ruddy duck in Denmark.

The following countries did not provide a response to the 2019 questionnaire: Albania, Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Cyprus, Estonia, Finland, Georgia, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Monaco, Montenegro, Morocco, North Macedonia, Republic of Moldova, Romania, Serbia, Slovenia, Sweden, Tunisia, Turkey and Ukraine.

It should be noted, that of the countries that did not respond to the 2019 questionnaire, Germany, Ireland, Italy, Sweden and Morocco have each regularly held ruddy ducks in the past (generally fewer than 50 birds); and birds have previously been recorded irregularly in Austria, Finland, Hungary and Slovenia (Cranswick & Hall 2010; Hall 2016).

Additional information also presented in this review for France, the Netherlands, Belgium and the UK was provided at the Meeting of Experts held in London in February 2020 (see Henderson 2020).

4. STATUS OF RUDDY DUCKS IN THE WILD

4.1. Numbers of non-wintering and breeding ruddy ducks

During the period of summer 2016 to summer 2019, ruddy ducks were present every year, either during the winter or the summer, in France, the Netherlands, the UK and Belgium, with over 15 birds reported in at least one year (Table 1).

The Slovak Republic and Switzerland both reported the presence of 1–2 birds during each year, while irregular observations of 1–3 birds were reported by Czech Republic, Iceland, Poland and Portugal (Table 1). Denmark also reported four observations of ruddy ducks since 2016; however, no further information was provided. No ruddy ducks were recorded during the same period in Andorra, Bulgaria, Croatia, Latvia, Liechtenstein, Malta (ruddy duck reported as being an occasional vagrant in this country), Norway and Spain.

Breeding pairs of ruddy duck were observed during at least three out of the four breeding seasons between 2016 and 2019 in France, the Netherlands, the UK and Belgium (Table 2). No other country reported breeding pairs being present during the same period.

Table 1: Peak numbers of non-breeding, summering (between 1 April and 30 August) and wintering (between 1 September and 31 March) ruddy ducks, summer 2016 to summer 2019. Numbers in parenthesis indicate the quality of the estimate (if provided): 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2016/17		2017/18		2018/19		2019
	Summer	Winter	Summer	Winter	Summer	Winter	Summer
France	123 (2)	184 (1)	100 (3)	167 (1)	unknown	94 (1)	unknown
Netherlands ¹	unknown	unknown	unknown	unknown	unknown	81 (1)	unknown
United Kingdom	41 (3)	39 (1)	33 (3)	47 (1)	30 (3)	23 (1)	21 (3)
Belgium	32 (2)	5 (1)	16 (2)	2 (1)	18 (2)	3 (1)	8 (2)
Switzerland	2 (1)	1 (1)	1 (1)	1 (1)	1 (1)	1 (1)	0 (1)
Slovak Republic	unknown	1 (1)	unknown	1 (1)	unknown	1 (1)	unknown
Poland	1 (1)	0 (1)	0 (1)	0 (1)	0 (1)	3 (1)	0 (1)
Iceland	0 (2)	0	0 (2)	0	1 (2)	0	1 (2)
Portugal	0 (1)	1 (1)	0 (1)	0 (1)	0 (1)	0 (1)	unknown
Czech Republic	1 (2)	0 (1)	0 (2)	0 (1)	0 (2)	0 (1)	0 (2)
Denmark ²	4 observations of ruddy ducks since 2016						
Spain	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Norway	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Croatia	0	0	0	0	0	0	0
Liechtenstein	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)
Malta ³	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Andorra ³	0	0	0	0	0	0	0
Bulgaria ³	0	0	0	0	0	0	0
Latvia ³	0	0	0	0	0	0	0

¹ Although peak numbers in the Netherlands were reported as unknown for a number of seasons, further information supplied by the respondent indicated that birds were present in the country each year (ruddy duck were reported to have been culled in the country during each year).

² Denmark reported that there had been four observations of ruddy duck in the wild since 2016; however, no further details were provided.

³ Malta, Andorra, Bulgaria and Latvia did not complete the section of the questionnaire relating to numbers of non-breeding ruddy ducks in the wild; however, the additional response provided indicated that no wild birds had been recorded in these countries.

Table 2: Estimated numbers of breeding pairs of ruddy duck, 2017– 2019 (between 1 April and 30 August). Numbers in parenthesis indicate the quality of the estimate (if provided): 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2016	2017	2018	2019
France	40-60 (3)	30-40 (3)	30-40 (3)	less 30 (3)
Netherlands	unknown	≥4 (3)	≥6 (3)	≥12 (3)
United Kingdom	7 (2)	7 (2)	2 (2)	2 (2)
Belgium	1 (2)	1 (2)	1 (2)	0 (2)
Switzerland	0 (1)	0 (1)	0 (1)	0 (1)
Slovak Republic	unknown	unknown	unknown	unknown
Poland	0 (1)	0 (1)	0 (1)	0 (1)
Iceland	0 (1)	0 (2)	0 (2)	0 (2)
Portugal	0 (1)	0 (1)	0 (1)	0 (1)

Czech Republic	0 (2)	0 (2)	0 (2)	0 (2)
Denmark ¹	0	0	0	0
Spain	0 (1)	0 (1)	0 (1)	0 (1)
Norway	0 (1)	0 (1)	0 (1)	0 (1)
Croatia	0	0	0	0
Liechtenstein	0 (1)	0 (1)	0 (1)	0 (1)
Malta ¹	0	0	0	0
Andorra ¹	0	0	0	0
Bulgaria ¹	0	0	0	0
Latvia ¹	0	0	0	0

¹ Denmark, Malta, Andorra, Bulgaria and Latvia did not complete the section of the questionnaire relating to numbers of breeding ruddy ducks in the wild; however, the additional response provided indicated that no wild birds had been recorded in these countries or that no breeding is known to occur.

4.2. Numbers of ruddy duck controlled

Table 3 presents the number of ruddy ducks culled in countries where birds were recorded during the period 2016/17 to 2018/19. Denmark (which reported sightings of birds) did not report numbers of birds controlled (if any).

Countries were also asked how many nests had been controlled in each breeding season between 2017 and 2019. Belgium reported that one nest was controlled in each of 2017 and 2019 and France reported that one nest was controlled in 2018 and three in 2019. Nest control did not occur in any of the other responding countries.

Table 3: Numbers of ruddy duck culled in 2016/17–2018/19 (between 1 April and 31 March).

Country	2016/17	2017/18	2018/19
France	174	97	183
Netherlands	3	23	8
United Kingdom	6	20	5
Belgium	14	8	6
Switzerland	0	0	0
Slovak Republic	0	0	0
Poland	0	0	0
Iceland	0	0	0
Portugal	1	0	0
Czech Republic	0	0	0

4.3. Status of ruddy duck in Belgium, France, the Netherlands and the UK

During the recent decade (since the first eradication strategy was reviewed in 2010) France, the Netherlands, the UK and Belgium have continued to hold the highest numbers of ruddy duck (amongst those countries that have responded to this and previous reviews; see Hall 2016 and Cranswick & Hall 2010). With the exception of Belgium, numbers of ruddy duck in these countries tend to be highest during the winter months.

Although ruddy ducks occur in several areas of France, the highest numbers are recorded in Bretagne and Loire-Atlantique, with the key wintering site being Lac de Grand-Lieu, near Nantes (Henderson 2020). Ruddy ducks are recorded at more sites during the summer and are more concentrated at a smaller number of sites during the winter (Figure 1a). Peak numbers of wintering ruddy duck in France have declined from 184 individuals in 2010/11 to 94 in 2018/19, while peak numbers of summering birds have also declined from 205 in 2011 to 100 in 2017 (data for summers 2018 and 2019 are not available) (Figure 1a). However, these numbers are still relatively high compared with those recorded in other countries. Ruddy ducks are known to breed in the wild in France; however, assessing numbers of pairs is difficult due to the birds being more widely

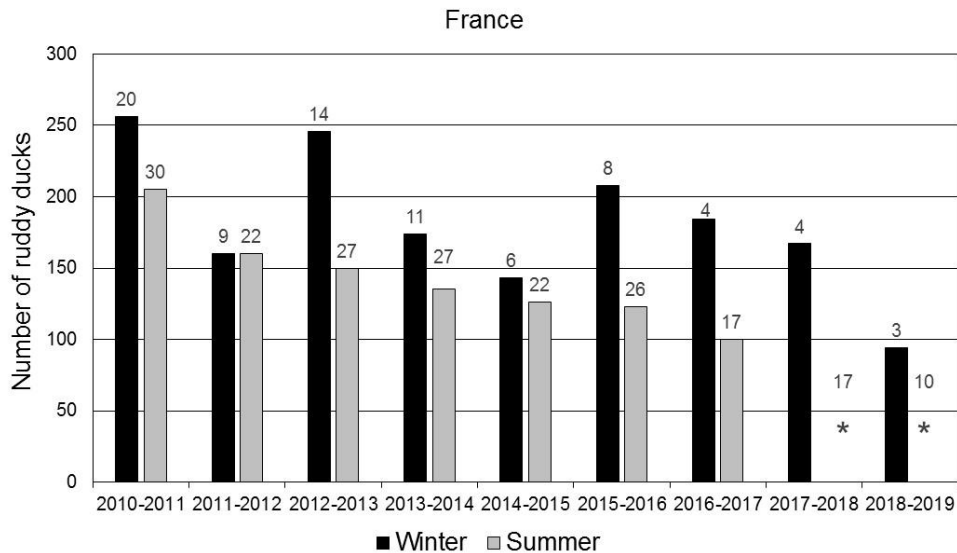
distributed across a greater number of sites during the breeding season. The number of breeding pairs present in the country is thought to have decreased slightly in recent years, with the most recent estimate (for summer 2019) being of less than 30 pairs (Table 4).

In the Netherlands, ruddy ducks are mainly concentrated in western areas. Numbers of wintering and summering ruddy ducks recorded in the country have fluctuated between years; however, peak numbers have remained above 50 and 25 individuals, respectively (Figure 1b). The most recent winter count recorded in 2018/19 (81 birds) is equal to the previous highest count in 2011/12, and suggests there has been a slight increase in numbers recently, although data are unavailable for the previous two winters. Numbers of breeding pairs of ruddy ducks in the Netherlands have also increased during recent summers (Table 4).

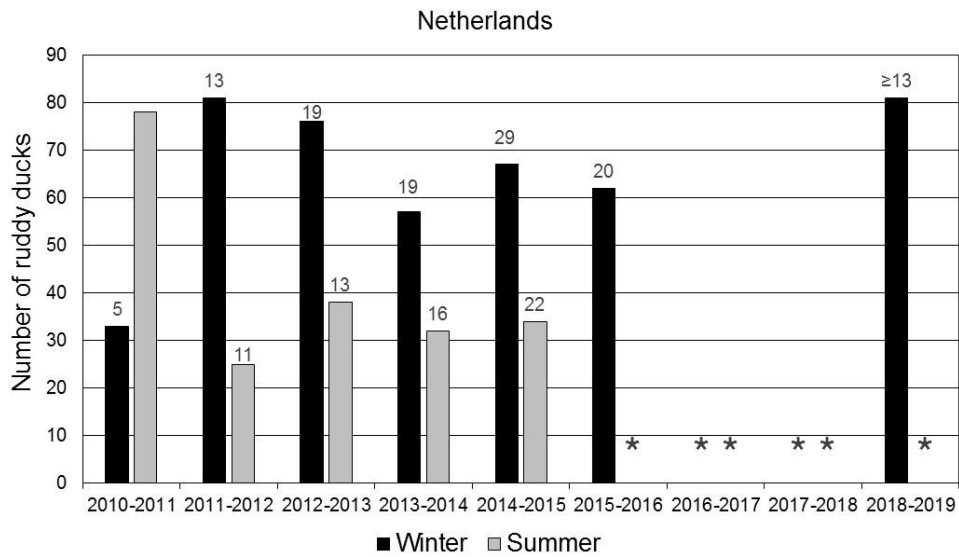
Ruddy ducks are scattered across a very wide area in the UK. Peak numbers of wintering ruddy ducks recorded in the country have declined from 189 in 2010/11 to 23 in 2018/19; while peak numbers of summering birds have also declined from 110 in 2011 to 21 in 2019 (Figure 1c). Numbers of possible breeding pairs of ruddy duck in the UK have also declined (Table 4); and despite two pairs being observed during summer 2019, there was no evidence of successful breeding that year, which is the first time this has occurred in the UK for over 50 years (Henderson 2020).

