

Report on a consultation on the introduction of red squirrels and the amendment of legislation to allow consideration of an application

8th June 2016



A wild red squirrel in Fife (RG Selman).

Procedural considerations

The consultation is not just a numbers game, all of the issues will be taken into account. Particular weight may be applied to those with a specialist knowledge, but the weight of feeling will also be noted. The numbers of responses are therefore reported here. Note should be made that some are provided by organisations, representing their members. The number of members has not been taken into consideration. One respondent asked that their signatories be considered as separate responses for accounting purposes and one was a grouped response of individual members signing together. I have therefore provided figures relating to the consultation questions, with the number of signatories as well as the number of responses (letters, emails). Although letters were requested, and these can often be more considered than emails, which can be whisked off a phone, there was clearly a feeling that e-responses are a necessary route today, so all emailed responses have been accepted. Two responses received after the closing date have also been included.

A spreadsheet was created, summarising the responses and the various points made. These are listed below, with the number of responses noting each matter. We can therefore see how many people were concerned about particular matters. Notable quotes are included where these illuminate a point, in their own words, or as examples of views. The full responses are included as an appendix.

Results

107 responses were received, with a total of 143 signatories.

Some of these were from organisations: the Manx Wildlife Trust, Manx National Heritage, the IoM Natural History and Antiquarian Society, the Manx Ornithological Society, the Mammal Society (signed by 13 eminent mammalogists), the Celtic League Mannin branch, the Commissioners of 3 parishes and the Department of Economic Development. 6 members of Tynwald responded. There was also a joint letter from 5 members of the IoM Friends of the Earth. Two letters were received from individuals in the UK, one of whom is Manx and visits monthly at present, and the other is involved in squirrel conservation in Cumbria. The Glens Red Squirrel Group responded from Northern Ireland and offered their experience but this wasn't a response to the questions and is therefore set aside from the results.

A petition was set up by Tim Boles, on Change.org. This received 136 supporters to '(Re) Introduce the Red Squirrel to the Isle of Man' at the close of the consultation. However the text stated that 'There is evidence that they have lived on Isle of Man' and 'There is abundant suitable forestry' which are considered misleading.

There were three specific questions for consultation.

Q1. Do you agree with the removal of red squirrels from the Destructive Imported Animals Act 1963 and their addition to Schedules 5 and 8 of the Wildlife Act, thereby allowing their importation and providing for a licensing regime covering possession and release?

Yes	14 responses (13%),	16 signatories, (11%)
No	25 responses (23%),	30 signatories, (21%)
Conditional	6 responses (6%),	6 signatories, (4%)
No comment	61 responses (57%),	88 signatories, (62%)

Regarding 'conditional', these might be termed 'yes, ifs', bringing the yeses towards the numbers of nos, but some of the conditions may rule out the possibility in practice. Here follow the conditions noted.

Only after deciding to introduce, to save unnecessary administration & expense.

Depends on the question.

Be confident no adverse consequences before changing the law.

Yes, for a limited period, and for specified personnel and limited numbers of specimens. Review and remove if unsuccessful.

Disease-free source site and British type squirrels.

Subject to habitat assessment showing can support stable population.

Regarding 'no comment', many respondents did not answer this question, just stating that they are in support of an introduction. These have been counted under Q2. Q1 has therefore been considered a technical matter and Q2 the general proposal.

Q2. Should red squirrels be introduced to the Isle of Man?

Yes	58 responses (54%)	73 signatories (51%)
No	37 responses (35%)	59 signatories (41%)
Conditional	9 responses (8%)	10 signatories (7%)
No strong view	1 response (1%)	1 signatory (1%)
Park till Biodiversity Strategy progressed	1 response (1%)	(1 signatory (1%)

One person said yes, if funds are tied to red squirrels, but stated that funds could be better spent (included as a yes). Two responses were included as nos because they noted strong concerns about introduction, but the response was not entirely clear. Regarding the conditional responses, the following conditions were requested for agreeing an introduction: more information required first, as in licensing protocols, including food availability assessment; Department content that potential negative effect would be minimal; subject to habitat available and disease precautions.

There were therefore a lot positive responses, but many of these were very brief. There were longer letters, reflecting carefully on many of the issues, and many of these tended to be the negative responses and these included the opinions of mammal experts against an introduction.

Q3. If so, under what conditions?

The following conditions were stated, with figures for those requesting.

