THE SCOTTISH WILDCAT

ANALYSES for CONSERVATION and an ACTION PLAN

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Contents

Executive summary

- This report takes the form of an Action Plan for the Scottish wildcat, and consists of:
  - A brief introduction to the issues, and to our aims (Chapter 1)
  - An account of current status (Chapters 2 and 3)
  - An evaluation of threats (Chapter 4)
  - Recommended actions to address these and to enhance the wildcat's conservation status (Chapter 5).
- The Scottish wildcat (*F. silvestris*), once found throughout Britain, is at best rare, potentially having hybridized with domestic cats for about 2,000 years or longer.
- Wild-living cats that, to a greater or lesser extent, possess putative British wildcat features (genetic, morphological and ecological) now exist only in northern parts of Scotland.
- Contention over the definition and thus diagnosis of a wildcat makes the interpretation of survey data and population estimates difficult and probably subjective.
- The foregoing situation leads to potential ambiguities, and so we define explicitly the vocabulary we have developed to cope with these.
- Recent estimates of wildcat numbers in Scotland have varied between 1,000 and 4,000, but on one set of assumptions as few as 400 cats with classical wildcat pelage (as defined herein) may survive, and it is possible that genetic introgression between indigenous wildcats and introduced domestic cats has progressed further than generally realized, even to the extent that one cannot rule out the possibility that no genetically pure wildcats remain.
- Nevertheless, it is our opinion that amongst wild-living cats a proportion can be diagnosed as wildcats, thereby qualifying for protection under the law, and that another proportion contains sufficient original wildcat characteristics to be worthy of serious conservation concern and effort.
- The main threats to the Scottish wildcat are hybridization and persecution. Both are compounded by contention over the wildcat's identity and increasing domestic cat numbers (with associated risks of irresponsible ownership).
- Current legislation offers no yardstick for making the distinction between some feral cats, some hybrids and wildcats. This difficulty risks frustrating the legal protection of wildcats, at worst it allows illegal killing of a protected species, and probably accelerates introgression. What we do need is a robust set of morphological and genetic characters confident diagnosis of wildcats.
- Wild-living cats in Scotland can be sorted into groups distinguishable on the basis of a series of inter-related characteristics: limb bone size, intestine length, skull morphology, pelage and gene frequencies.
- According to each of these criteria, some wild-living cats in Scotland are grouped furthest from contemporary domestic cats, and this may suggest they are thus closest to wildcats – a view strengthened by the greater similarity of these cats to continental wildcats. However, and crucially, a somewhat different subset of the sample of wild-living cats is delineated in this way depending on which of the characteristics is used to distinguish them. Therefore, different individual cats may or may not qualify as furthest-from-domestic cats (and perhaps thereby closest to wildcats) depending on which combination of criteria is used. This might plausibly be explained if combinations of wildcat and domestic cat genes were variously represented in different individual wild-living cats. Put simply, it is possible that one individual might have wildcat-like characteristics for its skull, gut and legs, but domestic-like characteristics for its pelage. In terms of biodiversity conservation, and the restoration of Scottish wildcats, the wildcat-like genes in that individual may have value (and all the more so, the rarer are cats qualifying under the law as wildcats). How much value these individuals have to biodiversity depends largely on how rare are cats qualifying as wildcats, and this remains to be discovered, although the evidence so far is discouraging.
- Amongst these different groupings of wild-living cats, each recognized as wildcat-like according to a particular criterion, some individuals of each grouping are also members of **some** other wildcat-like groupings. The crucial point, however, is that many individuals are not included in **all** these wildcat-like groupings. This raises two practical questions. First, which groupings or combinations of grouping of characteristic can be used to define operationally a specimen as a Scottish wildcat? Second, which characteristics are relevant to the conservation and restoration of the Scottish wildcat? The two questions need not have identical answers.
- So far, amongst the sample of wild-living cats, we are unaware that any specimen has been studied that satisfies the criterion of strict classical wildcat pelage (a criterion quantified according to the proposals of

