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A REVIEW OF THE PROGRESS AGAINST THE ACTION PLAN FOR ERADICATION OF THE RUDDY DUCK (*OXYURA JAMAICENSIS*) IN THE WESTERN PALEARCTIC (2011 –2015)

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CONTENTS

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 Action Plan for eradication in the Western Palaearctic was prepared in 2010, which covered the period of 2011–2015.
- The Bern Convention contracted the Wildfowl & Wetlands Trust to review the implementation of the Action Plan.
- A questionnaire was sent to 48 Western Palearctic countries to assess progress against actions in the eradication plan. Data on peak numbers of ruddy duck (non-breeding and breeding) and numbers of birds controlled in each country were also requested.
- A total of 16 countries completed at least part of the questionnaire, and a further seven provided brief details on the status of ruddy ducks.
- This review provides a summary of the responses from each country. The review covers the period of winter 2010/11 to summer 2016.
- During the period used for this review, Belgium, France, the Netherlands and the UK continued to hold the largest numbers of Ruddy Duck during the winter and summer months, whilst Finland, Hungary, Norway, Poland, Portugal, Slovakia and Spain reported irregular sightings of less than five birds.
- No records of ruddy duck were reported for Albania, Armenia, Bosnia and Herzegovina, Croatia, Estonia, Iceland, Liechtenstein, Malta, Republic of Moldova, Morocco and Sweden.
- The highest numbers of ruddy duck were recorded in France, where peak wintering numbers fluctuated between 160 and 256 individuals; the peak count in 2015/16 was 208. Numbers in the Netherlands also fluctuated, with wintering numbers varying between 33 and 81 individuals; the peak count in 2015/16 was 62. Peak wintering numbers in the UK declined from 189 individuals in 2010/11 to 28 in 2015/16. In Belgium, numbers were highest during the summer months, with peak numbers increasing from 14 individuals in 2011 to 32 in 2016.
- The largest breeding populations remain established in France (estimated 40–60 pairs in 2016) and the Netherlands (13 pairs in 2015; numbers unknown for 2016). Breeding is known to occur in Belgium but only one pair has been reported in any one year. There is a small number of possible breeding pairs in the UK: five possible pairs in 2016, only one pair of which is thought to have fledged any young.
- Monitoring of wild birds is generally considered adequate in most of countries; although there are some difficulties monitoring breeding birds, largely due to a lack of surveys of all potential breeding sites.
- Eradication of ruddy ducks from the wild by 2015 was largely completed in Spain and the UK. In Spain, there are a few irregular sightings of birds that have emigrated from other European countries and immediate control measures are taken when birds are reported. Control is ongoing in the UK, with complete eradication expected by 2018.
- Complete eradication of ruddy duck from the wild by 2015 was not achieved in Belgium, France and the Netherlands, with revised targets of 2020 and beyond being suggested. Problems related to site access, resourcing and/or gaining legal permission to control birds were highlighted as reasons for the target not being met.
- National working groups to guide the implementation of the eradication strategy have been established in Belgium, France, Spain and the UK. In the Netherlands, the eradication programme is being coordinated by a governmental authority.
- The introduction of EU Regulation 1143/2014 on Invasive Alien Species means it is now illegal to breed, transport and release ruddy duck in all EU member states. However, until member states introduce regulation sanctions and penalty measures, there is no mechanism for prosecuting

against any infringement. Such mechanisms are in place or planned for at least the key countries of Belgium, France, the Netherlands, Spain and the UK.

- There is generally a very poor understanding of the extent to which ruddy ducks are held in captivity and few countries were able to provide accurate data on the number of birds held. Complete monitoring of ruddy duck in captivity is only in place in Spain. It is essential that efforts are increased to improve monitoring of Ruddy Ducks in captivity in order to track the current status of the captive population and also the level of compliance with the EU Regulation.
- Public awareness has been addressed in many countries, although in some cases, particularly in the core countries, it has been fairly limited so as not to draw too much attention to control activities.
- Good progress has been made towards eradicating ruddy duck from Europe; however, more effort is needed in France, the Netherlands and Belgium to develop effective control programmes, and current efforts in the UK must be maintained to ensure the population does not become re-established.

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 2016).

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. Progress against this Action Plan was reviewed in 2010 (see Cranswick & Hall 2010) and following the results and recommendations presented in the review, a revised Action Plan for eradication was developed and accepted by the Bern Convention (Council of Europe 2010).

The objective of this report is to summarise progress against actions and targets set in the Action Plan for Eradication, 2011–2015 (Council of Europe 2010).

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, and a number of waterbird experts who could also provide information on the status of ruddy duck in their country. 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 each of the targets set in the 2010 Action Plan for the eradication of ruddy duck (Council of Europe 2010).

The questionnaire was divided into two sections each with a set of questions (see Appendix 3):

1. Actions and targets: included questions on policy and legislation, public awareness, monitoring of wild birds, monitoring of birds in captivity and eradication targets.

2. 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 2016). A quality score for was also requested for any data provided (see Tables 1, 2, 3 &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 2).

The questionnaire was the same as that sent 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 for the 2013 and 2014 reviews, the respondent's most recent answers were included in the 2016 questionnaire. The contacts were asked to update the answers if any changes had occurred and to indicate on the questionnaire if the previous answer had been altered.

2.2 Presentation of results

The majority of this report summarises responses from the questionnaire. The report is divided into three main sections: (i) status of ruddy ducks in the wild; (ii) status of ruddy ducks in captivity; and (iii) implementation of the 2010 Action Plan.

For the sections regarding the status of ruddy ducks in the wild and captivity, a summary of the key results and a table showing the data provided by each country is presented. For the section relating to the implementation of the Action Plan, the relevant recommendations from the 2010 strategy are listed, followed by the corresponding questions from the 2016 questionnaire. The answers given by each country are presented in a table and a summary of any key information provided by each country is presented below. All answers are also presented together in Appendix 1. Any detailed information provided by the responding countries is presented, verbatim, in Appendix 2.

For the purpose of this report, the responding countries were placed in three groups as follows:

- Group 1: countries that regularly held more than ten birds between winter 2010/11 and summer 2016 and where ruddy duck is considered to be a major concern for breeding white-headed duck: Belgium, France, Netherlands, Spain and United Kingdom.
- Group 2: countries that held five or less birds during one or more years between winter 2010/11 and summer 2016: Hungary, Finland, Norway, Poland, Portugal, Slovakia and Turkey.
- Group 3: countries that did not hold any birds during and between winter 2010/11 and summer 2016: Albania, Armenia, Bosnia and Herzegovina, Croatia, Estonia, Iceland, Liechtenstein, Malta, Republic of Moldova, Morocco and Sweden.

3. RESPONDING COUNTRIES

The questionnaire was sent to 48 Western Palaearctic countries. A response was received from 23 countries.

The following 16 countries completed or partly completed the questionnaire: Belgium, Croatia, Estonia, France, Hungary, Iceland, Liechtenstein, Morocco, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden and the United Kingdom. Some respondents did not answer certain questions. In many cases, this reflected that no answer was possible or applicable, for example, a country that has never held any ruddy ducks will have had no need to meet any eradication targets.

Seven countries did not complete the questionnaire but provided a brief response. A summary of those responses is as follows:

- Albania: ruddy ducks have not been recorded in Albania.
- Armenia: ruddy duck is absent from the Republic of Armenia.
- Bosnia and Herzegovina: ruddy ducks have not been recorded in Bosnia and Herzegovina.
- Finland: ruddy duck is very rare in Finland. There has been only one record since 2006 - one male was recorded in June 2011 in west Finland.

- Malta: there are no known reports of ruddy duck occurring in Malta.
- Republic of Moldova: according to the information submitted by the Institute of Zoology, ruddy duck is not distributed in the territory of the Republic of Moldova.
- Turkey: ruddy ducks have not been seen in Turkey. However, there was a possible sighting of a single bird in May 2016. It was not certain whether the bird was a ruddy duck or a hybrid bird (x white-headed duck).

Morocco only completed the Actions and targets section of the questionnaire but provided information on the status of ruddy duck in other correspondence, which was as follows:

- Ruddy ducks have not been seen in Morocco since 2010; therefore, no action to eradicate the ruddy duck has been taken. The activities concerning the implementation of the Action Plan have been limited to monitoring activities. Morocco is currently working with GREPOMBirdLife to prepare an Action Plan for the conservation of the white-headed duck.