Necessary checks, legislation & protocols	1
Impact; significant research to ensure not harmful to wildlife, industry or habitat	4
Only a full impact assessment by an academic institution	1
Environmental issues acknowledged but assuming considered minor before consulting public	1
Likelihood of survival; thrive with minimal intervention	2
Support requirements in 5.2	3
Scrutiny of government costs	1
Native status	1
Conservation priority & Manx priority under Biodiversity Strategy	1
No detrimental impact on biodiversity funding	1
Commitment to 2013 IUCN guidelines	1
No conditions practicable to ensure risk-free	1
Robust fall-back plan	1
Habitat assessment; Habitat assessment to show can establish without support	8
Responsibility for squirrel welfare including suitable habitats & food resources	1
Want to know if NE licence required	1
Only relevant if interest in source genetics	1
Impact-benefit study	1
Close to GB subspecies; British lineage (vital)	2
Healthy, welfare	3
Full vet inspection of imports & quarantine	1
Have bred successfully	1
Tagged and monitored against pre-introduction data; chipped to separate from Manx bred	4

Isolate release site from visitors initially	1
Protect until established sufficiently to not need this	1
Licensing	1
Initially in fenced reservation to see progress/effect, then release	1
Fence an area with visitor contact	1
Track for 8-10 months, introduce after breeding season, limit numbers	1
Disease-free source site	1
Conservation justification	1
Funded plan	1
Potential funding	1
Feasibility assessment	1
Translocation protocol	1
Environmental assessment (not social/economic)	1
Management & monitoring plans, but not a contingency plan	1
From mixed UK sites	1
Risks need to be managed by Forestry re licensed areas in some cases, perhaps	1
Viable population numbers	1
Potential for number expansion	1
Ability to return to the mainland to re-establish there	1
Offers of help, funding are made/requested to the UK	1

Issues raised (ordered by theme), with number of respondents making comment

No strong view	1
Woods lack wildlife	3
IoM lacks viewable wildlife/lack of fauna on IoM	2
Adds to diversity of wildlife on offer	3
Encourages an interest in wildlife	2
Encourages exercise in the plantations	1
Native wildlife is of interest but visitors lack guidance	1
Plantations may become a stronghold & restrictions may ensue to protect a NNS, affecting recreational use	1
Aesthetic reasons	2
Creates a bad precedent - introduction for aesthetic reasons	1
Locals and visitors would appreciate viewing on IoM	7
Tourism benefit	17
Economic effect disputed	9
Negative impact on nature tourism	1
May reduce funding for Manx conservation	1
No business case provided, with real world data	1
Long term funding would be necessary for supplementary feeding & monitoring (IUCN guidelines)	2
Doubtful funding available for long-term private support. Government may have to step in.	1
No benefit to IoM	1
Requires a champion for long-term effect	1
Requires private funding/ government shouldn't fund	3
Costs could be minimal if monitoring basic	1

Charities likely to assist in costs	1
Queried adequate habitat	7
Inadequate habitat	4
Shift in forestry planting required/ needs funding	3
Habitat is adequate	8
Feeding will make up for any shortfall in foraging habitat	1
Feeding would encourage rats/ rat control would risk poisoning squirrels	2
Tree felling is reducing habitat	1
Population may be inviable/ need feeding	2
Welfare issues related to habitat	1
Changes to other policy, for a NNS	1
Many NNS are accepted here	3
Tresco successful	1
Nativeness is difficult to determine/ arrival is haphazard	4
Must/may have been present prehistorically/ Garrad mentions possibility	7
No evidence of previous presence/ not native	24
As part of the British Isles the IoM is a natural environment for squirrels	1
Evidence IoM isolated before suitable woodland occurred	1
No conservation justification	6
Conservation of British subspecies	1
UK status not relevant to NNS introduction in IoM/not a Manx priority	6
No British subspecies identifiable/difficulty sourcing	9
Phylogenetic types to protect are not identified	2
Genetically appropriate squirrels have been sourced at no cost	1
If accept aesthetic reasons then genetics less relevant	1
If found, likely to be small isolated population that may not withstand removals	1
Projected UK survival misrepresented/not so bad/decline halted	2
Licensed removal from UK would be premature admission of conservation failure in situ	1
Against UK guidance	6
UK request for introduction unlikely	1
No request for an IoM refuge from UK	3
No evidence of UK consideration of IoM as a suitable refuge	1
Thrive/ decline stemmed in certain parts of GB/Will survive without intervention well into next century in GB/ recovering in UK	3
Pine martin spread aiding current efforts	2
UK ark sites present in native range	4
Other British islands have squirrels - is our ecology so different?	1
Be sure no suitable UK sanctuary before risking IoM	1
IoM can offer a refuge	16
Species not threatened	19
IoM is not in native range	2
Queried risk to wildlife	6
Unpredictable effect on ecology/ in an island situation	9