Ruddy ducks are most frequently seen in Belgium in the Antwerp area, close to the border with the Netherlands, with rare sightings occurring in Wallonia (in part due to unsuitable habitat) (Henderson 2020). Numbers of ruddy ducks in Belgium tend to be higher during the summer and also fluctuate between years. However, peak numbers have remained below 20 individuals, with the exception of in summer 2016 (high count of 32 birds, possibly due to an influx from the Netherlands and/or because breeding occurred in Belgium in 2015), and the trend is generally one of a decline since, with a peak of three individuals recorded in winter 2018/19, and eight individuals in summer 2019 (Figure 1d). However, winter counts are thought to potentially underestimate the true number of ruddy ducks present in the country, as not all waterbodies are checked; whilst in contrast, counts of summering birds may be affected by double-counting due to movement of birds between sites (Henderson 2020). Ruddy ducks only breed occasionally in the wild in Belgium, with a single pair reported in most years (Table 4); however, as most observation during the summer are provided by birders, there is the possibility that some instances of breeding are missed Henderson 2020).

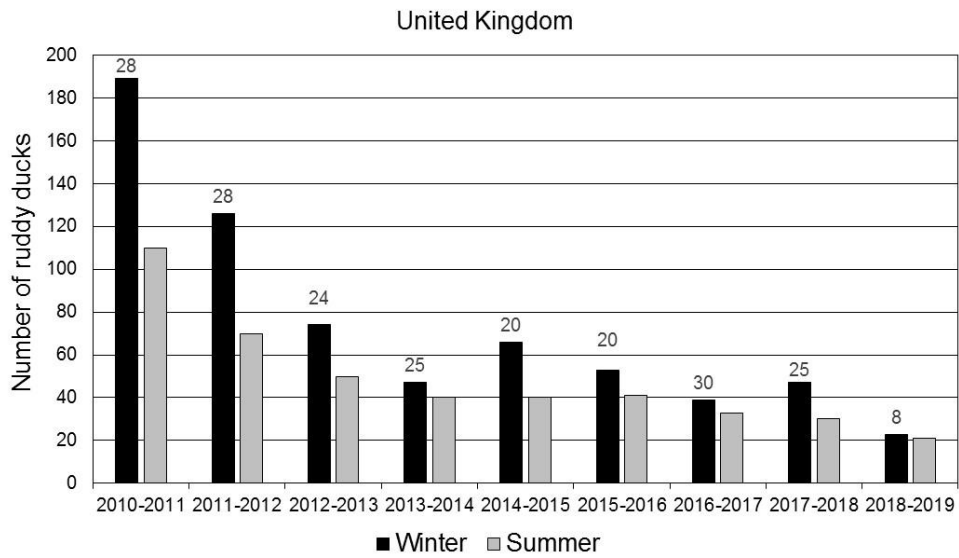
a)



b)



c)



d)

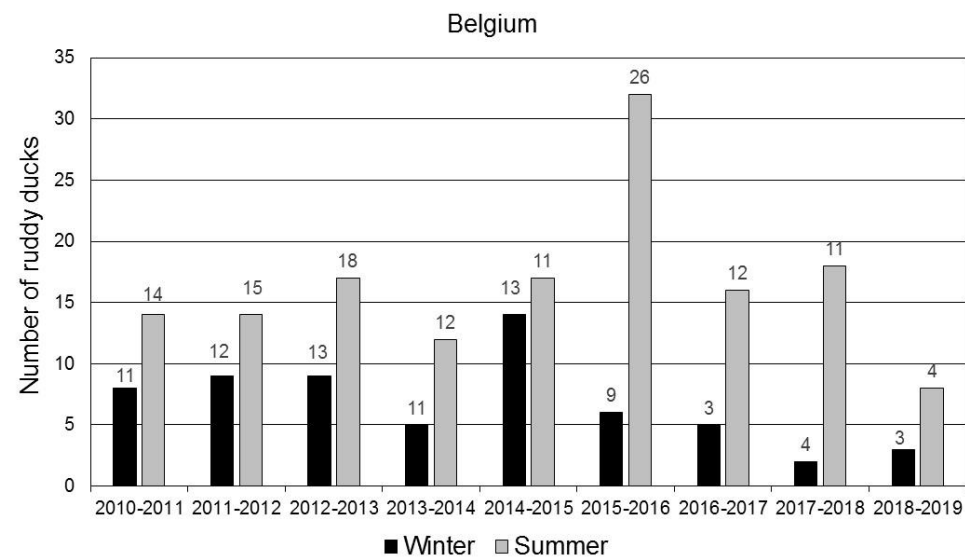


Figure 1. Peak numbers of ruddy ducks recorded in winter (30 September to 31 March) and summer (1 April to 31 August) winter 2010 to summer 2019: recorded in a) France, b) the Netherlands, c) the UK and d)

Belgium. * Indicates where peak numbers are unknown. The numbers presented above the columns indicate the number of sites where ruddy duck were recorded (if known).

Table 4. Estimated numbers of breeding pairs in Belgium, France, the Netherlands and the UK, 2011 to 2019.

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
France	min 35	min 35	min 35	40-60	40-60	40-60	30-40	30-40	less 30
Netherlands	16	10	12	16	13	unknown	≥4	≥6	≥12
United Kingdom	unknown	9	9	7	5	7	7	2	2
Belgium	1	1	1	1	0	1	1	1	0

5. STATUS OF RUDDY DUCK IN CAPTIVITY

Over half the responding countries reported that no birds are currently held in captivity, while for others the status is unknown or very much based on an expert guess (Table 5).

Table 5: Estimates of the number of ruddy ducks held in captivity, 2016–2019. Numbers in parenthesis indicate the quality of the estimate (if provided): 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess. A blank cell indicates no data were provided.

Country	2016	2017	2018	2019
France	220 (3)	unknown	unknown	unknown
Netherlands	unknown	unknown	unknown	unknown
United Kingdom	50 (3)	50 (3)	50 (3)	50 (3)
Belgium	unknown	unknown	unknown	unknown
Switzerland ¹	only very small numbers held			
Slovak Republic	unknown	unknown	unknown	unknown
Poland	<30 (3)	0 (3)	0 (3)	0 (3)
Iceland	0 (1)	0 (1)	0 (1)	0 (1)
Portugal	0 (1)	0 (1)	0 (1)	0 (1)
Czech Republic	9 (1)			
Denmark ²	0	0	0	0
Spain	0 (2)	0 (2)	0 (2)	0 (2)
Norway	0 (1)	0 (1)	0 (1)	0 (1)
Croatia	0	0	0	0
Liechtenstein	0 (1)	0 (1)	0 (1)	0 (1)
Malta ³	0	0	0	0
Andorra ³	0	0	0	0
Bulgaria ³	0	0	0	0
Latvia ³	0	0	0	0

1 Switzerland did not provide information on numbers held in each year; however, the respondent stated in the additional information provided that only very small numbers are held in captivity in the country.

2 Denmark did not complete the section relating to numbers of ruddy ducks in captivity; however, additional information provided indicated that it is the impression of the Danish EPA that there are no private owners in the country.

3 Malta, Andorra, Bulgaria and Latvia did not complete the section relating to numbers of ruddy ducks held in captivity; however, the additional response provided indicated that it is thought no birds are held in these countries.

Further information provided by the countries about captive ruddy duck is as follows:

- France: a national census of ruddy duck in captivity took place in 2016. Since 2018, there are only a few zoos that hold birds and authorisation is required.
- The Netherlands: registration of ruddy ducks held in captivity is not required, so it is hard to monitor numbers.

- Belgium: there is not a full understanding of how many birds are held in the country as there is no comprehensive register of wildfowl collections or there is non-compliance. In Flanders, birds must be declared, but it is assumed that many have not yet been, and in Wallonia there is no specific control over monitoring birds held in captivity.
- Switzerland: a permit is required to keep ruddy ducks in captivity.
- Poland: owners should apply for a permit to keep ruddy ducks, but no applications have been received so far, suggesting there are no birds in captivity, else the owners are unaware of the law or unwilling to comply.
- Iceland: it is not permitted to keep ruddy ducks in captivity.
- Denmark: there is no monitoring scheme for private owners, only for commercial owners, but it is the impression of the authorities that there are no private owners.
- Spain: it is not permitted to keep ruddy ducks in captivity.
- Norway: it is not permitted to keep ruddy ducks in captivity; therefore, as far as is known, there are no captive birds.
- Croatia: that since ruddy duck is on the EU IAS list of species, it is prohibited to hold birds in captivity, and there are no records of birds being held.
- Liechtenstein: there are no ruddy ducks in captivity in the country.

6. IMPLEMENTATION OF THE ACTION PLAN FOR ERADICATION, 2016–2020

6.1. Actions concerning eradication of ruddy duck in the wild

The 2016 Action Plan for eradication made the following recommendations regarding the eradication of ruddy ducks in the wild:

- General target: Eradication of the ruddy duck in the wild in the Western Palearctic by 2020.
- Action 1: Eliminate ruddy ducks in the wild mobilising the necessary resources for culling operations.
- Action 2: Continue monitoring the distribution of ruddy duck in the wild.
- Action 3: Keep active the existing national working groups guiding the implementation of this eradication strategy, drafting as necessary national eradication strategies.
- Action 4: Remove legal barriers that may hinder the control of ruddy ducks.

6.1.1. Progress against Target 1

Target 1: Eradication of ruddy ducks in the wild by 2020

See Appendix 2 for questions set to determine progress against Target 1. Responses are presented in Table 6.

Four countries – France, the Netherlands, the UK and Belgium – each indicated that ruddy ducks would not be eradicated by the end of 2020. These four countries continue to regularly hold the highest numbers of ruddy duck in the wild (see Section 4).

France reported that the eradication programme has faced two main difficulties: controlling birds during the winter on Lac de Grand-Lieu is difficult due to the ruddy duck being extremely wary making it difficult to get close to the birds; and in the summer months, it is difficult to locate the birds once they have dispersed from Lac de Grand-Lieu (Henderson 2020). France suggested a revised target date for eradication of 2023.

The Netherlands reported a number of barriers to eradication including: cross-border cooperation between provinces/executive services is not always good; eradication is a low priority among site managers of nature reserves; some of the areas where birds are located are impassable; birds observed on large waters can be difficult to locate and shoot; shooting in urban areas is difficult; there is anti-hunting sentiment amongst a large part of the public; there is doubt of the necessity of eradication with various reasoning, such as, there are only low numbers, Spain [where the ruddy duck was interbreeding with the endangered white-headed duck] is far away and that ruddy ducks are an asset to biodiversity. The Netherlands have not set a revised target date for eradication but indicated that this would be discussed at the next meeting of the national working group.

The UK reported that it is possible that ruddy ducks will be functionally extinct by the end of 2020 given the low numbers and very low density; however, as birds can potentially live for *c.* 13 years, it is possible that a

few ageing individuals will remain beyond 2020. The UK suggested a revised target date for eradication of 2023. It was also suggested that immigration from mainland Europe could be a problem; however, liaison with colleagues in the Netherlands, France and Belgium aims to promote eradication in these countries thus preventing re-colonisation in the UK.

Belgium suggested a revised target date for eradication of 2025; but that the time taken to reach the target will be highly influenced by the situation in neighbouring countries.

Six countries reported that the ruddy duck would be eradicated by 2020 (Liechtenstein, Norway, Portugal, Slovak Republic, Spain and Switzerland) while five responded ‘not applicable’ (Croatia, Czech Republic, Iceland, Malta and Poland). These eleven countries either irregularly hold ruddy ducks in very small numbers or have not recorded any birds since 2016 (see Section 4).

Additional information provided by Norway stated that ruddy ducks are regarded as eliminated and that any birds recorded would be migrants from countries further south that had ‘overshot’; and Poland indicated that action would be taken if ruddy ducks occurred in the country.

See Appendix 1 for further details (if provided).

Table 6: Responses to questions set to measure progress against Target 1.

Country	Eradication by end of 2020	Revised target date
France	No	2023
Netherlands	No	No date set
United Kingdom	No	2023
Belgium	No	2025
Switzerland	Yes	
Slovak Republic	Yes	
Poland	not applicable	not applicable
Iceland	not applicable	not applicable
Portugal	Yes	not applicable
Czech Republic	not applicable	not applicable
Spain	Yes	not applicable
Norway	Yes	No date set
Croatia	not applicable	not applicable
Liechtenstein	Yes	not applicable
Malta	not applicable	not applicable

6.1.2. Progress against Actions 1 to 4

See Appendix 2 for questions set to determine progress against Actions 1 to 4. Responses are presented in Table 7.