The following countries have yet to provide a response to the questionnaire: Andorra, Austria, Azerbaijan, Belarus, Bulgaria, Channel Islands, Cyprus, Czech Republic, Denmark, Georgia, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, "the former Yugoslav Republic of Macedonia", Montenegro, Romania, Serbia, Slovenia, Switzerland, Tunisia and Ukraine.

4. STATUS OF RUDDY DUCKS IN THE WILD

4.1 Numbers of non-breeding ruddy duck

During the period used for this review (winter 2010/11 to summer 2016) more than ten ruddy ducks were present every year in either the winter or summer in four countries: Belgium, France, the Netherlands and the UK. Seven countries reported irregular sightings of less than five birds (usually a single bird) (Tables 1 & 2).

Turkey reported a sighting of a possible ruddy duck or ruddy duck x white-headed duck hybrid in 2016. No birds were recorded during the review period in eleven countries: Albania, Armenia, Bosnia and Herzegovina, Croatia, Estonia, Iceland, Liechtenstein, Malta, Republic of Moldova, Morocco and Sweden.

Table 1: Peak numbers of wintering, non-breeding ruddy ducks, 2010/11 – 2015/16 (recorded between 1 September and 31 March). Numbers in parenthesis indicate the quality of the estimate: 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Group 1 countries						
Belgium	8 (1)	9 (1)	9 (1)	5 (1)	14 (1)	6 (1)
France	256 (1)	160 (1)	246 (1)	174 (1)	143 (1)	208 (1)
Netherlands	33 (1)	81 (1)	76 (1)	57 (1)	67 (1)	62 (1)
Spain	2 (1)	0 (1)	2 (1)	2 (1)	2 (1)	0 (1)
UK	189 (1)	126 (1)	74 (1)	47 (1)	66 (1)	28 (1)
Group 2 countries						
Finland[1]	0	0	0	0	0	0
Hungary	1 (1)	1 (1)	0 (1)	0 (1)	0 (1)	1 (1)
Norway	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Poland	0 (1)	0(1)	1 (1)	0 (1)	0 (1)	0 (1)
Portugal	2 (1)	0(1)	1 (1)	1 (1)	0 (1)	0 (1)
Slovak Republic	unknown	unknown	1 (1)	1 (1)	1 (1)	1 (1)
Group 3 countries						
Croatia[2]	0	0	0	0	0	0
Estonia	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)

Country	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Iceland	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Liechtenstein	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)
Sweden	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)

[1]Finland did not provide data but responded in an email which stated that only one bird had been recorded in June 2011; hence, zeros were assumed for the winter months in all years listed. No quality score was provided with these data. [2]Croatia did not provide any quality scores with these data.

Table 2: Peak numbers of summering, non-breeding ruddy duck, 2011 – 2016 (recorded between 1 April and 31 August). Numbers in parenthesis indicate the quality of the estimate: 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2011	2012	2013	2014	2015	2016*
Group 1 countries						
Belgium	14 (1)	14 (1)	17 (1)	12 (1)	17 (1)	32 (2)
France	205 (2)	160 (2)	150 (2)	135 (2)	126 (2)	123 (2)
Netherlands	78 (1)	25 (1)	38 (1)	32 (1)	34 (1)	Unknown
Spain	1 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
UK	110 (3)	70 (3)	50 (3)	40 (3)	40 (3)	20 (3)
Group 2 countries						
Finland[1]	1	0	0	0	0	0
Hungary	5 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Norway	1 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Poland	2 (1)	1 (1)	0 (1)	1 (1)	1 (1)	0 (1)
Portugal	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Slovak Republic	unknown	unknown	unknown	unknown	unknown	unknown
Group 3 countries						
Croatia[2]	0	0	0	0	0	0
Estonia	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Iceland	0 (2)	0 (2)	0 (2)	0 (2)	0 (2)	0 (2)
Liechtenstein	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)	0 (3)
Sweden	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)

*Information was requested for 1 April 2016 to the date on which the questionnaire was completed (the questionnaire was distributed in August 2016). [1]Finland did not provide data but responded in an email which stated that only one bird had been recorded in June 2011; hence, zeros were assumed for the other years listed. No quality score was provided with these data. [2]Croatia did not provide any quality scores with these data.

France currently holds the majority of birds both in summer and winter (Figures 1 & 2), with numbers peaking in the winter. Peak numbers fluctuated between years but remained above 120 birds, both in winter and summer (Tables 1 & 2). The most recent counts are a peak of 208 birds in winter 2015/16 and 123 in summer 2016.

Peak numbers in the Netherlands were generally higher during the winter. Peak numbers in both seasons fluctuated between years but there was no notable decline (Figures 1 & 2). The most recent counts are a peak of 62 birds in winter 2015/16 and summer 34 in 2015.

In the UK, peak numbers were higher during the winter (Tables 1 & 2). Numbers recorded during both seasons declined across the review period (Figures 1 & 2) with the latest counts being a peak of 28 birds in winter 2015/16 and 20 in summer 2016.

Numbers in Belgium have remained relatively stable, with peak numbers occurring during the summer months (Tables 1 & 2). During both seasons, peak numbers remained below 20 individuals in all years, with the exception of summer 2016 when a peak of 32 birds was recorded.

In Spain, only two individuals were recorded during any one year of the review period, with no birds seen in 2016 (Tables 1 & 2).

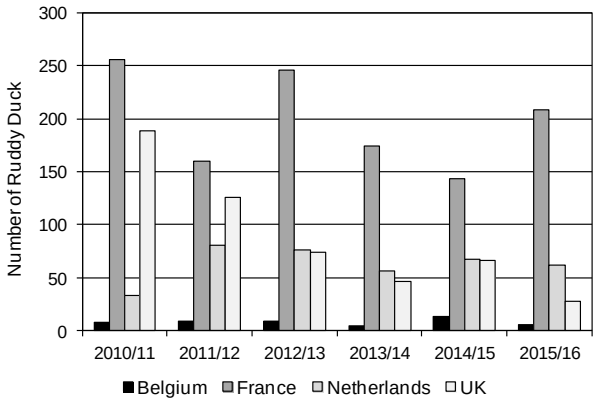

Figure 1: Peak wintering numbers of Ruddy Duck recorded in Belgium, France, the Netherlands and the UK, 2010/11–2015/16.

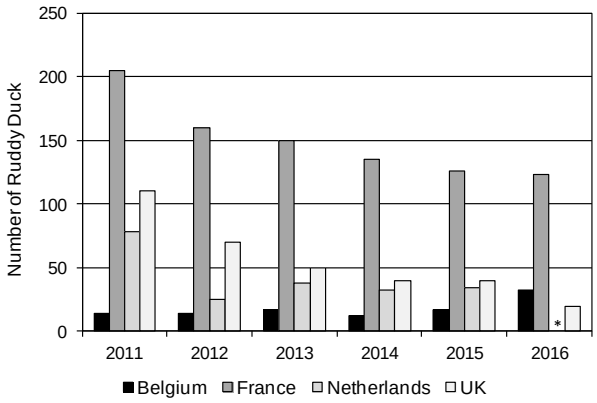

Figure 2: Peak summering (non-breeding) numbers of Ruddy Duck recorded in Belgium, France, the Netherlands and the UK, 2011 – 2016 (* no data available for the Netherlands in 2016).

4.2 Numbers of breeding ruddy duck

During the period used for this review (2011–2016), ruddy duck were reported to be breeding in four countries: Belgium, France, the Netherlands and the UK (Table 3).

The highest number of breeding pairs was recorded in France, where 40–60 pairs were thought to be present in 2016; however, all counts were said to be 'expert guesses'. Surveys of potential breeding sites was said to be difficult due to birds being scattered across a wide territory consisting of thousands of ponds; although sites known to hold breeding birds are visited each year. However, the number of sites where breeding occurred was reported as unknown for each year.

In the Netherlands, the number of breeding pairs fluctuated between ten and 16; with the latest count being 13 pairs in 2015 (the count for 2016 is unknown). The number of sites where breeding occurred was reported as unknown for each year, except in 2013 when 12 pairs were observed at eight sites.

In the UK, the number of breeding pairs remained below ten in each year of the review period. In 2016, there were thought to be five possible breeding pairs, although there was no evidence of breeding for three pairs, one pair failed to breed and one juvenile was shot indicating a pair had bred. Only partial coverage of potential breeding sites was achieved each year as there is no dedicated monitoring - records are collected via birdwatchers, landowners and members of the public.

