

Strasbourg, 11 December 2017  
[Inf25e\_2016.docx]

**T-PVS/Inf (2017) 25**

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

**Standing Committee**

37<sup>th</sup> meeting  
Strasbourg, 5-8 December 2017

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**REPORT ON THE IMPLEMENTATION OF THE CODE  
OF CONDUCT ON HUNTING AND INVASIVE ALIEN  
SPECIES**

*Document prepared by  
the FACE, FACE Members and IAF*

# **2017 REPORT ON THE IMPLEMENTATION OF THE CODE OF CONDUCT ON HUNTING AND INVASIVE ALIEN SPECIES**

by FACE, FACE Members and IAF

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FACE and IAF especially acknowledge Dan Burgar Kuželički for his work done for the first Report.

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## THE EUROPEAN CODE OF CONDUCT ON HUNTING AND IAS

European hunters play an important role in managing invasive alien species (IAS). At the same time, it is important that hunting is not a pathway for the introduction of IAS into Europe. To avoid this, hunters must pay special attention when, for example, restocking or when engaged in certain animal-aided hunting.

To help hunters and hunting associations avoid introducing or spreading IAS, FACE<sup>1</sup> contributed to the development the Code of Conduct on Hunting and Invasive Alien Species (IAS)<sup>2</sup>, adopted at the 33<sup>rd</sup> Standing Committee of the Bern Convention in December 2013. This Code of Conduct presents 7 Principles that hunters and hunting associations should follow to contribute to the European Strategy on IAS and the 2020 EU Biodiversity Strategy. Respecting these principles would lead to improving the sustainability of hunting by getting involved in IAS reduction and prevention.

### The 7 Principles:

1. Avoid the intentional and unintentional release of new invasive alien game species;
2. Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter;
3. Use alien species for restocking only if non-invasive or introduced in ancient historic times;
4. Select sources for restocking from populations with appropriate genetic and disease management;
5. Practice animal-aided hunting minimizing the risk of escapes and of impacting native species;
6. Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species;
7. Collaborate on monitoring and surveillance programmes on IAS.

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<sup>1</sup> The Federation of Associations for Hunting and Conservation of the EU – [www.face.eu](http://www.face.eu)

<sup>2</sup> [http://www.face.eu/sites/default/files/attachments/inf20ecorr\\_2013\\_code\\_of\\_conduct\\_hunting\\_ias\\_final.pdf](http://www.face.eu/sites/default/files/attachments/inf20ecorr_2013_code_of_conduct_hunting_ias_final.pdf)

## OUTLINE OF REPORT

After the adoption of the Code of Conduct on Hunting and IAS, an initiative was formed by FACE and IAF<sup>1</sup> to frequently publish a report on activities undertaken by hunting associations around Europe to combat IAS.

This report discusses a range of practical solutions set up in various European countries (Parties of the Bern Convention) in line with the 7 principles. Hence, this document offers concrete examples of action taken to meet the requirements mentioned under each of the seven Principles mentioned in the Code of Conduct. Through this report, FACE and IAF show that both organisations and their members are considering this topic as being highly importance as IAS constitute a risk to wildlife and biodiversity.

This is the second implementation report on the Code of Conduct on Hunting and IAS, based on data gathered in 2016 by FACE and FACE Members. It contains information from 10 European countries: Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Slovenia, Sweden and United Kingdom. This represents a more comprehensive assessment than the first implementation report, which was based on data gathered from six countries in 2014.

In this report, Principle 5, which extensively deals with falconry, has a detailed section provided by IAF.

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<sup>1</sup> International Association for Falconry and Conservation of Birds of Prey – [www.iaf.org](http://www.iaf.org)

## IMPLEMENTATION OF THE CODE OF CONDUCT

### 1. DENMARK

#### General overview

A national action plan regarding the prevention of introduction and spread of invasive alien species and the control or eradication of such species was adopted in 2009. A revision of the action plan is due in 2016.

Apart from this plan, no general strategy for handling IAS exists. Only very limited funding is available for eradication projects.

#### INVASIVE ALIEN MAMMALS AND BIRDS IN DENMARK:

##### Mammals

American Mink – *Neovison vison*  
 Brown Rat – *Rattus norvegicus*  
 Coypu – *Myocastor coypus*  
 European Rabbit – *Oryctolagus cuniculus*  
 Muskrat – *Ondatra zibethicus*  
 Raccoon – *Procyon lotor*  
 Raccoon Dog – *Nyctereutes procyonoides*

##### Birds

Black Swan – *Cygnus atratus*  
 Canada Goose – *Branta canadensis*  
 Egyptian Goose – *Alopochen aegyptiacus*  
 Ruddy Duck – *Oxyura jamaicensis*

#### **Principle 1: Avoid the intentional and unintentional release of new invasive alien game species**

Except for Common Pheasant (*Phasianus colchicus*), it is illegal to release non-native species (including game species).

#### **Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

The Danish Agrifish Agency has made an official list of plants illegal to plant or spread in Denmark. Additionally, a list of unwanted species (such as the Beach Rose - *Rosa rugosa*) exists.

#### **Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

In Denmark, it is only legal to restock Common Pheasant (*Phasianus colchicus*), Grey Partridge (*Perdix perdix*) and Mallard (*Anas platyrhynchos*).

#### **Principle 4: Select sources for restocking from populations with appropriate genetic and disease management**

This topic has received a very limited focus until now, but attention to the importance of these matters is now potentially increasing.

**Principle 5: Practice animal-aided hunting minimizing the risk of escapes and of impacting native species**

Hunting dogs are the only animals used for hunting in Denmark.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

The Raccoon Dog Project involves 25 hunters devoting their spare time to catch and kill Raccoon Dogs. The Danish Hunters' Association is coordinating the project, and some funding is provided by The Danish Nature Agency. The project is to some degree inhibiting the spread of Raccoon Dog in Denmark, but it is not fully successful. Another project exists on the management the American Mink population and is run by the Danish Nature Agency. Results on this species are yet to be seen. Both species are probably still increasing in numbers.

There is no focus on invasive bird species, and there is no general strategy (yet) on how to counter demands on early detection of IAS such as Raccoon.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

In 2016, the Danish Hunters' Association (along with colleagues in Sweden and Finland) is planned a new international project focusing on monitoring and eradicating IAS through use of the hunters' trail cameras.

## 2. FINLAND

### General overview

Finland's National Strategy on Invasive Alien Species was completed in April 2012. The purpose of the strategy is to prevent damages and risks caused by invasive alien species and to improve the sustainable use of natural resources for livelihoods and well-being of the society and people. The strategy was adopted by government resolution on March 15, 2012. The proposal for Finland's National Strategy on Invasive Alien Species was prepared in a comprehensive working group and with additional experts, involving more than 100 people.

### INVASIVE ALIEN MAMMALS AND BIRDS IN FINLAND:

#### Mammals

American Mink - *Neovison vison*

Brown Rat - *Rattus norvegicus*

Domestic Cat (only when feral) - *Felis silvestris catus*

European Rabbit - *Oryctolagus cuniculus*

North American Beaver - *Castor canadensis*

Raccoon Dog - *Nyctereutes procyonoides*

### **Principle 1: Avoid the intentional and unintentional release of new invasive alien game species**

Both legal and illegal introductions are covered in Finnish legislation (primarily Hunting Act, Veterinary Diseases Act, Animal Protection Act and The Nature Conservation Act).

In the case of huntable alien species or alien mammal or bird species, the permission to import or introduce them is given by the Finnish Wildlife Agency (evidence is based on assessment). (Hunting Act, Article 42).

The Nature Conservation Act prohibits the introduction of non-native animals and plants (those not mentioned in the Hunting Act).

### **Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

Mainly native plant species are used for feeding game animals in Finland. When non-native species are used, they are not allowed to be introduced outside built-up areas or fields. (Nature Conservation Act, article 43)

### **Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**



The Hunting Act allows restocking of native game species and the introduction or stocking of native and non-native species as long as it is performed in accordance with veterinary and nature conservation legislation.

**Principle 5: Practice animal-aided hunting minimizing the risk of escapes and of impacting native species**

Animal-aided hunting (excluding hunting with dogs) is very minimal in Finland. There is practically no falconry and ferrets are only used in small scale for solving wild rabbit problems (European Rabbit - *Oryctolagus cuniculus*) in Helsinki metropolitan area.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

It is important to educate hunters so that they are aware of the negative influence and consequences of introducing invasive alien species.

