2021 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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THE EUROPEAN CODE OF CONDUCT ON HUNTING AND IAS

The introduction of invasive alien species (IAS) to native ecosystems is one of the main drivers of biodiversity loss in Europe and globally. It is therefore high on the agenda of nature conservation programs. European hunters play an important role in preventing, reducing and managing invasive alien species (IAS). At the same time, it is important that hunting is not a pathway for the introduction of new IAS into Europe. To avoid this, hunters must pay special attention to certain hunting practices such as restocking or when engaging in some forms of animal-aided hunting.

To help hunters and hunting associations avoid introducing or spreading IAS, FACE[1] contributed to the development the Code of Conduct on Hunting and Invasive Alien Species (IAS)[2] which was adopted at the 33rd 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[3] and the new EU Biodiversity Strategy to 2030. Respecting these principles would therefore support the protection of Europe's biodiversity and the sustainability of hunting.

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.

[1] The Federation of Associations for Hunting and Conservation of the EU – www.face.eu
[2] http://www.face.eu/sites/default/files/attachments/inf20ecorr_2013_code_of_conduct_hunting_ias_final.pdf
[3] https://www.cbd.int/doc/external/cop-09/bern-01-en.pdf

OUTLINE OF REPORT

After the adoption of the Code of Conduct on Hunting and IAS in 2013, an initiative was formed by FACE and IAF[1] 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) which are in line with the 7 principles. Hence, this document offers concrete examples of action taken to meet the requirements mentioned under each of the 7 principles of the Code of Conduct. Through this report, FACE and IAF show that both organisations and their members are considering this topic as being highly important and underline how Europe's hunting community is engaged in the management of IAS.

This is the third implementation report on the Code of Conduct on Hunting and IAS, based on data gathered in 2021 by FACE and FACE Members. It contains information from 11 European countries: Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Romania, Slovenia, Sweden and the United Kingdom.

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

[1] International Association for Falconry and Conservation of Birds of Prey – www.iaf.org

IMPLEMENTATION OF THE CODE OF CONDUCT

1. DENMARK

General overview

A national action plan regarding the prevention of the introduction and spread of invasive alien species and the control or eradication of such species was adopted in 2009, and a revised version was published in 2017. Furthermore, a management plan dealing specifically with Raccoon Dog, Raccoon & American Mink was adopted in 2020.

These plans, the general legislation on hunting and derogation shooting form the general strategy for handling IAS in Denmark. 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*
Fox Squirrel – *Sciurus niger*
Grey Squirrel – *Sciurus carolinensis*
Javan Mongoose – *Herpestes javanicus*
Muntjac – *Muntiacus reevesi*
Muskrat – *Ondatra zibethicus*
Raccoon – *Procyon lotor*
Raccoon Dog – *Nyctereutes procyonoides*
Ring-tailed Coati – *Nasua nasua*

Birds

Black Swan – *Cygnus atratus*
Canada Goose – *Branta canadensis*
Egyptian Goose – *Alopochen aegyptiacus*
House Crow – *Corvus splendens*
Ruddy Duck – *Oxyura jamaicensis*
Sacred Ibis – Threskiornis aethiopicus

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). Since 2014 it has been illegal to keep Raccoon Dog and Raccoon as pets in private facilities.

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 very limited focus until now, but attention to the importance of these matters is increasing, particularly in relation to Mallard restocking.

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

Hunting dogs are generally the only animals used for hunting in Denmark. However, falconry (primarily using non-native species) has been allowed since 2018. All birds of prey used for falconry must wear either radio- or GPS-transmitters while training or hunting.

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

In general, the legislation concerning IAS has been improved over the last decade, resulting in more flexibility and more effective methods available to hunters (e.g., the use of night vision devices without prior permission is now allowed when shooting IAS). However, very limited funding is available for eradication projects; most funding is directed towards communication campaigns and education of hunters.

Eradication and control efforts are mainly driven by hunters. The Raccoon Dog Project, coordinated by the Danish Hunters' Association and partly funded by the Danish Environmental Protection Agency, involves 24 hunters devoting their spare time to catch and kill Raccoon Dogs as well as acting as contact points for other hunters seeking advice on best practice etc. The project is to some degree preventing the spread of Raccoon Dog in Denmark, but it is not fully successful. Another project exists on the management of the American Mink population and is run by the Danish Nature Agency. Based on hunting bag statistics, both populations appear to be stabilizing, yet no coordinated monitoring of the population takes place.

There is no particular focus on invasive bird species.

Principle 7: Collaborate in monitoring and surveillance programmes on IAS

No such coordination is currently in place, although an annual meeting is held between stakeholders in the Nordic countries.

2. FINLAND

General overview

Finland's National Strategy on IAS was completed in April 2012. The purpose of the strategy is to prevent damages and risks caused by IAS and to improve the sustainable use of natural resources for the livelihoods and the 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 IAS was prepared in a comprehensive working group including additional experts, involving in total more than 100 people. In 2015, the Act on Managing the Risk Caused by Alien Species was enacted. It was updated in 2019. After the 2019 update it is more efficient to eradicate the American Mink and Raccoon Dog in Finland.