Only one breeding pair was recorded in Belgium during most years of the review period. Information provided indicated that no breeding occurred in Wallonia and Brussels Capital Region. Breeding pairs were recorded in Flanders, with the majority in the Antwerp Harbour area. Records of

breeding pairs were said to be based on partial coverage of sites - in Flanders, potential breeding birds are monitored, and detailed monitoring takes place around Antwerp Harbour; however, outside these areas birds are only recorded coincidentally.

Table 3: Peak numbers of breeding Ruddy Duck pairs, 2011–2016. Numbers in parenthesis indicate the quality of the estimate: 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2011	2012	2013	2014	2015	2016
Group 1 countries						
Belgium	1 (2)	1 (2)	1 (2)	1 (2)	0 (2)	1 (2)
France	min 35 (3)	min 35 (3)	min 35 (3)	40-60 (3)	40-60 (3)	40-60 (3)
Netherlands	16 (1)	10 (1)	12 (2)	16 (1)	13 (2)	unknown
Spain	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
UK	unknown	9 (2)	9 (2)	7 (2)	5 (2)	5 (possible) (2)
Group 2 countries						
Hungary	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)
Poland	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Portugal	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Group 3 countries						
Slovakia	unknown	unknown	unknown	unknown	unknown	unknown
Croatia	0	0	0	0	0	0
Estonia	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Iceland	0 (1)	0 (1)	0 (1)	0 (1)	0(1)	0 (1)
Liechtenstein	0 (1)	0 (1)	0 (1)	0 (1)	0(1)	0 (1)
Sweden	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)

4.3 Numbers of ruddy duck controlled

Table 4 presents the number of ruddy ducks culled in countries where birds have been recorded (*i.e.* groups 1 and 2). Countries were also asked how many nests had been controlled. This had only taken place in Belgium where one nest was controlled in each of 2012, 2014 and 2015.

Table 4: Numbers of ruddy duck culled in 2010/11–2015/16 (between 1 April and 31 March).

Country	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
Group 1 countries							
Belgium	6	10	3	10	10	2	41
France	118	191	141	141	171	133	895
Netherlands	0	0	0	7	9	4	20
Spain	2	0	0	0	0	0	2
UK	273	124	60	30	25	17	529
Group 2 countries							
Hungary	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0
Poland	0	0	0	0	0	0	0
Portugal	2	0	1	1	0	0	4
Slovak Republic	0	0	0	0	0	0	0

5. STATUS OF RUDDY DUCK IN CAPTIVITY

The number of ruddy duck held in captivity is unclear or unknown for many countries. Where birds are known to be held, many of the estimates provided are based on partial coverage of collections or expert guesses (see Table 5).

Table 5: Estimates of the number of ruddy duck held in captivity, 2011 – 2016. Numbers in parenthesis indicate the quality of the estimate: 1 = complete coverage and representative; 2 = partial coverage; 3 = expert guess.

Country	2011	2012	2013	2014	2015	2016
Group 1 countries						
Belgium	unknown	unknown	500-600 (3)	800-900 (3)	unknown	unknown
France	unknown	unknown	unknown	220 (2)	220 (3)	220 (3)
Netherlands	unknown	unknown	unknown	unknown	unknown	unknown
Spain	0 (2)	0 (2)	0 (2)	0 (2)	0 (2)	0 (2)
UK	unknown	unknown	50 (2)	50 (2)	50 (3)	50 (3)
Group 2 countries						
Hungary[1]	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Norway	0 (2)	0 (2)	0 (2)	0 (1)	0 (1)	0 (1)
Poland	<30 (3)	<30 (3)	<30 (3)	<30 (3)	<30 (3)	<30 (3)
Portugal	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Slovak Republic	unknown	unknown	unknown	unknown	unknown	unknown
Group 3 countries						
Croatia	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Estonia	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Iceland	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Liechtenstein	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)
Sweden[1]	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)	0 (1)

[1]It is illegal to keep ruddy ducks in captivity in Hungary and Sweden.

6. IMPLEMENTATION OF THE ACTION PLAN FOR ERADICATION, 2011–2015

6.1 Actions concerning eradication of ruddy duck in the wild

The 2010 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 Palaearctic by 2015.
- National targets: Annual reduction of at least 50 % of the national wintering population.
- Action 1: Remove legal barriers that may hinder the control of ruddy ducks.
- Action 2: Monitor the status and distribution of ruddy duck in the wild.
- Action 3: Eliminate ruddy ducks in the wild following the national target.
- Action 4: Establish, as necessary, national working groups to guide the implementation of this eradication strategy and appoint a national focal point for international co-ordination.

6.6.1 Action 1

The following question was asked to determine progress against Action 1.

- Have all legal barriers that might hinder the control of ruddy ducks been removed?

Responses were chosen from the following pre-determined answers:

completed	partly completed	planned	not yet planned

Summary of results

Fourteen countries provided an answer. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

Any barriers hindering the control of ruddy ducks in the wild have largely been removed in most countries. Control and eradication of ruddy ducks is compulsory in Spain. Although France reported that all legal barriers hindering control had been removed, it was indicated that there are still problems associated with gaining access to private land for control purposes. However solutions to this are being looked into.

In Belgium, there is no legal ground for gaining access to private land for control purposes, despite the EU Regulation on Invasive Alien Species providing a strong justification for undertaking control actions. Also, the use of silencers, which would help persuade some land owners to allow access by reducing disturbance, is illegal in Belgium.

Legal permission to control birds is still required in some provinces in the Netherlands, though this is expected to be removed by 2017. In the UK, the only legislative hindrance is the lack of legislation preventing ruddy ducks being held in captivity, which would remove any possibility of further escape of birds. In Hungary, whilst ruddy duck are not protected, birds cannot be culled on sites where hunting is prohibited. Exemptions can be given by national wildlife authorities in Norway to allow control. Ruddy duck can be hunted at any time of the year in Sweden.

Although Estonia did not select an answer, additional information indicated that control would be permitted if any ruddy ducks occurred.

Poland, Portugal, Croatia, Iceland, Liechtenstein and Sweden did not provide any additional information.

6.1.2 Action 2

The following question was asked to determine progress against Action 2:

- Are the status and distribution of ruddy ducks in the wild monitored?

  a) non-breeding birds (surveys all-year round to assess numbers present).

  b) breeding birds (surveys specifically to record breeding occurrence and assess numbers of breeding pairs).

Responses were chosen from the following pre-determined answers:

completely	Largely	partly	no

Summary of results

2a non-breeding: Thirteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

Specific ruddy duck surveys are undertaken in the Netherlands. National or state monitoring schemes in Belgium, France, the Netherlands, Hungary, Norway and Estonia would record ruddy duck if birds are present. In the UK, sightings are reported by birdwatchers (through internet reports), members of the public and land owners. Birds are also recorded by volunteer birdwatchers in Belgium, Norway, Poland, Estonia and Sweden. In Sweden, hunters report ruddy duck sightings and these birds are likely to be shot as there is an open season all year. Reports of possible sightings of ruddy ducks are reported to a rarities committee in Poland and Slovak Republic for confirmation.

No additional information was provided by Spain, Portugal, Iceland or Liechtenstein.

2b breeding: Thirteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

There is no dedicated scheme in Belgium, but breeding birds are monitored in Flanders and the Antwerp Harbour area, where breeding is known to occur, and anecdotal sightings are reported by fieldworkers and bird watchers elsewhere. In France, sites known to hold breeding birds are monitored each year, but the wide distribution makes it difficult to monitor all potential breeding sites. A national scheme in the Netherlands records breeding birds. In the UK, ruddy duck sightings are reported by birdwatchers, members of the public and land owners. In Norway and Sweden, birds may be reported by volunteer bird watchers. In Sweden, hunters will also report ruddy duck sightings, and the birds are likely to be shot as there is an open season all year. Breeding birds may be recorded by volunteer bird watchers in Norway and Sweden (where hunters will also report any sightings). There is no recorded breeding in Hungary, Poland, Slovak Republic or Estonia; hence no monitoring is undertaken.

No additional information was provided by Spain, Portugal, Iceland or Liechtenstein.