The Finnish Hunters' Association and Finnish Wildlife Agency have spread information on IAS and their eradication (especially American Mink and Raccoon Dog) in magazines and online. The Finnish Hunters' Association carried out an educational project (Invasive Alien Predator Project) for hunters a couple of years ago. In Finland, many hunting clubs organise American Mink and Raccoon dog eradication competitions for their members and some of the clubs give monetary compensation for every killed American Mink or Raccoon dog.

Finnish Wildlife Agency co-ordinated an EU LIFE+ project called "Management of invasive Raccoon Dogs (*Nyctereutes procyonoides*) in the north-European countries (MIRDINEC)" in 2010-2013.

Invasive alien species, such as the Raccoon Dog (*Nyctereutes procyonoides*) and the American Mink (*Neovison vison*), which have a negative impact on other species, can be removed immediately (hunting season of alien species lasts all year round). The Finnish Wildlife Agency created a management plan for the Raccoon Dog in 2011.

Finland's National Strategy on Invasive Alien Species calls for the immediate removal of the non-native species, especially invasive ones. According to the strategy, the North American Beaver (*Castor canadensis*) should be eradicated from Western Lapland in 2013–2016 and the Raccoon dog (*Nyctereutes procyonoides*) from Western archipelago (Vaasa region) to prevent them from spreading to Sweden and Norway.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Hunters can participate in voluntarily courses and training sessions, and the information they gain ensures a solid knowledge base about the environment, natural processes, as well as the species and their behaviour. The Finnish Hunters' Association and Finnish Wildlife

Agency have spread information on IAS and their eradication (especially American Mink and Raccoon dog) in magazines, online and during courses and training sessions.

Every year, Finnish hunters participate in game counts and game monitoring. During these counts, species not previously observed are often found. Hunters also spend countless hours walking in the forests and surrounding areas and engage in biodiversity work. So, possible changes are quickly noticeable.

### 3. FRANCE

#### General overview

In France, huntable species are limited and defined by the Ministerial Order/Decree of 26 June 1987 establishing the list of game species whose hunting is permitted. Since 2 September 2016, a ministerial ruling has listed non-native species that can be hunted in France as part of management measures to eradicate, control or to confine their populations. This list includes Canada Goose (*Branta canadensis*), Raccoon Dog (*Nyctereutes procyonoides*), Coypu (*Myocastor coypus*), Muskrat (*Ondatra zibethicus*), Raccoon (*Procyon lotor*) and American Mink (*Neovison vison*).

#### INVASIVE ALIEN MAMMALS AND BIRDS IN FRANCE:

##### Mammals:

American Mink – *Neovison vison*  
 Brown Rat – *Rattus norvegicus*  
 Corsican Hare – *Lepus corsicanus*  
 Coypu – *Myocastor coypus*  
 Fallow Deer – *Dama dama*  
 Granada Hare – *Lepus granatensis*  
 Muskrat – *Ondatra zibethicus*  
 Pallas's Squirrel – *Callosciurus erythraeus*  
 Raccoon – *Procyon lotor*  
 Raccoon Dog – *Nyctereutes procyonoides*  
 Red-necked Wallaby – *Macropus rufogriseus*  
 Siberian Chipmunk – *Tamias sibiricus*  
 Sika Deer – *Cervus nippon*

##### Birds:

African Sacred Ibis – *Threskiornis aethiopicus*  
 Canada Goose – *Branta canadensis*  
 Chilean Flamingo – *Phoenicopterus chilensis*  
 Indian Silverbill – *Lonchura malabarica*  
 Mandarin Duck – *Aix galericulata*  
 Northern Bobwhite – *Colinus virginianus*  
 Red-billed Leiothrix – *Leiothrix lutea*  
 Reeves's Pheasant – *Syrnaticus reevesii*  
 Rose-Ringed Parakeet – *Psittacula krameri*  
 Ruddy Duck – *Oxyura jamaicensis*

#### **Principle 1: Avoid intentional and unintentional releases of new invasive alien game species**

The introduction of alien game species was fashionable post-war in France and in the years that followed for the Northern Bobwhite (*Colinus virginianus*), California Quail (*Callipepla californica*), Cottontail Rabbit (*Sylvilagus*), etc.), but this is no longer the case. The Ministerial Decree of 30 July 2010 forms the list of species of vertebrate animals prohibited from introducing in France. The legislation (see article L411-3 of the Environmental Code) prohibits the introduction of alien species in the natural environment and no derogation for this regulation is possible for hunting purposes.

Regarding the live decoys used for waterfowl hunting for instance, only huntable species can be used with a prohibition concerning using alien species. In addition, in case of use of hybrid decoys, and to prevent their escape in the natural environment, pinioning of every live decoy is mandatory. Moreover, the legislation defines the procedures to identify and trace the decoys used for waterfowling.

Breeding conditions of non-domestic animals' species as raptors used for falconry or other animal species that could be used as decoys are defined in the Ministerial Decree of 10 August 2004. Those conditions include keeping of records, marking of animals, and specific measures for the birds used for falconry. This Decree foresees the administrative and technical measures for each species.

Recently, the law of the 9<sup>th</sup> August 2016 for biodiversity, nature and landscapes recovery creates a national file to ensure statistical and administrative follow-up of non-domestic animals kept in captivity (including birds of prey used for falconry). As a result of the implementation of this national file, a reporting regime could supersede the actual prior administrative authorisation necessary to the kept of raptors.

## **Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

Within the French “Agrifaune” programme, the agreement between the partners French National Hunters’ Federation (FNC), National Agency for Hunting and Wildlife (ONCFS), National Federation of Agricultural Workers’ Unions (FNSEA) and the Permanent Assembly of Chambers of Agriculture (APCA) was renewed for the period 2011-2016. This includes vegetative cover for intercrops as well as a label of those blends “Agrifaune interculture”. IT states that the planting of hedgerows, bushes, game cover, fallow land for wildlife etc, if supervised by the Hunting Federations, should preferably be done with indigenous species, but some alien species might be used from time to time. Nevertheless, the use of all plant species included in the programme “Agrifaune” (e.g. Lacy Phacelia (*Phacelia Tanacetifolia*), Mustard Greens (*Brassica Juncea*) and Buckwheat (*Fagopyrum esculentum*)) is authorized in agriculture, forestry and fish farming.

The plant species blends recommended for buffer strips must meet the regulatory obligations of the Ministerial decree of 24 April 2015 relating to rules for good agricultural and environmental conditions. This Decree states in its annex IV the list of invasive species that cannot be used to cover buffer strips/wetlands. Furthermore, partnerships with botanical conservatories are currently under way to have access to blends of seeds of native plants.

At the regional level, the Hunting Federation of the Nord-Pas-de-Calais region developed a guide for marsh owners and managers in order to make them aware of IAS and provide them with management recommendations.

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

Although domestic alien species whose breeding is authorised in France, e.g. the Japanese Quail (*Coturnix japonica*) and the Chukar partridge (*Alectoris chukar*), these cannot be hunted, and it is forbidden to introduce them for hunting purposes.

The Ministerial Decree of 30 July 2010 specifies the species which cannot be introduced, whether this introduction would be done through negligence or design. No derogation can be used for those species for hunting purposes. Exceptions exist for the Sika Deer (*Cervus Nippon*) and the Fallow Deer (*Dama dama*).

Every introduction must be foreseen within the hunting management regional scheme (see article L425-2 of the Environmental Code) developed by each departmental hunting Federation and must be authorized by department concerned. Besides, obligations regarding the marking and tracing of breeding animals are legally defined in the Ministerial Decree of 28 February 1962.

**Principle 4: Select sources for restocking from populations with appropriate genetic and disease management**

Except for the rabbit and big game, whose introduction is subject to the authorisation of each department, restocking for hunting purposes with indigenous huntable species can take place without authorisation. However, most Hunting Federations have a policy to regulate the restocking practices, including advising on the origin and the biosecurity and health quality of used animals.

The release of game species originating from breeding establishments is strictly regulated by the Ministerial Decree of 12 May 2016, laying down the sanitary measures. This decree complements the Ministerial Decree of 28 February 1962 introducing obligations to mark and trace breeding animals belonging to game species introduced in the natural environment.

In order to preserve the natural local strain of Grey Partridge (*Perdix perdix*) of the Pas-de-Calais Department, the Hunting Federation has been developing since 2009 a Grey Partridge conservatory of natural local strain and has put in place a contractual agreement with hunting interest groups.

Both at national and departmental levels, actions are put in place in order to gradually remove the Chukar gene from the Red-legged Partridge bred in France for resettlement. This gene comes from former genetic crossbreeding between the Red-legged Partridge (*Alectoris rufa*) and the Chukar Partridge (*Alectoris chukar*) (considered as an alien species over the period 1960-1990).