Action 1: Eliminate ruddy ducks in the wild mobilising the necessary resources for culling operations

Belgium, France, the Netherlands and the UK each have an eradication programme in place with the necessary resources for culling operations being completely or largely (in the case of the Netherlands) available.

In France, an *Oxyura* project was set up in 2018 with funding from EU LIFE-Nature that will run until 2023. A team of field officers have been employed to carry out counts and control, supported by colleagues involved in science and administration (Henderson 2020).

The Netherlands noted that whilst there is a national plan, each province in the country determines its own commitment and resources and not every province has elaborated on its policy to the same degree; however, the most relevant provinces have completed their policies. Ruddy ducks in the Netherlands are concentrated more in western areas, and in these provinces the necessary resources for control operations are more or less available; whilst in the other provinces with fewer birds there are fewer or no resources.

In the UK, the government remains committed to full eradication and a team is in place to continue the eradication programme. Due to only small numbers being present but scattered across the country, birds are monitored through online reports of sightings, and via local contacts and landowners. Control mainly takes place wherever there is considered to be a risk of breeding, with adult females being the top priority (Henderson 2020).

In Belgium, there is a national strategy that aims to cull each individual present, with females culled first if multiple birds are present. Culling takes place between March and October using volunteer hunters supplemented with professional agents. In Flanders, there has been a coordinated campaign of eradication since 2012, which is guided by a steering committee of stakeholders. Sightings of ruddy ducks are thought to be rare in Wallonia (Henderson 2020).

Portugal, Spain and Switzerland also reported having an eradication programme in place, although resources for culling were available to varying degrees. Spain (resources partly available) reported that some competent authorities (autonomous communities) have resources available, whilst others do not; however, the main regions where white-headed duck occur are covered by available resources.

Liechtenstein, Norway, Poland and the Slovak Republic do not have an eradication programme; however, resources for culling operations are completely or largely (for Norway) available. Norway reported that culling operations are undertaken by government rangers. The other three countries Liechtenstein, Poland and the Slovak Republic did not provide further information.

Croatia, Czech Republic, Iceland and Malta responded 'not applicable'; although Iceland did indicate the resources for culling operations are completely available. Resources for culling operations are also largely available in Denmark and Latvia, but no resources are available in Andorra or Bulgaria.

Action 2: Continue monitoring the distribution of ruddy duck in the wild

The majority of countries reported that the number and distribution of non-breeding ruddy ducks are monitored either largely or completely and that the surveys accurately assess the status of the birds either largely or completely, with only two countries suggesting partial accuracy (Norway and the Slovak Republic).

Half the countries reported that the number and distribution of breeding ruddy ducks are monitored, either largely or partly (one reported completely), with most suggesting that the surveys only accurately assess the status of breeding birds either largely or partly.

See Appendix 1 for further details (if provided).

Action 3: Keep active the existing national working groups

Belgium, France, the Netherlands, the UK, Spain and Switzerland have a national working group established, whilst Portugal is planning to set up a group (note, each of these seven countries have an eradication programme in place). The countries' working groups each meet once a year, with the exception of Belgium where the group meets less often.

The remaining countries are either not yet planning to set up a working group or answered 'not applicable'.

See Appendix 1 for further details (if provided).

Action 4: Remove legal barriers that may hinder the control of ruddy ducks

Seven countries reported that all legal barriers that may hinder the control of ruddy ducks have been completely removed (Iceland, Liechtenstein, Poland, Portugal, Norway, Switzerland and UK), while three reported largely

removed (Belgium, France and Spain) and one partly removed (Netherlands). Croatia, Czech Republic and Malta answered 'not applicable', while the Slovak Republic did not provide an answer.

Belgium reported that in Wallonia, the EU IAS regulation has led to an adaption of legislation that legally allows access to sites for ruddy duck control; however, in Flanders, the specific management regulation needed to enforce this is not yet in place.

The Netherlands reported that some provinces find it difficult for control measures to take place on sites that hold ruddy duck which have Natura 2000 status.

Further information was not supplied by other countries.

See Appendix 1 for further details (if provided).

Table 7: Responses to questions set to measure progress against Actions 1 to 4. A blank cell represents no response.

Country	Action 1			Action 2					Action 3		Action 4
	Eradication programme in place	Necessary resources for culling operations are available	Control measures are in place	Status of non-breeding birds monitored	Surveys accurately assess non-breeding birds	Status of breeding birds monitored	Surveys accurately assess breeding birds	Monitoring schemes are sufficient to detect birds in the wild	National working group established	Working group meeting frequency	Legal barriers hindering control have been removed
France	Yes	Completely		Completely	Completely	Largely	Partly		Fully established	Once a year	Largely
Netherlands	Yes	Largely		Largely	Largely	Partly	Partly		Fully established	Once a year	Partly
United Kingdom	Yes	Completely		Completely	Completely	Partly	Partly		Fully established	Once a year	Completely
Belgium	Yes	Completely		Largely	Largely	Partly	Partly		Fully established	Less than once a year	Largely
Switzerland	Yes	Completely		Completely	Completely	not applicable	Completely		Fully established	Once a year	Completely
Slovak Republic	No	Completely		Completely	Partly	No	No		Not yet planned	not applicable	
Poland	No	Largely		Largely	Largely	not applicable	not applicable		Not yet planned	not applicable	Completely
Iceland	not applicable	Completely		Partly	Largely		Partly		Not yet planned	not applicable	Completely
Portugal	Yes	Largely		Largely	Completely	Largely	Largely		Planned	not applicable	Completely
Czech Republic	not applicable	not applicable		Largely	Largely	not applicable	Largely		not applicable	not applicable	not applicable
Spain	Yes	Partly		Largely	Largely	Largely	Largely		Fully established	Once a year	Largely
Norway	No	Completely		No	Partly	No	not applicable		not applicable	not applicable	Completely
Croatia	not applicable	not applicable		not applicable	not applicable	not applicable	not applicable		not applicable	not applicable	not applicable
Liechtenstein	No	Completely		Completely	Completely	Completely	Completely		Not yet planned	not applicable	Completely
Malta	not applicable	not applicable		not applicable	not applicable	not applicable	not applicable		not applicable	not applicable	not applicable
Denmark			Largely					Completely			
Andorra			No					Partly			
Bulgaria			No					No			
Latvia			Largely					Completely			

6.2. Actions concerning ruddy duck in captivity

The 2016 Action Plan for eradication made the following recommendations regarding the eradication of ruddy ducks in captivity:

- Goal: Avoid any new escape of ruddy ducks to the wild in the Western Palaearctic.
- General target: Phase out all captive populations of ruddy ducks.
- Action 5: Fully implement legislation which prohibits the trade and release of ruddy ducks kept in captivity, such as Regulation (EU) No. 1143/2014 of the European Parliament and of the Council on prevention and management of the introduction and spread of invasive alien species.
- Action 6: Devote supplementary efforts to monitor the status of ruddy ducks in captivity.
- Action 7: Encourage the sterilisation and/or elimination of ruddy ducks in captivity and consider compensating owners for voluntary elimination, thus avoiding possible accidental escape or release of birds.

6.2.1. Progress against Target 2

Target 2: Phase out all captive populations of ruddy ducks and avoid any new escape of ruddy ducks to the wild in the Western Palaearctic

See Appendix 2 for questions set to determine progress against Target 2. Responses are presented in Table 8.

Only France and Portugal provided a possible target year for phasing out ruddy ducks in captivity. Seven countries (Belgium, the Netherlands, Norway, Slovak Republic, Spain, Switzerland and the UK) had not set a target year. Six countries answered ‘not applicable’ (Croatia, Czech Republic, Iceland, Liechtenstein, Malta and Poland) although these countries also reported that no birds were held/likely to be in captivity (see Section 5).

Belgium suggested that the EU IAS regulation should phase out all captive ruddy ducks in the country and that often, controlled birds appear to be pinioned, with increased inspections and improved communication likely helping; however, illegal keeping of birds and internet trade cannot be ruled out as a source of new introductions into captivity.

The Netherlands noted that one barrier that may be preventing the reduction in the number of captive birds there is the lack of shared awareness amongst the public for the need to eradicate ruddy duck and that many people are against the killing of animals.

The UK reported that ruddy ducks would be allowed to die out naturally, but breeding, exchange, sale and release are all prohibited. Spain and Norway both indicated that it is already prohibited to hold ruddy duck in captivity.

Methods to prevent escape were reported to be completely or largely in place in the majority of countries, and partly in one (France). The Netherlands did not provide a response but reported that it is required by law to prevent the escape of invasive alien species.

See Appendix 1 for further details (if provided).

Table 8: Responses to questions set to measure progress against Target 1. A blank cell indicates no response received.

Country	Target year for phasing out birds in captivity	All possible methods have been implemented to prevent escape
France	2025	Partly
Netherlands	No date set	
United Kingdom	No date set	Largely
Belgium	No date set	Largely

Switzerland	No date set	Completely
Slovak Republic	No date set	Completely
Poland	not applicable	Largely
Iceland	not applicable	not applicable
Portugal	2021	Completely
Czech Republic	not applicable	not applicable
Spain	No date set	not applicable
Norway	No date set	Largely
Croatia	not applicable	Completely
Liechtenstein	not applicable	not applicable
Malta	not applicable	not applicable

6.2.2. Progress against Actions 5 to 7

See Appendix 1 for questions set to determine progress against Actions 5 to 7. Responses are presented in Table 9.

Action 5: Fully implement legislation which prohibits the trade and release of ruddy ducks kept in captivity

All countries reported that legislation to prevent ruddy ducks escaping from captivity and trade in ruddy ducks had been fully implemented.

See Appendix 1 for further details (if provided).

Action 6: Devote supplementary efforts to monitor the status of ruddy ducks in captivity

Only Liechtenstein indicated that birds in captivity are monitored completely.

Latvia, Poland and Portugal indicated that captive birds are largely monitored. Poland reported that owners need to apply for a permit to keep ruddy ducks and that a national bill to fully implement the EU IAS Regulation will allow for the possibility of setting up a register as well as introducing higher penalties in cases of infringement. No further information was supplied by Portugal.

Andorra, Denmark, France, Slovak Republic, Spain, Switzerland and the UK each reported that birds in captivity are only partly monitored, with France, the Slovak Republic and Spain each suggesting improvements could be made within three years. Spain reported that it is not permitted to keep ruddy duck in captivity; however, there is not a specific programme that monitors whether birds are potentially being held. Switzerland noted a permit is required to keep ruddy ducks.

Belgium and the Netherlands reported that birds in captivity are not monitored and that improvements would not be made within three years. Belgium reported that a) in Flanders, captive ruddy duck must be declared; however, it is thought that a considerable number of specimens have not been reported; b) in Wallonia, although legislation has been adopted, there is no specific control of birds held; and, c) a barrier to improving the situation is likely the absence of a comprehensive register of wildfowl collections and/or non-compliance of the regulation by bird keepers. Bulgaria also reported that birds in captivity are not monitored there.

The Netherlands reported that registration of birds held in captivity is not required, and that at present there are no options for improving the situation: experience of voluntary registration of other species has shown that most owners do not respond, and to enforce registration, new regulations would need to be adopted.

The remaining countries answered ‘not applicable’; however, these countries also reported that no ruddy ducks are held/likely to be held in captivity. Croatia and Iceland also reported that holding ruddy duck in captivity in those countries is prohibited.

See Appendix 1 for further details (if provided).

Action 7: Encourage the sterilisation and/or elimination of ruddy ducks in captivity and consider compensating owners for voluntary elimination, thus avoiding possible accidental escape or release of birds

i) Measures to actively eliminate captive birds

Measures reported to be completely in place in the Slovak Republic (reported no birds being held in captivity) and Norway (where it is prohibited to hold birds, and action would be taken if needed).

Measures are largely in place in Poland, Portugal and the UK.

Measures are partly in place in France (individuals can keep birds if authorised; a LIFE project supports the transfer of captive birds to a zoo) and Spain (it is prohibited to hold birds in captivity and birds must be transferred to the authorities).