6.1.3 Action 3

The following question was asked to determine progress against Action 3:

- Were ruddy ducks eradicated in the wild in your country by the end of 2015?
  - ✓ If target date was not met, please provide a revised target date for eradication.
  - ✓ Please also list the barriers to implementation and actions being taken to overcome these.

Responses were chosen from the following pre-determined answers:

Completely	largely	partly	no

Revised targets dates could be selected from the following pre-determined answers:

2016	2017	2018	2019	2020	beyond 2020

Summary of results

Twelve countries answered the question. Responses were as follows (no colour indicates that no answer was provided), with revised target date in parenthesis if given:

Group 1	Belgium (2020)	France (beyond 2020)	Netherlands (2020)	Spain (2016)	UK (2018)	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

Time and/or resources (people and money) are listed as barriers to meeting the target of complete eradication in Belgium, France and the Netherlands. In Belgium and France, gaining access to private land is also a problem. In the Netherlands, authorisation is required from Province authorities and the regional wildlife management unit has to be involved, which can take time to organise. In the UK, locating and removing the remaining breeding birds is proving to be a barrier to complete eradication.

The eradication of ruddy duck from Spain is thought to be almost complete, as the presence of birds in the country now depends on immigration from other central European countries: for example two birds were seen in winter 2014/15 but no birds have been recorded since, hence eradication could be said to be complete by 2016.

Hungary indicated that eradication was complete; however, their response also noted that ruddy duck is a rare migrant in the country and so no control is necessary.

No additional information was provided by Norway, Poland, Portugal, Slovak Republic, Liechtenstein or Sweden.

6.1.4 Action 4

The following question was asked to determine progress against Action 4:

- Has a national working group been established to guide implementation of the eradication strategy nationally?

Responses were chosen from the following pre-determined answers:

established	partly established	planned	not yet planned

Summary of results

Thirteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

In Belgium, ruddy duck eradication is the responsibility of each region, with various agencies, NGOs, hunters and aviculturalists involved. In Spain, there are working groups for the conservation of the white-headed duck and for the implementation of invasive species strategies. In the Netherlands, there is no national working group; however, a project has been started under a government authority (Netherlands Food and Consumer Product Safety Authority) to execute the eradication programme. Whilst there is no formal national working group in Poland, the issue is followed closely by a number of scientists and nature conservation officers. A working group is planned to be established in Slovakia, related to invasive species following the introduction of various legislation. No group has been formed in Hungary as ruddy duck is a rare migrant to the country; similarly in Croatia and Estonia where ruddy duck have not been recorded. No working group has been formed in Liechtenstein as the size of the country means the task can be managed by one person. No group has been established in Norway; nor in Sweden as ruddy duck is huntable all year.

6.2 Actions concerning Ruddy Duck in captivity

The 2010 eradication Action Plan made the following recommendations regarding Ruddy Duck 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, if possible by 2020.

- Action 5: Prohibit the release of Ruddy Ducks from captivity.
- Action 6: Prohibit trade in Ruddy Ducks by 2013.
- Action 7: Monitor the status of Ruddy Ducks in captivity.
- Action 8: Encourage the sterilisation and/or elimination of Ruddy Ducks in captivity.

6.2.1 Action 5

The following question was asked to determine progress against Action 5:

- Is legislation in place to prohibit the release of Ruddy Ducks from captivity?

Responses were chosen from the following pre-determined answers:

completed	partly completed	planned	not yet planned

Summary of results

Sixteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

The EU Regulation 1143/2014 on Invasive Alien Species has led to the release of Ruddy Ducks being prohibited in EU countries.

Policy/legislation preventing the release of Ruddy Ducks is in place in all countries through national and/or international regulations. It was also noted that it is illegal to keep Ruddy Duck in captivity in Sweden and Hungary, and Ruddy Duck have not been recorded in captivity in Slovakia.

Additional information was not provided by Norway, Portugal, Iceland or Liechtenstein.

6.2.2 Action 6

The following questions were asked to determine progress against Action 6:

a) Is legislation in place to prohibit trade in Ruddy Ducks?

b) Was trade in Ruddy Ducks prohibited in your country by the end of 2015?

- ✓ If target date was not met, please provide a revised target date for eradication.
- ✓ Please also list the barriers to implementation and actions being taken to overcome these.

Responses were chosen from the following pre-determined answers:

6a Legislation:

completed	partly completed	planned	not yet planned

6b Trade prohibited:

completely	largely	partly	no

Revised targets dates could be selected from the following pre-determined answers:

2016	2017	2018	2019	2020	beyond 2020

Summary of results

6a Legislation: Sixteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

6b Trade prohibited: Thirteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium (2016)	France (2016)	Netherlands (2017)	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

The EU Regulation 1143/2014 on Invasive Alien Species has led to the trade in ruddy ducks being prohibited in EU countries.

There is a complete ban on trade in Spain, the UK, Hungary, Portugal, Slovak Republic, Croatia (though exceptions can be made if it does not pose a risk to biological diversity), Estonia, Morocco and Sweden. In Belgium and the Netherlands, the EU regulation is in place in all regions; however, until 2017 it will still be possible for ruddy ducks to be traded to non-commercial owners. In France, trade will be prohibited once the EU regulation is transposed to national Law, due to be completed in 2016. In Poland, trade in invasive species requires permission and a licence, and generally is only allowed for individuals that are in current collections; it is not permitted to breed or import new individuals.

No additional information was provided by the UK, Norway, Portugal, Iceland or Liechtenstein

6.2.3 Action 7

The following question was asked to determine progress against Action 7:

- Are the status and distribution of Ruddy Ducks in captivity monitored?

Responses were chosen from the following pre-determined answers:

completely	largely	partly	no

Summary of results

Fifteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

In Spain, ruddy ducks held in captivity are monitored in accordance with national policy. Surveys of captive birds are undertaken in the Netherlands; however, keepers are reluctant to provide information in case restrictions are enforced in the future. In France, birds in captivity are monitored through the permits given to keepers but there is no annual reporting. Registration and monitoring is not required in Belgium and no information is available on the number of birds currently kept in captivity.

A permit and/or registration are required to keep ruddy ducks in Hungary (though no birds are currently in captivity) and Poland (no application has been received so far, meaning either there are no birds or the owners are unaware of the law or unwilling to comply). Data on captive ruddy duck are not available in Slovak Republic. It is illegal to keep ruddy ducks in captivity in Estonia and Norway. No ruddy duck are currently kept in captivity in Croatia, Iceland, Morocco and Sweden.

No additional information was provided by the UK, Portugal or Liechtenstein.

6.2.4 Action 8

The following question was asked to determine progress against Action 8:

- Are measures in place to prevent the breeding of Ruddy Ducks in captivity?

Responses were chosen from the following pre-determined answers:

completed	partly completed	planned	not yet planned

Summary of results

Fifteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

The EU Regulation 1143/2014 on Invasive Alien Species has led to breeding of ruddy ducks in captivity being prohibited in EU countries.

Legislation that prohibits the breeding of captive ruddy duck is in place in Belgium, the Netherlands, Spain, Portugal and Morocco (without prior authorisation), and legislation will be introduced in France in 2016.

In Belgium, keeping of ruddy ducks in captivity is now prohibited, but transitional measures allow private owners to keep birds until the end of their natural life providing reproduction and escape are prevented. Regular inspections check for an infraction; however, there are no legal measures in place, *e.g.* the requirement for sterilization, to prevent breeding.

In France, birds can only be kept with the permission of the administration and owners must keep a register of any birds kept, bought or sold, plus birds must be ringed. Birds kept in captivity in Spain must be ringed and sterilized. In the UK, measures to prevent ruddy ducks breeding in captivity are expected to be in place following the introduction of secondary legislation that is planned for December 2016.

In Estonia, there are restrictions on the breeding and keeping of any non-natives that are likely to disrupt 'natural balance'. In Poland, a condition of issuing a permit to keep ruddy duck is that breeding is prevented and owners are obliged to destroy eggs and kill ducklings, and inform the relevant authorities of any breeding that occurred. Ruddy duck are currently not kept in captivity in Hungary but there are strict measures in place if birds are kept. There is a ban on keeping (hence breeding) ruddy duck in Norway; here a survey of all captive Anatidae was undertaken with relevant non-governmental organisations informed of the results. In Croatia, breeding of a captive alien species can only be approved if it does not pose any ecological risk; however, it was not clear from the response whether this would include ruddy duck. There are no ruddy duck breeding in captivity in Liechtenstein. It is illegal to keep ruddy duck in captivity in Sweden.