Impact unknown/no proposal showing no adverse consequences/potential for serious wildlife impact	24
Adverse impact on birds would be minor	5
Bark stripping & bud feeding can be significant at high densities reported in early 20thC/ do foresters' comments reflect experience of high density sites?	2
Impact of forestry would be minor	1
Not a destructive animal/ impact minor	2
Benefits outweigh potential harm	2
Benefits would not outweigh problems & cost to taxpayer	1
Would not disturb the ecosystem/ would not be in big enough numbers to do much damage	3
Tourism, etc basis outweighed by ecological risk	1
Predators lacking on IoM so bad/potential for ecological release	6
Predators lacking so good potential for introduction	1
Potential nuisance when numbers build	1
Contingency plan not practicable/ difficult	7
Control may become necessary, which would be unacceptable to many/ negative publicity/ very costly	2
If cessation required, suitable traps are available	1
Disease risk	5
Introduction should be science-based not economic or attractiveness	4
Introduction incompatible with Biosphere Reserve	7
Protection of existing biodiversity is more important/greater priorities in conservation	11
Government time could be better spent/exercise is waste of money	12
Red squirrel funds could be better spent at other sites	1
Positive step re. Biosphere Reserve & newfound responsibilities/ recognition as progressive, responsible Isle/ join UK in commitment to conservation	4
Introduction incompatible with Biodiversity Strategy	2
Scientific case for introduction is weak	3
Separate sentiment from conservation	6
Surprising it reached this stage, with so much scientific advice available	1
Against international guidelines	3
Risk to international reputational	5
Should assess against 2013 IUCN guidelines	2
Serves no UK conservation value (IUCN)	1
Would not restore lost ecological function (IUCN)	1
Precautionary principle (CBD) should apply	5
Addition of a NNS to Sch5 would flout the legislation for protection of most important spp	1
Addition to Sch8 could protect against introduction	1
Listed on DIAA for a reason, what has changed?/ potentially destructive	2
Imbalance in Wildlife Act treatment of non-native plants & animals	1
Cultural heritage eroded by making IoM more British in character	2

Government should stop the regular proposal of squirrel introduction	1
Adds to confusion about natives & non-natives	1
Opportunity to use uniqueness of IoM	1
NZ marooning critically endangered spp is not equivalent	3
No difference between assisted introductions and natural invasions	1
Translocation protocol developed	1
No case derived	1

Responses by sector

- Commissioners

Three parishes responded, 1 clearly against introduction or the legal changes and one for an introduction.

Santon supported introduction, noting the lack of wildlife in the woods or viewable across the island. Patrick felt that the whole exercise is a waste of money and noted that they thrive in certain parts of Britain and in other countries, but otherwise stated 'no strong views on the matter'. Marown were against an introduction or legal changes, stating that no case is evident and it is a waste of money.

Santon Commissioners 'Our woods are a disappointing, seemingly dead region of nothingness and we do need something to enliven them. Our Island lacks much in the way of wild life that is easy to see.'

'There may be some interesting birds in the woods but I never see any and a depressing stillness pervades the cathedral of the trees'

The plantations are popular for recreation but the lack of wildlife disappoints and this has been raised in other responses. This is not surprising in a monoculture of non-native species and close-planting with little light. They have been designed as production areas for timber, but the added benefits and multiple uses have gained greater recognition recently and site plans are resulting in greater consideration of the other uses and benefits.

- Departments

The DED supported introduction, to add to the diversity of wildlife on offer, for tourism benefit, and as a refuge, noting the success and lack of problems on Tresco, and problems around classifying nativeness. In a personal capacity the lack of wildlife in plantations was noted.