**Principle 5: Practice animal-aided hunting minimizing the risk of escapes and of impacting native species**Falconry

In France, even though there are only few hundreds of falconers and very small number of birds of prey breeders, several actions are developed to minimise these risks:

- Only falconers (except for falconry shows), supervised by the 10<sup>th</sup> August 2014 ministerial ruling, may keep in detention and breed hunting birds of prey.
- Species used for hunting in France are on the ANFA (National Association for Falconers and Austringers) site. Some of the main ones are: Harris's hawk (*Parabuteo unicinctus*), Northern goshawk (*Accipiter gentilis*), Peregrine falcon (*Falco peregrinus*) and hybrids of falcons.
- The loss of birds of prey individuals is significantly reduced by progress and generalisation of telemetry and their obligatory tracking (chip).
- ONCFS (National Office for Hunting and Wild Fauna) manages a hunting birds of prey database.
- An internet alert network in case of birds of prey loss or theft was set up by ANFA. This association, member of IAF (International Association for Falconry), has adopted its code of conduct about IAS.

Decoys

When using live decoys with waterfowling only huntable species are allowed. Furthermore, to prevent escape of hybrid decoys into natural environment, cutting flight feathers is mandatory to limit the flight capacity<sup>1</sup>.

Ferretting

The ferret is the domestic breed of the Polecat (*Mustela putorius*), thus it is part of the pets list of the 11<sup>th</sup> August 2006 ruling, which allows individuals to possess it without particular authorisation, but they must submit it to the identification obligations of domestic carnivores (L212-10 of the Rural and Sea Fishing Code) and its inscription on the national file of domestic Carnivores Identification (1<sup>st</sup> August 2012 ministerial ruling, Environment Code).

According to the 1<sup>st</sup> of August 1986 ministerial ruling, for rabbit hunting or recovering, a ferret can be introduced into a rabbit warren to catch/flush its residents. The ferret is equipped with bells or a transmitter to locate it and avoid their escape.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

French hunters are aware of the issue of Invasive Alien species, which is part of the hunting licence exam. They are also present in the field with trappers and in relation with their federation, many undertake IAS control actions: e.g. for the Coypu and the Muskrat for a

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<sup>1</sup> 4<sup>th</sup> of November 2003 ministerial ruling over use of duck call and decoys for hunting of birds of passage, waterfowl and some corvids and for the destruction of pest animals, Article 3 – Environment Code

long time, but also for the Raccoon, the Raccoon dog and, since 2012, the Canada goose. Since the 2<sup>nd</sup> of September 2016, a ministerial ruling has listed non-native species that can be hunted Metropolitan France, as part of management measures to eradicate, control or confine their population. This list includes Canada Goose, Raccoon Dog, Coypu, Muskrat, Raccoon and American Mink.

Hunters may also shoot, outside of the hunting period, those species according to the provision of the 30<sup>th</sup> June 2015 ministerial ruling. This annual ruling is corrected each year to take in account the distribution area of the European Mink (*Mustela lutreola*), Otter (*Lutra lutra*) and Beaver (*Castor fiber*) and to adapt trapping measures for the strict protection of those species.

Hunting federations organise training sessions for trappers and a guide on pest regulation is produced and actualised by the Hunting National Federation (FNC) at the national level to remind the IAS destruction modalities regulation.

Hunting departmental federations collect and deal with annual trapping data collection by the trappers. Furthermore, in 2015, the FNC developed an entry tool for trapping and capture data collection for the hunting departmental Federations.

Traps that are used have to be approved by the Authorities according to various criteria, such as animal suffering.

Since 2012, regional hunting federations collect Canadian Goose bag data and contribute through the collection of this data to national surveys. After 4 years of experiments and since the 2<sup>nd</sup> of September 2016, the Ecology Minister has for 3 years classified the Canadian Goose as huntable species to evaluate the hunting interest to eradicate it. It is even considering doing the same for other IAS as the Egyptian Goose.

Hunting federations also engage with their members for Invasive Alien plants controlling operations, in particular for wetlands. Some examples of hunting associations' actions related to combat IAS can be consulted on the following page:

<http://chasseurdefrance.com/cynactions/>

Hunters, led by ONCF (Hunting and Wildlife National Office), contribute to actions against IAS and other control actions for species listed below:

- For decades: Coypu and Muskrat
- Since 1994: Raccoon and Raccoon Dog
- Since 1996: Ruddy Duck
- Since 2005: American Mink
- Since 2007: Canadian Goose and African Sacred Ibis
- Since 2009: Egyptian Goose (*Alopochen aegyptiaca*)
- Since 2011: Black Swan (*Cygnus atratus*)

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Hunting associations (ONCFS, FNC, FDC), with their professionals and their hunters, develop professional follow-up programs of IAS (Ruddy duck, Canadian Goose, Egyptian Goose, Black Swan, etc.) or contribute to other follow-up programs (American Mink for instance).

Each year, the National Federation of Hunting (FNC) invites the Departmental Federations of Hunting (FDCs) to take part of diverse national surveys about IAS.

Although these follow-ups mobilise FDCs' collaborators (departmental Interlocutors of ONCF, FNC and FDC networks), FNC have not had any databases of the answers of the surveys yet. These answers and its publications are exclusively monitored by ONCFS.

National/regional surveys or follow-ups organised by hunters' network are:

- Since 1983: "Fallow and Sika Deer"
- In 2008 and 2014: "Coypus and Muskrats"
- Since 2008 and continued in 2015 and 2016: "Canadian Goose – Wintering and Nesting"
- In 2012: "Invasive Alien Plants"
- In 2012: "Loire Basin IAS"
- In 2013: "Raccoon and Raccoon Dog"
- In 2014, 2015 and 2016: "Ruddy Duck – Wintering"
- In 2015 and 2016: Egyptian Goose – Wintering"
- In 2015: "American Mink – Distribution"



## 4. GERMANY

### General overview:

In Germany, even though there is no official national list of IAS, 44 alien vertebrates are assessed to be established, 11 species of them are categorized as invasive and 18 species as potentially invasive:

- <http://www.bfn.de/fileadmin/MDB/documents/service/skript340.pdf>

With respect to non-native and invasive species national and federal authorities in Germany are obliged to start immediately suitable measurements for removing those species or prevent their distribution (federal law on nature protection). Generally a species is defined as invasive if it is a threat to the autochthonous biodiversity.

### INVASIVE ALIEN MAMMALS AND BIRDS IN GERMANY:

#### Mammals:

American Mink – *Neovison vison*  
 Brown Rat – *Rattus norvegicus*  
 Coypu – *Myocastor coypus*  
 Muskrat – *Ondatra zibethicus*  
 Raccoon – *Procyon lotor*

#### Birds:

Chukar Partridge – *Alectoris chukar*  
 Ruddy Duck – *Oxyura jamaicensis*  
 Sacred Ibis – *Threskiornis aethiopicus*

### **Principle 1: Avoid intentional and unintentional releases of new invasive alien game species**

In Germany the releasing of native and alien species is regulated by the Federal Hunting Law (§ 28) and Federal Act for the Protection of Nature (§ 40). The content of the Federal Act for the Protection of Nature regarding alien species mainly reflects the package of measures expressed in the Convention on Biological Diversity (CBD).

Because of the possibility of an outbreak of fenced animals, game reserves are legally managed by the Animal Welfare Act (§2) and by the federal codes and guidelines. These guidelines are put in the Federal Act for the Protection of Nature.

Keeping and breeding of vertebrates is also controlled by the Federal Regulation for the Protection of Species (§ 7).

**Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

Since 2009, permission from the responsible authority is needed to yield alien plants. This act forbids the growing when a threat on native ecosystems, habitats or species is present. Planting in agriculture and forestry is excluded from this permission procedure.

Although there are recommendations to use native plants for habitat improvement for game species and species living in agricultural areas, various seed compositions which are offered for this purpose, contain alien plant species, such as Sunchoke (*Helianthus tuberosus*) or Phacelia (*Phacelia tanacetifolia*), for example.

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

According to the Federal Hunting Law (§28 (2)), restocking or settlement of Wild Boar (*Sus scrofa*) and Rabbit (*Oryctolagus cuniculus*) is prohibited. Moreover, settlement of alien species needs a written permission of the responsible authority (§28 (3)). The federal states are authorised to permit or prohibit settlement and restocking of further animal species (§28 (4)).