Kitchener *et al.*, in prep.) but failed on any of the other criteria. That is, in the variously overlapping clusters of wild-living cats defined by various features, so far any individual that has had strict classical wildcat pelage has also had furthest-from-domestic morphology and genotype. In this context there is a caveat:

- ✧ Nobody can be certain what pelage was typical of pre-Iron Age Scottish wildcats or, more importantly, how it varied; it is possible that the indigenous cats were more variable in appearance than allowed for by the criterion cited here to define strict classical pelage.

- ❑ Returning to the first of the two questions posed above, which groupings or combinations of grouping of characteristic can be used to define operationally a specimen as a Scottish wildcat. We conclude that possession of classical wildcat pelage is a necessary and sufficient basis for defining and diagnosing individual wildcats under the law.
- ❑ Turning to the second question, which characteristics are relevant to the conservation and restoration of the Scottish wildcat, because the evidence is that cats with strict classical pelage are rare (to repeat, we explore one set of assumptions that suggest there may be as few as 400) and geographically scattered, and because many wild-living cats without this pelage have many other wildcat-like characteristics, and because pre-Iron Age Scottish wildcats may anyway have been more variable in appearance than allowed under the strict definition of classical pelage, there is a risk that it is inappropriate and impractical to restrict the protection of wild-living cats solely to individuals with classical pelage.
- ❑ Therefore, we raise the likelihood that while the protection of individuals with classical pelage is certainly necessary **wherever** they occur, it may not be sufficient to conserve and restore populations of Scottish wildcats. In that case, we suggest that wildcat conservation may best be advanced through a system *of geographical zonation (taking account of both* practicalities and the distribution of furthest-from-domestic types). Such zonation might, in the shorter-term, necessitate a Code of Practice for Wildcat Conservation under which local protection was extended to cats other than those meeting the criterion of classical pelage. Certainly, to be realistic, it is essential that both the law and the Code of Practice can be applied by practical people, in the field, to living specimens, often viewed at a distance. In practice, the field definition of a wildcat could be any striped tabby with a bushy, black-tipped tail. Even this rather liberal definition highlights the crucial fact that several current methods of cat control are not selective.
- ❑ A major conclusion of our work to date, therefore, is that it is helpful to separate the question of how individual specimens are defined and diagnosed as wildcats under the law from the question of how wildcats may most effectively be conserved and their populations restored. A useful definition of a Scottish wildcat should be scientifically defensible, legally clearcut and practically operable. A useful plan to conserve Scottish wildcats should be realistic, precautionary, and mindful of both conservation risks and the concerns of diverse stake-holders; above all, it should facilitate the recovery of Scottish wildcats to a state where their populations are viable and secure. To satisfy these requirements we propose a two-tier system whereby individual cats are defined (and thus legally protected) on the basis of classical pelage, but whereby the viability of their populations is secured through a series of management actions, perhaps including geographical zonation, that are clearly set out in a Code of Practice for Wildcat Conservation.

All wildcat populations are protected by national and international legislation. A clear definition is needed of what exactly is being protected, along with a clear statement of the goal in protecting it, and a roadmap of how such protection can be achieved. We recommend the following actions and legislative changes:

- ❑ There should be a public information campaign about the predicament of the wildcat and the steps necessary for its conservation. This is a HIGH PRIORITY action and should begin IMMEDIATELY.
- ❑ Scientific advice should be formalized to clarify any doubt as to the criteria whereby specimens of the Scottish wildcat are defined, in order to ensure their effective protection under the Wildlife and Countryside Act. We believe that this legal working definition should be based on pelage characteristics. This is a HIGH PRIORITY action that should begin IMMEDIATELY. One priority for completion of this action is to endorse, and if necessary refine, a scoring system such as that proposed by Kitchener *et al.* (in prep.), and to decide upon circumstances under which strict or relaxed classical pelage (as explained below) might, respectively, be the appropriate yardsticks. In making this recommendation are mindful that some wild-living cats with non-wildtype pelage may contain many wildtype genes. With this in mind, we think it important to be explicit that implementation of protection may, in practice, necessitate adherence to codes of practice that involve actions far beyond the protection afforded by the law to wild-living cats with classical pelage; specifically, the restoration of viable populations of Scottish wildcats may, amongst other actions, necessitate a system of protection based on geographical zonation. It is a priority to decide how such zones might usefully be defined.
- ❑ Add the Scottish wildcat (with its clarified definition) to the list of Priority Biodiversity Action Plan species. This is a HIGH PRIORITY action that should begin IMMEDIATELY.

- Building on the proposals of this Action Plan, the statutory authority and other stakeholders should agree a Code of Practice for Wildcat Conservation. This is a HIGH PRIORITY action that should begin IMMEDIATELY. Doubtless the Code of Practice will evolve over time, and some details may take longer to agree than others, but this should not be an excuse to delay the production of a first version.
- If possible identify Special Areas of Wildcat Conservation (SAWCs) within Scotland in areas of high probability of occurrence of furthest-from-domestic wild-living cats. This is a HIGH PRIORITY action that should begin IMMEDIATELY. The designation of such areas, and the actions associated with their management would be described in the Code of Practice for Wildcat Conservation.
- Within these SAWCs seek adherence to a code discouraging any lethal cat control except well-managed selective removal of cats which do not meet specified criteria, and for which formal derogations from protection have been agreed.
- Carry out conservation measures as described below. This is a HIGH PRIORITY action that should begin IMMEDIATELY.
  - Consider wildcat conservation measures within existing SACs in Scotland.
  - Work with veterinarians in SAWCs and wider wildcat conservation areas (areas with 'high' and 'medium' probability of furthest-from-domestic cats) to provide:
    1) A proactive and free neutering and inoculation service for cat owners
    2) An information leaflet for cat owners explaining responsible ownership
    3) Discourage provisioning of supplementary food that fosters large domestic cat colonies.
- If possible identify Wildcat Conservation Areas on the basis of frequencies of occurrence of furthest-from domestic cats, and develop mechanisms for negotiating these locally. Consider therein criteria for highly targeted control of cats identified for derogation from protection according to formally agreed criteria of pelage appearance. This is a MEDIUM PRIORITY action for the MEDIUM to LONG TERM future. As in SAWCs, actions associated with WCAs would be explicit in the Code of Practice for Wildcat Conservation.
- Game-managers within Wildcat Conservation Areas should be informed that wild-living cats are likely to be the object of increasing conservation efforts under the Code of Practice, and should be helped and encouraged to develop alternative non-lethal control methods that mitigate the perceived conflict with wildcats. This is a MEDIUM PRIORITY action for the MEDIUM to LONG TERM future.
- A regular monitoring programme is needed to assess the effectiveness of conservation actions. This is already nationally a HIGH PRIORITY for British mammals in general, and is important in the IMMEDIATE FUTURE for Scottish wildcats.
- Specific reference needs to be made to the maintenance of biodiversity (and specifically in the Scottish Highlands, to wildcats) in Planning Policy Guidance notes (PPGs). This is a MEDIUM PRIORITY for the MEDIUM TERM future.
- Especially in high and medium probability zones (SAWCs and WCAs), consideration should be given to the biodiversity benefits of increased provision for and protection of, mixed-age, mixed-species forest. This is a LOW PRIORITY but could be initiated IMMEDIATELY.
- We do not recommend reintroduction at present, but we do recommend that a feasibility study is carried out. This is a LOW PRIORITY for the LONG-TERM future.
- The recently established stud book for the Scottish wildcat should be encouraged, and captive individuals carefully managed. This is a HIGH PRIORITY and should be initiated in the IMMEDIATE FUTURE.