DED 'the Isle of Man is perceived as a place that is good to see different and unusual wildlife and our market potential for this activity alone is 5.7 million people in the UK (this is the amount of people who would consider visiting the Island to enjoy the

nature and wildlife).'. Full report by Strategic Marketing, on Panel Research for Isle of Man Tourism, July 2015, provided with response. 'It is estimated that the Island of Mull receives around £5 million a year from their Sea Eagle initiative, which also provides 110 jobs and we know that spotting Red Squirrels is a popular activity in many of our competitor destinations including Anglesey, the Isle of Wight, the Lake District and Scotland. The Lake District describe them as a 'major tourism attraction'. 'feedback on the introduction of red squirrels to the Isles of Scilly a year ago has been overwhelmingly positive', 'there has been no "adverse impact"'. In fact the Professor of Zoology at Oxford has said 'Establishing populations of species on offshore islands where they are free from the alien species that have driven their populations close to extinction has proven a remarkably successful conservation tool.' This last refers to Prof. Tim Coulson, but contrast with the mammalogists who signed the Mammal Society response, including another Oxford professor.

- **Tynwald**

There were 6 responses. All were positive, but many were with conditions/caveats, raising queries, particular regarding the risk to other wildlife, but also the availability of habitat, the need for private funding and a champion for long-term effect and one noting the many non-native species already here (3 were noted as positive and 3 as conditional).

- **Wildlife Organisations**

6 wildlife organisations submitted responses and all were negative, though the MNH response was not a clear 'no' but stated many concerns and provided useful archaeological information. 3 of them stated that they were against the legal changes. Some specific/unique quotes are given here.

The *Mammal Society* responded with a letter signed by a number of mammalogists with very many years work in this field and on squirrels in particular. Their response is therefore of particular value and it shows the views of professionals based in the UK and involved with the conservation work there.

'The IUCN Species Survival Commission's guidelines recognise two scenarios where intentional introductions may be justified: (a) assisted colonisation 'to avoid extinction of the focal species', and (b) ecological replacement to 'perform a specific ecological function'. The Mammal Society's position is that neither scenario applies here.'

'recent research suggests that red squirrels will survive without intervention well into the next century in some parts of Britain'

'Considerable efforts are being made by conservation organisations and the public to conserve the red squirrel throughout its current range, and this work has stemmed the decline of red squirrels in many places'

'the spread of pine martens in Ireland and Scotland with the concomitant loss of grey squirrels and return of red squirrels reinforces the idea that the demise of red squirrels in Great Britain is some way off'

'Although studies show there is some phylogenetic structure in Welsh and Cumbrian red squirrel populations, over the UK in general there is very little phylogenetic pattern and little evolutionary divergence between UK and other northern European populations, probably as a result of past introductions of red squirrels from continental Europe. Thus, there is no imperative to generate a new island refuge specifically for 'British' red squirrels. Further, a number of red squirrel island refuges already exist, including Jersey, the Isle of Wight, Anglesey and Arran.'

'Based on these considerations, there are no scientific grounds or conservation value in introducing red squirrels to the Isle of Man and the Mammal Society does not support such an introduction'.

MNH 'has significant concerns about the safety, both practical and reputational, of introducing red squirrels to the Isle of Man. It would surely be unwise to entertain initiatives which carry unknown risks when we are already facing substantial known risks to the Island's biodiversity. A more cautious approach would be to 'park' this issue until we see significant progress with the Biodiversity Strategy and related Action Plans.'

'So far we have found no written evidence in the archaeological or written record that red squirrels were ever present in the Isle of Man and there is therefore no proof to date that they were native to the Island. Indeed there is some evidence that the Isle of Man was cut off from the rest of Britain before mature woodland habitat suitable for squirrels developed. Chiverell et al, in 'A New History of the Isle of Man' (2006, p.269) point out that "Recent research in the Quaternary deposits of the northern plain of the Isle of Man indicates that the Island was isolated from Britain during the Lateglacial to Early Holocene times, perhaps explaining the delayed arrival of the major tree species... The delayed rise of the Holocene forest compared with surrounding regions (southwest Scotland, eastern Ireland, Lake District, Lancashire) probably reflects severance of the land-bridge with Cumbria and provides an example of divergent island biogeography in the island ecosystem, but could also be a function of climate changes during the early Holocene and local environmental conditions."

MWT suggested a negative impact on nature tourism, but state, 'Nature Tourism requires clear development to allow the visitors that presently come to make it easier to access Manx wildlife, while expanding the sector further through wildlife tourism. Manx Wildlife Trust can help provide expertise for Nature Tourism that helps protect Manx wildlife.'

'This would create a precedent, where the Island could become a place where introductions for aesthetic reasons alone are acceptable.'

'International experience with Tree Squirrels (the group that includes red squirrels) is clear that introductions are difficult to control and/or reverse should there be detected negative impacts (Bertolino, 2013).'