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

In Germany, the catalogue of game species includes alien species, which are not spread all over the country, such as Mouflon (*Ovis orientalis musimon*), Fallow Deer (*Dama dama*) and Sika Deer (*Cervus nippon*). Other alien species which are listed for hunting are prevalent in Germany, but in different population densities: Raccoon Dog (*Nyctereutes procyonoides*), Raccoon (*Procyon lotor*) and American Mink (*Neovison vison*). The last-mentioned species are considered to be invasive, because they are carnivorous and intensify the predation effect particularly on ground-nesting birds and relict populations of prey species. Nearly in all federal states Raccoon Dog, Raccoon and American Mink can be hunted year-round, except adult individuals raising pups. In areas where trapping is common and mainly in nature conservation projects, there is an intensified reduction of these alien species.

Nearly the whole area of Germany can be used for hunting and only hunters are authorised for trapping and killing Raccoon Dog, Raccoon and American Mink. This offers crucial preconditions for both control or eradication programs and monitoring systems.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Based on their education, hunters are well placed to gather detailed information on IAS distribution and abundance. To obtain a hunting license requires training with defined lessons and an examination in theory and practice. Examination of the handling of weapons and in shooting must be passed successfully. Within the federal states, the contents of lessons are rather similar, but the number of lessons, which are needed to get the permit for

the examination, differs. The lessons imply knowledge on the biology of game species, main features of ecology, legislation and animal health.

WILD-Monitoring, an initiative of the German Hunting Association (DJV), is a surveillance system that records data on the distribution and the abundance of Raccoon Dog, Raccoon and American Mink amongst other species. In reference areas, which are distributed all over Germany, hunters record these species in regular intervals with standardised methods. Many hunters participate for years in WILD-Monitoring system and have a lot of experience in recording of animal indicator species.

## 5. IRELAND

### General Overview:

There is an evolving network of legislation operating in Ireland designed to prohibit the introduction and spread of non-native species. The most specific legislation dealing with IAS addresses the issues of import and export, possession and trade, introduction to the wild and control and eradication of IAS.

The main primary legislation relating to IAS in Ireland is the Wildlife (Amendment) Act of 2012. This legislation prohibits the introduction into the wild of any wild species without a license. The legislation also contains provisions for the control of IAS in Ireland. Under this legislation, the Minister can decide to prohibit the possession or introduction of wild species which pose a threat to native species. The Regulation on the Control of Importation of Wild Animals and Wild Birds (1989) also provides that the importation of live wild birds or animals is subject to a licence by the Minister.

In 2011, the Republic of Ireland's Actions for Biodiversity 2011-2016, Ireland's 2nd National Biodiversity Plan was launched with 7 objectives, 21 targets and multiple actions. Target 8 states that: Harmful invasive alien species are controlled and there is a reduced risk of spread of new species.

In September 2011, Ireland transposed the European Communities (Birds and Natural Habitats) Regulations 2011 into Irish law [S.I. No. 477 of 2011]. In this regard, two regulations that deal specifically with scheduled lists of species include:

- Regulation 49: Prohibition on introduction and dispersal of certain species
- Regulation 50: Prohibition on dealing in and keeping certain species (Regulation 50 is not yet in effect)

Some of the relevant species in Ireland:

### INVASIVE ALIEN MAMMALS AND BIRDS SUBJECT TO REGULATIONS 49 AND 50 IN IRELAND RELEVANT TO HUNTERS:

#### Mammals:

American Mink – *Mustela vison*  
 Brown Hare – *Lepus europaeus*  
 Brown Rat – *Rattus norvegicus*  
 Grey Squirrel – *Sciurus carolinensis*  
 Muntjac Deer – *Muntiacus reevesi*  
 Roe Deer – *Capreolus capreolus*  
 Wild Boar – *Sus scrofa*  
 Water Deer – *Hydropotes inermis*

#### Birds:

Canada Goose – *Branta canadensis*  
 Greylag Goose – *Anser anser*  
 Ruddy Duck – *Oxyura jamaicensis*

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

One of the supporting objectives under target 8 of the Republic of Ireland's Actions for Biodiversity 2011-2016, Ireland's 2nd National Biodiversity Plan is:

- Continue and enhance measures for eradication, where feasible, control and containment of invasive alien species.

Several Irish Government Departments have financially supported the National Association of Regional Game Councils (NARGC), which is the main hunting association in Ireland, in its efforts to deal with certain IAS, mainly North American Mink and Grey Squirrel. These financial grants are typically invested into competitions that reward local NARGC hunting Clubs that trap/shoot the most species.

More recently, funding from the Irish Wildlife Ministry has allowed the NARGC, through its membership structure, to put a bounty in place for North American Mink.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

The NARGC spreads information to its members on IAS species and encourages their eradication (especially Mink and Grey Squirrel) in magazines, online, and at their courses/training sessions.

Every year, Irish hunters, through the NARGC structure, participate in the counting of hunted Minks and Grey Squirrels. These data have been provided to various academic institutions and Government Departments for research and monitoring purposes.

Irish hunters also spend countless hours in the countryside engaging in hunting and biodiversity work and have good knowledge of the populations of IAS. In this regard, hunters can provide valuable knowledge on population changes and new sightings regarding IAS.

In conjunction with Government Departments, the NARGC has also worked with its members regarding the control of Wild Boar, Muntjack Deer and Ruddy Duck.

## 6. ITALY

### General overview:

To gain an understanding of the IAS situation in Italy, it is useful to have an idea of the diversity and numbers of species involved. For this purpose, the DAISIE website ([www.europe-aliens.org](http://www.europe-aliens.org)) was consulted. It was developed as part of the 'Delivering Alien Invasive Species In Europe' (DAISIE) project funded by the sixth framework program of the European Commission. It provides a 'one-stop-shop' for information on biological invasions in Europe, delivered via an international team of leading experts in the field of biological invasions, latest technological developments in database design and display, and an extensive network of European collaborators and stakeholders.

Reliable, detailed information on the most invasive alien species in Europe is an essential tool for preventing their spread and impact, and for applying effective and appropriate control strategies.

### INVASIVE ALIEN MAMMALS AND BIRDS IN ITALY:

#### Mammals

American Mink – *Neovison vison*  
 Black Rat – *Rattus rattus*  
 Brown Rat – *Rattus norvegicus*  
 Coypu – *Myocastor coypus*  
 Eastern Cottontail Rabbit – *Sylvilagus floridanus*  
 Eastern Grey Squirrel – *Sciurus carolinensis*  
 European Mouflon – *Ovis orientalis*  
 European Rabbit – *Oryctolagus cuniculus*  
 Finlayson's Squirrel – *Callosciurus finlaysonii*  
 House Mouse – *Mus musculus* )  
 Oriental Tree Squirrel – *Callosciurus sp.*  
 Siberian Chipmunk – *Tamias sibiricus*

#### Birds

African Sacred Ibis – *Threskiornis aethiopicus*  
 Alexandrine Parakeet – *Psittacula eupatria*  
 Ashy Throated Parrotbill – *Sinosuthora alphonsiana*  
 Black Swan – *Cygnus atratus*  
 Chukar Partridge – *Alectoris chukar*  
 Erckels Francolin – *Pternistis erckelii*  
 Japanese Quail – *Coturnix japonica*  
 Monk Parakeet – *Myiopsitta monachus*  
 Mute Swan – *Cygnus olor*  
 Northern Bobwhite – *Colinus virginianus*  
 Red Avadavat – *Amandava amandava*  
 Red-billed Leiothrix – *Leiothrix lutea*  
 Rose-ringed Parakeet – *Psittacula krameri*  
 Turquoise-fronted Amazon – *Amazona aestiva*  
 Village Weaver – *Ploceus cucullatus*  
 Vinous-throated Parrotbill – *Sinosuthora webbiana*

An updated version of the list has been recently published online by the Italian Institute for Environmental Protection and Research (ISPRA), within the framework of the National Biodiversity Network database.

**Principle 1: Avoid intentional and unintentional releases of new invasive alien game species**

The Italian legal framework on the protection of homoeothermic<sup>1</sup> wild fauna and hunting prohibits the importation of alien species from abroad. In particular, Art. 20 (Introduction of wildlife from abroad), literally cites:

- 1- The introduction of wildlife from abroad, provided that it belongs to native species, can only be done for restocking and genetic improvement purposes.
- 2- An import permit may be issued only to companies that have adequate facilities and equipment for each species of wild animals, in order to have the appropriate legal guarantees for general controls, quarantines and any relevant health checks.
- 3- The authorizations for the activities referred to in paragraph 1 shall be issued by the Minister of Agriculture and Forestry on the advice of the National Institute for Wildlife, in compliance with the international conventions.