No measures are in place in Croatia, Liechtenstein (both reported no birds held), Switzerland (few birds held), Belgium (no active elimination of birds, but the transitional measures set under the EU IAS Regulation apply *e.g.* to prevent reproduction and escape) and the Netherlands (there are, theoretically, options available but there is a lot of public resistance to killing of animals with several motions from political parties calling for the killing of ruddy ducks to be stopped).

i) Provision of compensation to owners for voluntary elimination of captive ruddy ducks.

No country offers owners compensation.

ii) Measures to prevent ruddy ducks breeding in captivity

Measures are completely in place in Poland (a condition of receiving a permit is to prevent breeding) and the Slovak Republic.

Measures are largely in place in Portugal.

Measures are partly in place in Belgium (in Flanders, prevention of reproduction must be guaranteed else the birds are seized by the authorities), France (private owners must prevent breeding; however, zoos can maintain breeding birds if they guarantee birds cannot escape), the Netherlands (reproduction is prohibited, and enforced by the authorities if notification of breeding is received) and the UK.

No measures are in place in Croatia, Spain and Switzerland.

See Appendix 1 for further details (if provided).

Table 9: Responses received to questions set to measure progress against Actions 5 to 7. A blank cell indicates no response received.

Country	Action 5		Action 6			Action 7		
	Legislation has been implemented to prohibit release from captivity	Legislation has been implemented to prohibit trade	Number of birds in captivity monitored	Improvements can be made within three years	Monitoring schemes adequately monitor birds in captivity	Measures are in place to actively eliminate captive birds	Owners are compensated for voluntary elimination of birds	Measures are in place to prevent breeding in captivity
France	Fully implemented	Fully implemented	Partly	Yes	-	Partly	No	Partly
Netherlands	Fully implemented	Fully implemented	No	No	-	No	No	Partly
United Kingdom	Fully implemented	Fully implemented	Partly		-	Largely	No	Partly
Belgium	Fully implemented	Fully implemented	No	No	-	No	No	Partly
Switzerland	Fully implemented	Fully implemented	Partly	not applicable	-	No	No	No
Slovak Republic	Fully implemented	Fully implemented	Partly	Yes	-	Completely	No	Completely
Poland	Fully implemented	Fully implemented	Largely	Yes	-	Largely	No	Completely
Iceland	Fully implemented	Fully implemented	not applicable	not applicable	-	not applicable	not applicable	not applicable
Portugal	Fully implemented	Fully implemented	Largely	not applicable	-	Largely	No	Largely
Czech Republic	Fully implemented	Fully implemented	not applicable	not applicable	-	not applicable	not applicable	not applicable
Spain	Fully implemented	Fully implemented	Partly	Yes	-	Partly	No	No
Norway	Fully implemented	Fully implemented	not applicable	not applicable	-	Completely	No	not applicable
Croatia	Fully implemented	Fully implemented	not applicable	not applicable	-	No	No	No
Liechtenstein	Fully implemented	Fully implemented	Completely	not applicable	-	No	not applicable	not applicable
Malta	Fully implemented	Fully implemented	not applicable	not applicable	-	not applicable	not applicable	not applicable
Denmark					Partly			
Andorra					Partly			
Bulgaria					No			
Latvia					Largely			

6.3. Actions concerning public awareness, reporting and international co-operation

- Goal: Improve understanding by the public of the problem thus and create a favourable opinion for eradication
- Goal: Follow the progress of the eradication plan and update it as necessary
- Action 8: Implement public awareness activities on the need to control ruddy ducks.
- Action 9: Report annually to the Bern Convention on national action and collaborate with other States, the Bern Convention, AEWA and other appropriate bodies in the implementation of this updated eradication plan and the Action plan for the conservation of the white-headed duck.

6.3.1. Progress against Target 3

Target 3: Improve understanding by the public of the problem thus and create a favourable opinion for eradication

See Appendix 1 for questions set to determine progress against Target 3. Responses are presented in Table 10.

The level to which there is public understanding for the need to eradicate ruddy ducks varies between countries. Only a few of the countries provided any indication of what problems may still exist.

Belgium reported that in Flanders, although site managers are sometimes reluctant to allow control of birds, there has been no major opposition from the public, despite some control actions being very obvious; however, there may differences between the regions with the potentially higher sensitivity towards the culling of birds in general with NGOs and the public.

The Netherlands and Spain both suggested that there are members of the public and others who are against the killing of animals. In Poland, ruddy ducks may be perceived by some members of the public as a positive element in the environment which can cause a problem if the birds do occur.

See Appendix 1 for further details (if provided).

Table 10: Responses provided to the questions set to determine progress against Target 3.

Country	There is public understanding for the eradication of ruddy ducks
France	Partly
Netherlands	Partly
United Kingdom	Largely
Belgium	Largely
Switzerland	Completely
Slovak Republic	Completely
Poland	Partly
Iceland	not applicable
Portugal	Largely
Czech Republic	not applicable
Spain	Largely
Norway	Partly
Croatia	not applicable
Liechtenstein	not applicable
Malta	not applicable

6.3.2. Progress against Action 8

Action 8: Implement public awareness activities on the need to control ruddy ducks.

See Appendix 2 for questions set to determine progress against Action 8. Responses are presented in Table 11.

The majority of countries reported activities to raise public awareness of the need to control ruddy ducks have either been fully or partly implemented. Activities include national stakeholder meetings, leaflets, brochures, articles in magazines, websites and conference presentations.

See Appendix 1 for further details (if provided).

Table 11: Responses provided to the questions set to measure progress against Action 8.

Country	Activity implemented to raise public awareness of the need to control ruddy ducks
France	Partly implemented
Netherlands	Partly implemented
United Kingdom	Fully implemented
Belgium	Partly implemented
Switzerland	Fully implemented
Slovak Republic	Fully implemented
Poland	Partly implemented
Iceland	Not yet planned
Portugal	Partly implemented
Czech Republic	Fully implemented
Spain	Partly implemented
Norway	Partly implemented
Croatia	Partly implemented
Liechtenstein	Not applicable
Malta	Fully implemented

7. CONCLUSIONS

Considerable strides have been made to control Ruddy Ducks in Europe over the last two decades. What might have seemed an intractable task – the species had been recorded in over 20 countries by the mid-1990s, and UK numbers alone reached a peak of 6,000 birds in 2001 – wide-scale control has been proven a feasible goal.

By 2019, thanks to the individual and collective efforts of Contracting Parties to implement the Bern Convention’s eradication plan, supported by significant funding from EU LIFE, numbers in the wild had been reduced to around 250 individuals. Consequently, the Ruddy Duck has, to date, had minimal impact upon the globally threatened White-headed Duck, a result that can be regarded as a major success.

It is, nevertheless, salutary to read the text of ‘Recommendation No. 149 (2010) of the Standing Committee, adopted on 9 December 2010, on the eradication of the Ruddy Duck (*Oxyura jamaicensis*) in the Western Palaearctic’.

“Welcoming the very effective control carried out in the United Kingdom, in the framework of the LIFE project, to drastically reduce the number of Ruddy Ducks in its territory;

Welcoming also the commendable efforts to control the species in the wild in other contracting parties;

Regretting, however, that delayed or insufficient action in some states following the Bern Convention eradication plan, has allowed the establishment of populations in mainland Europe and thereby made eradication more costly and difficult;

Noting that very little action has been taken to address the issue of Ruddy Ducks in captive collections;

*Referring to the document “Eradication of the Ruddy Duck (*Oxyura jamaicensis*) in the Western Palaearctic: a review of Progress and revised Action Plan 2011-2015” by the Wildfowl & Wetlands Trust [document T-PVS/Inf (2010) 21];*

Conscious that, following present culling efforts, it is realistic to achieve a full eradication of the Ruddy Duck in the wild in the Western Palaearctic in the next five years;

Noting, however, that this commendable goal will only be reached if all states concerned collaborate in a common action plan for eradication of the species;

Noting that failure to act effectively and immediately will increase the threat to the White-headed Duck and increase the complexity and financial cost of eradication;”

There has been much activity by several Contracting Parties during that period, including eradication programmes in several countries, with large numbers controlled in the UK and France, and rapid and effective response in Spain. Nevertheless, the overall status of Ruddy Ducks in the wild in 2019 is, for the most part, not significantly different to 2010.

Estimates of Ruddy Duck numbers (individuals) in key countries, 2009-10 and 2019.

Country	2009-10	2019
Belgium	15	c10
France	220	c100
The Netherlands	60	c80
UK	250	c25

Nearly ten years after Recommendation No. 149 (2010), the status of birds in the key countries is (with the exception of the UK) broadly similar. The significant wintering concentration in France disperses during summer, mostly to unknown sites, to breed. Seasonal changes in numbers in the Netherlands and Belgium suggest at least regional movements. Numerous pairs continue to breed in Europe each year. Consequently, national control programmes continue to be active, incurring time and expense.

Adequate monitoring data from several countries have not been provided to the Convention in recent years. Of particular concern is Germany. Adjacent to the breeding and mobile populations in Belgium and Netherlands, it is reasonable to expect that at least small numbers occur there regularly. The numbers and risks in Germany need to be assessed as a matter of urgency so that appropriate actions can be taken.

Regular meetings of experts during the last decade to discuss progress have noted various impediments to control, including delays and slow implementation, the practicalities of shooting birds, difficulties of access to protected sites, patchy implementation and enthusiasm by regional administrations, and public objection, particularly by Contracting Parties initiating control programmes. Many of these problems had already been encountered and mostly resolved in the UK and Spain.

Thus, despite much activity, it is an inescapable conclusion that, had concerted and timely effort been made as identified in Recommendation No. 149 (2010), the control programme would have been considerably further forward, if not already effectively completed. The risk that Ruddy Ducks could increase in number and become once again a real threat to the White-headed Duck remains significant. Ongoing control programmes in Parties will continue to require significant investment and resources.

Whilst implementation has been insufficient to meet the international target, there is still good reason to believe that all the relevant understanding, knowledge and resources to eliminate Ruddy Ducks exist, and that – with lessons learned from the last two decades – the eradication plan can be concluded within a reasonable timescale.

- Practice in the UK shows that an active and appropriately targeted control programme can reduce a large population of Ruddy Ducks, spread across many sites, to be functionally extinct; given current numbers in Europe, this should be achievable in around five years;
- Practice in Spain shows that a rapid-response approach can very quickly (usually within 48 hours) eliminate small numbers of birds arriving from elsewhere for relatively little cost;
- Practice in Spain and the UK shows that the potential problems with implementation – methods, co-ordination, site access, public opinion, resources – are all surmountable; further, that those skills and knowledge exist to be shared with other Contracting Parties.

Thus, the basis of the eradication plan for wild birds remains sound, and the resources and skills exist to complete the eradication within a reasonable timeframe. The significant need is for the plan to be appropriately targeted and specific, and that there is regular review and adaptive management. These are simply aspects of any good plan.

Though obvious, it is worth reiterating that an overriding need is for co-ordination. For a mobile problem such as Ruddy Ducks, the overall effect of individual efforts is unfortunately not even the sum of the parts – actions have to be collective, coordinated and synchronous. Progress reports show that a delayed response in one location means the problem leaks to another. Thus, despite successes by individual parties, the problem for Europe as a whole remains the same, and the associated time and cost to deal with it persists for all parties.

With the priority and urgency focused on the control of wild birds, it is perhaps understandable that no substantive progress has been made on the issue of captive birds. For example, after several eradication plan periods, even our understanding of numbers held in captivity is still almost completely lacking.

Most Ruddy Ducks in captivity live for 7-8 years, a small proportion regularly reaches 12-15 years, and there is currently one 29-year-old. In the absence of the requirement to euthanize birds, it is apparent that the risk from captive birds will persist for a long time.

The EU Regulation 1143/2014 on Invasive Alien Species (IAS), which entered into force in 2015, includes restrictions on keeping, importing, selling and breeding. EU Member States are required to take action on pathways of unintentional introduction, to take measures for the early detection and rapid eradication of these species, and to manage species that are already widely spread in their territory. These measures should, in time, deliver the outcomes of the eradication plan for captive birds, in EU Member States at least.

It is imperative that Bern Convention EU Contracting Parties move quickly to implement their obligations under the EU IAS Regulation for captive Ruddy Ducks in a robust way, and that non-EU Parties adopt equivalent measures. The hard-fought gains to control wild birds, at considerable expense, must be preserved. Even once the wild population is functionally extinct, there will remain a need for reactive control until the risk of accidental introduction from captivity is effectively zero. This this is likely to be until 2030, though will need to be reviewed in the light of appropriate monitoring data.

