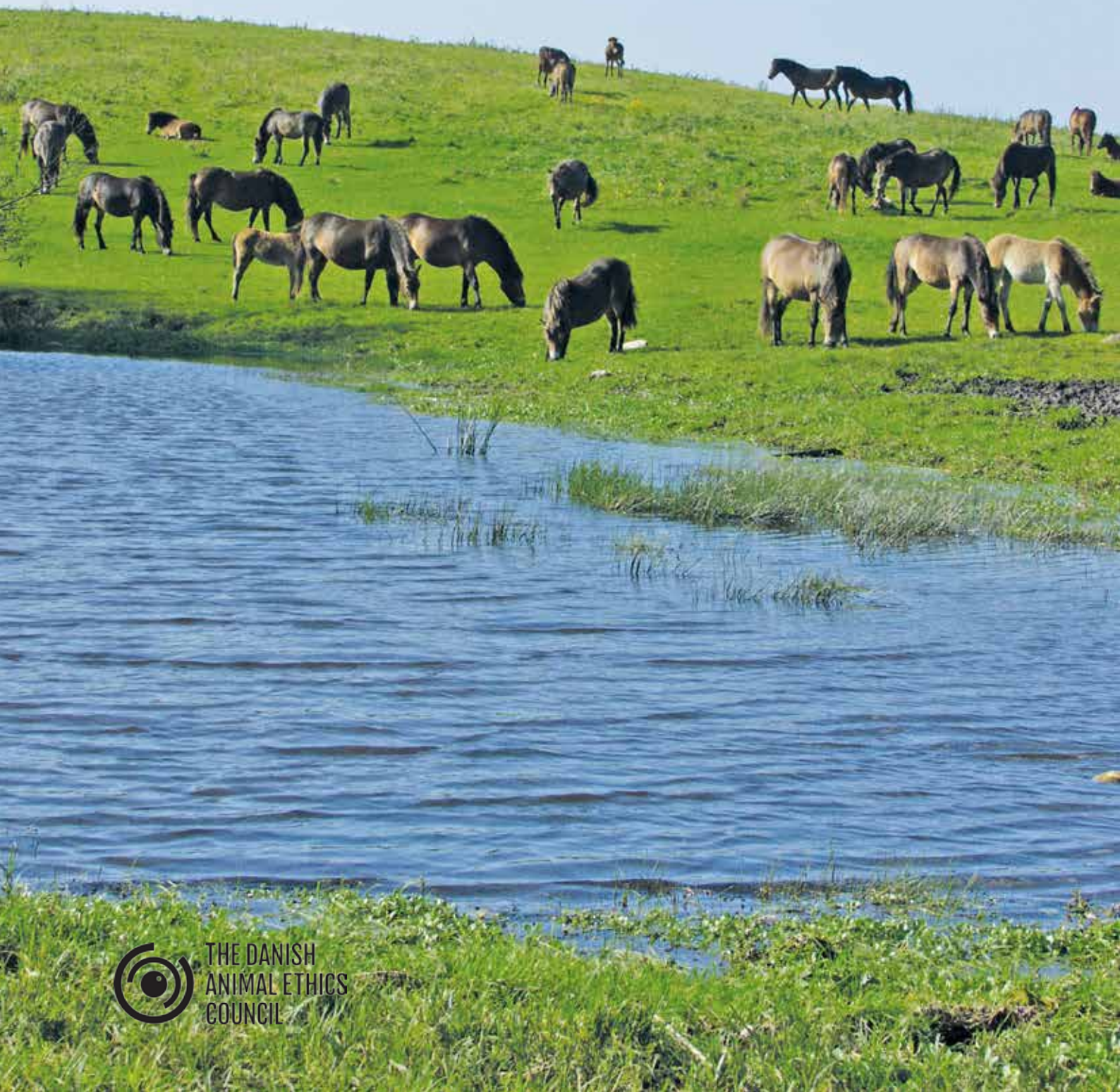


The Danish Animal Ethics Council: Statement on the use of animals for rewilding in nature management



THE DANISH
ANIMAL ETHICS
COUNCIL

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Summary

Denmark is increasingly focusing on promoting nature that is left to a greater extent of self-regulation and has a high degree of biodiversity. This approach is known as rewilding. For example, this could involve releasing large animals into an area in which the animals will play the same role in nature as their predecessors are believed to have played in the past. In principle, the animals will be self-sustainable, and the population will be regulated through nature's own mechanisms. However, there is some disagreement about human responsibility for animals that have been released. Some believe that humans have an obligation to protect animals from the most serious animal welfare challenges, while others believe that human intervention is incompatible with the very concept of rewilding as self-regulating nature and thus should be avoided.

In this statement, the Danish Animal Ethics Council wants to focus on animal welfare and animal ethics considerations in relation to rewilding, where released animals are left to cope as wild animals as far as possible. The Danish Animal Ethics Council has discussed the topic of rewilding, not only on the basis of the current situation in Denmark, but also on the basis of how rewilding projects could develop in the future. The Council has focused on three main topics: animal welfare, obligations towards released animals, and specific initiatives concerning animals in rewilding projects.