Article 19 of the same law regulates the control of species that cause damage, after positive advice from ISPRA; many provinces have entered into a technical protocol with ISPRA to perform control actions on invasive alien species (e.g. Cottontail Rabbit (*Lepus sylvaticus*), Coypu (*Myocastor coypus*), Eurasian Collared Dove (*Streptopelia decaocto*)).

By law, the control of invasive alien species is carried out by trained hunters. Training takes place through specific courses organized by the provincial administrations on an annual basis (some contents are: e.g. the species to be controlled, its distribution, specific legislation, use of weapons, different methods of wildlife control).

**Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

Plant species used for environmental improvements (reforestation, fences, crops for wildlife, etc.) are usually native or referable to species normally found in fields as crops.

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

Restocking is done, in accordance with the law, only by reintroducing native species or those naturalized in historical times like the Pheasant (*Phasianus colchicus*). The regional and provincial hunting wildlife plans decides on the use of native species, to be released in both the territory open to hunting and in private estates.

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<sup>1</sup> Animals having an almost constant body temperature.

**Principle 4: Select sources for restocking from populations with appropriate genetic and disease management**

The legal framework on the protection of homoeothermic wild fauna and hunting (Article 10) as well as the regional laws and regulations take into account management plans that aim to encourage the natural reproduction of wild animals. But, some plans for wildlife introduction also exist through the capture of specimens from populations with surpluses in national and regional parks and other wildlife areas. These plans need approval from ISPRA that assesses the genetic compatibility of captured individuals and from the professional Agricultural Organisations that are part of the national technical Committee for hunting, through their regional structures.

In addition, Article 10, paragraph 7, under c) allows the provinces to establish public centres for the reproduction of wildlife, for the purpose of reconstitution of autochthonous populations.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

Prevention can reduce new introductions, but when an invasive alien species is established in an area, it may be necessary to carry out active measures aiming for its eradication and/or control. When eradication is considered impracticable, control – in order to reduce the spread, abundance and density of the IAS to an acceptable level in the long term – may become necessary.

Alien ungulates species are regulated through hunting via selective plans for limitation or eradication of populations. In Italy, species such as European Mouflon and Fallow Deer (*Dama dama*) are preferably managed in areas not suitable for native species and through culling plans that maintain the population density acceptable for that territory. Translocations are only permitted after the approval of ISPRA, who normally does not deliver licenses to release non-native fauna.

Following the framework in the law on the protection of homoeothermic wild fauna and hunting, the Coypu is subject to population control. This aspect has been also described by specific ministerial guidelines and is included in the regional and provincial hunting plans.

The management of the Grey Squirrel is made according to the provisions set forth in the Action Plans (ISPRA and Ministry of Environment). The Cottontail Rabbit is directly managed by the Provinces, once they acquired the positive opinion of ISPRA.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Hunters actively collaborate in the management of the environment, both in natural areas where hunting is not permitted and in areas where hunting is allowed. They also play a relevant role in the official monitoring operations carried out at the regional and local level. In these areas, the reporting and spatial identification of IAS become an integral part of the monitoring programs, including wildlife health monitoring programmes.



Hunters play an active role in the wildlife monitoring system. Hence, they provide relevant data, not only for research, but also in terms of prevention for human health and, last but not least, in the early warning of IAS presence. On a broader point of view, even pathogen invasive alien invertebrate species need to be monitored, and even in this case hunters can an important role.

## 7. NETHERLANDS

### General overview:

The Netherlands have a national governmental Invasive Aliens team that is an independent Agency within the Ministry of Economic Affairs<sup>1</sup>. This Agency develops, in collaboration with hunters, risk assessments on IAS and measures based on these assessments.

### INVASIVE ALIEN MAMMALS AND BIRDS IN THE NETHERLANDS:

#### Mammals:

American Mink – *Neovision vison*  
 American Red Squirrel – *Tamiasciurus hudsonicus*  
 Coypu – *Myocastor coypus*  
 Eastern Gray Squirrel – *Sciurus carolinensis*  
 Fox Squirrel – *Sciurus niger*  
 Japanese Squirrel – *Sciurus lis*  
 Muskrat – *Ondatra zibethicus*  
 North American Beaver – *Castor canadensis*  
 Pallas's Squirrel – *Callosciurus erythraeus*  
 Reeves' Muntjac – *Muntiacus reevesi*  
 Sika Deer – *Cervus nippon*  
 Striped Skunk – *Mephitis mephitis*

#### Birds:

African Sacred Ibis – *Threskiornis aethiopicus*  
 Bar-headed Goose – *Anser indicus*  
 Canada Goose – *Branta canadensis*  
 Egyptian Goose – *Alopochen aegyptiacus*  
 House Crow – *Corvus splendens*  
 Monk Parakeet – *Myiopsitta monachus*  
 Rose-ringed Parakeet – *Psittacula krameri*  
 Ruddy Duck – *Oxyura jamaicensis*  
 Vinous-throated Parrotbill – *Paradoxornis webbianus*

### **Principle 1: Avoid intentional and unintentional releases of new invasive alien game species**

Introduction of invasive alien species is illegal by the National Flora and Fauna Act, according to national Dutch legislation.

While introduction of native animal and plant species is sometimes allowed after a proper assessment, releasing hunting species (native or not) isn't permitted.

Hunters are educated about the negative impacts and consequences of introduction of invasive alien species as part of their hunting license. The Royal Dutch Hunting Association also educates members through articles in their magazine about alien species and encourages members to monitor the presence and distribution of those species.

### **Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

In the Netherlands feeding of game is restricted:

- Feeding for breeding purposes under natural circumstances is prohibited;

<sup>1</sup> <https://www.nvwa.nl/onderwerpen/invasieve-exoten/inhoud/team-invasieve-exoten>

- Feeding red deer, fallow deer and wild boar is allowed with some non-invasive agricultural crops during limited periods of the year.

Part of the hunting exam is a chapter about habitat management on biotope development in which hunters are encouraged to use native species and to put a focus on biodiversity.

Habitat restoration and nature development is stimulated and subsidized by the national and regional government. There are guidelines published for habitat restoration as part of this nature restoration program.

There are national and regional programmes to monitor the distribution of plant species and data is available in the National Database Flora and Fauna (NDFF) with a grid of 1x1 km.

There is a lot of education on habitat restoration. The National Forest Service breeds and sells trees and shrubs with native genetic sources and stimulates to use these species in plantations.

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

Introduction and restocking of native and non-native game species is not allowed under the national Flora and Fauna Act. If introduction of native species is considered, there are strict conditions according to the national legislation and guidelines of the IUCN. In that case a monitoring program is part of restocking and introduction. Both introduction and restocking is a very rare activity.

**Principle 4: Select sources for restocking from populations with appropriate genetic and disease management**

In current hunting practice, there is no restocking of populations.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

Each hunter is educated as part of the hunting courses in biodiversity, the impact of invasive species and the role of hunters to protect biodiversity and the prevention of damage on ecosystems.

For some species like the Ruddy Duck (*Oxyura jamaicensis*) measures are taken to minimize populations. Regional projects are now scaled up to the national level in cooperation with the national organisation of bird preservation SOVON (NGO). Waterfowl monitoring is used to detect important sites.

For other species as the Muskrat (*Ondatra zibethicus*) there are national eradication programs in which hunters participate by, among others, sharing information about the

distribution. In the Netherlands reducing the number of Muskrats would decrease the risk of flooding in polder areas.

There is a national IAS working group from the ministry of Economic Affairs that coordinates the risk assessment of alien species.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Hunters in the Netherlands have their own monitoring program for hunting species and collaborate in national monitoring programmes on breeding and migrating birds and mammals. Invasive alien species are part of the monitoring. The open access database [www.waarnemingen.nl](http://www.waarnemingen.nl) is used for occasional observations of (non-)alien species. National monitoring of alien species e.g. is the responsibility of different NGO and hunters contribute to these databases.

Hunting magazines are publishing about IAS, both with ecological information as trend analysis and maps to explain their status, distribution and population development. Education and information will contribute to the involvement of hunters in monitoring and taking measures to reduce the impact of IAS on biodiversity.