Achieving an international outcome requires each Contracting Party to undertake action within its own territory. Moreover, for each Party to play its part, those efforts must be synchronised, and each must encourage and support all others to collectively achieve the plan. This is not just self-evident in an international convention – it is the very purpose of an international convention.

With such an approach, and combining the many good aspects of progress to date, functional eradication in the wild is achievable by 2025. The recommendations and action plan for 2021–2025 below are designed to ensure that this target is reached.

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10. ANNEX. ACTION PLAN FOR THE ERADICATION OF THE RUDDY DUCK IN THE WESTERN PALAEARCTIC, 2021–2025

Tiers

The eradication plan identifies targets and actions for Contracting Parties according to different Tiers

Tier 3 – Contracting Parties with breeding and/or significant numbers of Ruddy Ducks

Belgium, France, Germany (until and unless monitoring data show that Germany should be in Tier 2), the Netherlands, the United Kingdom

Tier 2 – Contracting Parties at significant risk of Ruddy Ducks arriving from Tier 3 countries

Austria, Czech Republic, Denmark, Hungary, Ireland, Italy, Luxembourg, Norway, Poland, Spain, Slovakia, Sweden, Switzerland

Tier 1 – all other Contracting Parties in the Western Palaearctic

Goal, outcomes, targets, and actions

<i>Goal</i>	<i>Ruddy Ducks² stop being a threat to the White-headed Duck</i>
<i>Aims</i>	<i>Ruddy Ducks are eliminated in the wild in the Western Palaearctic No Ruddy Ducks are held in captivity in the Western Palaearctic, and no new introductions to the wild occur in the interim</i>

I. Actions concerning eradication of Ruddy Ducks in the wild

<i>Outcome</i>	<i>The Ruddy Duck is functionally extinct in the wild in the western Palaearctic by 2025</i>
<i>Targets</i>	
Tier 3	Undertake active control to reduce the Contracting Party's Ruddy Duck population to be functionally extinct by 2025
Tier 2	Undertake rapid control to eliminate any Ruddy Duck in the Contracting Parties' territory
<i>Actions</i>	
All Contracting Parties	Monitor the status and distribution of Ruddy Ducks in the wild annually Provide sufficient resources to effectively monitor numbers of Ruddy Ducks in the wild Provide sufficient resources to meet national control targets Rapidly identify and resolve any problems that delay or undermine national control measures (e.g. site access, public perception)

II. Actions concerning Ruddy Ducks in captivity

<i>Outcome</i>	<i>The risk of accidental introductions of Ruddy Ducks in the Western Palaearctic is understood and minimized</i>
<i>Targets</i>	The numbers of Ruddy Ducks in captivity is understood by 2022 The risks of accidental introduction are assessed by 2024 No new introductions of Ruddy Ducks occur
<i>Actions</i>	Prevent the importing, selling and breeding of captive Ruddy Ducks Identify the number of individual birds, and the keepers of all Ruddy Ducks Assess the risk of release (eg from poor biosecurity) Identify and implement mitigation for major risks of release (eg establish secure facilities to which keepers could give their birds)

² In the framework of this action plan the term « Ruddy Ducks » refers both to Ruddy Ducks and to the hybrids of Ruddy Ducks and White-headed Ducks.

III. Actions concerning adaptive management and international co-ordination

<p><i>Outcomes</i></p>	<p><i>Progress towards achieving the plan's outcomes and targets is regularly assessed and adaptively managed</i></p> <p><i>Contracting Parties coordinate their activities to collectively achieve the plan's outcomes and targets in a timely and cost-effective manner</i></p> <p><i>The plan is updated in 2025</i></p>
<p><i>Actions</i></p> <p>All Contracting Parties</p> <p>Tier 3</p>	<p>Report annually to the Convention –</p> <p>Regarding wild Ruddy Ducks –</p> <ul style="list-style-type: none"> • the status of non-breeding and breeding wild Ruddy Ducks • progress towards and the likelihood of achieving national control targets • problems encountered to achieving control targets and the solutions identified to address these <p>Regarding captive Ruddy Ducks –</p> <ul style="list-style-type: none"> • the status of Ruddy Ducks in captivity • an assessment of risk of new introductions <p>Experts (from all Tier 3 Contracting Parties as a minimum) meet to review progress against control targets, identify impediments to control, agree solutions, and report to the Convention annually</p>

11. APPENDIX 1: ADDITIONAL INFORMATION PROVIDED BY EACH RESPONDING COUNTRY

The following is the additional information (written verbatim) provided by each country. Not all countries provided additional information for every question.

11.1. Full questionnaire

I. Actions concerning Ruddy Ducks in the wild

Action 1

1.1 Is there a Ruddy Duck eradication programme in place in your country?

Netherlands	There is a national "masterplan eradication and control Union list species" witch include the Ruddy Duck. The twelve provinces determine their own commitment and resources. Not every province has elaborated its policy just as far. However, the most relevant provinces have completed their policy.
Norway	Not considered necessary as there are so few records (only one after 2011).
Poland	The Ruddy Ducks appears in the wild only occasionally and does not breed in Poland. There is also no confirmed information about the species being kept in captivity.
Croatia	There were no recordings of Ruddy Duck in Croatia.
Liechtenstein	Because no ruddy duck has been sighted in Liechtenstein since 2010.

1.2 Are the necessary resources for Ruddy Duck culling operations available in your country?

Belgium	the current approach to control is described in this report: https://pureportal.inbo.be/portal/files/17374269/Report_Manageability_final_cvr.pdf
Netherlands	The concentration of Ruddy Ducks is in the Western part of The Netherlands. In these provinces the necessary resources are less or more available. In other provinces witch only have a few Ruddy Ducks there are none or less resources.
Spain	There are some competent authorities (autonomous communities) with available resources for ruddy duck culling and other without these type of services. the main regions for the white headed duck are covered with these services
Norway	Government rangers.
Croatia	There were no recordings of Ruddy Duck in Croatia.

Action 2

2.1(a) Are the status and distribution of non-breeding Ruddy Ducks monitored in the wild in your country? (surveys at any time of year to assess numbers present)

Belgium	Monitoring is only performed in winter through the monthly counts on a fixed set of water bodies within the waterbird census (okt-feb). These are good and reliable data. Apart from this yearly census, there is good coverage of most waterbodies where ruddy ducks (can) occur by volunteer birdwatchers who submit sightings through an online recording platform (www.waarnemingen.be). Authorities are informed of sightings through an early warning system (www.waarnemingen.be/exoten) integrated in this platform. Using both data sources (monitoring and opportunistic observations) it is possible to get a yearly estimate of the number of birds present.
Iceland	the surveys are based on voluntarily reports from active bird watchers, all ruddy duck records are collected the by national rarity committee and listed in annual reports of rare birds observed
Norway	Information based on birdwatchers recording online to a database.
Slovak Republic	This species Ruddy Duck (<i>Oxyura jamaicensis</i>) was recorded only once (January 3rd, 2013) in the place of Hrušovská zdrž near town Šamorín , district Dunajská Streda - only one specimen - female.

	Record is listed under No 5/2013 by Rarities Committee of the Slovak ornithological Society/BirdLife Slovakia (Fauna Commission of Slovak Ornithological Society/BirdLife Slovakia. Regular occurrence of species is neither probable nor the species are known as kept in captivity. Species was recorded also in 2014 (probably) and 2015 (observe Mr.Ridzoň), avesbase, birding (Source: https://www.youtube.com/watch?v=eFN7o-j-vig) during winter season in Slovakia (Kalinkovo Village). Data on IAS/alien species are gathered in several database systems:Complex Information and Monitoring System(KIMS) of SNC SR covers data on both animal and plant species:
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.1(b) Please indicate how non-breeding Ruddy Ducks are monitored: species specific survey; as part of a national waterbird count (e.g. IWC); other. [Blank cell indicates no response provided.]

Country	Species specific survey	As part of a national waterbird count	Other
Belgium	No	Yes	No
France	Yes	Yes	not applicable
Netherlands	No	Yes	No
Spain	No	Yes	
United Kingdom	No	Yes	Yes
Czech Republic		Yes	
Iceland	No	No	Yes
Norway	No	Yes	No
Poland	No	No	Yes
Portugal		Yes	
Slovak Republic	Yes	Yes	No
Switzerland	Yes	Yes	Yes
Croatia			not applicable
Liechtenstein	No	Yes	No
Malta	not applicable	not applicable	not applicable

Belgium	The monthly wintering waterbird census is performed between October-March and consists of a coordinated systematic census in over 750 wetland areas. Each month, one count is performed during the weekend closest to the 15th of that month. These counts are part of the International Waterbird Census. Not all areas are counted every month, but coverage is sufficient to derive trends using statistical models to estimate missing data.
France	All ruddy ducks are in the Grand-Lieu lake during winter. Day to day monitoring is achieved by the natural reserve manager (SNPN), the associated beneficiary of the LIFE oxyura project.
Netherlands	Survey of Union list species, including Ruddy Duck, is part of the "network ecological monitoring" carried out by Sovon, Dutch Centre for Field Ornithology. Presence and absence per 10x10 km square is recorded.
Spain	AT LEAST FOUR TIMES PER YEAR FOLLOWING THE MONITORING PROGRAM OF THE WHITE HEADED DUCK IN AREAS WITHIN ITS RANGE IN SPAIN. AND AT LEAST TWICE (WINTERING COUNTS AND BREEDING CENSUS) AT WHOLE SPAIN.
United Kingdom	Wetland Bird Survey carried out monthly by volunteers. Co-ordinator of Ruddy Duck eradication programme carries out daily searches of internet (including citizen science sites) for reports of Ruddy Ducks and also receives reports from site managers and others.
Iceland	see above
Norway	National waterbird monitoring winter and summer, called SEAPOP.
Poland	There is no systematic national monitoring of this species. However, there is a large number of birdwatchers who register the occurrences in a countrywide nongovernmental database. The data on

	IAS is also collected during surveys conducted in frame of the monitoring of Natura 2000 sites and habitats.
Portugal	sites are counted on a monthly basis
Slovak Republic	This species Ruddy Duck (<i>Oxyura jamaicensis</i>) was recorded only once (January 3rd, 2013) in the place of Hrušovská zdrž near town Šamorín, district Dunajská Streda - only one specimen - female. Record is listed under No 5/2013 by Rarities Committee of the Slovak ornithological Society/BirdLife Slovakia (Fauna Commission of Slovak Ornithological Society/BirdLife Slovakia. Regular occurrence of species is neither probable nor the species are known as kept in captivity. Species was recorded also in 2014 (probably) and 2015 (observe Mr.Ridzoň), avesbase, birding (Source: https://www.youtube.com/watch?v=eFN7o-j-vig) during winter season in Slovakia (Kalinkovo Village). Data on IAS/alien species are gathered in several database systems: Complex Information and Monitoring System(KIMS) of SNC SR covers data on both animal and plant species:
Switzerland	sites specific observations
Croatia	There were no recordings of Ruddy Duck in Croatia.
Liechtenstein	Liechtenstein does not have many waters that could be considered as a habitat for the ruddy duck. These waters are regularly observed by ornithologists and all observed animals are recorded.

2.1(c) Do the surveys provide an accurate assessment of non-breeding Ruddy Duck numbers and status in your country?

Belgium	The majority of sites known to have ruddy ducks regularly are important wetlands and have good coverage by the wintering waterbird census. Also, this is a long time series, observers are mostly experienced and know the species is present so they are prone to be picked up if present. However, some ruddy ducks pop up on small water courses and probably slip through the mazes of systematic censuses.
Norway	Not all areas are covered. While the most likely areas will be covered either by SEAPOP or voluntary birdwatchers monitoring sites.
Poland	The numbers of birdwatchers guarantee that most, of not all, birds are detected. Records of Ruddy Ducks should be reported to the Rarity Commission, who give their opinion.
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.2(a) Are the status and distribution of breeding Ruddy Ducks monitored in the wild in your country? (surveys specifically to record breeding occurrence and assess numbers of breeding pairs)

Belgium	Ruddy duck is an irregular (non-yearly) breeder in the country. Antwerp harbour area is a well known area where the ducks sometimes breed. This area is an important wetland and is under regular systematic monitoring for the Bird Directive. The few other sites where breeding has occurred of was suspected, are mostly nature reserves with good coverage by birders. So although there is no specific, systematic screening of potential breeding sites for ruddy duck we estimate the current combination of existing monitoring schemes and opportunistic observations is adequate to detect new breeders.
Netherlands	There is no survey for breeding Ruddy Ducks like the survey for non-breeding ones. But still there are surveys for breeding birds in general. These survey are often performed by volunteers. They do not always recognize the Ruddy Duck and sometimes they deliberately withhold information. In some of the provinces there is (semi)professional survey.
United Kingdom	Ruddy Ducks tend to spend spring and summer on smaller waters not covered by the Wetland Birds Survey. They are also likely to be visited by large numbers of birdwatchers and thus less likely to be reported on the internet.
Norway	Never recorded as a breeder and now there are hardly any observations.
Poland	There is no breeding population in Poland.
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.2(b) Please indicate how breeding Ruddy Ducks are monitored: species specific survey; as part of a national waterbird count (e.g. IWC); other. [Blank cell indicates no response provided.]