The Danish Animal Ethics Council does not believe that a natural life necessarily equals optimal animal welfare. The Council members consider it crucial that released animals are sufficiently robust to cope in the selected area, and the members find it problematic if the animals, due to the situation caused by the release, are left to suffer, and possibly die. The Danish Animal Ethics Council is therefore of the opinion that, irrespective of any legal protection of animals in rewilding projects, there is a moral obligation to protect released animals as far as possible against unnecessary suffering, if a physical barrier has actively been placed to keep the animals in a specific area. Consequently, the Council believes that there is a need to regulate and manage the populations. The members of the Danish Animal Ethics Council do, however, have different views on the need for human intervention. But the Council members all agree to recommend a number of specific initiatives, e.g. regarding the selection of areas and animals to be released, plans for monitoring and management, collection of documentation, and communication about the project. The Council also draws attention to the need to address indirect consequences of rewilding.

1. Background

Over the last decades, Denmark has seen an increasing focus on promoting wild nature. The aim is to create nature that is left to a greater extent of self-regulation, i.e. to develop without, or with only very little, human intervention, and to allow for a high degree of biodiversity. Thus, this form of nature management attempts to re-establish and support nature's own mechanisms. This approach is not only seen in Denmark, and is commonly referred to as rewilding, and it is a term that is becoming ever more frequent in the Danish debate. However, the term rewilding is used very differently, both with regard to its definition and with regard to the form of nature management it covers in practice.

A wide range of different measures are necessary to restore nature to a self-regulating state. Self-regulating nature changes continuously, e.g. as a consequence of storms, flooding, fires and animal and plant diseases. For nature to become self-regulating, food-chains and other ecosystem processes must be complete and the right conditions must be in place for them to function properly. This requires, e.g. that fallen deadwood and dead animals are left to decay and form part of nature's cycle. It may also require the re-establishment of lost natural processes, e.g. by releasing large animals into an area where they can help shape and regulate the landscape in the direction of more biodiversity. The animals will shape and change the landscape, e.g. by eating certain plants and thus improving conditions for other plants, or by trampling the ground, producing manure and spreading seeds. Released animals can be wild animals, such as bison and moose, or domesticated animals, such as horses and cattle. The idea is that they will play the same role in nature as their wild predecessors are believed to have played. Regardless of whether the animals released are wild or domesticated, they are released to live as wild animals. In the longer term, over the course of generations and under the right conditions, domesticated animals released into the wild could develop into wild animals, both in terms of behaviour and genetics; i.e. a kind of de-domestication.

Although the idea is that the animals should be self-sustainable, in practice the population may be cared for and managed to a certain extent, either as an initial help or as a permanent measure. However, the basic idea is that the population is regulated by the mechanisms generally prevailing in nature, i.e. migration, starvation, thirst, disease and cold weather. It is normal for herbivorous wild animals to lose up to 30 % of their body weight during winter due to limited feed. In rewilding projects, it may even be necessary to let the animals experience starvation to some extent in order to make them search for food throughout the entire area and graze on many different types of vegetation – including the less tasty kinds. Consequently, supplementary feeding is not desirable. Furthermore, the animals depend on natural vegetation for protection against wind and weather. In the wild it is not unusual for up to one-third of a population to die during the winter. This leads to a natural selection of the animals and to variation in the extent of grazing in the area, which is in line with the principles of rewilding. Discussions about the need to regulate the size of the populations relative to the size of the area call attention to the fact that there are no predators in nature. In many cases, predators could help keep the population sizes down. Thus, predators can also play an important role in terms of the aim of more self-regulating nature. One way of achieving this aim could be to refrain from shooting predators naturally trying to establish themselves in an area, as is the case with wolves in Denmark. However, predators do not necessarily keep populations small enough to prevent the animals from experiencing starvation and other natural regulation mechanisms.



*For nature to become self-regulating, all processes in the ecosystem must be complete, including the decay of dead animals.
Photo: Colourbox*

In theory, released animals could be caught in a grey area as to whether they should be considered wild animals or livestock. The release of domesticated animals could moreover create a biological grey area if the population is allowed to de-domesticate and become a wild population over time. This could make it unclear what obligations humans have to ensure that the animals are not starving, that they are cared for when they become ill or injured, and that they are not left to a slow death if they are not able to cope. Such obligations are only legally binding for kept animals, whereas there are no legal obligations for animals that are not kept. In practice, however, it is difficult to establish areas in Denmark that are large enough for populations of many large animal species to manage on their own without human intervention. Typically, the area will be fenced in order to prevent the animals from dispersing. This will also prevent them from finding food etc. outside the fence – assuming it is available there. Thus, during winter, when food is usually scarce, there is a greater risk that some animals will die. As mentioned previously, this is a natural part of population regulation and natural selection in nature, and therefore also an essential element of rewilding. However, it is illegal to let the kept animals starve to death. This can be avoided by supplementary feeding and/or by regulating the population through hunting so that the number of animals does not exceed the capacity of the area.

In discussions about rewilding, there is no agreement on where the limit should be. There seems to be a general consensus that, in principle, animals should be left to manage on their own on nature's terms. However, some people believe that, since humans are responsible for having released animals into certain and fenced areas, humans are also responsible for protecting these animals against the most severe animal welfare problems. Others believe that human intervention is incompatible with the very concept of rewilding as self-regulating nature and thus should be avoided all together. They see animal welfare problems as an acceptable part of the natural life. There are also differences of opinion with regard to which measures are acceptable when there is a need for human intervention due to animal-protection concerns. Furthermore, released animals can give rise to conflicts of interest, e.g. if they destroy crops, cause accidents or spread diseases.