No additional information was provided by Portugal.

6.3 Actions concerning public awareness, reporting and international co-ordination

The 2010 eradication Action Plan made the following recommendations regarding public awareness of the need to control ruddy ducks:

- Goal: Improve understanding by the public of the problem.
- Goal: Follow the progress of the eradication plan and update it as necessary.
- Action 9: Implement public awareness activities on the need to control ruddy ducks.
- Action 10: Report annually to the Bern Convention on national action and collaborate with other states, the Bern Convention, AEWA[1] and other appropriate bodies in the implementation of this eradication plan and the AEWA Action Plan for the conservation of the white-headed duck.

6.3.1 Action 9

The following question was asked to determine the current status against Action 9:

- Are activities being conducted to raise public awareness of the need to control ruddy ducks?

Responses were chosen from the following pre-determined answers:

established	partly established	planned	not yet planned

Summary of results

Fourteen countries answered the question. Responses were as follows (no colour indicates that no answer was provided):

Group 1	Belgium	France	Netherlands	Spain	UK	
Group 2	Hungary	Norway	Poland	Portugal	Slovak Republic	
Group 3	Croatia	Estonia	Iceland	Liechtenstein	Morocco	Sweden

In Belgium, a meeting was held in October 2015 to inform all national stakeholders about the 2015 EU IAS Regulation, using the ruddy duck eradication programme as an example. However, other communication is limited, with only land-owners and passers-by informed of any control activity, for which leaflets have been produced. In France, a leaflet has been produced which can be given to land owners and bird watching associations, although the information campaign needs to be improved. In the Netherlands, information is available to the general public *e.g.* on a website but there is no active campaign, only those who need to know are directly informed. In Spain, a number of conservation projects include awareness campaigns that mention the need for eradicating ruddy duck.

In Poland, the issue of ruddy duck control has been discussed at a number of conferences, and there have been various articles about the subject. In Slovak Republic, information about invasive alien species, including ruddy duck, is available on an open website. In Norway, a survey of captive Anatidae was undertaken with NGOs informed of the results. As ruddy duck are rare in Hungary, public awareness is not deemed necessary.

No additional information was provided by the UK, Portugal, Iceland, Liechtenstein, Morocco or Sweden.

7. CONCLUSIONS

The ruddy duck eradication programme in Spain has clearly been a success, with only a couple of birds sighted in the last six years. As there is no established population remaining in Spain, any birds seen will most likely have migrated from another European country. Furthermore, as control of ruddy duck is compulsory by law in Spain, any necessary action will be taken when a sighting is reported.

[1] African-Eurasian Migratory Waterbird Agreement

Similarly, control in the UK has also been successful, with numbers falling from a peak of 6,000 in the early 2000s (Cranswick & Hall 2010) to fewer than 30 individuals in 2015/16.

This near complete eradication of ruddy duck from the UK means the core European population is now centred in France, with smaller but significant populations occurring in the Netherlands and Belgium. A number of challenges for implementing control activities in these countries have been identified *e.g.* access to private land, the need to gain authorisation from a governmental authority, time, money and resources. However, there was some indication that steps are being taken to overcome these issues, although it may take some time to implement any actions.

The attempt to eradicate ruddy ducks from the wild in Europe will be greatly helped by the introduction of the EU Regulation 1143/2014 on Invasive Alien Species, which states that all EU member states where ruddy duck are established should establish an eradication programme and any EU state where ruddy duck arrives as a new species must put in place emergency eradication measures (European Commission 2016). However, it will require the full support of all countries if, overall, the eradication programme is to be a complete success.

The Expert Meeting on the Implementation of the Action Plan for the Eradication of Ruddy Duck in Europe held in Nantes, France, 14-15 December 2015 recommended that a LIFE proposal was developed "*...as a fundamental step to obtain the resources needed to finalise the eradication plan. It should involve France, supported by Belgium and the Netherlands. The UK and Spain were ready to contribute with expertise. All States involved were recommended to support such proposal which would help implement the new EU instrument on Invasive Alien Species*".

A proposal was subsequently developed by France which was finally not submitted due to "administrative reasons". If these administrative problems can be overcome, France plans to submit the LIFE application in 2017.

The introduction of the EU Regulation on Invasive Alien Species also means it is now illegal to breed, transport and release ruddy duck in all EU member states (European Commission 2016). However, until member states introduce regulation sanctions and penalty measures, there is no mechanism for prosecuting against any infringement. Under the Regulation, pets may be kept for the remainder of their natural lives without a permit, and existing stocks can continue to be sold for 12 months after the Regulation was introduced (24 months with a permit). Given this situation, it will, inevitably, take time for ruddy ducks to be phased out in captivity in Europe. However, this review has highlighted that there is generally a very poor understanding of the extent to which ruddy ducks are held in captivity. It is, therefore, essential that monitoring of captive stocks is improved in all countries in order to effectively track the status of ruddy ducks in captivity and also the level of compliance with the new Regulation. It is also important that more effort is made to engage with aviculturalists, not only to ensure that they are properly informed of the new Regulation but also to help them understand and appreciate why it is necessary to eliminate ruddy ducks from captivity in the Western Palearctic.

Considerable success has been achieved towards eradicating the ruddy duck from Europe; however, effective control programmes are urgently needed in France, the Netherlands and Belgium if the target of compete eradication is to be reached. Current control efforts in the UK must also be maintained to ensure that all remaining birds are removed and a population there does not become re-established. Monitoring should also continue in those countries where reports of ruddy ducks are rare, in order to provide early warning of any further spread and to ensure that any potential expansion in the species' range is not overlooked.

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9. REFERENCES

Council of Europe. 2010. *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*. https://wcd.coe.int/ViewDoc.jsp?p=&id=1736533&Site=&direct=true. [Accessed September 2016.]

Cranswick, P.A., & Hall, C. 2010. *Eradication of the Ruddy Duck* Oxyura jamaicensis *in the Western Palaearctic: a review of progress and a revised Action Plan 2011–2015*. WWT report to the Bern Convention.

European Commission. 2016. *Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.* http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R1143. [Accessed September 2016.]

Green, A.J, & Hughes, B. 1996. Action plan for the White-headed Duck *Oxyura leucocephala*. In: Heredia, B., Rose, L. & Painter, M (Eds). *Globally threatened birds in Europe*. Council of Europe Publishing, Strasbourg.

Hughes, B., Criado, J., Delany, S., Gallo-Orsi, U., Green, A.J., Grussu, M., Perennou, C. & Torres, J.A. 1999. *The status of the North American Ruddy Duck* Oxyura jamaicensis *in the Western Palearctic: towards an Action Plan for eradication*. Council of Europe Publication T-PVS/Birds (99) 9. Council of Europe Publishing, Strasbourg.

Wetlands International. 2016. Waterbird population estimates. Retrieved from http://wpe.wetlands.org on 28/09/2016.

APPENDIX 1:

Responses to the questions asked in the 2016 questionnaire regarding progress against the actions and targets set in the 2010 Action Plan. Blank cells indicate no answer was provided.

Country	Action 1	Action 2a	Action 2b	Action 3		Action 4	Action 5	Action 6			Action 7	Action 8	Action 9
	Legal barriers hindering control removed	Status of non-breeding birds in the wild monitored	Status of breeding birds in the wild monitored	Ruddy Duck eradicated in the wild by end of 2015	Revised target year	National working group established	Legislation prohibiting release from captivity	Legislation prohibiting trade	Trade prohibited by end of 2015	Revised target date	Status of birds in captivity monitored	Measures preventing breeding in captivity	Activities to raise public awareness
Group 1 countries													
Belgium	partly completed	largely	largely	no	2020	established	completed	completed	partly	2016	no	partly completed	established
France	completed	largely	partly	no	beyond 2020	established	completed	planned	no	2016	largely	planned	partly established
Netherlands	partly completed	completely	completely	partly	2020	partly established	completed	completed	no	2017	partly	completed	partly established
Spain	completed	completely	completely	largely	2016	established	completed	completed	completely		completely	completed	established
UK	Partly completed	completely	completely	largely	2018	established	completed	completed	completely		partly	not yet planned	established
Group 2 countries													
Hungary	not yet planned	completely	no	completely		not yet planned	completed	completed	completely		completely	completed	not yet planned
Norway	completed	partly	partly	completely		not yet planned	completed	completed	completely		no	not yet planned	partly established
Poland	completed	largely	no	completely		not yet planned	completed	not yet planned			partly	completed	partly established
Portugal	completed	largely	largely	completely		planned	completed	completed	completely		completely	completed	established
Slovak Republic	completed	completely	no	no		planned	completed	completed	completely		completely	planned	established

Group 3 countries													
Croatia	completed						completed	completed	completely			completed	
Estonia							completed	completed	completely		completely	completed	
Iceland	completed	largely	partly			not yet planned	completed	partly completed			completely		not yet planned
Liechtenstein	completed	completely	completely	completely		not yet planned	completed	completed	completely		completely	completed	established
Morocco							completed	completed			completely	completed	not yet planned
Sweden	completed	no	no	completely		not yet planned	completed	completed	completely		no	completed	established

APPENDIX 2:

ADDITIONAL INFORMATION PROVIDED BY EACH RESPONDING COUNTRY

The following is the additional information (written verbatim) provided by each country: translations and author's notes are given in brackets. Not all countries provided additional information for every question.