INVASIVE ALIEN MAMMALS AND BIRDS IN FINLAND:

National list of harmful invasive alien species (link**):**

The species is on the list of invasive alien species of national importance. The EU regulations allow the states to determine invasive alien species of national importance. Member states may set their own restrictions on these species.

Mammals

Alien Carnivores – *Carnivora*
American Mink – *Neovison vison*
Sable – *Martes zibellina*
Beech Marten – *Martes foina*
Wolfdog (wolf-dog hybrid)
Chipmunks – *Tamias*
Alien Bats – *Chiroptera*

Birds

Alien Owls – *Strigiformes*
Alien Falcons – *Falconiformes*
Alien Crows and Jays – *Corvidae*
Lesser White-fronted Goose (hybrid) – *Anser erythropus hybrid*
Alien Raptors – *Accipitriformes*

EU's list of IAS of Union concern:

Since these species are classified as invasive alien species throughout the EU, their importation, cultivation or breeding, sales and other possession and release into the environment are prohibited.

Mammals

Muskrat – *Ondatra zibethicus*
Raccoon Dog – *Nyctereutes procyonoides*
Nutria – Myocastor *coypus*
Raccoon – *Procyon lotor*
Pallas's Squirrel – *Callosciurus erythraeus*
Reeves's Muntjac – *Muntiacus reevesi*
Siberian chipmunk – *Tamias sibiricus*

Birds

Ruddy Duck – *Oxyura jamaicensis*
Egyptian Goose – *Alopochen aegyptiaca*
Common myna – Acridotheres *tristis*
Sacred ibis – Threskiornis *aethiopicus*
House crow – Corvus *splendens*

South American coati – *Nasua nasua*
Small Indian mongoose –*Herpestes javanicus*
Eastern fox squirrel – *Sciurus niger*
Eastern grey squirrel – *Sciurus carolinensis*

Finland's National Strategy on Invasive Alien Species (GR 2012)

In addition to those mentioned in the Finnish national list and EU-list above:

Mammals	Birds
Cat – *Felis catus*	Canada Goose – *Branta canadensis*
White-tailed Deer – *Odocoileus virginianus*	
European Rabbit – *Oryctolagus cuniculus*	
Brown Rat – *Rattus norvegicus*	
Canadian Beaver – *Castor canadensis*	
Fallow Deer – *Dama dama*	

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, The Nature Conservation Act and Act on Managing the Risk Caused by Alien Species (link)). It is also covered in Government Decree on Invasive Alien Species of National Concern (1725/2015) (link) and Government Decree on Managing the Risk Caused by Alien Species (704/2019) (link).

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 species in Finland. When non-native species are used, they are not allowed to be introduced outside built-up areas or fields (Act on Managing the Risk Caused by Alien Species, section 3, link).

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 restocking of native and non-native species as long as it is performed in accordance with veterinary, nature conservation legislation and the Act on Managing the Risk Caused by Alien Species (link).

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 IAS.

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 in the beginning of the 2010 decade.

The Raccoon Dog is on the EU's list of IAS of Union concern and American Mink stands on the list of Finland's nationally relevant harmful alien species. The species was removed from the game species list in 2019 in the Finnish Hunting Act, the purpose of which was to facilitate and increase the efficiency of eradicating of harmful alien species.

The killing of harmful alien species, such as the Raccoon Dog and the American Mink, is no longer considered as hunting, but is subject to regulations on the capture and killing of harmful alien animal species.

As a result of the changes, methods prohibited in normal hunting, such as artificial light, electronic sights and sound-generating mechanical devices, may be used to catch Raccoon Dogs and American Minks. Eradication of harmful alien species must still comply with the principles of ethically acceptable hunting. For example, the use of foothold traps and poison in the hunting of alien predators is prohibited in Finland. These regulations are intended to prevent unnecessary suffering for animals.

The eradication of Raccoon Dogs and minks is also permitted for persons who have not completed the Finnish Hunters' examination and don't have the Finnish hunting card.

In the summer of 2021, the Finnish Hunters' Association started a two-year project for summer cottage owners to inspire them to catch invasive alien predators (Raccoon Dogs and American Minks) funded by the Ministry of Agriculture and Forestry.

The aim of the project is to increase the awareness of summer cottage owners in Finland's lake and seaside areas about harmful invasive alien predators, their negative impact on biodiversity and also to develop their cooperation with local hunting clubs in catching harmful

invasive alien predators. The project will share information and also traps for summer cottage owners to use in catching Raccoon Dogs and American Minks in an ethical manner.

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.

The 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. In 2020, the Finnish Wildlife Agency started co-ordinating a new project, called SOTKA-project, which is funded by the Ministry of Agriculture and Forestry. In the SOTKA-project extreme intensive hunting of Raccoon Dogs and mink will be carried out in the archipelagos and inlands valuable waterbird areas and other suitable wetlands.

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 harmful 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 IAS 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 from 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. Nowadays hunters also have a huge number of game cameras in use on their hunting grounds. Hunters also spend countless hours walking in the forests and surrounding areas and engage in biodiversity work. Hence, possible changes are quickly noticeable. People are encouraged to report IAS to the Finnish official IAS website (link).