The Netherlands has a good deal of experience with rewilding. A project often mentioned in this context is the Oostvaardersplassen nature reserve, where cattle, horses and red deer were released in the 1980s and early 1990s. The animals were considered to be wild and were expected to manage on their own without human intervention. As the populations grew, many animals died during winter when food was scarce. This led to severe criticism, and the management practice at the nature reserve has been up for discussion and revision on several occasions since. On the first occasion, a committee recommended e.g. that sufficient shelter should be provided, that the populations should be monitored and that animals unlikely to survive the winter should be culled. A subsequent evaluation, following a harsh winter during which some animals starved or died despite the initiatives mentioned above, resulted in additional recommendations, e.g. to provide additional shelter, cull weak animals at an earlier stage and, if necessary, reduce the size of populations to fit the area. Despite these adjustments, management of Oostvaardersplassen still gives rise to considerable debate and major concern about animal welfare. Therefore, in 2017 a committee was set up to advise on the future management of Oostvaardersplassen. The committee's report was issued in April 2018. The report stresses yet again that adequate shelter must be provided and recommends reducing the size of populations considerably to match the food resources in the area.

For further information about rewilding and the Dutch experience from the Oostvaardersplassen project, the Danish Animal Ethics Council refers to the material in Annex 2 on which the text above is based.

2. Purpose and scope

Even though animals are released in many places in Denmark for various nature management purposes, and despite a growing interest in rewilding, at present, there are not many projects in which animals are released without monitoring and without follow-up if animal welfare problems arise. And if so the projects involve animals that were already living in the wild and were simply relocated. Thus, actual rewilding, in the sense of nature without human intervention, is still rare in Denmark.

*Some people consider the migration of wolves into Denmark a passive form of rewilding. However, different obligations to the animals apply as no active release is involved.
Photo: Colourbox*



Nevertheless, in the context of this statement, the Council uses the term rewilding to refer to those nature management projects that involve the release of animals. This is partly for the simplicity of using only one term, and partly to maintain focus on the potential direction of developments.

The Danish Animal Ethics Council has noticed that, along with the growing interest in rewilding, there is also a push towards letting released animals live more and more as wild animals as a step towards achieving the goal of a self-regulating ecosystem. In this context, animal welfare is not necessarily an overriding concern; rather the focus is on population dynamics and ecosystem functions, which entails a risk of disregarding concerns for animal welfare. In this statement, the Council would therefore like to draw attention to animal welfare and animal ethics considerations relating to rewilding, including the legal challenges arising from rewilding projects.

As mentioned above, rewilding covers a number of different initiatives. The Danish Animal Ethics Council does not address the practice of nature management as such, and therefore does not discuss rewilding in a broader sense, e.g. when rewilding does not involve the release of animals. The Council is concerned only with the animal ethics and animal welfare aspects of releasing animals in such projects. The Council has therefore limited its discussions to the situations in which animals are released and as far as possible left to manage on their own as wild animals.

The Council notes that other situations involving the release of animals and nature management outside the context of rewilding projects hold similar problems and may involve far more animals. However, the Council has decided not to include these situations in its discussions because they also concern aspects that lie beyond the Council's chosen scope. This does not mean that the Council does not consider these situations relevant for discussion as well. This includes topics such as the release of animals for other purposes, e.g. pheasants released for hunting rather than rewilding, and parks with populations of animals being kept as part of a cultural landscape, rather than to create biodiversity. Furthermore, it includes the migration and settling of wild animals in new areas, e.g. the migration of wolves into Denmark. Some people consider this a passive form of rewilding in which, by omitting to control them, animals are allowed to contribute to a self-regulating ecosystem. However, since no active release is involved, the obligations possibly following from having actively placed animals in a specific area are not relevant. This also applies to invasive species or other unwanted animals that are not allowed to settle, and where attempts are made to control or completely eradicate populations, such as wild boar, racoon dogs and mink escaped from mink farms. Other topics include the release of animals from wildlife care or as part of research, human access to natural areas and safety for those using the areas, the value of rewilding projects as tourist attractions, possible challenges related to control and protection against infectious diseases, and nature conservation in general, including which kind of nature, and thus which animals, are desirable in Denmark. For discussions about the release of pheasants and the control of unwanted animals and invasive species, see the Danish Animal Ethics Council's statement on hunting.

3. Legislation and other regulatory framework

A number of different acts and statutory orders exist which govern the use of animals for rewilding in nature management. Below is an outline of the acts and statutory orders, and the relevant aspects of these, which are of immediate relevance to the Danish Animal Ethics Council's discussions. The outline is not exhaustive, and there may be other aspects of relevance to rewilding in general, e.g. regulations on nature management and environmental regulations.

As will appear, there is no clear definition of the concept of rewilding. However, when animals are released in rewilding-like projects in Denmark, there is typically some form of fence around the area into which the animals are released. The legislation does not include a clear definition of what is meant by 'keeping animals', but the following is based on the assumption that, legally speaking, animals are being kept when they are prevented from moving outside a certain area.

Danish Animal Protection Act (Consolidation Act no. 20 of 11 January 2018)

The Danish Animal Protection Act applies to all animals. In section 1, the Act stipulates that animals must be treated properly and be protected as far as possible from pain, suffering, fear, permanent injury and severe distress. This requirement includes animals kept by humans and wild animals that humans come into contact with. Furthermore, in section 2, the Act stipulates that a person who keeps animals must ensure that the animals are treated with care, including that they are housed, fed, watered and cared for taking into account their physiological, behavioural and health-related needs, in accordance with recognised practical and scientific experiences.