## 8. SLOVENIA

### General overview:

#### INVASIVE ALIEN MAMMALS AND BIRDS IN SLOVENIA:

##### Mammals:

Coypu – *Myocastor coypus*  
 Eastern Grey Squirrel – *Sciurus carolinensis*  
 Fallow Deer – *Dama dama*  
 Fox Squirrel – *Sciurus niger*  
 Pallas's Squirrel – *Callosciurus erythraeus*  
 Raccoon – *Procyon lotor*  
 Raccoon Dog – *Nyctereutes procyonoides*  
 Siberian Chipmunk – *Tamias sibiricus*

##### Birds:

House Crow – *Corvus splendens*

### **Principle 1: Avoid intentional and unintentional releases of new invasive alien game species**

Introductions of species are covered in Slovenian legislation (mainly in the Law for Hunting and Game as well as The Nature Conservation Act).

The Law on Hunting and Game prohibits keeping enclosed animals which in case of escape can influence the genetic pool of native animals (Article 50(5)).

Under the Nature Conservation Act, it is prohibited to introduce non-native animals and plants, without a proper assessment. In case of huntable animals the permission is given by the minister, based on an evidence-based assessment (Article 17). The same law also foresees in penalties in case of illegal introduction of non-native species, or a person is breeding native or non-native species without permission (Article 160).

Hunters are educated about the impacts of introduction of invasive alien species, which is part of the hunting exam.

### **Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

Since 2014, it is not allowed to use alien plants for feeding game. See the Annual Hunting Management Plan:

[http://www.mko.gov.si/fileadmin/mko.gov.si/pageuploads/podrocja/Lovstvo/Primorsko\\_LUO\\_2014.pdf](http://www.mko.gov.si/fileadmin/mko.gov.si/pageuploads/podrocja/Lovstvo/Primorsko_LUO_2014.pdf)

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

The Law on Hunting and Game allows restocking of native game species and introduction or stocking of native and non-native species, when it is done under the hunting plans, and having regard for veterinary and nature conservation legislation (Article 40).

Restocking of animals must be monitored and controlled (Art 18, The Nature Conservation Act).

Hunting plans are addressing the introduction and restocking of animals very briefly, as it is not a common activity in Slovenia to use restocking (only in rare cases). In case of Common Pheasant (*Phasianus colchicus*), restocking is only allowed in cases where they are meant for revitalisation of the population.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

From hunting management plans, it can be concluded that alien species, such as Fallow Deer (*Dama dama*) and Mouflon (*Ovis ammon musimon*) appear in Slovenia. However they reside in a few areas, where they are kept and their spread is monitored and regulated. They are not allowed to spread into other areas. Other alien species such as Alpine Marmot (*Marmota marmot*), Coypu (*Myocastor coypus*) and Muskrat (*Ondatra zibethicus*) are spreading, but measures are in place to stop the spread and to try to remove the species.

Hunting management plans addresses the non-native species, especially invasive ones with immediate removal. Invasive alien species that have a negative impact on other species, such as Raccoon Dog (*Nyctereutes procyonoides*) (which is appearing sporadically), can be removed immediately while the hunting seasons for the species is open.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

To get the hunting licence in Slovenia, a person first obtains the status of apprentice and has to spend one-year-long training with the goal to obtain practical knowledge. To each apprentice is assigned a mentor, who teaches him ethics, manners, environment and hunting practices. 60 hours of theoretical classes are part of the training, to be allowed to partake in the final exam. A hunter can also obtain a title of "Hunting warden", if he has 5 years' experience and passes additional 100 hours of thorough theoretical classes. Currently around 15% of all Slovenian hunters have the title of "Hunting warden".

Through those systematic courses and trainings, hunters acquire citizen-science skills and solid knowledge about environment, natural processes, species and their behaviour.

Hunters spend many hours in the forests and surrounding areas. They can also participate in counting of the species. Those activities allow them to quickly notice any changes. This is for example how Raccoon Dog specimens have been observed in the past.

## 9. SWEDEN

### General overview:

A national strategy and action plan to establish a system to manage the import, movement and release of alien species and genotypes was completed in 2008. The objective of the strategy and action plan is to stop the human spread of non-native organisms in Swedish ecosystems. These organisms harm biological diversity, ecosystem function, socioeconomic/cultural values and/or human health. The work was coordinated by the Swedish Environmental Protection Agency and involved relevant Swedish authorities and organisations in a comprehensive working group.

In 2014, the national strategy was revised to fit the new EU-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. Until 2008 about 2000 alien species have been reported in Sweden. Of these, 1461 species have established as reproducing populations, 462 species are casual, and it is uncertain whether the other 77 species have established as reproducing populations.

### INVASIVE MAMMALS AND BIRDS IN SWEDEN:

#### Mammals:

American Mink – *Neovison vison*  
 Brown Rat – *Rattus norvegicus*  
 European Rabbit – *Oryctolagus cuniculus*  
 Muskrat – *Ondatra zibethicus*  
 Raccoon Dog – *Nyctereutes procyonoides*

#### Birds:

Canada Goose – *Branta canadensis*  
 Common Pigeon – *Columba livia*

### **Principle 1: Avoid the intentional and unintentional release of new invasive alien game species**

According to the Swedish Regulation (1994: 1830) on the import of live animals, it is forbidden to import alien species that may contribute to the spread of infectious or hereditary diseases in animals, or damage native fauna.

In the Swedish Hunting Regulation (1987: 905), there is a general ban on the release of wild animals. Notwithstanding the provision in the Hunting regulation, Grey Partridge (*Perdix perdix*), Common Pheasant (*Phasianus colchicus*) and Mallard (*Anas platyrhynchos*) may however be released after permission by the landowner if the species is or has been naturally occurring in the area.

**Principle 2: Avoid intentional and unintentional introduction and spread of invasive alien plants for game food and shelter**

The Swedish Association for Hunting and Wildlife Management (SAHWM) recommends to primarily use native species.

**Principle 3: Use alien species for restocking only if non-invasive or introduced in ancient historic times**

The Common Pheasant is the only alien species that can be legally restocked in Sweden. The species was introduced to Sweden as a game species in the nineteenth century. SAHWM has, together with several other stakeholder organizations, jointly developed ethical guidelines for breeding, release and hunting of stocked birds.

**Principle 4: Select source for restocking from populations with appropriate genetic and disease management**

SAHWM has, together with several other stakeholder organizations, jointly developed ethical guidelines for breeding, releasing and hunting of stocked birds. These guidelines are continuously revised.

**Principle 5: Practice animal-aided hunting minimizing the risk of escapes and of impacting native species**

Animal-aided hunting (excluding hunting with dogs) is very limited in Sweden. Falconry is forbidden in Sweden. Only ferrets are used on a small scale for hunting rabbits.

**Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

SAHWM was the coordinating beneficiary of an EU-LIFE+ project called "Management of invasive Raccoon Dogs (*Nyctereutes procyonoides*) in the north-European countries (MIRDINEC)" in 2010-2013. This project was chosen as one of the twelve 'Best' LIFE project in 2014. SAHWM has, since the LIFE-project, had a mission from the Swedish Environmental Protection Agency to monitor and minimise occurrence of Raccoon Dog and Raccoon (*Procyon lotor*) in Sweden. To conduct this mission SAHWM receives 8 000 000 SEK/year (approx. 815 000 €/Year).

It is important to educate hunters about the negative consequences of invasive alien species. SAHWM educates hunters on IAS both within the ongoing Raccoon Dog management project as well as within their regular education tasks. Information and project results are disseminated in hunting magazines and through general media such as newspapers, television and radio.

Local hunters are involved in this project by finding and eradicating Raccoon Dog and Raccoon. Before and during every hunting season local hunters are encouraged to report



and if possible kill invasive alien predators during their hunting for other species. Invasive alien predators can be killed at all times of the year. Especially the Raccoon Dog is easy to put at bay with moose- and bear dogs. In 2013, one Raccoon was confirmed in Sweden and later trapped by local hunter under supervision of the project. In 2014, the project culled 104 Raccoon Dogs, 28 of these were shot or trapped by local hunters. In 2015, the project culled 62 Raccoon Dogs, 18 of these were killed by local hunters. Swedish hunters are also involved in ongoing and previous American Mink (*Neovison vison*) eradication projects. This was initiated by the hunters themselves, governmental bodies and ornithologists.

**Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Swedish hunters regularly participate in monitoring programmes, some of which involve IAS. The Swedish hunters are continuously involved in the monitoring and early warning of Raccoon and Raccoon Dog by reporting their observations of the species to the management project lead by the SAHWM. The Raccoon Dog project itself use well over 300 trail cameras to find and monitor invasive alien predators. Hunters are also encouraged to send pictures of IAS from their trail cameras. When invasive alien predators are not monitored, managed and kept at low densities where they exist, it will negatively affect the native fauna and the spread of potential diseases.