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 de Winton*
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*
Bighorn Sheep – *Ammotragus lervia*

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 – *Syrmaticus reevesii*
Rose-Ringed Parakeet – *Psittacula krameri*
Ruddy Duck – *Oxyura jamaicensis*
Fischer's lovebird – *Agapornis fischeri*
Wood Duck – *Aix sponsa*
Egyptian goose – *Alopochen aegyptiacus*
California quail – *Callipepla californica*
Black swan – *Cygnus atratus*
Indian Silverbill – *Lonchura malabarica*
Ring-necked Pheasant – *Phasianus colchicus*
Rose-ringed Parakeet – *Psittacula krameri*

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. These 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 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 keep 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), French Biodiversity Agency (OFB), National Federation of Agricultural Workers' Unions (FNSEA) and the Permanent Assembly of Chambers of Agriculture (APCA) was renewed recently. 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 which is a pioneer in this field, and many other federations 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 10th 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 (link).
- The loss of birds of prey individuals is significantly reduced by progress and generalisation of telemetry and their obligatory tracking (chip).
- French Biodiversity Agency (OFB) manages a hunting birds of prey database.
- An internet alert network in case of birds of prey loss of 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[1].

Ferreting

The ferret is the domestic breed of the Polecat (*Mustela putorius*), thus it is part of the pets list of the 11th 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 (1st August 2012 ministerial ruling, Environment Code).

According to the 1 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 and its dispersion in nature.

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 IAS, 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 long time, but also for the Raccoon, the Raccoon Dog and, since 2012, the Canada Goose. Since the 2nd of September

[1] 4th 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

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 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 updated by the Hunting National Federation (FNC) at the national level to remind the IAS destruction modalities regulation.

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

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 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 (OFB, 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 in 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 OFB.

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"
- In 2018: "Special issue on invasive alien species"

4. GERMANY

General overview:

In Germany there is an official national list of 66 IAS (plants and animals). Five alien mammals and three alien Bird species are assessed to be established in Germany or some parts of the country (*see list below). A list of IAS and their status and distribution in Germany can be found by using the following link:

- https://www.bfn.de/fileadmin/BfN/service/Dokumente/skripten/Skript574.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 or to autochthonous ecosystems.

INVASIVE ALIEN MAMMALS AND BIRDS IN GERMANY (DETECTED IN THE WILD):

Mammals:

Coypu – *Myocastor coypus*
American Mink – *Neovison vison*
Raccoon Dog – *Nyctereutes procyonoides*
Muskrat – *Ondatra zibethicus*
Raccoon – *Procyon lotor*
Chinese Muntjak - *Muntiacus Reevesi*
South American Coati – *Nasua nasua*
Siberian Chipmunk – *Tamias sibiricus*

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 to 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 (C*ervus 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 native species and alien species e.g., Raccoon Dog, Raccoon and American Mink. 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 the WILD-Monitoring system and have a lot of experience in recording of animal indicator species.

Yearly reports can be downloaded:

https://www.jagdverband.de/forschung-aufklaerung/wild-monitoring/publikationen-und-vortraege/wild-jahresberichte

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 October 2017, Ireland's 3rd National Biodiversity Action Plan, for the period 2017-2021 was launched with 7 objectives supported by 119 targeted actions. Target 4.4 states that: "Harmful invasive alien species are controlled and there is reduced risk of introduction and/or spread of new species".

In September 2011, Ireland transposed the European Union (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*

Birds:

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

Wild Boar – *Sus scrofa*
Water Deer – *Hydropotes inermis*

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 Ireland's 3rd National Biodiversity Action Plan, is Target 4.4 states, which states that harmful invasive alien species are controlled and there is reduced risk of introduction and/or spread of new 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 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.

In the past, funding from the Irish Wildlife Ministry has allowed the NARGC, through its membership structure, to put a bounty in place for American Mink. However, funding for the eradication of the Mink & Grey Squirrel needs to be continuous and guaranteed until the problem is resolved. At the moment, funding is limited which hinders the effective management of American Mink and Grey Squirrel.

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:

The Legislative Decree 15 December 2017, n. 230, transposes Regulation (EU) no. 1143/2014 of the European Parliament and of the Council and lists the Invasive Alien Species (IAS) of a Union interest. A website has been set up by the Italian Institute for Environmental Protection and Research (ISPRA) and the Ministry for Ecological Transition (MiTE) to manage these species https://www.specieinvasive.it/index.php/it/. To this list we must add other alien species present in Italy, candidates to enter the list of IAS of the national interest. The same Legislative Decree in art. 22 provides for important measures, assigned to the Regions, for the management of the IAS. In this context, an important sentence by the Italian Constitutional Court (sentence February 17, 2021, n.21) is highlighted, since it clarified that even properly trained volunteer hunters can collaborate in the control activities of problematic wild fauna and therefore of IAS. It is believed that this clarification can make an important contribution to effectively contrast the IAS on the ground.