The requirements in section 1 thus apply to all persons who are in contact with animals, while the requirements in section 2 only apply to persons who keep animals, whether farm animals, animals in parks, or other scenarios. For example, this means that persons who are in contact with wild animals are under an obligation to treat the animals properly, but only persons who keep animals themselves are under an obligation to feed them.

Section 3 of the Act stipulates that rooms or areas in which animals are being kept shall be designed to take animals' needs into account. This includes ensuring that the animals have sufficient freedom of movement and a place to rest, and that the animals are protected from wind and weather. Section 3 of the Act further stipulates that anyone keeping animals must ensure that the animals are inspected at least once a day. This, however, does not apply to free-range animals on grass or similar, although these still have to be inspected regularly.

In a joint statement of 8 November 2012, the Danish Veterinary Health Council and the former Animal Protection Council (discontinued since 1 January 2016) listed a number of conditions that must be met before e.g. section 3 can be said to have been met with regard to animals that are kept outside during the winter or during periods of wintry weather. For example, animals that are kept outside for more than 12 hours during the day in wintertime or in wintry conditions must be prepared to be outdoors. This means the animals must be adapted to cold temperatures by having grown thick fur or plumage. The animals must also have a good body condition, and they must be provided with supplementary feed to maintain this condition. Furthermore, the animals must always have access to fresh drinking water.

Keeping of Animals Act (Consolidation Act no. 998 of 2 July 2018)

The purpose of this Act is to ensure that animals are appropriately cared for, and that food safety, production and human and animal health are taken into account. Section 4 of the Act provides for the possibility to stipulate rules on registration and tagging of animals, and this possibility has been utilised in the Statutory Order on Tagging, Registration and Relocation of Cattle etc., see below.

Section 16 of the Act states that the release of farmed game is only allowed if the animals are likely to be able to survive in nature. The provision does not include considerations for the protection of existing populations of wildlife, as this is regulated by the Danish Hunting Act. Farmed game is considered livestock as long as the animals are kept by humans; see section 17 of the Act. This means that farmed game is not covered by the Danish Hunting Act, but by livestock legislation.

Keeping of Horses Act (Consolidation Act no. 304 of 30 March 2017)

The regulations in the Keeping of Horses Act apply to keeping of horses, except keeping of horses for the purpose of conducting technical and scientific studies (see section 1 of the Act). Consequently, horses released as part of a rewilding project are as a starting point covered by the regulations of the Act.

According to the Act, the Minister for Environment and Food may, in exceptional cases, wholly or partly exempt certain forms of keeping of horses from the Act. However, it is unclear whether such exemption could apply to rewilding projects. The explanatory notes to the provision state that the provision can be applied in situations where horses are kept in listed, historic buildings, and where, on account of the buildings' heritage values, it is not possible to meet the requirements for design of the stable, for example.

It follows from section 16 of the Act that horses that are kept should be ensured access to a paddock. Section 2 of the Act defines a paddock as an outdoor enclosure, and includes requirements for the size of the paddock. Thus, the requirements for paddocks must be assumed to apply to horses released into fenced areas too, even if the intention is for the horses to live (semi-)wild and to be outside throughout the year. However, the areas designated for rewilding projects are usually larger than normal paddocks.

Section 19 of the Act states that persons responsible for keeping horses must ensure that horses that are kept outside during winter and during periods of wintry weather, are not outside for more than 12 hours a day, unless they have grown thick fur and have a good body condition. Moreover, the animals must have access to a shelter or a building in which they can all rest at the same time on dry bedding. In joint statements (from 2001 and 2005), the Animal Protection Council and the Danish Veterinary Health Council stated that December, January and February should always be considered part of the winter season, and that November and March often include periods of wintry weather. The Minister for Environment and Food may, however, exempt specific breeds of horses from this requirement (section 20), and this option has been used in the Outdoor Horses Statutory Order, see below.

It follows from section 25 that a horse must be trained to be handled from an early age, but this requirement does not apply to horses that live semi-wild in demarcated areas. This exemption was inserted in 2017 because, in some areas in Denmark, horses live semi-wild in demarcated areas, and it would not be expedient to impose requirements for handling the horses, e.g. in rewilding-like projects. In these areas, the horses are used for nature conservation and to attract visitors to the

Only horses of particularly hardy breeds may be kept outdoors without access to a shelter during the winter, e.g. Exmoor ponies at Langeland. Photo: Colourbox



area. The horses are resilient by nature, they are herd animals and they establish their own hierarchy. They are outside throughout the year, with as little human intervention as possible. However, the public usually has access to areas where the horses are kept. For safety reasons, it is therefore important that the horses do not become accustomed to being handled so that they keep a natural distance to humans. The expression 'live semi-wild' is used instead of 'live wild', primarily because, despite their free life, the horses are kept in demarcated areas where they are being monitored, and they are fed if, for example, during a very severe winter, food supplies in the area become scarce. The term demarcated areas here refers to a nature reserve, an animal park, etc.

Furthermore, the Act stipulates that horses must have free access to fresh drinking water (section 22), that horses must be checked on at least once a day (section 23), and that, in the event of illness or injury, horses must be isolated, cared for and given medical treatment (section 24).

Outdoor Horses Statutory Order (Statutory Order no. 979 of 16 August 2017)

This Statutory Order states that, on certain conditions, some breeds of horses can be kept outdoors day and night without having access to a shelter or building during the winter season and periods of wintry weather. Initially, this applied to Icelandic horses and Shetland ponies, but with the most recent amendment of the Statutory Order (2017) Koniks, Przewalski horses and Exmoor ponies were added to the list, as these breeds are also considered to be adequately hardy.