## 10. UNITED KINGDOM

### General overview:

In 2005, the Great Britain Non-native Species Programme Board was established to deliver strategic consideration of the threat of invasive alien species across Britain.

The Non-native Species Secretariat was set up in March 2006. Its main duties are to support the actions and to undertake a work programme to meet the aims of the Programme Board. The Secretariat is the focal point for communication and coordination between the Programme Board, Working Groups and stakeholders. The Invasive Non-native Species Framework Strategy was launched in 2006 and updated in 2015. The Strategy sets out the high-level framework and details the key actions required to address the problems caused by invasive alien species.

Hunting and fishing organisations have been involved with the Non-native Species Secretariat since the beginning. In particular the British Association for Shooting and Conservation (BASC) has been involved with its stakeholder groups and working groups in addition to sharing the practical action it takes to deal with the impacts of IAS.

BASC has also assisted the UK government's Department for the Environment and rural Affairs on the EU IAS regulation, by being part of its stakeholder working group.

### INVASIVE ALIEN MAMMALS AND BIRDS IN UK:

#### Mammals:

American Mink – *Neovison vison*  
 Chinese Water Deer – *Hydropotes inermis*  
 Coatimundi – *Nasua nasua*  
 Edible Dormouse – *Glis glis*  
 Muntjac Deer – *Muntiacus reevesi*  
 Siberian Chipmunk – *Tamias sibiricus*  
 Sika Deer – *Cervus nippon*

#### Birds:

African Sacred Ibis – *Threskiornis aethiopicus*  
 Bar-headed Goose – *Anser indicus*  
 Black Swan – *Cygnus atratus*  
 Canada Goose – *Branta Canadensis*  
 Egyptian Goose – *Alopochen aegyptiacus*  
 Emperor Goose – *Chen canagicus*  
 Eurasian Eagle Owl – *Bubo bubo*  
 Indian House Crow – *Corvus splendens*  
 Monk Parakeet – *Myiopsitta monachus*  
 Rose-ringed Parakeet – *Psittacula krameri*  
 Ruddy Duck – *Oxyura jamaicensis*  
 Wood Duck – *Aix sponsa*

### **Principle 6: Consider eradication and control as essential management tools to tackle IAS and support their implementation also when targeting game species**

Hunting in the UK plays an important role in the control and eradication of a range of species. Grey Squirrel (*Sciurus carolinensis*) and American Mink (*Neovison vison*) are two IAS that hunters are controlling as a matter of good management as well as supporting

coordinated projects run by organisations representing hunting and non-governmental organisations.

BASC is part of the UK Squirrel Accord which draws together the organisations and stakeholders with an interest in controlling Grey Squirrel, to limit their damage to biodiversity and growing timber. BASC has a range of projects across the UK where it sets up groups of hunters to control the Grey Squirrel in strategic locations.

BASC has engaged with the control of American Mink in a coordinated way since 2003. BASC has provided a case study on its extensive American Mink control programme in South West England through FACE's Biodiversity Manifesto website<sup>1</sup>.

BASC's most recent project work is located in Wales, where the government's statutory nature conservation agency has provided £137,000 (c. €195,300) towards the costs of a three year project for the strategic control of American Mink and Grey Squirrel, to benefit biodiversity.

<http://basc.org.uk/conservation/green-shoots/green-shoots-in-wales/>

The project is currently creating a network of trained volunteers who will monitor for Grey Squirrel and American Mink and trap and kill them when populations are detected. Volunteers record what they see and cull and this data will be sent back to BASC for analysis and sharing with partners. The core of these volunteers is formed by hunters.

Government and voluntary organisations have come to recognise that working with hunters is a cost-effective and long-term solution to the challenges of controlling certain IAS.

### **Principle 7: Collaborate in monitoring and surveillance programmes on IAS**

Hunters participate in a range of IAS programmes run by a range of organisations. Through BASC's Green Shoots biodiversity programme, hunters have engaged in the monitoring of a range of both plant and animal IAS. Data is collected both through direct engagement with specific projects and through BASC's Green Shoots Mapping website: <http://basc.org.uk/conservation/green-shoots-mapping/>. Data from these mechanisms can be shared to enhance the knowledge base of IAS to better understand their status and to target control efforts.

In addition BASC informs its 144,500 members about IAS issues through its bi-monthly membership magazine and the wider UK public through the national press and its website. BASC also published features on new IAS threats and how to report sightings of them. In addition it uses its publications, emails and website to inform hunters on policy development such as the new EU IAS Regulation.

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<sup>1</sup> [www.biodiversitymanifesto.com](http://www.biodiversitymanifesto.com)

## IAF AND REPORT ON PRINCIPLE 5

*Report by: Adrian Lombard, President of International Association for Falconry and the Conservation of Birds of Prey.*

The International Association for Falconry and the Conservation of Birds of Prey (IAF) is an international non-profit organization registered in Belgium. It is the globally representative organization for Falconry which it defines as “the traditional sport of taking quarry in its natural state and habitat by means of trained birds of prey. It is a hunting art”. The IAF represents falconers from 90 member organizations and 67 countries, worldwide. The IAF has the right to send a representative to meetings of the Standing Committee of the Bern Convention.

The IAF contributed to the formulation of Principle 5 of the Code of Conduct for Hunting and Invasive Alien Species, the final draft of which was released by the Bern Convention in August 2013. Since the release of this document, the IAF has taken steps to inform falconers of the content of this document and to implement the proposals contained there-in. As President of the IAF, I presented the Code of Conduct and, specifically, Principle 5 of this Code to my Advisory Committee and then to the Council of Delegates at our Annual General Meeting, held in Doha, Qatar, in January 2014. At this meeting, I gained the acceptance and support for Principle 5 from our member organizations. To further publicize this Code, we have included an article on this topic in our annual flagship publication, The International Journal of Falconry.

### **Principle 5. Practice animal-aided hunting minimizing the risks of escapes and of impacting native species**

#### *Text from Code of Conduct on Hunting and IAS*

The unintentional introductions (escapes) of species used in animal-aided hunting (e.g. falconry, ferreting, drive hunting with dogs) can cause impacts on native species. Domestic forms and feral animals of domestic species use in hunting (dogs, ferrets, etc.) in fact represent alien species that in some cases can cause severe impacts on biodiversity<sup>1</sup>

Falconry is a traditional hunting technique, recently stated as Living Human Heritage by UNESCO. Falconry is practiced throughout Europe and often use is made of non-native birds of prey, some of which are hybrids with native birds. The chances of a hybrid falcon hybridising further with a native wild species are very limited but the risk of introduction of non-native genes through falconry should be carefully taken into account.

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<sup>1</sup> Dogs are known to cause impacts on biodiversity, for example by predating native species or hybridising with the wolf. However, considering there are no evidences that escaped hunting dogs have formed self-sustaining populations in the wild in Europe, the present Code of Conduct does not cover this specific topic.

The IAF is closely monitoring any evidence of such introgression and will welcome and assist with any scientific research in this area. We include an expert on this topic, Prof. Matthew Gage, on our Advisory Committee and he has been invaluable in collating and assessing the available information. With the assistance of Prof. Gage, we provided comment on this issue to the Saker Task Force of the CMS Raptors MoU in the development of the Saker Falcon Global Action Plan. We also provided extensive comments to the proposed Strategic Plan for Raptor Conservation in the European Union which was developed for the Raptors MoU.

*Text from Code of Conduct on Hunting and IAS*

Most of the threats arising from falconry are due to a bad practice of this traditional hunting technique. It is therefore important that falconers take measures to minimize any possible risk caused by the introduction of non-native genes through falconry, and to apply appropriate raining methods for hunting. In order to ensure a safe and sustainable practice of falconry, it is also important to encourage the adoption of voluntary self-regulations (e.g. codes of conduct as recently proposed by the International Association for Falconry and the Conservation of Birds of Prey - IAF).

The IAF has developed its own Code of Conduct with respect to falconry and IAS. This has been presented by Prof. Gage to the Council of Delegates in January 2014 and has been circulated to falconers, internationally, in the form of an eNewsletter. Furthermore, it has been placed on our website, [www.iaf.org](http://www.iaf.org). This Code is attached below as an appendix.

*Text from Code of Conduct on Hunting and IAS*

Falconers should also negotiate the adoption of appropriate national/regional regulatory measures (e.g. regulation adopted by the Government of Canary Islands in 2011), with national or regional authorities, taking into account the scientific evidence for risk of gene introgression or the establishment of invasive populations of raptors.