ACTIONS CONCERNING ERADICATION OF RUDDY DUCKS IN THE WILD

Action 1: Have all legal barriers that might hinder the control of ruddy ducks been removed?

- Belgium: The listing of ruddy duck as a species of EU concern in the EU IAS Regulation on the prevention of the introduction and spread of IAS now clearly provides strong impetus to justify control actions. However, there is still no legal ground to gain access to private land for eradication actions. Also, the use of silencers, which could decrease disturbance hence persuade some site owners, is still forbidden by law.
- France: But there is still a problem. The current regulation does not allow access into private properties without the owner's consent. We are looking for solutions to solve this problem.
- Netherlands: For certain provinces, legal permission needs to be obtained. Completion is expected during 2017.
- Spain: ruddy duck is included in the Spanish catalogue of exotic species (Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras). Hence, its control and eradication is compulsory in Spain. [Royal Decree 630/2013, of 2 August, approving the Spanish catalogue of invasive alien species regulated.]
- United Kingdom: It is still legal to keep birds in captivity, though perhaps not for much longer, which may hinder complete eradication with the chance of birds escaping, however low, still remaining.
- Hungary: This species is not protected in Hungary. When the species occurred in Hungary, the species could be found on those areas where hunting is not permitted to avoid the disturbance of waterfowl. This bird is not protected but not huntable. Generally you needn't any permit to kill it. However, where hunting is prohibited, you cannot use any hunting method to kill it, so - from practical side - you cannot kill it, without a permit for using hunting technique.
- Norway: Derogations can be given by national wildlife authority, including at protected sites.
- Slovak Republic: no legal barriers (and nor the species occurred in Slovak Republic so far).
- Estonia: No legal barriers have been observed, if birds were to arrive, control could be carried out.
- Sweden: Open hunting season on ruddy duck, all year around.

Action 2: Are the status and distribution of ruddy ducks in the wild monitored?

<u>2a: non-breeding birds</u>

- Belgium: Monitoring is only performed in winter through the monthly counts on a fixed set of water bodies within the waterbird census (Oct-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.

- France: A global bird count takes place every year in January.
- Netherlands: We have different surveys. The national waterbird survey is done all year round. The last specific survey on ruddy duck was done in February 2016.
- United Kingdom: Mainly through Birdtrack and other internet reports topped up with reports coming direct from members of the public or site owners. WeBS does not provide data quick enough for any immediate response to a sighting.
- Hungary: In Hungary each year from August to April there is a waterbird monitoring which include this species too.
- Norway: No specific operation, but part of surveys and voluntary contributions.
- Poland: There is no systematic monitoring, however, 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.
- Slovak Republic: This species ruddy duck (*Oxyura jamaicensis*) 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 Slovak Republic (Kalinkovo Village).
- Croatia: Not applicable. ruddy duck was never recorded in Croatia.
- Estonia: No dedicated monitoring, as species has never been observed in Estonia. We have state organised bird monitoring as well as active bird watchers and twitchers so it is extremely unlikely we have overlooked them.
- Sweden: No monitoring program for ruddy duck in place. The species very rarely occurs (no observations since 2008). Since the species is well known by bird watchers and hunters, the risk of individuals occurring without being observed is close to zero. In effect, all occurrences are logged in the Species Observations System. Additionally, as stated above, there is an open hunting season in place for ruddy duck, and those few stray birds that do occur are, if possible, shot.

<u>2b: breeding birds</u>

- Belgium: In Wallonia and Brussels Capital Region, no breeding has been observed so far. In Flanders, breeding pairs have been observed since 2005 and in these areas people pay attention to ruddies suspected of breeding. The Antwerp harbour area, where most of the breeding occurs, is subject to detailed avifaunistic monitoring (Natura 2000) so the quality of these data is high. Outside these areas, breeding birds are mostly picked up by coincidence by field workers or volunteers. There is no dedicated survey to record breeding occurrences.
- France: Birds are scattered over a vast territory with thousands of ponds and it is impossible to explore all potentially favorable areas. Ponds known to harbour breeders and surroundings are visited each year and the birds are culled when found. It is expected to intensify prospecting nest sites.
- Netherlands: Recording breeding birds is part of the national waterbird survey
- United Kingdom: as per 2a.
- Hungary: In Hungary there is no breeding data, therefore the regular monitoring is not necessary.
- Norway: as per 2a.
- Poland: There is no breeding population in Poland.

- Slovak Republic: In Slovak Republic, occurrence of the species is not recorded during nesting season.
- Croatia: Not applicable. ruddy duck was never recorded in Croatia.
- Estonia: No dedicated monitoring, as species has never been observed in Estonia.
- Sweden: as per 2a.

Action 3: Were ruddy ducks eradicated in the wild in your country by the end of 2015?

- Belgium: Reaction time needs to be increased when birds are observed. This can be achieved by increasing the number of shooters and through the involvement of multiple actors. Sometimes site access is not granted. Here, legal action could be deployed to gain access to private land for eradication. Also, probably, birds are still coming in from the neighbouring countries. Increased international cooperation and better exchange of information and data are crucial to achieve the target.
- France: Lack of human and financial resources
- Netherlands: See also action 1. The approach chosen in the Netherlands, authorization by the provinces and eradication through the provincial and regional wild life management units, takes time to organise. Also the creation of the necessary commitment needs its time. Also the practical methods of eradication have improved.
- Spain: During 2015 two wintering individuals were registered in different areas of central and southern Spain and in 2016 no ruddy ducks have been observed in Spain. The species could be considered almost eradicated in Spain, but depending on the fluxes of birds from central European countries.
- United Kingdom: Locating the last few breeding birds and removing them.
- Hungary: No established population in Hungary, it is very rare autumn and spring migrant only in Hungary with some observations, therefore it is not necessary to do any special actions to eradicate the species.
- Slovak Republic: Not relevant [This answer was to the question of a revised target date for eradication.]
- Croatia: Not applicable. ruddy duck was never recorded in Croatia.

Action 4: Has a national working group been established to guide implementation of the eradication strategy nationally?

- Belgium: Nature (and invasive species) management in Belgium is the competence of each of three different 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, although a national plan or target is lacking. In Flanders, a formal eradication campaign was launched in 2012 under the auspices of the Agency for Nature and Forest and with scientific follow-up from the Research Institute for Nature and Forest. Nature NGOs, hunters and duck keepers (Aviornis) are also represented. The other two regions are also involved in this process.
- Netherlands: The Netherlands Food and Consumer Product Safety Authority has the overall coordination. A project has been started under guidance of a secretary of a wildlife management unit to execute the eradication programme. There is no national working group with the different stakeholders. The participation is organised at the level of provinces.
- Spain: There exist a national working group to the conservation of white-headed duck (*Oxyura leucocephala*) and a working group to coordinate the application of exotic invasive species strategies
- Hungary: Because it is very rare autumn and spring migrant in Hungary with several observations, therefore it is not necessary to establish a national working group.
- Norway: No group established.