Tagging, Registration and Relocation of Cattle, Pigs, Sheep or Goats (Statutory Order no. 598 of 31 May 2017)

This Statutory Order states that cattle, sheep, goats and pigs must be ear-tagged. Cattle must be tagged by no later than 20 days after birth, and before the animal is separated from the herd of origin. However, the Danish Veterinary and Food Administration may allow postponement of tagging for up to six months after birth for calves grazing in areas approved for nature conservation. For bison, ear tagging must be performed by no later than nine months after birth. Bison calves that are removed from their mother or separated from the herd of origin within nine months must be tagged. Cattle can be tagged with a chip if the animals are not part of the food chain, and if it is assessed that the animals are kept for cultural or historical purposes.

Sheep and goats must be tagged by no later than 60 days after birth, and before the animal is separated from the herd of origin. However, the Danish Veterinary and Food Administration may allow that mouflons grazing extensive areas are tagged by no later than nine months after birth. Lambs removed from the area within nine months after birth must be tagged. Pigs must be tagged before they are separated from the herd of origin. Thus, pigs that are released must be tagged, but there is no requirement to tag their offspring unless the offspring are relocated.

Animal tagging is regulated at EU level. Thus, there is no immediate possibility to exempt cattle, pigs, sheep or goats from the tagging requirements, even though this may be desirable in rewilding projects.

Hunting and Game Management Act (Consolidation Act no. 270 of 12 April 2018)

This Act not only applies to mammals and birds occurring naturally in Denmark, but also to animals that have been released and have established wild, reproducing populations in nature, unless these animals are traditionally considered livestock.

It follows from section 3 of the Act that game hunting is only legal for animals for which there is a fixed hunting season, and only within the hunting season stipulated for the specific species. However, pursuant to section 3(3) of the Act, it is possible to lay down regulations which expand, restrict or repeal the hunting season for individual species of animal within specially demarcated areas and in the Danish fisheries areas, or parts thereof.

Nature Protection Act (Consolidation Act no. 934 of 27 June 2017)

The purpose of this Act is to provide for general protection of nature. This is done through a number of provisions aimed at improving, restoring or establishing areas that are of significance for wild animals, etc. Section 31 of the Act regulates the release of animals in Denmark, and stipulates that animals not naturally occurring in the wild in Denmark may not be released into the wild without permission from the Minister for Environment and Food.

4. Rewilding in Denmark

Many projects in Denmark are referred to as rewilding projects although they do not necessarily involve all aspects of rewilding. Nature conservation projects can involve different degrees of self-regulation, including year-round grazing, where livestock is kept outside all year and thereby helps shape the landscape. In Denmark, most projects referred to as rewilding projects fall somewhere in between a type of year-round grazing with animals that are wild or no longer have to be kept as livestock (i.e. wild grazing) and rewilding e.g. as in the previously mentioned Dutch project.

So far, Danish efforts involving the release of beavers have come closest to adhering to the principles of rewilding. Beavers have been released in selected areas because, with their particular behaviour, the beavers can help shape the landscape in a desired direction. Beavers cut down trees, build small dams and change watercourses, thus creating dynamic developments of nature which can also attract other species. The population of beavers has now increased, and because they are not fenced in, the beavers are dispersing to areas where they are not wanted, for example agricultural areas. This has led to considerations regarding whether and how to regulate the population.

Other projects in Denmark referred to as rewilding involve the release of species of animal chosen for their characteristics as herbivores, large enough to impact nature with their whereabouts and behaviour. Hardy breeds of horses and cattle, moose, bison, red deer, fallow deer and wild boar have been released. These thus include both domesticated animals and animals that are already wild. In all of these projects the animals are released into fenced areas so that the animals are prevented from leaving the designated area.

Whereas the beavers are left to cope on their own on nature's terms, the animals in the fenced projects are to a certain extent managed. As mentioned above, the release of animals entails a number of animal welfare challenges, such as the risk of animals dying from hunger or cold, becoming sick or injured or in some other way not being able to adjust to life in the wild under the given conditions. Therefore, the fenced projects involve some degree of monitoring and measures to reduce the risk of animal welfare issues. For example, animals that are not able to cope on their own may either be killed or relocated to other places. Part of the population may also be culled during the hunting season to match the size of the population to the available food source of the area during winter. Finally, new animals may be added to the area to avoid inbreeding.

However, there have been considerations concerning developing rewilding in Denmark. These include identifying areas potentially suitable for rewilding, how these areas should be used, and whether and how to separate such areas from other activities such as agriculture, traffic and built-up areas. In this connection, suggestions have also been made to expand the list of animal species that may be released for rewilding purposes. This is inspired by species that once used to live in Europe and by choosing existing species of the same family these could contribute significantly to a self-regulating nature. Some of the more exotic species proposed are water buffalo that can graze in wetlands, as well as rhinoceros and elephants that, due to their size, could impact nature more than horses and cattle. Big cats, such as leopards and lions, have also been mentioned. However, the risk that these



*Released beavers create dynamic developments in nature by building small dams. In contrast to other rewilding projects in Denmark, the beavers are not fenced, so when the populations grow the animals disperse and their effect on nature expands, e.g. at Klosterheden.
Photo: Colourbox*

large and potentially dangerous animals pose to humans and the animal welfare challenges of releasing them in Denmark make them less likely choices.