INVASIVE ALIEN MAMMALS AND BIRDS IN ITALY*:

* in bold the IAS of a Union interest

Mammals	Birds
Coypu – *Myocastor coypus*	**Egyptian Goose** – *Alopochen aegyptiaca*
Siberian Chipmunk – *Tamias sibiricus*	**Ruddy Duck** – *Oxyura jamaicensis*
Pallas's Squirrel –*Callosciurus erythraeus*	**African Sacred Ibis** – *Threskiornis aethiopicus*
Raccoon Dog – *Nyctereutes procyonoides*	Black Swan – *Cygnus atratus*
Raccoon – *Procion lotor*	Chukar Partridge – *Alectoris chukar*
American Mink – *Neovison vison*	Japanese Quail – *Coturnix japonica*
Black Rat – *Rattus rattus*	Monk Parakeet – *Myiopsitta monachus*
Brown Rat – *Rattus norvegicus*	Northern Bobwhite – *Colinus virginianus*
Eastern Cottontail Rabbit – *Syvilagus floridanus*	Red Avadavat – *Amandava amandava*
	Red-billed Leiothrix – *Leiothrix lutea*
Eastern Grey Squirrel – *Sciurus carolinensis*	Rose-ringed Parakeet – *Psittacula krameri*
Finlayson's Squirrel – *Callosciurus finlaysonii*	Turquoise-fronted Amazon – *Amazona aestiva*
House Mouse – *Mus musculus*	Vinous-throated Parrotbill – *Sinosuthora webbiana*
Pallas's Squirrel – *Callosciurus erythraeus*	
Muskrat – *Ondatra zibheticus*	Common Myna – *Acridotheres tristis*
Sika Deer – *Cervus nippon*.	Indian Peafowl – *Pavo cristatus.*

From these lists the species considered to be parautochthonous in Italy, i.e., by now naturalized - Decree 19th of January 2015, GU Serie Generale n. 31 of the 07 February 2015 - are excluded because they were introduced before the XVI century: European Muflon - *Ovis orientalis,* Fallow Deer - *Dama dama,* European Rabbit - *Oryctolagus cuniculus,* Pheasant

Phasianus colchicus. These last species are excluded from control measures or eradication measures, but their spread in regions where they are not already living is forbidden. Reliable and detailed information on IAS is an essential tool for applying effective and appropriate control strategies.

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

The Italian legal framework on the protection of homoeothermic[1] wild fauna and hunting prohibits the importation of alien species from abroad. In particular, Law n. 157/1992, 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.

Moreover, Presidential Decree n. 357/1997, modified by Presidential Decree n. 120/2003, art. 12, also prohibits the introduction of native species outside the original range. It is important to highlight that the Italian laws attribute to the Regions to rule this activity as part of the pluriannual "Releasing Plans". These Plans are regularly subject to Environmental Implications Assessment ("Habitats" Directive 92/43/EEC) and to Strategic Environmental Assessment ("VAS" Directive 2001/42/EC).

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. In the LIFE PERDIX 17 NAT/IT/000588 project, in which the Italian Hunting Federation (FIdC) is a beneficiary partner, a thorough examination of the autochthonous plants which may be used for the improvement of the habitat of SPA "Valle del Mezzano" IT4060008, the site reintroduction of Italian Gray Partridge (*Perdix perdix italica* Hartert, 1917) has been carried out.

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

[1] Animals having an almost constant body temperature.

Restocking is done, in accordance with the law, only by reintroducing native species or those naturalized during historical times, like the Pheasant (*Phasianus colchicus*). These activities must be authorized in accordance with the regional and provincial hunting wildlife Plans. These Plans are regularly subject to Environmental Implications Assessment and to Strategic Environmental Assessment.

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

The legal framework for the protection of homeothermic wild fauna and hunting (Law 157/1992, Art. 10), as well as regional laws and regulations, provide for wildlife management plans that aim to favour their natural reproduction. Nevertheless, some Plans for wildlife restocking also exist through the capture of specimens from populations with surpluses in national and regional parks and other wildlife protected areas. These plans need approval from ISPRA, which assesses the genetic compatibility of captured individuals. In addition, Article 10, paragraph 7, under c) allows the Provinces to establish public centres for the reproduction of wildlife in natural conditions, in order to reconstitute autochthonous populations.

The LIFE PERDIX 17 NAT/IT/000588 Project aims at recovering and conserving genetic biodiversity of Italian Gray Partridge (*Perdix perdix italica*), that was declared to be extinct in nature. Thanks to a reared stock of certain Italian origin a genetic selection on 3,000 specimens has been done. This selection is based on genetic markers previously identified on historical museum specimens. This Project includes a first demonstrative reintroduction in the SPA IT4060008 “Valle del Mezzano” (Po Plain, Northern Italy) and the securing of the *taxon* in other public rearing centres, in order to carry out further reintroduction activities. In addition to FIdC, this Project has the Fédération Nationale des Chasseurs (FNC) as a beneficiary partner for an exchange of management best practises. A deep interest for the recovery of this endemic *taxon* is demonstrated also by the co-funding from the Italian Kennel Club (ENCI).

During the last years, FIdC promoted and funded a parasitological monitoring of European brown hare (*Lepus europaeus* Pallas, 1778) population in the province of Grosseto (Central Italy). The species is subject to restocking activities with specimens caught in protected areas or bred in captivity. The study has been carried out in collaboration with Tuscany Region and the University of Pisa. Biological samples have been obtained through the collaboration of hunters, who provided the organs of the hunted hares. The results allowed to detect a parasite which wasn’t previously ascertained in the study area, i.e., *Micipsella numidica*. This demonstrates that parasitosis in wild populations are constantly evolving and must be periodically monitored. These monitoring activities are fundamental in order to manage European Brown Hare populations. Besides, this way it is possible to early detect the spread of diseases such as the “emerging” ones, including those potentially dangerous for mankind too.