- Poland: There is no formal national working group but a number of scientists and nature conservation officers closely follow the issue.
- Slovak Republic: 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 disposal, 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 a alive bait. 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 *Oxyura jamaicensis* Gmelin, 1789. The Commission has also concluded that *Oxyura jamaicensis* as well invasive alien species meet all of the conditions set out in Article 4(6) of Regulation (EU) No 1143/2014. In Slovak Republic, the measures provided for this Regulation (EU) No 1143/2014 of the European parliament and the Council of the 22 October on the prevention and management of the introduction and spread of invasive alien species, including *Oxyura jamaicensis* (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 Slovak Republic, invasive alien species of Union concern, including *Oxyura jamaicensis* shall not be intentionally: (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. 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 Slovak Republic is preparing new Act about prevention, management and eradication of invasive alien species.
- Croatia: Not applicable. ruddy duck was never recorded in Croatia.
- Estonia: No, as species has never been observed in Estonia.
- Liechtenstein: Liechtenstein is too small for national working group. This task can be managed with one single person.
- Sweden: It is not considered necessary to establish a national working group, due to the statements above. [Refers to the answers given against actions 1 and 2.]

ACTIONS CONCERNING RUDDY DUCK IN CAPTIVITY

Action 5: Is legislation in place to prohibit the release of ruddy ducks from captivity?

- Belgium: In all three regions in Belgium it is prohibited to release ruddy ducks in the wild.
- France: A 2010 decree prohibits any release into the environment.
- Netherlands: Under the Flora and Fauna Act it is forbidden to release species into nature. Since adoption the first EU list of invasive alien species is also forbidden under the Regulation.

- Spain: Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras. [Royal Decree 630/2013, of 2 August, approving the Spanish catalogue of invasive alien species regulated.]
- UK: It is an offence under Section 14(1) of the Wildlife and Countryside Act 1981 to release or allow a ruddy duck to escape into the wild.
- Hungary: According the Nature Conservation Act, any release of non-native species is prohibited, including NARD.
- Poland: No alien animal species is allowed to be released from captivity in Poland, except for fish according to the EU legislation.
- Slovak Republic: the species is not recorded as "in captivity" in Slovak Republic.
- Croatia: According to the Nature Protection Act (OG 80/13) placing on the market in the Republic of Croatia of alien species and/or their introduction into nature in the territory of the Republic of Croatia and into ecosystems which they do not populate naturally is prohibited. Exemptions can be made, but only if that does not pose a risk to biological diversity, human health and if such an action does not threaten performance of an economic activity.
- Estonia: Illegal to release any alien species to wild (Nature Conservation Act §57).
- Morocco: La loi 29 05 relative à la conservation de la flore et de la faune et du contrôle de leur commerce prévoit des mesures avant la mise en place de tout élevage en captivité. [The law on May 29 on the conservation of flora and fauna and regulating trade provides measurement before the establishment of any captive breeding.]
- Sweden: Illegal to keep ruddy duck in captivity in Sweden.

Action 6: a) Is legislation in place to prohibit trade in ruddy ducks? b) Was trade in ruddy ducks prohibited in your country by the end of 2015?

6a: Legislation prohibiting trade

- Belgium: Trade in ruddy ducks is now prohibited in all Belgian regions through the EU IAS Regulation on the prevention of the introduction and spread of invasive alien species of EU concern. Brussels Capital Region already had regional legislation prohibiting trade in ruddy duck. Flanders recently adapted its legislation on species to meet the requirements of the EU IAS Regulation and thus also implemented a regional trade ban. However, with the transitional provisions for commercial stocks foreseen in the IAS Regulation, it is temporarily still possible in Flanders and Wallonia to sell ruddy ducks to non-commercial owners/users but this possibility will disappear by August 2017.
- France: trade shall be prohibited in 2016, in accordance with new European regulations
- Netherlands: With the EU Regulation 1143/2014, including adoption the EU list, and national implementation it is prohibited to keep ruddy duck.
- Spain: Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras. [Royal Decree 630/2013, of 2 August, approving the Spanish catalogue of invasive alien species regulated.]
- Hungary: Keeping of and trade in ruddy duck is illegal in Hungary according to the current legislation relating of keeping and trading of pet animals.
- Poland: According to the Polish law, trade in invasive alien species is subject to 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: 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 *Oxyura jamaicensis* 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 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 *Oxyura jamaicensis* 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.
- Croatia: According to the Nature Protection Act (OG 80/13) placing on the market in the Republic of Croatia of alien species and/or their introduction into nature in the territory of the Republic of Croatia and into ecosystems which they do not populate naturally is prohibited. Exemptions can be made, but only if that does not pose a risk to biological diversity, human health and if such an action does not threaten performance of an economic activity.
- Estonia: Yes, since 22.10.2004
- Morocco: La nouvelle législation interdit le commerce de ces espèces. [The new law prohibits trade in these species.]
- Sweden: Illegal to trade in ruddy ducks in Sweden.

6b: Was trade prohibited by end of 2015?

- Belgium: Trade in ruddies was only prohibited in Brussels Capital Region by the end of 2015. However, it is now prohibited in all Belgian regions (see answer Action 6). With the transitional measures foreseen in the regulation, it will take some time before the captive population is really phased out.
- France: the new European regulation must be transposed into national law.
- Netherlands: It was still permitted to hold and sell the ruddy duck (bred animals) under conditions of captivity and provisions to prevent escape. The sale or transfer of live specimens to non-commercial users shall be allowed for one year after inclusion of the species on the Union list of the Regulation 1143/2014.
- Spain: Target already met.
- Hungary: The trade is fully banned since 2010.
- 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 1st 2014).
- Croatia: According to the Nature Protection Act (OG 80/13) placing on the market in the Republic of Croatia of alien species and/or their introduction into nature in the territory of the Republic of Croatia and into ecosystems which they do not populate naturally is prohibited. Exemptions can be made, but only if that does not pose a risk to biological diversity, human health and if such an action does not threaten performance of an economic activity.

Action 7: Are the status and distribution of ruddy ducks in captivity monitored?

- Belgium: We have no idea on the number of ruddy ducks in captivity. There is no registration and no monitoring.
- France: through the permit for keeping but without annual reporting
- Netherlands: In 2008 the last survey was done. On the basis of the results of that survey an estimate has been made. The bird keepers are reluctant to give actual information because of the possibility of measures in the future.
- Spain: Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras (disposición transitoria cuarta). [Royal Decree 630/2013, of 2 August, approving the Spanish catalogue of invasive alien species (fourth transitory provision) is regulated.]
- Hungary: The species is also listed in Annex B of 338/97/EK. As stricter domestic measures, registration of any live specimens of Annex B birds is required in Hungary. Currently the species is not in captivity in our territory.
- Norway: A ban on keeping of the species is in place.
- 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.
- Slovak Republic: Data on captivity are not available.
- Croatia: Not applicable. ruddy duck is not kept in captivity.
- Estonia: Illegal to keep since 22.10.2004, no specimens in captivity.
- Iceland: There are no Ruddy ducks in captivity in Iceland. Also, there is no tradition for keeping ornamental waterfowl in captivity.
- Morocco: Aucun élevage en captivité de l'espèce n'existe au Maroc. [No captive breeding of the species are in Morocco.]
- Sweden: No ruddy duck held in captivity.

Action 8: Are measures in place to prevent the breeding of ruddy ducks in captivity?

- Belgium: The EU IAS Regulation which has also been transposed in regional legislation now factually prohibits the keeping of ruddy ducks in captivity. Transitional measures allow private owners to keep their birds until the end of their natural life, but only provided that reproduction (and escape) are prevented. This will of course be hard to control but the regular nature inspection is competent for controls of any infractions. There are no concrete measures to prevent breeding of ruddy ducks in captivity (e.g. sterilization) besides the legal ban on possession.
- France: breeding in captivity shall be prohibited in 2016, in accordance with new European regulations. The introduction of the ruddy duck in the wild is prohibited by the law. Holding ruddy ducks is subject to permission of the administration. Owners should keep a register of birds kept, bought and sold. Birds must be ringed.
- Netherlands: See answer under 6. This legislation is also directed to prevent breeding of ruddy duck in the Netherlands.
- Spain: Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras (disposición transitoria cuarta). Captive birds must be sterilized and individualized by marks. [Royal Decree 630/2013, of 2 August, approving the Spanish catalogue of invasive alien species (fourth transitory provision) is regulated.]
- Hungary: as per action 7.
- Norway: A survey has been conducted, but for all species of anatids in captivity, and information to NGOs distributed. General ban on keeping also means a ban on breeding.