This trend, however, is likely to meet some legal challenges. As described in the section on legislation, released animals are considered kept animals, and rewilding projects are thereby subject to rules that may be in direct conflict with the principles of rewilding, for example with regard to feeding, access to water, tagging, and the very notion that you have to accept that there will be periods when some animals will not be in a good condition or will die of hunger or freeze to death as part of nature's self-regulating processes. Therefore, if rewilding is to develop, it may be necessary to change the legislation. This can happen at national level or – if the framework is set at EU level – through amendments to relevant EU regulations.

5. The Danish Animal Ethics Council's considerations and recommendations

In its discussions on the topic of rewilding, the Danish Animal Ethics Council has not only addressed existing rewilding-like projects in Denmark today, but also how such projects could develop in light of the increasing interest in promoting more wild, self-regulating nature in Denmark, for example by releasing animals into the wild. Such projects range widely – from the release of wild animal species that are to manage on their own to the release of livestock that, to some extent, will live as kept animals – and in some cases, the members of the Council have some concerns about the animal welfare implications of such developments. In its discussions, the Council has focused on three main topics: animal welfare, human obligations towards released animals, and specific initiatives aimed at animals in rewilding projects.

5.1 Animal welfare

The Danish Animal Ethics Council has discussed animal welfare for released animals in rewilding projects. There are both advantages and disadvantages. In nature, the animals are allowed to express their natural behaviour, both as individuals and as part of a larger group. To some extent, the animals are also allowed to respond to changes in their environment, for example by moving to another location to find better food or a more comfortable place to stay. In this regard, there are fewer challenges to animal welfare in nature than generally when animals are kept. On the other hand, there is a risk that the animals could experience periods of hunger, thirst and cold. They may lack shelter and somewhere dry to rest. Moreover, if they fall ill or are injured, it may take some time before they are discovered and taken care of, and at worst they could suffer and end up dying after long and painful suffering. As mentioned above, these challenges are in principle an integral part of the concept of rewilding, and the better the animals are protected against these challenges, the more the project is removed from the aim of rewilding as a self-regulating system in which these exact challenges help ensure a genetically healthy population and motivate the animals to eat different kinds of food. The fact that the areas into which the animals are released are fenced may also impact animal welfare. Fences may well protect the animals against traffic, but they also restrict the animals' ability to disperse and to forage for food elsewhere if the area has been grazed down, or to seek out places with dryer surfaces and shelter. A fence may also restrict genetic exchange and thereby increase the risk of inbreeding. However, the larger the fenced area is in relation to the current animal population, the fewer the restrictions will be on the animals.

The Danish Animal Ethics Council has discussed the dilemma of, on the one hand, letting the animals live in the wild to achieve nature conservation benefits and, on the other hand, caring for their welfare. It is immediately obvious to the Council that a natural life does not necessarily equal optimal animal welfare. The members of the Council are willing to accept that released animals experience periods of hunger, thirst and cold. However, it is crucial that the animals chosen for release are hardy enough to cope in the selected area, regardless of whether they are wild animals or domesticated animals. The animals' level of domestication may, however, impact their resilience as wild living animals.

The Council has also discussed the significance of fencing the area in which the animals live. The members find it problematic if, due to the situation caused by the release, the animals are left to

suffer, and possibly die. According to the Council, the fence in itself is not important, but the size and quality of the area are. If the area is of a size and quality that ensure the animals a real opportunity to seek food and areas that provide better protection against the weather, it will be easier to accept that a few individuals have difficulties coping with the conditions. However, the Council recognises that, in practice, it may be difficult to determine the significance of an area's size and properties, and thus the fact that it is fenced, for the incidence of animal welfare problems.

5.2 Obligations towards released animals

As stated in the section on legislation, regulations pertaining to animals typically address either a situation in which the animals are kept as livestock or a situation in which they live in the wild. However, animals released in rewilding projects end up in a grey area, where the plan is that their status is to change from being kept by humans to living semi-wild and, then, eventually, if the ultimate principles of rewilding are realised, to living in the wild with no human intervention. Therefore, there is a risk of conflict between different norms regarding human obligations towards animals, and there is a risk of conflict with the Animal Protection Act and its regulations. Should the animals be regarded as livestock with the associated legal restrictions on realising rewilding, or should they be regarded as wild animals with the associated absence of requirements to ensure food, water, etc.? Or is there a need to develop special legislation and norms regarding animals in this grey area, if rewilding is to be developed in Denmark? In other words, to what extent should humans be responsible for the animals that have been released – legally as well as morally – with regard to monitoring and intervention if the animals are struggling to survive or with regard to preventive measures such as feeding or culling?

The Danish Animal Ethics Council generally believes that releasing animals into a fenced area entails responsibility for the animals. The Council recognises that, regardless of whether there is a fence, the animals' whereabouts will also be restricted by other factors such as roads, towns, arable land,

*The Danish Animal Ethics Council finds that the release of animals into a fenced area should involve some monitoring and intervention in periods likely to be particularly difficult, e.g. during an exceptionally tough winter for the Galloway cattle in the Mols Laboratory.
Photo: The Mols Laboratory*



etc., and this may also be the case for some of the wild animals already living in the area. However, the Council finds that the fact that a physical barrier has actively been installed to keep some animals in a specific area also involves obligations. An exception may be if the area is so large that the animals are unlikely to encounter the fence and can find both food and shelter. The members of the Council therefore find it problematic if, because of human activity, the animals are exposed to problems and restrictions that make it difficult for them to cope. Thus the conditions and the released animals should be suitable, and rewilding may entail obligations towards the animals, but the question remains to what extent humans should control developments.