In order to preserve the genetic integrity of Red-legged Partridge (*Alectoris rufa*), we fairly underline the activity carried out by Tuscany Region, that for years has been breeding for

restocking purposes a genetically selected stock, i.e., a stock not subject to genetic introgression from Chukar Partridge (*Alectoris chukar*).

Wild fauna imports for restocking purposes are only allowed for Italian native species and and after verification of compliance by ISPRA.

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 IAS is established in an area, it is necessary to carry out active measures with the goal of its eradication and/or control. When eradication is considered impracticable, it is necessary to implement control – in order to reduce the spread, abundance and density of the IAS to an acceptable level in the long term.

Art. 7 of Law n. 221/2015 has modified Art. 2 of Law n. 157/1992, excluding Coypu from the protected species, as well as Rats. But the authorization procedures as regards capturing or shooting Coypu still are the ones foreseen in Art. 19 of Law n. 157/1992. These rules concern the control of wild species causing damage and are particularly restrictive. Consequently, in the case of Coypu, authorization praxes are complex and limit intervention possibilities. However, we must highlight the effort shown by the volunteering hunters and the hunters who have been trained in Ferrara province, who carried out a “public utility” service in an experiment aimed at limiting damages to crops and canal embankments. In fact, in only 4 months they collected about 29,000 Coypus using small calibre rifles, increasing of 50% the number of shot specimens in comparison with the past.

In 2017 the Eastern Cottontail (*Sylvilagus floridanus*) was enlisted among the huntable species in Emilia-Romagna (Nothern Italy), on request of the hunters. This fact allowed to start applying practical measurements aimed at limiting its spread on the territory. Previously, the species was potentially subject to control interventions, in accordance with art. 19 of Law n. 157/1992, but only on request of farmers, with the scope of limiting crops damages.
In Italy, the Sacred ibis (*Threskiornis aethiopicus*) is undergoing a sharp population increase and is showing a fast range expansion. In only the Piedmont region (Nothern Italy), the population was of about 10,000 specimens in 2019, according to estimations. Other involved regions are Lombardy, Tuscany, Latium, Veneto and Emilia-Romagna. Nevertheless, monitoring activities are still unknown, as regards this specific species. In Emilia-Romagna region, FIdC took action and in 2020 asked to be able to add Sacred ibis to huntable species, by way of derogation as provided by art. 9, comma 1, letter a), fourth point, of the “Birds” Directive 2009/147/CE, “for the protection of flora and fauna”. This measure would act in synergy with the potential actions of fauna monitoring to be adopted by relevant Authorities – on the basis of art. 19, Law 157/1992 and of Reg. CE 1143/2014 and Reg. CE 1141/2016 on the eradication of IAS of Union relevance, as well as on the basis of Legislative Decree 15 December 2017, n. 230. FIdC also provided for the technical observations about the draft of

"Piano di gestione nazionale dell'Ibis sacro *Threskiornis aethiopicus* (Latham, 1790)" produced by ISPRA in 2020.
Alien ungulates species are regulated through hunting via selective plans for the limitation or eradication of populations. In Emilia-Romagna region the eradication of Sika Deer (*Cervus nippon*) or of the hybrids with Red Deer (*Cervus elaphus*) is ruled by the regional wildlife and hunting Plan 2018-2023 and carried out with the collaboration of hunters trained and authorized by the Region itself. In Italy, naturalized species such as European Mouflon and Fallow Deer are anyway preferably managed in areas not suitable for native species and through culling plans that maintain the population density acceptable for that territory.
This shows that through hunting it is possible to also activate the Ecosystem Service "Regulation & Maintenance (Biotic)" - cod. 2.2.3.1, according to the criteria CICES V5.0 (https://cices.eu/resources/) - with a clear benefit in the fighting against IAS. Specific indicators related to these activities are the investments in controlling and eradicating the species and also the costs bore for the damages to crops, biodiversity and environment.

Principle 7: Collaborate in monitoring and surveillance programmes on IAS

Hunters actively collaborate in the management of the environment and biodiversity conservation. Fighting IAS is a relevant part of these activities, both in 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 regional and local levels. In these areas, the reporting and spatial identification of IAS become integral part of the monitoring programs. An example is the "detecting network" planned by the Guidelines produced by the Alien Squirrel Emergency Team (ASET), as part of the Project LIFE U-SAVEREDS, Management of Grey squirrel in Umbria: conservation of Red squirrel and preventing loss of biodiversity in Apennines. In this context, hunters are called to contribute directly or indirectly to localizing squirrel specimens within the framework of a fast detective system of the new populations of allochtonous squirrels (https://www.specieinvasive.it/index.php/it/documenti-utili/linee-guida-e-piani-d-azione/file/F3-lineeguida.pdf).