IUCN Guidelines as updated 2013 'should also be followed for any potential "introduction" or "Conservation Translocation". This is especially true when suggesting the Isle of Man as an Ark site – something of long-term conservation need due to likelihood of extinction for which isolation may hold the key to future restoration. This final aspect is important, as it is part of a long-term (decades perhaps) planned and resourced programme to save and restore a species

population. Red squirrel introduction to the Isle of Man is part of no such international effort and programme.'

A local proponent sought a letter of support (predrafted) for red squirrel introduction to the IoM, from the *Red Squirrel Survival Trust*, but they declined. Instead, *Craig Shuttleworth*, their scientific advisor, director of *Red Squirrels Trust Wales* and a Bangor University squirrel researcher, has provided a response.

'Any translocation proposal should be assessed against the IUCN 2013 guidance and appendices and not previous outdated versions. These current guidance screen strongly against introductions that are founded upon a release to benefit tourism, socio-economics or aesthetics. That is not to say that community benefits are unimportant as a consideration, but they are secondary to conservation benefits'

'proposal refers to the need to create a refuge for native or pure British red squirrel types, but provides little detail about which phylogenetic types or the need for licences from Scottish, Welsh or English nature conservation bodies to remove animals from the wild. Moreover, licensed removal would be a public and tacit recognition that in situ conservation could not be successful - such an in situ conservation failure is simply not the case'

'has misrepresented the projected survival prospects of red squirrels in the UK. Gurnell et al (2014) have provided an analytical which shows regional extinctions from mid 2020s to early 2100s but with caveats that recent (last ten year) interventions have delayed or retarded extinction probabilities.'

'In southern Cumbria, Westmorland squirrel group have dramatically increased red squirrel occupancy rates and there are many examples in Shuttleworth, Lurz, Halliwell (2015)'

'I have undertaken numerous red squirrel translocations involving captive bred red squirrels and with colleagues discovered that although some haplotypes are present which one can categorise as 'native', the fact is that these animals contain continental genes as they have mixed lineage. In other words they may have a native haplotype maternal bloodline, but their nuclear genetics code for very different squirrels. It is true, there are some locally adapted traits present in UK populations, but by their very virtue they have developed away from the Isle of Mans climatic or environmental selective drivers. Moving these animals to face conditions within which they have not adapted i.e. the Isle of Man makes as much sense as moving them to continental Europe'

'The argument that the New Zealand policy, specifically of moving native species to islands to protect species from predation driven extinction, is of relevance here is weak'

'they are not threatened under IUCN criteria, and there are already an array of large UK islands with red squirrels present'

'The IUCN 2013 places a responsibility for sequential screening against a suite of criteria and within that the need there is a need for transparent ecological justifications to support introduction. Based on the scope of your evidence, introducing red squirrels would not restore any lost ecological function on the Isle of Man and it would serve no UK conservation value'.

'I note in a recent BBC article <http://www.bbc.co.uk/news/world-europe-isle-of-man-35917227> that 'RSST' are quoted as saying red squirrels will be extinct in a decade in

the UK. This is incorrect and is not the RSST view', or that such consequences are outweighed by its benefits. This they have not done.'

MOS 'It is the responsibility of those proposing the introduction of red squirrels to prove to an acceptable standard that no adverse consequences would flow from the introduction.'

'Even the UK Red Squirrel Group does not support release of red squirrels on to islands where there are no historical records of their occurrence.'

IoMNHAS 'There are greater priorities in the conservation of native habitats and species on the Isle of Man which should be the focus of biodiversity work of the Isle of Man Government. There are insufficient ecological reasons for introducing red squirrels, other reasons such as creating additional tourist attractions are outweighed by the ecological risks'

- **Others**

Regarding changing the legislation (Q1) of 89 other responses (116 signatories):
Yes 14 (16%), (16 signatories, 14%)
No 20 (22%), (29 signatories, 25%)
Conditional 5 (6%), (5 signatories, 4%)

Regarding the introduction (Q2):
Yes 53 (60%), (68, 59%) but one stated that this is if funds were tied to red squirrels, but the money could be better spent.
No 30 (34%), (40, 34%)
Conditional 7 (8%), (8, 7%)

Specific/unique quotes and example quotes are given below, from other respondents, for, against or more neutral on introduction.