The Council is of the opinion that, regardless of any current or future legal protection of animals in rewilding projects, there is always a moral obligation to protect released animals as far as possible against unnecessary suffering if they are restricted by a fence. In this context, unnecessary suffering means suffering that can be prevented by a reasonable degree of monitoring and intervention, for example by killing animals that are expected not to survive the near future. As stated below in the section on specific recommendations, the Council has identified a number of initiatives that it finds necessary in management of rewilding projects, and the Council leaves it to the relevant authorities to assess legislation regarding these initiatives. The Council's overall recommendation is that when animals are released as part of rewilding, it should be ensured that the area is appropriate for a population of animals deemed suitable to live in the relevant area, and steps should be taken to minimise the risk of individual animals experiencing severe suffering. The Council does not believe that this should include inspection duties and care for animals corresponding to ordinary keeping of animals, but that releasing animals must entail some degree of obligation to monitor and intervene in periods that may be difficult for the animals. The Council likens this to the moral obligation to intervene that many people feel when they hear about wild animals suffering, for example feeling obligated to kill foxes with scabies or an injured roe deer.

More specifically, the Council has discussed obligations in relation to animals experiencing hunger and with regard to regulating animals in fenced areas. The Council acknowledges that hunger is a considerable factor in encouraging the animals to move around in the entire area, and that, in the long term, this will also contribute to a natural selection in the population. The Council accepts some degree of hunger and generally does not believe that there should be an obligation to feed the animals. However, according to the Council, avoiding unnecessary suffering is crucial. Therefore, the Council is of the opinion that culling could be relevant. As part of ensuring that the food source in the area matches the size of the population, and generally creating good conditions for the population, the Council also believes that there is a need to regulate and manage the population. This applies in relation to culling weak individuals, and adding new animals to avoid inbreeding. Furthermore, there may be a need to regulate the composition of the population, for example if there are too many males in a population. In these situations, some males would normally disperse to new areas and establish their own population, but because of the fence, they are prevented from doing so.

The members of the Council have different opinions about when human intervention is needed, like the differences reflected in the general debate on rewilding. For example, this applies to considerations about the implications of releasing animals into a fenced area, about the degree to which the animals should be left to experience hunger and emaciation, the need for supplementary feeding, the need for help if the animals are injured, and the scope of inspection. However, the members of the Council all agree on recommending the specific initiatives described below.

5.3 Specific initiatives

The Danish Animal Ethics Council considers it vital that rewilding projects also focus on animal welfare and not only nature management. Some of the members of the Council are very concerned about the development of these projects, and all members agree that consideration for animal welfare should be included when planning the release of animals. It should therefore be decided whether the size and condition of the areas can support a good level of welfare for the animal species and population sizes planned to be released. Here, it is important that the species and breeds selected can thrive under Danish conditions. For domesticated animals, it should be decided whether they will need special initiatives for a transitional period or, if necessary, on a permanent basis to ensure that they can cope. Furthermore, it should be decided how large a population the area can accommodate if the animals breed.

Inspired by recommendations from the Dutch project mentioned above, the Council has outlined a number of specific initiatives that the members believe will contribute to ensuring animal welfare. The Council finds that there is currently a primary need to develop management plans. As stated in the section on legislation, regulation of the area is complex, and as rewilding projects in Denmark may be developing towards an ever-greater element of self-regulating nature, it may be necessary to evaluate the legislation. However, in this statement, the Danish Animal Ethics Council only covers how it considers management should be carried out to ensure the necessary protection of animals. Therefore, the Council refers to other authorities for an assessment of whether the proposed initiatives mean that there is a need to amend the regulatory framework, and if so, how. On this basis, the Council recommends the following:

- It should be ensured that the appropriate conditions are in place for the animals to express their natural behaviour and have their behavioural needs met. Furthermore, the conditions should generally provide the animals with the necessary food source and with sufficient protection against wind and weather.
- It should be ensured that the species and breeds being released are suitable for coping in the relevant area. In this context, the Council refers to section 3 of the Animal Protection Act and to the statement from the Danish Veterinary Health Council and the Animal Protection Council (as mentioned in the section on legislation), which e.g. points out that the animals must be adapted to living outdoors all year round. The Danish Animal Ethics Council finds that the population should be monitored for a period after the release to ensure that the animals can thrive under the given conditions, that feed is supplemented during the transition period, if necessary, and that any weak animals are removed.
- A plan should be developed for monitoring the population in periods likely to be particularly difficult for the animals, for example in the event of lack of food following a “poor” summer, in the event of a particularly tough winter, or in the event of a disease outbreak. If animals are observed to have difficulties coping, measures should be taken to prevent unnecessary suffering. Decisions to kill or relocate animals to avoid unnecessary suffering should take into account the specific factors pertaining to the individual animal, the population as a whole, the area, the food source and the weather. Specific criteria should be drawn up for when animals should be killed, for example regarding body condition, behaviour, density of the population, the available food source and possibilities for shelter as well as weather conditions.

- An action plan should be developed for when and under what conditions any reduction of the population should be carried out, for example during the hunting season, if the above reactive killing is deemed inadequate. Here, the composition of the population should be taken into account, for example the number of males compared to the number of females. If this is currently not legally possible, for example due to restrictions regarding the time of year or animal species, legislation should be amended to ensure prevention of animal welfare problems.
- Documentation on the project should be collected regularly. It should be noted how the population is developing, and how challenges related to animal welfare are being addressed. Moreover, it should be noted how the area is developing in general with regard to animals as well as plants. This is to ensure that the development and effect of rewilding can be evaluated in a future assessment of the suitability of the relevant area and of similar areas in relation to supporting a wild animal population of the selected species and in relation to securing the intended effects of rewilding.
- Finally, good communication should be ensured for visitors and residents in the area about the purpose of the project and about how animal protection issues will be addressed, including when and how to contact the people responsible for the project if alarming observations are made.