Country	Species specific survey	As part of a national waterbird count	Other
Belgium	No	No	Yes
France	Yes	No	
Netherlands	No	Yes	No
Spain	No	Yes	
United Kingdom	No	Yes	Yes
Czech Republic	not applicable	Yes	
Iceland	No	No	Yes
Norway	not applicable	No	Yes
Poland	not applicable	not applicable	not applicable
Portugal	Yes	Yes	
Slovak Republic			
Switzerland	not applicable	not applicable	not applicable
Croatia			not applicable
Liechtenstein	No	Yes	No
Malta	not applicable	not applicable	not applicable

Belgium	see 2.2a
France	Breeding monitoring is undertaken by a dedicated team (4 people) in ponds within a 150 kms radius around the Grand-Lieu Lake (more than 3 spots during spring and summer) completed by a national survey in historical ponds (3 spots during spring)
Netherlands	In some of the provinces there are (semi) professional surveys; birders who count all the waterbirds (South-western Delta), they recognise the Ruddy Duck and give the information to the authorities. Also there are lots of volunteers who monitor breeding birds or do observations. But this gives no fully coverage of the area.
Spain	At least four times per year following the monitoring program of the white headed duck in areas within its range in Spain. and at least twice (wintering counts and breeding census) at whole Spain.
United Kingdom	Wetland Bird Survey carried out monthly by volunteers. Co-ordinator of Ruddy Duck eradication programme carries out daily searches of internet (including citizen science sites) for reports of Ruddy Ducks and also receives reports from site managers and others.
Iceland	see above
Norway	Summer monitoring breeding wetland species and via voluntary birdwatchers.
Poland	There is no breeding population in Poland.
Switzerland	no breeding attempts known from Switzerland
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.2(c) Do the surveys provide an accurate assessment of breeding Ruddy Duck numbers and status in your country?

Belgium	see 2.2a
France	the non breeding population is about 150 birds and their detection during breeding period in a great number of ponds is difficult due to the breeding strategy of the bird (1 couple by pond).
Netherlands	It gives an overall picture of the breeding Ruddy Ducks.
United Kingdom	Ruddy Ducks tend to spend spring and summer on smaller waters not covered by the Wetland Birds Survey. They are also likely to be visited by large numbers of birdwatchers and thus less likely to be reported on the internet.

Iceland	based on voluntary reports, further coverage is not being addressed
Norway	Not regarded as relevant as there are no breeding ever recorded.
Switzerland	Monitoring wetlands would provide data on breeding distribution if present
Croatia	There were no recordings of Ruddy Duck in Croatia.

Action 3

3.1 Has a national working group been established in your country to guide implementation of the Ruddy Duck eradication strategy nationally?

Spain	This issue is included within the Spanish working group for the protection of the white headed duck, the marbled teal and the red-knoobed coot (endangered waterfowl species)
Iceland	the ruddy duck is not an issue here anymore, they do not occur
Norway	Not regarded as necessary as there are hardly any observations.
Poland	There is no formal national working group but a number of scientists and nature conservation officers closely follow the issue.
Croatia	There were no recordings of Ruddy Duck in Croatia.
Liechtenstein	Because no ruddy duck has been sighted in Liechtenstein since 2010.

3.2 If a working group has been fully or partly established, how often does it meet?

Belgium	Biodiversity (and invasive species) management in Belgium is the competence of the regions (Wallonia, Brussels Capital Region and Flanders). The three regions all aim at reducing the number of ruddy ducks in the wild and effectively deploy actions in the field. In Flanders, a formal eradication campaign was launched in 2012 coordinated by the Agency for Nature and Forest and with scientific follow-up from the Research Institute for Nature and Forest. Nature NGO's, hunters and duckkeepers (Aviornis) are also represented. The other two Belgian regions are also involved in this process.
France	A Life project (LIFE17-NAT_FR_000542) has been contracted since October 2018 to implement a national action plan for ruddy duck. ONCFS (French national agency) oversees the LIFE with regulars contacts with partners and an annual meeting explains progress made by the eradication project.
Netherlands	Once a year there is a meeting of the relevant provinces. The results of the previous year and the planned actions for the upcoming year are discussed. Tips and practical experiences are exchanged and cooperation is discussed.
United Kingdom	Includes representatives of Government and NGOs with both policy and scientific backgrounds.
Norway	See above.
Poland	There is no formal national working group but a number of scientists and nature conservation officers closely follow the issue.
Croatia	There were no recordings of Ruddy Duck in Croatia.

Action 4

4.1 Have all legal barriers that might hinder the control of Ruddy Ducks in the wild been removed?

Belgium	The listing of ruddy duck as a species of EU concern sensu the EU IAS Regulation on the prevention of the introduction and spread of IAS now clearly provides strong impetus to justify control actions and has recently lead to adaptation in legislation which now legally allows access to sites for ruddy duck control if needed (new IAS Decree in Wallonia http://environnement.wallonie.be/legis/consnat/cons069.htm , adapted article 51 Nature Decree in Flanders). In Flanders however, a specific management regulation is needed to enforce this which is not in place yet.
Netherlands	Some provinces struggle with the N2000-status of the Ruddy Duck grounds.

Croatia	There were no recordings of Ruddy Duck in Croatia.
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II. Actions concerning Ruddy Ducks in captivity

Action 5

5.1 Has legislation been implemented in your country to prohibit the release of Ruddy Ducks from captivity?

Netherlands	The European regulation prohibits trade and release. Violation of the prohibitions in the European regulation is made punishable by implementation in the Nature Protection Act. The national provisions to provide for the implementation of regulation are included in the Nature Protection Act.
Poland	No alien animal species is allowed to be released from captivity in Poland, except for fish according to the EU legislation.
Slovak Republic	<p>Invasive alien species are subject to the Act No 543/2002 Coll on Nature and Landscape Protection (with validity since January 1, 2014) and its implementing Ordinance of the Ministry of the Environment of the Slovak Republic No 24/2003 Coll which implements the Act no. 543/2002 Coll. on Nature and Landscape Protection as amended (amendment valid since June 15, 2014). In 2014, was added to annex 2 list of Invasive alien species (list of 26 invasive alien fauna species including Ruddy duck), specification of ways of their elimination and dispersal, obligation of the keeper of the alien species to prevent escape of the alien species to the wild at his own expenses and prohibition of re-release of caught specimen of invasive alien species or its use as livebait. In 2016, Commission implementing regulation (EU) No 2016/1141 of 13 July 2016 adopting a list of invasive alien species of Union concern pursuant to Regulation (EU) No 1143/2014 of the European Parliament and of the Council. Regulation (EU) No 1143/2014 provides that a list of invasive alien species of Union concern ('the Union list') is to be adopted on the basis of the criteria laid down in Article 4(3) thereof and meeting the conditions laid down in Article 4(6), which stipulates that the implementation costs, the cost of inaction, the cost-effectiveness and the socioeconomic aspects must be given due consideration. The Commission has concluded on the basis of the available scientific evidence and the risk assessments carried out pursuant to Article 5(1) of Regulation (EU) No 1143/2014 that all criteria set out in Article 4(3) of that Regulation are met for the invasive alien species, including <i>Oxyura jamaicensis</i> Gmelin, 1789. The Commission has also concluded that <i>Oxyura jamaicensis</i> as well as other invasive alien species meet all of the conditions set out in Article 4(6) of Regulation (EU) No 1143/2014. In Slovakia, the measures provided for this Regulation (EU) No 1143/2014 of the European Parliament and the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, including <i>Oxyura jamaicensis</i> (amendment valid since August 4, 2016). In addition, actually for those invasive alien species, including Ruddy Duck have not been included in national legislations (including measures for them) because those species have been included in Union list - list of invasive alien species of Union concern. Mainly restrictions, including prevention of them: In Slovakia, invasive alien species of Union concern, including <i>Oxyura jamaicensis</i> shall not be intentionally:</p> <ul style="list-style-type: none"> (a) brought into the territory of the Union, including transit under customs supervision; (b) kept, including in contained holding; (c) bred, including in contained holding; (d) transported to, from or within the Union, except for the transportation of species to facilities in the context of eradication; (e) placed on the market; (f) used or exchanged; (g) permitted to reproduce, grown or cultivated, including in contained holding; or (h) released into the environment. <p>Member States shall take all necessary steps to prevent the unintentional introduction or spread, including, where applicable, by gross negligence, of invasive alien species of Union concern. Actually in Slovakia is preparing new Act about prevention, management and eradication of invasive alien species. We have been new Act. No. 150/2019 Coll. on the prevention and management of the introduction and spread of invasive alien species and on amendments and new Order No. 450/2019 Coll on laying down the conditions and methods for the removal of invasive alien species. The Slovak Republic submitted first report for each of the invasive alien species of Union concern and for each invasive alien species of regional concern subject to measures as provided for in Article 11(2) of Regulation (EU) No 1143/2014 for the period 2015-2018. The report is available on the website: https://cdr.eionet.europa.eu/. Data on IAS/alien species are gathered in several database systems: Complex Information and Monitoring System (KIMS) of SNC SR covers data on both animal and plant species: http://www.biomonitring.sk/Home/OccurrenceData</p>

5.2 Has legislation been implemented in your country to prohibit trade in Ruddy Ducks?

Netherlands	The European regulation prohibits trade and release. Violation of the prohibitions in the European regulation is made punishable by implementation in the Nature Protection Act. The national provisions to provide for the implementation of regulation are included in the Nature Protection Act.
Poland	According to the Polish law, trade in IAS is subject to a permission. A possibility to trade provides owners of unwanted pets an option to get rid of them, other than setting them free. However, keeping and trade is licensed and both the current and the new owner must comply with conditions preventing an escape or breeding. Keeping and trade is generally only permitted for individuals that are currently in the collections. It is not allowed to import any new individuals, or breed them. It is expected that gradually, as the collection individuals die out, the trade will cease. In any case, the demand for Ruddy duck is very low in Poland.
Slovak Republic	In since 2014 was trade with Ruddy Ducks prohibited by national law -according § 7 Act No 543/2002 Coll on Nature and Landscape Protections (trade was amended with validity since January 1 st, 2014).According to national CITES legislation - Act No 15/2005 Coll on the protection of species of wild fauna and flora by regulating trade therein and on the amendment of certain acts , as amended and Ordinance of the Ministry of the Environment of the Slovak Republic No 110/2005 Coll. implementing certain provision of the Act No 15/2005 Coll on the protection of species of wild fauna and flora by regulating trade therein and on the amendment of certain acts as amended, possession of <i>Oxyura jamaicensis</i> is prohibited. This prohibition does not apply on zoological gardens, rescue and breeding centres for animals etc. According to national and European legislation are obligation of the owner/user of the land to eliminate invasive alien species at his own expenses by the given means of elimination and prohibition of keeping, transport, import, breeding, trading or releasing the to the wild. In addition, the measures provided for New Regulations which adopting a list of invasive alien species of Union concern area are implemented, for example to prevent new introductions or further spread in the territory of the Union, to promote early detection and rapid eradications of species including any other type of harvesting for consumption or export. Some invasive alien species, including <i>Oxyura jamaicensis</i> are included in Annex B to Council Regulation (EC) No 338/97 (1), and their importation into the Union is prohibited because their invasive character has been recognised and their introduction into the Union has an adverse impact on native species. To ensure a coherent legal framework and uniform rules on invasive alien species at Union level, the listing of those invasive alien species as invasive alien species of Union concern should be considered as a matter of priority. We have new Art. 150/2019 Coll

Action 6

6.1 Is the number of Ruddy Ducks held in captivity monitored in your country?

Belgium	We have no complete view on the number of ruddy ducks in captivity apart from registered zoos and regularisations since the EU IAS Regulation. In Flanders, citizens and institutions (including zoos and sanctuaries) have to declare the number of ruddy ducks in captivity. The total number of birds declared is 28 (situation as of March 2019), spread across the region (6 municipalities). It is assumed that a considerable amount of specimens have not (yet) become declared. In Wallonia, the legislation is adopted but no specific control is currently carried out and no data on detentions is available.
France	A national census in 2016 estimated to 250 ruddy ducks in captivity.
Netherlands	There is no required general registration for pets, so it is hard to monitor the numbers of Ruddy Ducks in captivity.
Spain	The possession of this species is not allowed in Spain, but there are not specific programmes supervising the potential holding of ruddy duck
Iceland	there are no ruddy ducks in captivity in Iceland, not allowed
Norway	NA as it is prohibited.
Poland	All owners should apply for a permit to keep the birds. However, no application has been received so far, which means that there are no Ruddy Ducks in captivity in Poland, or the owners are not aware of the law or unwilling to comply to it.
Switzerland	captivity needs a permit by the BLV
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

6.2 If the current schemes for monitoring Ruddy Ducks in captivity are NOT adequate in your country, do you believe improvements can be made within three years (by end 2022)?