- For

Collister 'I do hope this fantastically far-sighted (for the IOM!) proposal comes to happen. I can think of no better way to preserve a species that, of course, would have been indigenous to the Island many years ago and that desperately needs protecting now'

Cullen regarding Q3 – economic and social issues raised not significant enough to deter introduction. Social issues raised not pertinent enough to warrant mention. 'Environmental Issues - All issues raised I see as acknowledged future hazards in dealing with the species in, and of itself, and I would consider that the fact that this consultation is even being brought to the public in the this instance, as evidence enough that public authorities have considered all environmental issues to be minor enough, as to not warrant significant public worry.'

Faragher 'I am strongly in support of the introduction of species except in circumstances where it can be seen there will be very serious negative effects, and that is not the case here'

Hadfield pro, yet 'would prefer to see money spent on re-introducing species we (man) have made extinct from the island such as Dipper, Corncrake, Yellowhammer etc. By getting our range of bird species up we become much more attractive to the cash rich eco-tourist. Especially if we have birds that normally require a long and expensive trip to the Western Isles of Scotland such as Corncrake. But if the money to fund the Red Squirrel introduction is specially for that and nothing else then I would be for introducing Red Squirrels as again it would be a tick in the box for attracting eco-tourists.'

Harding typical of pro response 'They are a delightful creature and seeing one is now a rare pleasure in the UK given the introduction of the non native Grey Squirrel that has decimated the Red.

Personally I would welcome the controlled introduction of the Red to the Island. As numbers dwindle in the UK the Island is the perfect environment to introduce and conserve them'

Harrison Allow import and release for specified period, controlling the personnel and numbers of specimens. Review prior to end date and extend or remove, removing population if unsuccessful.

Oldham 'the amendment to the legislation should make it a condition of importation and licensing that the squirrels are sourced from, and proved to be sourced from (by veterinarian confirmation?) a disease free location and that they are the appropriate genus for the British Isles'

'Details of the source population providing evidence of a British lineage. Vital

A contingency plan for recapture or control, if the project were not a success. Going too far, as the likelihood is that if it is unsuccessful it will be because the squirrels find it hard to establish here and die out. The Island has a huge number of 'long tails' and I'd rather see a plan to destroy those instead of a few wayward squirrels.'

Walton 'I have been in contact with Mr Don Hill, who has introduced squirrels to the Northumbrian Kielder Forest Project to take advice, and he believes squirrels would survive here very well and certainly not 'unleash havoc!'

Young 'I think it will be very hard to separate the practical and emotional side of such an animal'

'as a small child (i am 46 now) some of my fondest are of the magic of seeing a red squirrel. I think that it would be one of my first introductions to wildlife, other than feeding the ducks. any release would be another reason/use for the plantations. it will encourage children and adults alike to visit the plantations in the hope of seeing them, gaining exercise as well at the same time. Would it be of a huge benefit to say tourism, no probably not, but having said that it is something else to see/visit while on the island'

Curtis Yes to Q1 'However, on the grounds of potentially unnecessary administration and expense I would not wish to see these steps taken before a decision on Q2 is made'

'Whilst conservation reasons are often given for the proposed introduction, I personally believe that the majority in favour of an introduction simply want to have Red Squirrels on the Island. This is certainly my reason for being in favour. At times it seems this view is very much frowned upon but it shouldn't be forgotten that we have many examples of flora and fauna around us which are tolerated and encouraged because they give us pleasure. Are there any examples of non-natives being valued for their presence? To name but a few there are Hedgehogs, Rabbits, Wallabies, Mountain Hares, Pheasants, Red-legged Partridge, Canada Goose, Black Swan, Fuchsia, European Gorse and, currently most visible, garden Daffodils planted with impunity almost everywhere.

If it accepted that the introduction of the Red Squirrel is for aesthetic reasons as much as any other then the issue of whether we should be concerned as to the genetic purity of a "British sub-species" is of far less importance. Indeed it does appear that there may well be no genuine British sub species in existence as introductions to Britain from Scandinavia and Western Europe have been made in the past.'

'to those who purport to be purist on introductions then all I can say is that there are no grey areas here – you're either completely against non-natives or you're not. You can't pick and choose'

'In effect therefore I would say that, if an introduction of the Red Squirrel is favoured, the only way to be cost effective is to accept that monitoring will be minimal. In effect therefore if the decision is taken to allow an introduction it should be on the basis that it is irreversible'

'Having seen many arguments on both sides of the debate I think the question of introductions is much more involved than it first appears and personally I don't think there will ever be a right or wrong answer, just different points of view.'

Curtis also made many comments on the status of other non-native species of bird, mammal, plant and fish, under management and otherwise.