Hunters also provide relevant data for research and in the prevention system for human health. In fact, invasive pathogen alien species also need to be monitored, and even in this case hunters can play an important role. In this context, hunters are an excellent example of the so-called "citizen science" or "citizens as sensors", as they often allow scientists to carry out studies that would otherwise be difficult to conduct. Moreover, their free work is of "public utility", is carried out on a wide part of Italian territory and involves many tens of thousands of people. Last but not least, hunters contribute paying significant national, regional and local fees. All of this is a demonstration of the truly important role played by hunters in society.

7. NETHERLANDS

General overview:

The Netherlands have a national governmental Invasive Aliens team that is an independent Agency within the Ministry of Economic Affairs[1]. 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*
Raccoon – *Procyon Lotor*
Raccoon Dog – *Nyctereutes procyonoides*
Siberian Chipmunk – *Tamias sibiricus*

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 IAS 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 IAS as part of their hunting license. The Royal Dutch Hunting Association also educates members

[1] https://www.nvwa.nl/onderwerpen/invasieve-exoten/inhoud/team-invasieve-exoten

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;
- 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 practices, 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. IAS are part of the monitoring. The open access database 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. ROMANIA

General overview

Romania is currently carrying out a POIM 2014+ 120008 project called *Adequate management of invasive species in Romania, in accordance with EU Regulation 1143/2014 on the prevention and management of the introduction and spread of invasive allogeneic species*, a project carried out under the coordination of the Ministry of Environment, Waters and Forests.

Within this project, among other activities, there is also the sub-activity on *Making the preliminary list of invasive and potentially invasive alien vertebrate species in Romania*, with the objective of Inventory - mapping of invasive allogeneic species (plants, mammals, birds, etc.) and the drafting of the national list of invasive allogeneic species.

INVASIVE ALIEN MAMMALS AND BIRDS IN ROMANIA:

List of invasive or potentially invasive mammal and bird species that are present in Romania and on the EU interest list:

Mammals:	Birds:
American Mink – *Neovision vison*	African Sacred Ibis – *Threskiornis aethiopicus*
Black Rat – *Rattus rattus*	Bar-headed Goose – *Anser indicus*
Brown Rat – *Rattus norvegicus*	Canada Goose – *Branta canadensis*
Coypu – *Myocastor coypus*	Egyptian Goose – *Alopochen aegyptiacus*
European Rabbit – *Oryctolagus cuniculus*	Mandarin Duck – *Aix galericulata*
Fallow Deer – *Dama dama*	Rose-ringed Parakeet – *Psittacula krameri*
Muskrat – *Ondatra zibethicus*	Ruddy Duck – *Oxyura jamaicensis*
Raccoon – *Procyon Lotor*	Wood Duck – *Aix sponsa*
Raccoon Dog – *Nyctereutes procyonoides*	

Among these, the following species are allogeneic invasive or potentially invasive, and they are present in Romania and on the EU interest list:

Mammals:	Birds:
Coypu – *Myocastor coypus*	African Sacred Ibis – *Threskiornis aethiopicus*
Muskrat – *Ondatra zibethicus*	
Raccoon – *Procyon Lotor*	
Raccoon Dog – *Nyctereutes procyonoides*	

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

In Romania, no new invasive species are introduced into the wild environment. Hunting legislation states that wild-species repopulations from Romania's fauna can be made, even if they are imported. Imports may only be made with special veterinary authorizations issued by the Veterinary Sanitary

Authority and on the basis of prior genetic analyses carried out by the National Forestry Institute. Of the above-mentioned species, are listed in Annex 1 (species admitted to hunting) of the law on hunting and the protection of the hunting area, only as follows: *Ondra Zibethicus, Nytereutes Procyonoides, Oryctolagus Cunicle, Dama Dama* and *Phasianus Colchicus*.

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

The plant species used for afforestation, in order to improve the environment are usually native. These afforestation are carried out by the National Forest Authority, an institution that manages the National Forest Area, under the coordination of the Ministry of Environment, Waters and Forests.

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

Hunting areas are populated and repopulated with *Dama dama*, *Oryctolagus Cunicle* and *Phasianus Colchicus* species, exclusively by hunter care. Repopulations are made of the hunters' own money, in compliance with the legal provisions in force and informing the state authorities.

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

As mentioned in point 1., the repopulations of imports are made only after a genetic study. The repopulations made from internal farms, which is a tradition in Romania, are permanently controlled by the Veterinary Sanitary Authority, and the sources for repopulation are initially genetically selected. Repopulations are also made by direct catching from the wild environment, where there are overpopulations.

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

In Romania, only firearm hunting is practiced, but hunters can be accompanied by hunting dogs (for blood tracking dog, point and retriever).

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

Referring to the three invasive species allowed for hunting, we consider it is necessary to control them, but eradication is not far a solution. At this moment, in Romania, repopulation is mainly practiced with species such as *Dama Dama* and *Phasianus Colchicus*, predominantly in areas where they used to exist, without emphasizing their expansion in other areas. The extension of their area

is difficult to achieve due to an exaggerated protection of the wolf and restrictions on the use of night vision against the jackal and foxes, factors that reduce the possibility of expanding these species.