The Council has also discussed other initiatives such as adding new animals to avoid inbreeding, and supplementary feeding to ensure the food source. The Council finds that adding new animals to avoid inbreeding may be necessary, but that supplementary feeding will conflict with the rewilding concept and will be necessary to a lesser degree if the population is managed as proposed above.

Finally, the Council suggests that it may be necessary to implement action plans for addressing any consequences of rewilding. Such plans could address possible improved or worsened conditions for other wild animals, the spread of disease, how people can experience the animals without disturbing them, and the possible nuisances for people caused by the release of the animals.

*The Danish Animal Ethics Council recommends that necessary documentation about the animals is collected for future evaluation of the rewilding projects, also in relation to animal welfare, e.g. when releasing European bison at Bornholm.
Photo: Colourbox*



6. Conclusion

The Danish Animal Ethics Council has discussed the subject of rewilding, not merely on the basis of the current situation in Denmark, but also on the basis of how rewilding projects could develop in the future. The Council has focused on three main topics: animal welfare, obligations towards released animals, and specific initiatives aimed at animals in rewilding projects. The Council has the following considerations and recommendations.

Animal welfare

The Danish Animal Ethics Council has discussed the dilemma between letting the animals live wild to promote a specific type of nature and taking account of animal welfare, as the Council does not believe that a natural life necessarily equals optimal animal welfare. The Council members consider it crucial that animals released into the wild are sufficiently robust to cope in the selected rewilding area, and the members moreover find it problematic if, due to the situation caused by the release, the animals are left to suffer, and possibly die.

Obligations towards released animals

The Danish Animal Ethics Council is of the opinion that, irrespective of how animals are protected under the law in rewilding projects, there is a moral obligation to protect released animals as far as possible against unnecessary suffering if a physical barrier has actively been installed to keep the animals in a specific area. The Council's overall opinion is that it should be ensured that the area is appropriate for a population of suitable animals, and the Council considers it vital to prevent unnecessary suffering. Consequently, the Council believes that there is a need to regulate and manage the populations. The members of the Danish Animal Ethics Council have different assessments of when human intervention is needed, but the Council members all agree on recommending the specific initiatives.

Specific initiatives

The Danish Animal Ethics Council considers it vital that rewilding projects also focus on animal welfare and not only on nature management. Some of the members of the Council are very concerned about the development of these projects, and all members agree that consideration for animal welfare must be included when planning release of animals. The Council proposes a list of specific initiatives with regard to selecting rewilding areas and animals to be released, and with regard to plans for monitoring and management, collection of documentation and communication about projects. The Council also draws attention to the need to address indirect consequences of rewilding.

Annex 1: Preparation of this statement by the Danish Animal Ethics Council

The Danish Animal Ethics Council consisted of the following members when this statement was prepared:

- Bengt Holst (Chairman)
- Jes Aagaard
- Paolo Drostby
- Pernille Fraas Johnsen
- Sebastian Klein
- Yke W. Kloppenburg-Oosterwoud
- Peter Mollerup
- Lene Munksgaard
- Michael Nielsen
- Thomas Søbirk Petersen
- Dorte Rebbe Schou
- Anne Sørensen

The Council addressed the topic in the period 2 November 2016 to 22 June 2018.

The Danish Animal Ethics Council would like to extend thanks to Jens-Christian Svenning from Aarhus University and Steffen R. Bengtsson from Faunaforst for assisting the Council with relevant information. In this connection, Jens-Christian Svenning and Steffen R. Bengtsson participated in a meeting with the Council and commented on factual parts of an earlier draft of this statement.

Moreover, during preparation of the statement, members of the Danish Animal Ethics Council and the Council secretariat took part in various events with focus on rewilding:

- Biodiversity symposium at the University of Copenhagen, 1-2 February 2017.
- Public meeting at Amager Nature Centre, 27 February 2017.
- Nature Meeting in Hirtshals, 18-20 May 2017. At the meeting, the Danish Animal Ethics Council hosted a debate on rewilding as part of the Council's work on the topic. The debate panel consisted of the Council Chairman, Bengt Holst, Jens-Christian Svenning from Aarhus University, Claus Lind from the Danish Hunters' Association and Inger Lund Overgaard from Animal Protection Denmark.
- Meeting on rewilding with presentation by Rune Engelbreth Larsen at Copenhagen Zoo, 23 August 2017.

The Danish Animal Ethics Council would like to extend thanks for the loan of photos to the Mols Laboratory. The other photos are from Colourbox.

Annex 2: Literature

When preparing the statement, the Danish Animal Ethics Council consulted a number of relevant reports, scientific publications and other material. The literature considered most important for the Council's deliberations is listed below. For more information on nature management in Denmark and on specific projects regarding rewilding and other nature management, see the Danish Environmental Protection Agency website: <http://mst.dk/natur-vand/natur/national-naturbeskyttelse/naturpleje/naturplejeportalen/> (in Danish), and the Danish Nature Agency website: <http://naturstyrelsen.dk/naturbeskyttelse/naturprojekter/> (in Danish).

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