Nicholls for, in principle, but not enough information currently, need especially an assessment of food as 'there are few hazel nuts on the trees in the island and very few pine nut cones'

Talbot 'I have reflected on both sides of the arguments but feel the red squirrels will bring more benefits and the risks are manageable.'

Smith 'from mixed UK sites'

Ainley 'only slight concern would be whether or not the food resources would be adequate however should this be the case then I see the cost of supplementary feeding a small price to pay.'

Forsyth UK red squirrel activist positive about introduction.

Jackson Regarding discussions of the native range 'a far better attitude to adopt would be do we want them here?' Assuming public support, then 'any objections to an introduction must be on the grounds of harm to our current environment or the unsuitability of the Island to sustain them; such facts must then be explained carefully to a disappointed public to avoid illegal, unregulated and unsupervised releases by misguided individuals.'

Vernon 'Undoubtedly there would be some problems. To sustain a healthy squirrel population there would have to be suitable tree planting (i.e. nut producers) but surely this will be beneficial to other wildlife. If sufficient food resources were provided for the squirrels, the threat to birds' eggs would be minimised.'

Boles 'We have managed to source genetically appropriate red squirrels from the Wildwood concern in Kent at no cost.' No evidence has been supplied yet.

- Neutral/conditional

Harrison 'If a secure reserve can be set up then I see no issue.' But goes on to raise a number of issues with regard to an actual release.

- Against

Charter 'the obvious conclusion is that the proposed legislation changes to enable red squirrels to be released here is unnecessary and potentially problematic for future proposals for introductions.'

'Sentiment needs to be separated from conservation – currently it risks getting in the way'

'You say A request from the UK government (under the UK Biodiversity Action Plan and UK Red Squirrel Group) for a refuge area on the IoM could be a central part of a justification but at present this has not been received and appears unlikely based on the conservation guidance above'

'DEFA needs to concentrate on the native species we have here and engage the public in their appreciation and conservation. This is an expensive distraction which could lead to loss of urgent action for many of our native species as outlined in the Biodiversity Strategy'

'It is very important that the statutory Wildlife Committee is consulted and that they have access to and take into account the views of conservation authorities in the UK (who would need to license the capture and export of red squirrels from the UK).'

Ratcliffe 'With insufficient predators to naturally check their proliferation their unchecked numbers would make them a nuisance and potential threat to other species native to the Island. Leading to problems of controlling their population which whatever method was employed would be unacceptable to most of the public and potentially lead to negative publicity.

Whilst the sentiments of those proposing their introduction is noble the Isle of Man Government should not wilfully introduce a non native species'

Sharp 'I would suggest that red squirrel conservation money would be better spent in areas where we know red squirrels can survive and thrive based on their existing ecological niche.'

Pooley 'The idea that an introduction, even if it did somehow lead to a sustained presence, would have a net cost/benefit for the Island economy is laughable given the cost of prior assessment and implementation and the extensive and long term costs of managing and monitoring any subsequent introduction'

'The effective protection of our existing biodiversity is already underfunded to the extent that we do not know enough about it to be able to assess the full implications of any new species introduction'

Pinder 'The companion paper to the consultation document – Brief to the Directorate Committee -was dated 2010 and so did not consider the 2013 IUCN Guidelines for Reintroductions and other Conservation Translocations (IUCN/SSSC, 2013) which provides a clear protocol for considering all releases for nature conservation purposes, native and non-native. The complete guidelines bear careful reading in relation to this proposal but I quote two of the annexes below as particularly relevant (underlining = my emphasis):

Annex 3

Deciding when translocation is an acceptable option

3.1 Introduction

Annexes to Guidelines

1. Any proposed species translocation should be justified by identifying a conservation benefit and weighing any benefits against risks, while considering alternative actions that

could be taken. Motivations such as experimenting solely for academic interest, releasing surplus captive stock, rehabilitation for welfare purposes, attracting funding or public

profile, or moving organisms to facilitate economic development are not regarded here as conservation purposes.

3.3 Considering alternatives

Many conservation translocations will yield conservation benefit only at high cost and with considerable risks. Therefore, irrespective of any conservation priority assigned to the

species, any proposed translocation should be justified through comparison with alternative solutions

The alternative clearly is to simply allow the UK wide authorities and initiatives concerned with red squirrel conservation to proceed unhindered and unhampered by having to try to identify a 'British' red squirrel in sufficient numbers (see below) for the Isle of Man to import and release.'