Principle 7: Collaborate in monitoring and surveillance programmes on IAS

Hunters are actively collaborating in environmental management, being directly involved in protecting the biodiversity, both in protected areas and in areas where hunting is allowed. At the same time, they have the obligation to monitor the annual effectiveness of these species and draft the evaluation studies, as it results from the hunting law and the hunting area (Law 407/2006, Art. 17). Also, to become a new hunter member, a citizen must be at least 18 years old and complete at least one-year trainee in a hunting area, under the coordination of a hunting master, being involved in a minimum of 4 management actions, and at its completion he will take a rigorous examination under the coordination of the Ministry of Environment, Waters and Forests. Gamekeepers attend the courses of a specialized middle school, and the heads of the hunting areas managers must have specialized higher education.

9. SLOVENIA

General overview:

INVASIVE ALIEN MAMMALS AND BIRDS IN SLOVENIA:

Mammals:

Coypu – *Myocastor coypus*
Muskrat – *Ondatra zibethicus*
Raccoon – *Procyon lotor*
Raccoon Dog – *Nyctereutes procyonoides*

Birds:

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 IAS, which is part of the hunting exam.

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

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

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

Restocking is not allowed without special expert-based expertise, which must take special attention to genetic, conservations and disease issues.

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

Only trained hunting dogs are used.

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*), Mouflon (*Ovis ammon musimon*) and maybe alien Alpine Marmot (*Marmota marmota*) 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 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. IAS 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.

HAS has a well establish database portal (LISJAK) where it is possible to collect data about removed animals. This should be a good platform to monitor alien hunting species.

10. 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 IAS. In November 2018 a Swedish regulation on IAS, complementing the EU-regulation, was published (SFS 2018:1939). 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:

EU-listed species:

Mammals:	Birds:
Muskrat – *Ondatra zibethicus* Raccoon – *Procyon lotor* (occasional) Raccoon Dog – *Nyctereutes procyonoides* Siberian Chipmunk – *Tamias sibiricus* (occasional)	Egyptian Goose – *Alopochen aegyptiacus* (occasional) Ruddy Duck – *Oxyura jamaicensis* (occasional) African Sacred Ibis – *Threskiornis aethiopicus* (occasional) Common myna – *Acridotheres tristis* (occasional)

Non-EU-listed species:

Mammals:	Birds:
American Mink – *Neovison vison* Brown Rat – *Rattus norvegicus* European Rabbit – *Oryctolagus cuniculus*	Canada Goose – *Branta canadensis* Common Pigeon – *Columba livia* Mandarin duck – *Aix galericulata*

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 (*Perdrix perdrix*), 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 projects

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. From 2020 SAHWM has a framework contract with the Swedish Environmental Protection Agency to manage, preferably eradicate, all EU-listed mammal, bird and reptile IAS. To conduct this mission SAHWM receives 12 930 000 SEK/year (approx. 1 300 000 €/Year).

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

Local hunters are involved in this project by finding and eradicating Raccoon Dog, Raccoon and Muskrat (*Ondatra zibethicus*). 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 2020, the project culled 32 Raccoon Dogs, five of these were killed by local hunters. The project further culled 193 Muskrats, two Egyptian Geese (*Alopochen aegyptiacus*) and 18 Pond Sliders (*Trachemys scripta*) during 2020. Swedish hunters are also involved in ongoing and previous American Mink (*Neovison vison*) eradication projects. SAHWM was between 2018-2021 the coordinating beneficiary of an Interreg Bothnia-Atlantica project (FAMNA) to improve the mink management in Sweden, Finland and Norway.

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 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.

11. UNITED KINGDOM

General overview:

In 2005, the Great Britain Non-native Species Programme Board was established to deliver strategic consideration of the threat of IAS 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 2015 Invasive Non-native Species Framework Strategy is being reviewed at the current time.
The UK left the EU on 31 January 2021 but our legislative basis is currently still consistent with EU countries as we transposed the core principals of the IAS Regulation into UK law. We are maintaining communication with the EU processes and colleagues to maintain appropriate consistency now that the UK is no-longer bound by changes made to the 2015 Directive.
Hunting and fishing organisations have continued engagement with the GB secretariat and resulting work and initiatives. In particular, The Angling Trust and the British Association for Shooting and Conservation (BASC) have been involved with its stakeholder and working groups. We share the practical action that the fishing and shooting community contribute to IAS risk management and control as well as educating them to new developments from the GB non-native species secretariat processes.

INVASIVE ALIEN MAMMALS AND BIRDS IN UK:

Mammals:	Birds:
American Mink – *Neovison vison* (Established)	African Sacred Ibis – *Threskiornis aethiopicus* (Detected but not established)
Chinese Water Deer – *Hydropotes inermis* (Established)	Bar-headed Goose – *Anser indicus* (Established)
Coatimundi – *Nasua nasua* (Detected possibly established)	Black Swan – *Cygnus atratus sponsa* (Established)
Edible Dormouse – *Glis glis* (Established)	Canada Goose – *Branta Canadensis* (Established)
Muntjac Deer – *Muntiacus reevesi* (Established)	Egyptian Goose – *Alopochen aegyptiacus* (Established)
Sika Deer – *Cervus nippon* (Established)	Emperor Goose – *Anser canagica* (Established)
Grey squirrel – *Sciurus carolinensis* (Established)	Eurasian Eagle Owl – *Bubo bubo* (Established)
Racoon – *Procyon lotor* (Detected possibly established)	Indian House Crow – *Corvus splendens* (Detected but not established)
Raccoon Dog – *Nyctereutes procyonoides* (Detected possibly established)	