- 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. Decree of the Minister of the Environment, 9 September 2011, on the list of alien plants and animals that may threaten native species and habitats if released into the natural environment.
- Portugal: Species included in the Portuguese IAS legislation (annex III of Decree no. 565/99 of December 21st). Article 8 paragraph 3 states: It is forbidden the gift, purchase, sale, offer to sell, the transportation, cultivation, breeding or detention in a confined space, the economic exploration and the use as ornamental plant or pet of specimens from species reported in annex III, which are considered as bearing potential serious ecological danger, as a way to prevent the possibility of introduction into nature or restocking from fugitives.
- Slovak Reîbmoc: trading is regulated.
- Croatia: According to the Nature Protection Act (OG 80/13) breeding in captivity of any alien species can be approved only if it does not pose an ecological risk, otherwise it cannot be approved.
- Estonia: Illegal to breed since 22.10.2004. Nature Conservation Act:
- A list of non-native species likely to disrupt natural balance, live specimens of which will not be brought into Estonia and transactions with live specimens of which will not be conducted, will be established by a regulation of the minister responsible for the field (ruddy duck included in the said list on 7.10.2004).
- Specimens of non-native species kept in artificial conditions may be relocated for keeping in artificial conditions in another location only with the permission of the Environmental Board. The restrictions do not apply to household pets within the meaning of subsection 2 (3) of the Animal Protection Act.
- It is prohibited to rear specimens of non-native species which are likely to disrupt natural balance in artificial conditions or conduct transactions with the live specimens of such species, except in events which can be justified from a scientific point of view with the permission of the Environmental Board.
- Liechtenstein: There is no captivity breeding of ruddy duck in Liechtenstein.
- Morocco: La nouvelle loi 20 05 ne permettra pas l'établissement des élevages sans autorisation préalable. [The new law on May 20 will not allow the establishment of breeding farms without prior authorization]
- Sweden: Illegal to keep ruddy duck in captivity in Sweden.

ACTIONS CONCERNING PUBLIC AWARENESS, REPORTING AND INTERNATIONAL CO-ORDINATION

Action 9: Are activities being conducted 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.
- France: A leaflet was published and distributed. The information campaign should be intensified toward birdwatchers associations and landowners.
- Netherlands: A general public awareness campaign on IAS is going one. Regarding ruddy duck the choice has been made to inform the people who need to know and to make information available on the website etc, but not to start an active campaign to inform the public in a general sense.

- Spain: Several conservation projects (i.e. recently LIFE+ in Murcia) include the need for eradicating the ruddy duck as one of the most important conservation activity, also included in awareness campaigns
- Hungary: The species is not in captivity and extremely rare visitor. Special public awareness is seemingly not necessary.
- Norway: see action 8.
- 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 *Oxyura jamaicensis*. This information provides basic data about biology, ecology, their distribution in the world, including Slovakia and national and European legislations.
- Croatia: Not applicable. ruddy duck was never recorded in Croatia.
- Estonia: No, as species has never been observed in Estonia.

APPENDIX 3:

THE QUESTIONNAIRE DISTRIBUTED IN 2016 TO ASSESS PROGRESS AGAINST THE 2011–2015 RUDDY DUCK ERADICATION ACTION PLAN

Section 1: Your details

Implementation of the 2011-15 Ruddy Duck Eradication Action Plan

Please provide your details below, and then complete the two further worksheets on progress against actions and targets, and the status of Ruddy Ducks in your country

Date of completion

Your country

Your name

Email address

Are you the national focal point for Ruddy Duck eradication in your country? (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

Email address

Please return completed spreadsheets by 2 September 2016 to colette.hall@wwt.org.uk

Many thanks for your help

Section 2: Actions and targets

	Progress against actions and targets		
	Please answer each of the following questions by choosing an answer from the drop-down list in each answer box. **Please also provide further information where requested.** If the question is followed by an asterisk (*), please provide further information as follows: If your answer is 'partly established/completed', please say when completion is expected. If your answer is 'planned', please give the date when the activity will be started. If your answer is 'not yet planned', please explain why and the steps being taken to address this.		
	Question	**Answer**	**Further information**
	I. Actions concerning Ruddy Ducks in the wild		
			If your answer **is not** 'completed', please explain why and list the actions being taken to address this
Action 1.	Have all legal barriers that might hinder the control of Ruddy Ducks been removed? *	select answer	
Action 2.	Are the status and distribution of Ruddy Ducks in the wild monitored?		
			If your answer is 'partly' or 'no', please explain why and list the actions being taken to address this
	a. non-breeding birds (surveys all-year round to assess numbers present):	select answer	
			If your answer is 'partly' or 'no', please explain why and list the actions being taken to address this
	b. breeding birds (surveys specifically to record breeding occurrence and assess numbers of breeding pairs):	select answer	
Action 4.	Has a national working group been established to guide implementation of the eradication strategy nationally? *	select answer	

	II. Actions concerning Ruddy Ducks in captivity		
Action 5.	Is legislation in place to prohibit the release of Ruddy Ducks from captivity? *	select answer	
Action 6.	Is legislation in place to prohibit trade in Ruddy Ducks? *	select answer	
			If your answer is 'partly' or 'no', please explain why and list the actions being taken to address this
Action 7.	Are the status and distribution of Ruddy Ducks in captivity monitored?	select answer	
Action 8.	Are measures in place to prevent the breeding of Ruddy Ducks in captivity? *	select answer	
			Please list the measures in place
	III. Actions concerning public awareness, co-ordination and reporting		
Action 9.	Are activities being conducted to raise public awareness of the need to control Ruddy Ducks? *	select answer	
	IV. Eradication targets		
Target 1.	Were Ruddy Ducks eradicated in the wild in your country by the end of 2015?	select answer	
			Please also list the barriers to implementation and actions being taken to overcome these
	If target date was not met, please provide a revised target date for eradication.	select year	
Target 2.	Was trade in Ruddy Ducks prohibited in your country by the end of 2015?	select answer	
			Please also list the barriers to implementation and actions being taken to overcome these
	If target date was not met, please provide a revised target date for eradication	select year	

Section 3: Status of ruddy ducks

	Status of ruddy ducks in your country						
	Please provide estimates of the numbers of birds in the wild and in captivity, and numbers controlled **Please do not leave cells blank, but write 'NIL' or 'UKNOWN' as appropriate**						
	I. Non-breeding birds						
Q1	Please provide estimates of the numbers of wintering and summering birds in the wild:						
		2010/11*	2011/12	2012/13	2013/14	2014/15	2015/16
a	Peak wintering numbers						
	* between 1 September 2010 and 30 March 2011 *etc*						
b	Number of sites with wintering birds						
c	Quality of estimate *	select	select	select	select	select	select
	* 1 = coverage largely complete and representative; 2 = partial coverage only; 3 = expert guess						
		2011*	2012	2013	2014	2015	2016†
d	Peak summering numbers						
	* between 1 April and 30 August 2011 *etc* † between 1 April 2016 and current date						
e	Number of sites with summering birds						
f	Quality of estimate *	select	select	select	select	select	select
	* 1 = coverage largely complete and representative; 2 = partial coverage only; 3 = expert guess						
	II. Breeding birds						
Q2	Please provide estimates of the numbers of breeding pairs (not simply summering birds) in the wild:						
		2011	2012	2013	2014	2015	2016
a	Number of breeding **pairs**						
b	Number of sites where breeding occurred						
c	Quality of estimate *	select	select	select	select	select	select
	* 1 = coverage largely complete and representative; 2 = partial coverage only; 3 = expert guess						

	III. Birds in captivity						
Q3	Please provide estimates of the numbers of birds in captivity:						
		2011	2012	2013	2014	2015	2016
a	Number of birds						
b	Number of collections with Ruddy Ducks						
c	Number of collections where breeding occurred						
d	Quality of estimate *	select	select	select	select	select	select
	* 1 = coverage largely complete and representative; 2 = partial coverage only; 3 = expert guess						
	IV. Birds controlled						
Q4	Please specify the numbers of birds or nests controlled and the number of sites at which control took place:						
		2010/11*	2011/12	2012/13	2013/14	2014/15	2015/16
a	Number of birds controlled						
	* between 1 April 2010 and 30 March 2011 *etc*						
	• Number of adult males						
	• Number of adult females						
	• Number of first-year males						
	• Number of first-year females						
	• Number of unknown age/sex						
b	Number of sites where birds were controlled						
		2011	2012	2013	2014	2015	2016
c	Number of nests controlled						
d	Number of sites where nests were controlled						