As part of the process of informing falconers on this subject, we have advised them to engage with their authorities on this topic. The information on our website as well as the article awaiting publication in our Journal provides resource material for national falconry organizations and the IAF will provide further assistance as requested.

*Text from Code of Conduct on Hunting and IAS*

In terms of self-regulation, falconers should as a starting point adopt the recommendations included in the position statement of the International Association for Falconry and Conservation of birds of prey on falcon hybrids:

- hybrids be fostered if possible by a parent that does not occur locally in the wild;
- hybrids only be hacked<sup>1</sup> in large conditioning pens;
- hybrids only be flown with reliable telemetry equipment;
- maximum efforts be made to recover any hybrid that is lost;
- hybrids should never be deliberately released.

This advice is derived from the IAF statement on Hybrid and Exotic Falcons which was accepted at the Council of Delegates AGM, held in Amarillo, Texas, in 2000. This is largely superseded by our Code of Conduct for Falconry with respect to IAS.

*Text from Code of Conduct on Hunting and IAS*

Responsible falconers should adopt all possible measures to prevent escapes of birds of prey, in particular of hybrids or non-native birds. Furthermore, a registration scheme, aimed at identifying the origin of each bird (pure-bred or hybrid), should be adopted and, consequently, any bird should be registered and individually marked by a ring and/or a microchip.

All legitimate falconry raptors within the European Union are required by law to wear official tamper-proof rings and to be registered with the national conservation authorities (EC Regulation Nr. 338/97). The IAF proposed a system of “Mark and Bank” registration at the Council of Delegates AGM in Abu Dhabi in 2004. This registration scheme proposes the combination of tamper-proof rings with the storage of DNA material to ensure the accurate identification of any falconry raptor. There is early discussion regarding the proposal to combine this scheme with a central multinational registry or “Stud-book”

*Text from Code of Conduct on Hunting and IAS*

Also the establishment of a web-based monitoring system for lost/escaped hybrid or exotic raptors should be considered.

This is currently established and is accessible on our website [www.iaf.org](http://www.iaf.org).

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<sup>1</sup> Method of “soft release” to learn flying skills

*Text from Code of Conduct on Hunting and IAS*

Finally, within the context of the Birds Directive (79/409/EEC), falconers should be encouraged to reduce the use of hybrids and, specifically, to avoid the use of hybrids with any species which exists only in North America.

Hybrid falcons enjoy limited popularity amongst falconers in European Union countries. They have been banned in Germany. Research has shown that the use of hybrids is significantly reduced in those countries where a limited sustainable harvest of wild raptors is accessible to falconers<sup>1 2</sup>. It is the strategy of the IAF to actively encourage the establishment of such a harvest, where possible, noting that this is permissible in terms of Article 9 of the Birds Directive. A sustainable wild harvest would have the dual benefit of encouraging falconers to reduce their use of hybrid raptors and would, at the same time, encourage their further active engagement in the conservation effort.

This section demonstrates the engagement of falconers, as represented by the IAF, in the implementation of the Code of Conduct for Hunting and IAS. Whilst appreciating that this will be an ongoing effort, we wish it noted that the requirements of Principle 5 have been implemented or are in process.

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<sup>1</sup> Kenward, R.E. 2004. Management tools for raptors. Pp. 329-339 in Chancellor, R.D. & B.-U. Meyburg (eds). Raptors Worldwide. World Working Group on Birds of Prey and Owls, Berlin, Germany.

<sup>2</sup> Kenward, R.E. 2009. Conservation values from falconry. Pp. 181-196 in Adams, W., Dixon, B. and Hutton, J. (eds.) Recreational Hunting, Conservation and Rural Livelihoods: Science and Practice. Zoological Society of London & IUCN SSC/Sustainable Use Specialist Group & Blackwell Publishing.

## FACE AND ITS ACTIVITIES

### **What is FACE?**

FACE is the European Federation of Associations for Hunting and Conservation.

Established in 1977, it represents in the interests of Europe's 7 million hunters as an international non-profit-making non-governmental organisation (INGO). This makes FACE the largest democratically representative body for hunters in the world and is probably one of the largest European civil society organisations.

FACE is made up of its Members; national hunters' associations from 36 European countries including all EU-28 Member States. FACE also has 5 Associate Members.

FACE upholds the principle of sustainable use, has been a member of IUCN since 1987, and more recently Wetlands International. FACE works with its partners on a range of hunting related issues, from international conservation agreements to local implementations with the aim of sustaining hunting across Europe.

FACE is recognised by the European Commission as the representative body for Europe's hunters. It is consulted by the relevant Commission Directorates-General and Units during the preparation, elaboration and monitoring of EU legislation dealing with hunting, wildlife management, nature conservation, firearms, trapping, wild animal health, game meat hygiene, etc.

FACE office is based in Brussels and comprises of ten staff competent in seven languages. Through its member associations FACE has a widespread and well connected network. To strengthen this network certain FACE staff act as focal points for Member State groups (e.g. Baltic, Central Europe, Mediterranean). This has proved effective means to improve the understanding of national issues and raise awareness of EU policy at national level.

### **FACE activities under Code of Conduct on Hunting and IAS**

FACE and its Members urge policy makers and conservation organisations dealing with species conservation to make decisions based on the best scientific knowledge and wise judgement for the benefit of the concerned species as well as the interacting species.

In the meantime, FACE keeps its Members and hunters informed on the EU Regulation of Invasive alien Species (and the IAS list of EU concerns) as well as the threat of invasive alien species and the way they can be involved in surveillance, eradication and management of the populations.

Best Practice Guidelines for Trapping of Mammals (BPG) in Europe<sup>1</sup> have been developed. Although not developed with primary focus on invasive alien species, they are an important way to spread the information on IAS and possible means to effectively manage their spread or eradication, while considering selectivity of species caught and high welfare standards.

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<sup>1</sup> <http://face.eu/hunting-methods-culture/trapping>



BPG is targeted at trappers, authorities, NGOs and other parties interested in the trapping of mammals. The first part of the BPG provides information on international legislation and underlines the need to keep in mind national legislations, health and security while using traps. The second part of the BPG covers species description, their distribution and ecology, foraging behaviour, reproduction, etc. The last part covers possible trap models and types, how to set them, how to ensure selectivity and ensure welfare of trapped animals.

Raccoon Rog (*Nyctereutes procyonoides*) and Muskrat (*Ondatra zibethicus*) are the two invasive alien species, for which the BPG were developed.

FACE also developed the Biodiversity Manifesto (BDM) which demonstrates the commitment of Europe's hunters to biodiversity conservation. In the 2016 implementation report of the BDM, hunters are involved in 29 projects dealing with invasive alien species.

## APPENDIX 1: CHALLENGES AND RESPONSIBILITIES FOR FALCONERS WHEN FLYING HYBRIDS AND EXOTICS: AN IAF CODE OF CONDUCT

Despite studies so far demonstrating no evidence for an IAS issue from falconry, it's important that falconers take responsibility to minimise bad publicity that could arise as a result of misunderstanding surrounding IAS issues, and also to ensure that no ex-falconry species ever does become established. On top of these, is the responsibility arising from a primary duty of care by falconers to their birds through the prevention of loss (and subsequently high risk of mortality). Responsibility has been taken by some elements where previous risks of bird loss existed: free-hacking is now conducted in large, enclosed conditioning pens; telemetry technology and investment has risen to high levels and reached new bounds as a major industry within falconry; the tradition for hacking back by some falconry cultures such as Arabia has ceased for non-indigenous species. Despite all this, the success of captive breeding occasionally allows falconry birds to get into irresponsible hands, and these can be subsequently lost because they are flown in inappropriate places by irresponsible people. The responsible falconry community will not tolerate these incidents because they are (1) failures of the duty of care we have to our birds, and (2) create bad (albeit anecdotal) publicity that falconry could be relevant to an IAS issue.

Therefore, to even further minimise any risk that exotic species or hybrids could potentially pose to the name of responsible falconry through the Invasive Alien Species issue, IAF requires that affiliated falconry Clubs should formally adopt this code of conduct when their members fly exotic species or hybrids:

1. No hybrids or exotics should ever be deliberately released to the wild;
2. Modern functioning telemetry should be used when any hybrid or exotic species is flown; and
3. IAF will manage an online reporting scheme so that any incidents of ex-falconry hybrids or exotics can be recorded attempting to establish or breed in the wild.

This code should allow falconers to monitor the IAS issue effectively and transparently, while further minimising any poor publicity created by lost falconry birds.