Siberian Chipmunk – *Tamias sibiricus* (Detected but not established)

Monk Parakeet – *Myiopsitta monachus* (Established)
Rose-ringed Parakeet – *Psittacula krameria* (Established)
Ruddy Duck – *Oxyura jamaicensis* (Established but near eradicated)
Wood Duck – *Aix sponsa* (Established)

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

UK domestic law under the Wildlife and Countryside Act 1981 and Northern Ireland Wildlife Order 1985 make it illegal to release animals and birds that are not ordinarily resident in the UK. This prohibits new alien game species from being introduced, however this is not an area of conflict as hunting in the UK does not wish to introduce new game species.

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

Historical game management saw the favour of some alien species to be used for shelter but in modern times there are no known issues with feed or shelter provided for game.

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

In the UK non-native species used for restocking are not classified as invasive. Common pheasant, *Phasianus colchicus*, is known to be present by 1050AD. French (aka red-legged) partridge, *Alectoris rufa*, is known to be present by 1673. Guidance and best practice for sustainable gamebird releasing has been developed by the Game and Wildlife Conservation Trust and is used in voluntary best practice and statutory best practice.

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

Rearing of non-native birds (*Phasianus colchicus* and *Alectoris rufa*) for shooting has a specific governmental code of practice which shows the linkages to domestic legislation (link). There is a specific section on disease treatment and record keeping for those restocking to abide by. A representative body for game breeders, The Game Farmers' Association, have additional written guidance for their members.

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

The main mammalian species used that poses a potential risk to native species is the domestic ferret (*Mustela furo*) typically used for flushing rabbits (*Oryctolagus cuniculus*). The ferret's ancestor is the native polecat (*Mustela putorius*) and it is possible for the two to hybridise creating a conservation issue for polecat. Those using ferrets value their animals and use devices such as radio collars to locate and retrieve ferrets that stay underground. Losses are rare and could result in prosecution under animal welfare legislation.

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

UK hunters continue their voluntary effort into IAS control, especially for species such as Mink (*Neovison vison*) and Grey Squirrel (*Sciurus carolinensis*), which have marginal impact on game species but substantial impact on native species of conservation concern. This can be through informal control and management or participation in projects run by a range of conservation partners. Hunters are educated on best practice measures to minimise the spread of IAS species such as through the check, clean and dry campaign which reduces the risk of aquatic IAS being transferred between water bodies (link).

Principle 7: Collaborate in monitoring and surveillance programmes on IAS

UK hunters, partly through representative bodies promoting schemes from the GB Non-native Species Secretariat, are actively involved with monitoring and surveillance. This includes species widely spread where they are actively controlling them (*Neovison vison* and *Sciurus carolinensis*) but also those species we are concerned to detect before they can establish populations. Since the last report hunters have provided records of Asian Hornet (*Vespa velutina*) and escaped Raccoon Dog (*Nyctereutes procyonoides*) back to the GB Non-native Species Secretariat to trigger the appropriate response. Hunters are also educated through representative bodies on species thought to be at high risk of arrival in the UK because early detection is key to avoid them becoming established.

IAF AND REPORT ON PRINCIPLE 5

Report by: Gary Timbrell, CEO 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 110 member organizations and 90 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.

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.

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.

The IAF has continued to closely monitor any evidence of such introgression, as we proposed in 2018.

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 Code of Conduct with respect to falconry and IAS is in widespread use in the falconry community and has been adopted by most of the European clubs. It remains on our website and has been circulated to falconers, internationally, in the form of an eNewsletter and in social media, whenever the topic is mentioned.

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[1] 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.

[1] Method of "soft release" to learn flying skills

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 was superseded by our Code of Conduct for Falconry with respect to IAS.

As a result of this Code of Conduct, the incidence of escaped falconry birds has significantly reduced over the past three years, with fewer exotics being reported as missing or seen living wild. There have been no verified reports of successful breeding in the period.

The number of hybrid falcons flown has also significantly reduced, with peer-pressure to fly native species, which have become much more obtainable due to improvements in captive breeding techniques.

Improvements in radio-telemetry now incorporate GPS tracking, so there is now a general trend towards using this innovation, which makes it relatively easy to track and reclaim a lost bird.

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 37 European countries including all EU-27 Member States. FACE also has 7 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.

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. In 2020 and 2021, FACE increased its presence in stakeholder platforms dealing with the management of IAS. FACE is part of the EU Expert Group on IAS, the IUCN workshop on humane management of IAS and a longstanding member of the BC Group of Experts on IAS.

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 IAS 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[1] have been developed. Although not developed with primary focus on IAS, 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.

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 Dog (*Nyctereutes procyonoides*) and Muskrat (*Ondatra zibethicus*) are the two IAS, for which the BPG were developed.

FACE also developed the Biodiversity Manifesto (BDM) which demonstrates the commitment of Europe's hunters to biodiversity conservation.

[1] http://face.eu/hunting-methods-culture/trapping

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.