Belgium	The most important barriers are probably the absence of a comprehensive register of wildfowl collections and/or poor uptake (non-compliance) of the regularisation demand (see 6.1) by bird keepers.
Netherlands	For the time being, there are no options for this. Experience with voluntary registrations of other species (e.g. squirrels) has shown that almost nobody responds to voluntary registration. To enforce registration, new regulations should be drawn up.
Norway	NA as it is prohibited to keep.
Poland	A bill on alien species is underway in order to implement fully the IAS UE Regulation no 1143/2014. It will provide for a possibility to register ruddy ducks kept in captivity, as well as will introduce higher penalties in case of an infringement.
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

Action 7

7.1 Are measures in place to actively eliminate Ruddy Ducks in captivity?

Belgium	Since the EU IAS Regulation, owners are only allowed to keep specimens if reproduction is excluded (e.g. sterilization, keeping sexes apart at all times) yet there is no active elimination of ruddy ducks in captivity (the transitional measures apply).
France	Since 2018, only few zoos can keep ruddy ducks but must ensure an appropriate level of safety to avoid escapees. Birds in captivity must be banded. Before the implementation of the European invasive species regulation (2014/1143), ruddy duck could be held in captivity by individuals with a low level of authorization with no national data centralization. These owners can keep their birds with a new authorization, with no reproduction and after banding birds.
Netherlands	Theoretically there are options. For example subsidy: the French model that people can have their animals killed at the expense of the government. But in the Netherlands there is an lot of public resistance to the killing of animals. There are several motions in which political parties calls for the killing of Ruddy Ducks to be stopped.
Spain	The possession of this species is not allowed in Spain, so programs have already been put in place to avoid the elimination of this species (there are not evidences of this possession to all authorities)
Norway	If detected, action will be taken.
Switzerland	escaping is unlikely, if escaped, they will be removed from the wild
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.
Liechtenstein	No ruddy ducks live in captivity in Liechtenstein.

Please list any measures in place.

France	The LIFE project supports the transfer of the captive birds to a dedicated zoo.
Spain	There is a royal decree to control and eradicate alien invasive species since 2011 and ruddy duck is included in the list of species for which possession is prohibited and specimens must be transferred to authorities
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

7.2 Are owners compensated for voluntary elimination of Ruddy Ducks held in captivity?

France	The French administration is not agree to compensate for voluntary elimination because it would not be equal to any other exotic species owners (species listed in the IAS EU regulation).
Spain	No need for compensation included in our national legislation on invasive species.
Norway	Cf ban on keeping this species.
Poland	There is no system of financial compensation for culling IAS.

Switzerland	only held in very small numbers, if so.
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

7.3 Are measures in place to prevent the breeding of Ruddy Ducks in captivity (e.g. sterilisation)

Belgium	In Flanders, citizens and institutions (including zoos and sanctuaries) have to declare the number of ruddy ducks in captivity. They are only allowed to keep specimens if reproduction is excluded (e.g. sterilization, keeping sexes apart at all times). If this cannot be guaranteed, the specimens are seized by the authorities. In Wallonia, the legislation is adopted but no specific control is currently carried out and no data on detentions is available.
France	Individual owners can only keep their birds if they stop reproduction (no specific way to do that). Only zoos can maintain reproduction of ruddy ducks.
Netherlands	Reproduction is prohibited. The "Netherlands Food and Consumer Product Safety Authority" (part of the Ministry of Agriculture, Nature and Food Quality) enforces this when notifications are received.
Spain	There are not specific measures in this regard as it is not allowed its possession.
Norway	NA as it is prohibited to keep.
Poland	One of the conditions to issue a permit for further keeping of Ruddy Ducks is that breeding is prevented. In case prevention fails, the owner is obliged to destroy eggs or kill ducklings and inform the relevant authorities about it.
Switzerland	only held in very small numbers, if so.
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity and breeding is prohibited and we do not have data on Ruddy Ducks held in captivity or bred in Croatia before the prohibition.

Please list any measures in place.

France	Information of owners obligations by duck breeders associations. Police control
Poland	Not applicable. No application on keeping Ruddy Ducks has been received so far.
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

III. Actions concerning public awareness

Action 8

8.1 Have activities been implemented to raise public awareness of the need to control Ruddy Ducks?

Belgium	A national stakeholder meeting was organised to inform stakeholders about the EU Regulation in October 2015. The ruddy duck eradication programme was used to showcase IAS eradication. With the limited number of birds, communication about actions is kept low profile, informing the owner or manager of the site where control is planned and any passers-by. Leaflets have been produced to this end. More recently, the adoption of the list of IAS of EU concern also gained some press attention. Bird keepers were informed through their interest group. Also, in 2017, a work exchange was organised with the Netherlands to visit the most important sites for ruddy duck and exchange practical management experience (see https://www.inbo.be/nl/vlaams-nederlandse-werkuitwisseling-rosse-stekelstaart-nb-07-17). As ruddy duck is very rare nowadays, communication is targeted towards naturalists and birders through their usual channels (see e.g. this article: https://pureportal.inbo.be/portal/files/13208669/Adriaens_Dhondt_2017b_NatuurFocus.pdf). In Wallonia, a symposium was organised on invasive species to create awareness on the issue.
Iceland	ruddy duck is not an issue in Iceland
Croatia	General campaign to raise awareness of the IAS of Union concern and the need to prevent their introduction and spread is planned for 2020 and 2021.

Please provide examples of the activities that have been implemented.

Netherlands	In general there is communication about the control of exotic species. Specifically about the Ruddy Duck takes little / none communication place in order not to disturb eliminations.
Spain	Some projects have included dissemination activities and brochures to fight against the threat of ruddy duck to w-h duck, especially within life+ projects (life+malvasía, life+humedalesdelamancha, etc)
Norway	Mainly articles in relevant magazines.
Poland	The issue was discussed in a number of conference presentations and articles, both scientific and popular.
Slovak Republic	On the web page of the State Nature Conservancy of the Slovak republic (http://www.sopsr.sk/web/?cl=6) are stated current (basic) information about invasive alien species, including <i>Oxyura jamaicensis</i> . This information provides basic data about biology, ecology, their distribution in the world, including Slovakia and national and European legislations. IAS issues have stable place in study/education programmes and research works. In the period of 2017–2018 Slovakia like other EU Member States was busy with the implementation of EU Regulation on No. 1143/2014 on the prevention and management of the introduction and spread of IAS (EU Regulation on IAS). IAS appeared in media as a short news or thematic articles, e.g. http://www.quark.sk/nebezpecne-invazne-druhy/ ; http://www.quark.sk/monitorujte-s-nami-nepovodne-organizmy/ . The public can find and download more information on IAS both IAS of Union concern (EU List of IAS) and Slovak concern (National List of IAS) from the homepage of the State Nature Conservancy of the Slovak Republic (hereafter SNC SR): http://www.sopsr.sk/invazne-web/ . Wide public is informed about IAS topical information also via homepage of SNC SR (section News): http://www.sopsr.sk/web/?cl=20 and the Facebook profile: https://www.facebook.com/sopsr.sk/ .
Liechtenstein	
Malta	Activities were linked to the adoption of the Control of Invasive Alien Species of European Union Concern Regulations (SL 549.119), which includes the ruddy duck, and the National Strategy on Invasive Alien Species. These included stakeholder meetings, publication of material and letters to pet shops. More information and weblinks are available in the e-mail associated with this questionnaire.

Target 1. Eradication of the Ruddy Duck in the wild in the Western Palearctic by 2020

1.1 Will Ruddy Ducks be eradicated in the wild in your country by the end of 2020?

Netherlands	(In random order) 1) Not in all the cross-border areas there is a good cooperation between the provinces / executive services. 2) Low priority among site managers of nature reserves. 3) Impassable areas; the Ruddy Duck is found partly on (large) waters where they are difficult to find and shoot. 4) Shooting in urban areas or areas with lots of recreationists is difficult; public safety comes first. 5) Anti-hunting sentiment: in the Netherlands, a large part of the population is against the killing of animals. 6) Doubt of utility and necessity: there are countless invalid arguments: eradication isn't feasible, there are not many and the numbers stay low, Spain is far away, the species is an asset to biodiversity etc.
United Kingdom	Given their very extremely low numbers and very low density, it is possible that Ruddy Ducks in the UK will be functionally extinct by the end of 2020. However Ruddy Ducks can live up to 13 years in the wild so it is likely that a few aging individuals will remain at the end of 2020.
Iceland	there are no present
Poland	There are no individuals in Poland at the moment.
Croatia	There were no recordings of Ruddy Duck in Croatia.

1.2 If Ruddy Ducks will not be eradicated in the wild in your country by end 2020, please provide a revised target date for eradication.

Belgium	The assessment is that the Belgian "distance to target" is highly influenced by the situation in neighbouring countries.
Netherlands	There is no target date yet, in the upcoming meeting of the national working group we will discuss this.
Norway	Regarded as eliminated as any new bird recorded will be overshooting migrants from populations further south.
Poland	The action will be taken if needed.
Portugal	Will be eradicated in the wild by the end of 2020

Slovak Republic	not relevant
Switzerland	not applicable
Croatia	There were no recordings of Ruddy Duck in Croatia.

1.3 Please list any barriers that may prevent the complete eradication of Ruddy Ducks in the wild in your country (regardless of target date) and the actions being taken to overcome these.

Netherlands	spread from presence in vulnerable (N2000) nature areas (see also the explanation by question 1,1)
United Kingdom	Immigration from mainland Europe. Liaison with Dutch, French and Belgian colleagues aims to promote eradication in these countries thus preventing re-colonisation of UK.
Poland	Not applicable. There are no individuals in Poland at the moment.
Slovak Republic	not relevant
Croatia	There were no recordings of Ruddy Duck in Croatia.

Target 2. Phase out all captive populations of Ruddy Ducks

2.1 Has a target year been set for phasing out Ruddy Ducks in captivity in your country?

Belgium	The IAS Regulation should phase out the captive ruddy duck population.
Spain	already prohibited
United Kingdom	Captive Ruddy Ducks will be allowed to die out naturally but breeding, exchange, sale and release are all prohibited.
Norway	NA as it is prohibited and as far as we know no captive birds exists.
Poland	There is no confirmed information about the species being kept in captivity.
Slovak Republic	have not
Switzerland	only very small numbers
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.2 Please list any barriers that may prevent the phasing out of Ruddy Ducks in captivity in your country (regardless of target date) and the actions being taken to overcome these.

Belgium	Illegal bird keeping and internet trade and exchange cannot be ruled out as a source of new introductions. Regularly, controlled birds appear to be pinioned. Increased inspections and improved communication could partly account for this.
Netherlands	There is no generally shared awareness of the need for extermination by the public, also there is a large aversion to killing animals.
Poland	Not applicable. There is no confirmed information about the species being kept in captivity.
Slovak Republic	not relevant
Croatia	There were no recordings of Ruddy Duck in Croatia.

2.3 Have all possible methods been implemented to prevent the escape of Ruddy Ducks in your country?

Netherlands	It is required by law to prevent the escape of invasive alien species.
Spain	already prohibited the possession
Croatia	Since Ruddy Duck is on the Union list of IAS, holding in captivity is prohibited and we do not have data on Ruddy Ducks held in captivity in Croatia before the prohibition.

Target 3. Improve understanding by the public of the problem and create a favourable opinion for eradication

3.1 Do you feel that in your country there is public understanding of and support for the eradication of Ruddy Ducks?

No additional information provided.

3.2 Please list any major problems that remain in attaining public understanding of and/or support for the eradication of Ruddy Ducks in your country.

Belgium	There has not been any research into the human dimensions of ruddy duck control in Belgium. Control actions in Flanders have been ongoing for a decade now, and although site managers are sometimes reluctant to allow shooting, no major opposition from the public nor the birdwatching community has been met despite some actions being very public. However, there might very well be differences between the regions with higher sensitivity towards culling birds in general with ngo's and the public in the other Belgian regions as was noted for other species (e.g. parakeets, ibis).
Netherlands	The numbers of the controlled Ruddy Ducks are low. Not many people know about this. In general the majority of the Dutch people are against killing animals.
Spain	animalists perceptions
United Kingdom	None
Iceland	none
Poland	Accoding to the information collected in a data sheet for the species (http://projekty.gdos.gov.pl/igo-oxyura-jamaicensis), Ruddy Ducks are very attractive for society and may be by some perceived as a positive element in the surrounding. Such public attitude can be a problem, if Ruddy Ducks occur in the environment.
Slovak Republic	not relevant
Croatia	There were no recordings of Ruddy Duck in Croatia.

11.2. Simplified questionnaire

Four countries (Andorra, Bulgaria, Denmark and Latvia) provided answers to the simplified questionnaire that did not request additional information; however, Denmark provided the following (written verbatim):

We do not have a reproducing population of Ruddy Duck in Denmark and have had 4 observations in the wild since 2016, where the EU-regulation on invasive alien species entered into force. We do not have any knowledge of Ruddy ducks held in captivity in Denmark and only monitor commercial owners. There is no official monitoring scheme for private owners in Denmark, but the impression of the Danish EPA is that there is no private owners of Ruddy Duck in Denmark.

12. APPENDIX 2: THE QUESTIONNAIRE DISTRIBUTED IN 2019 TO ASSESS PROGRESS AGAINST THE 2016 –2020 RUDDY DUCK ERADICATION ACTION PLAN

12.1. Full questionnaire

Section 1: Your details

Implementation of the 2016-2020 Ruddy Duck Eradication Action Plan	
Please provide your details below, and then complete rest of the worksheets on progress against actions and targets, and the status of Ruddy Ducks in your country	
Date of completion	<input type="text"/>
Your country	<input type="text"/>
Your name	<input type="text"/>
Email address	<input type="text"/>
Are you the national focal point for Ruddy Duck eradication in your country?	<input type="text" value="Select (yes/no)"/>
If you are not the national focal point, please provide their details below or write 'no national focal point' if none has been appointed	
Name	<input type="text"/>
Email address	<input type="text"/>
Please return completed spreadsheets by 20 December 2019 to colette.hall@wwt.org.uk	
Many thanks for your help	

Section 2. Actions

Progress against actions		
<input type="checkbox"/> Please answer each of the following questions by choosing an answer from the drop-down list in each answer box. <input type="checkbox"/> Please also provide further information where requested in the box(es) on the right. <input type="checkbox"/> Please scroll down to complete all the questions (the final question is numbered 8.1). <input type="checkbox"/> If you answer ' NOT APPLICABLE ' to any question please use the further information box on the right to explain why.		
Question	Answer	Further information
I. Actions concerning Ruddy Ducks in the wild		
Action 1		
1.1 Is there a Ruddy Duck eradication programme in place in your country?	select (yes/no/not applicable)	If your answer is ' NO ', please explain why.
1.2 Are the necessary resources for Ruddy Duck culling operations available in your country?	select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' OR ' NO ', please explain why and list the actions being taken to address this.
Action 2		
2.1(a) Are the status and distribution of non-breeding Ruddy Ducks monitored in the wild in your country? (surveys at any time of year to assess numbers present)	select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.
2.1(b) Please indicate how non-breeding Ruddy Ducks are monitored. Please select all that apply:		
Species specific survey -	select (yes/no/not applicable)	Please provide a few details about the survey(s) e.g. frequency of counts.
As part of a national waterbird count (e.g. IWC) -	select (yes/no/not applicable)	
Other -	select (yes/no/not applicable)	

2.1(c) Do the surveys provide an accurate assessment of non-breeding Ruddy Duck numbers and status in your country?	Select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.	
2.2(a) Are the status and distribution of breeding Ruddy Ducks monitored in the wild in your country? (surveys specifically to record breeding occurrence and assess numbers of breeding pairs)	Select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.	
2.2(b) Please indicate how breeding Ruddy Ducks are monitored. Please select all that apply:	Species specific survey - select (yes/no/not applicable)	Please provide a few details about the survey(s) e.g. frequency of counts.	
As part of a national waterbird count -	select (yes/no/not applicable)		
Other -	select (yes/no/not applicable)		
2.2(c) Do the surveys provide an accurate assessment of breeding Ruddy Duck numbers and status in your country?	select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.	
Action 3			
3.1 Has a national working group been established in your country to guide implementation of the Ruddy Duck eradication strategy nationally?	select (fully established/partly established/planned/not yet planned/not applicable)	If your answer is ' NOT YET PLANNED ' please explain why.	
3.2 If a working group has been fully or partly established, how often does it meet?	select (less than once a year/once a year/more than once a year/not applicable)	Please provide a few details about the group.	
Action 4			

4.1 Have all legal barriers that might hinder the control of Ruddy Ducks in the wild been removed?	select (completely/largely/partly/no/not applicable)	If your answer is 'PARTLY' or 'NO', please explain what barriers still exist and list the actions being taken to address these.	
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II. Actions concerning Ruddy Ducks in captivity

Action 5

5.1 Has legislation been implemented in your country to prohibit the release of Ruddy Ducks from captivity?	select (fully implemented/partly implemented/no/not applicable)	If your answer is 'PARTLY' or 'NO', please explain what barriers still exist and list the actions being taken to address these.	
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5.2 Has legislation been implemented in your country to prohibit trade in Ruddy Ducks?	select (fully implemented/partly implemented/no/not applicable)	If your answer is 'PARTLY' or 'NO', please explain what barriers still exist and list the actions being taken to address these.	
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Action 6

6.1 Is the number of Ruddy Ducks held in captivity monitored in your country?	select (completely/largely/partly/no/not applicable)	If your answer is 'PARTLY' or 'NO', please explain why and list the actions being taken to address this.	
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6.2 If the current schemes for monitoring Ruddy Ducks in captivity are NOT adequate in your country, do you believe improvements can be made within three years (by end 2022)?	select (yes/no/not applicable)	If your answer is 'NO', please explain what barriers exist and list the actions being taken to address these.	
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Action 7

7.1	Are measures in place to actively eliminate Ruddy Ducks in captivity?	select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.	
			Please list any measures in place.	
7.2	Are owners compensated for voluntary elimination of Ruddy Ducks held in captivity?	select (yes/no/not applicable)	If your answer is ' NO ', please explain why.	
7.3	Are measures in place to prevent the breeding of Ruddy Ducks in captivity (e.g. sterilisation)	select (completely/largely/partly/no/not applicable)	If your answer is ' PARTLY ' or ' NO ', please explain why and list the actions being taken to address this.	
			Please list any measures in place.	
III. Actions concerning public awareness				
Action 8				
8.1	Have activities been implemented to raise public awareness of the need to control Ruddy Ducks?	select (fully implemented/partly implemented/no/not applicable)	If your answer is ' NOT YET PLANNED ', please explain why.	
			Please provide examples of the activities that have been implemented.	

Section 3: Targets

Progress against targets		
<p><input type="checkbox"/> <input type="checkbox"/> Please answer each of the following questions by choosing an answer from the drop-down list in each answer box.</p> <p><input type="checkbox"/> <input type="checkbox"/> Please also provide further information where requested in the box(es) on the right.</p> <p><input type="checkbox"/> <input type="checkbox"/> Please scroll down to complete all the questions (the final question is numbered 3.2).</p> <p><input type="checkbox"/> <input type="checkbox"/> If you answer 'NOT APPLICABLE' to any question please use the further information box on the right to explain why.</p>		
Question	Answer	Further information
Target 1. Eradication of the Ruddy Duck in the wild in the Western Palaearctic by 2020		
1.1 Will Ruddy Ducks be eradicated in the wild in your country by the end of 2020?	select (yes/no/not applicable)	If your answer is ' NO ' please say why.
1.2 If Ruddy Ducks will not be eradicated in the wild in your country by end 2020, please provide a revised target date for eradication.	select (2021/2022/2023/2024/2024/before 2030/no set date)	If you HAVE NOT set a revised target date, please say why.
1.3 Please list any barriers that may prevent the complete eradication of Ruddy Ducks in the wild in your country (regardless of target date) and the actions being taken to overcome these.		
Target 2. Phase out all captive populations of Ruddy Ducks		
2.1 Has a target year been set for phasing out Ruddy Ducks in captivity in your country?	select (2021/2022/2023/2024/2024/before 2030/no set date)	If you HAVE NOT set a revised target date, please say why.

<p>2.2 Please list any barriers that may prevent the phasing out of Ruddy Ducks in captivity in your country (regardless of target date) and the actions being taken to overcome these.</p>		
<p>2.3 Have all possible methods been implemented to prevent the escape of Ruddy Ducks in your country?</p>	<p>select (completely/largely/partly/no/not applicable)</p>	<p>If your answer is 'PARTLY' or 'NO', please explain why and list the actions being taken to address this.</p>
<p>Target 3. Improve understanding by the public of the problem and create a favourable opinion for eradication</p>		
<p>3.1 Do you feel that in your country there is public understanding of and support for the eradication of Ruddy Ducks?</p>	<p>select (completely/largely/partly/no/not applicable)</p>	
<p>3.2 Please list any major problems that remain in attaining public understanding of and/or support for the eradication of Ruddy Ducks in your country.</p>		

1.5	Number of sites with summering birds	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1.6	Quality of estimate *	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>

* Key: 1 = coverage of sites largely complete and representative; 2 = partial coverage of sites only; 3 = expert guess

II. Breeding birds

Please provide estimates of the numbers of BREEDING PAIRS (not simply summering birds) in the wild.

	2011	2012	2013	2014	2015	2016	2017	2018	2019
2.1	Number of breeding pairs	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2.2	Number of sites where breeding occurred	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2.3	Quality of estimate *	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>

*Key: 1 = coverage of sites largely complete and representative; 2 = partial coverage of sites only; 3 = expert guess

III. Birds in captivity

Please provide estimates of the numbers of birds in captivity.

	2011	2012	2013	2014	2015	2016	2017	2018	2019
3.1	Number of birds	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.2	Number of collections with Ruddy Ducks	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.3	Number of collections where breeding occurred	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.4	Quality of estimate *	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>	<input type="text" value="select"/>

*Key: 1 = coverage of collections largely complete and representative; 2 = partial coverage of collections only; 3 = expert guess

IV. Birds controlled										
Please specify the numbers of birds or nests controlled and the number of sites at which control took place										
4.1 Number of birds controlled (e.g. between 1 April 2010 and 30 March 2011)		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
	Total	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	If known please specify:									
	Number of adult males	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Number of adult females	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Number of first-year males	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Number of first-year females	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of unknown age/sex	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
4.2 Number of sites where birds were controlled	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
		2011	2012	2013	2014	2015	2016	2017	2018	2019
4.3 Number of nests controlled	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4.4 Number of sites where nests were controlled	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

12.2. Simplified questionnaire

Question	Answer (please select)
Actions concerning Ruddy Ducks in the wild	
1. Have Ruddy Ducks occurred in the WILD in your country since 2010?	YES / NO

2. Are the monitoring schemes that exist in your country sufficient to detect any Ruddy Ducks that might occur in the WILD?	COMPLETELY / LARGELY / PARTLY / NO
3. If Ruddy Ducks were sighted in the WILD in your country, are measures in place to control them?	COMPLETELY / LARGELY / PARTLY / NO
Actions concerning Ruddy Ducks in captivity	
4. Have Ruddy Ducks been held in CAPTIVITY in your country since 2010?	YES / NO
5. Are the monitoring schemes that monitor CAPTIVE birds in your country adequate to inform on the number of Ruddy Ducks that may be held?	COMPLETELY / LARGELY / PARTLY / NO