Conservation basis: 'Clearly identifying the appropriate sub-species to reintroduce is paramount, without which the conservation justification for the proposal cannot be maintained, even if one believes sub-species to be the taxon level to conserve. If there is such a creature as the 'British' red squirrel it may be worth the efforts of UK bodies to attempt to conserve it. If not, European red squirrels could be released, as indeed they have been in the past. It is unfortunate that no type specimen for *Sciurus vulgaris leucourus* Kerr 1792 exists and more so that historic releases complicate the genetic evidence, to the extent that no obvious phylogeographic pattern can be discerned across the UK. It is therefore extremely doubtful if a

'British' red squirrel can be identified to provide the source material for such a release.'

Re. consultation 3.2 'If the UK are not requesting the proposed action, and indeed say red squirrels should not be released on islands without records (or previous existence there), precedence from New Zealand is irrelevant. In any case, New Zealand maroon critically endangered species whereas the UK red squirrel is classified as a near threatened sub-species which accords it a much lower conservation priority.'

Bark stripping 'Forestry officers' careers are not long enough to retain memory of the problems red squirrels caused when at peak numbers eg 82,000 shot by the Highland Squirrel Club between 1903 and 1933.'

Tourism off-island: 'Also the South Lakes, so whichever direction you approach the ferry, you pass good red squirrel viewing points'

'No business case has been put forward, in contrast to the sea eagle proposal which had worked economic forecasts based on real-world data.'

'It is doubtful if the private and charitable interests could commit to the long-term funding required (see above) and at some stage Government resources would be required'

Food: 'Morris (1993) says that, as an arboreal feeder, red squirrels need a continuous tree canopy over a large area and even in the best habitat they live at densities of only 1 per hectare. In Thetford Forest, surely more akin to our available habitat (although at 19000 ha, 1/3rd the size of the whole Isle of Man, larger by far than any of our plantations) average density is only 0.1 per hectare. Small areas of woodland will only provide sufficient food in good years (years of good seed set of the squirrels food species) but seed crops are greatly reduced in some years, posing a severe threat to survival, particularly in small isolated woodlands. The total forest estate is about 2500ha split among 55 plantations giving an average size under 50 ha. Less than half our plantations are over 50 ha in extent (although admittedly some are contiguous with each other. It is clear, however, that our woodlands fall more into the small, isolated category compared to the UK and in which red squirrels can be expected to persist only with substantial supplementary feeding.'

Funding: 'Given the above comments on size of our woodlands a tree planting strategy for red squirrels would be a substantial shift in forestry plans and would undermine the comments on funding requirements (above) in which it is implied that funding would principally be from private and charitable sources'

Re. 'British stock': 'Possibly a term used in captive conservation circles since at one stage wildlife parks were importing and exhibiting squirrels of European origin to circumvent legislation of keeping native squirrels in captivity'

Effects on the source population via population reduction: 'A secondary consideration would be whether, if a population of 'British' squirrels can even be identified, it would be large enough in itself to sustain withdrawing the requisite number of individuals for a release on the Isle of Man. The lack of such evidence to date would imply that if 'British' squirrels exist they do so in small, isolated populations that have yet to be sampled'.

Duncan 'Given the scientific and ecological expertise on the island, and government advisory committees (Manx Nature Conservation Forum, Wildlife Committee, MWT, Manx Museum etc.) it is surprising that such a proposal has reached a consultation

phase, when it appears clear that it should have been rejected on expert-scientific advice before this point. It is fundamentally not an economic question, it is a basic scientific question, and to treat it otherwise is, in my view, a very dangerous approach. I see little scientific justification for the proposal in the consultation document and a good scientific basis for rejecting the proposal'

'Page 3 of the consultation document indicates that there is 'clear precedence from New Zealand, which has moved critically endangered species to island refuges in order to prevent extinction due to introduced predators'. In fact there is better evidence from New Zealand to show why non-native introductions SHOULD NOT BE ALLOWED, partly due to the unforeseen ecological consequences and native extinctions that have occurred as a result.

The non-native brushtail possum (*Trichosurus vulpecula*) in New Zealand is a good example of this type of introduction (cute, furry and potential economic benefit), and the subsequent massive environmental and control costs that have resulted: https://en.wikipedia.org/wiki/Common_brushtail_possum_in_New_Zealand).

'Their cost to the (New Zealand) economy is considerable: in 2006 government agencies spent (NZ) \$111 million on possum control, a level of funding that will continue for another decade. In addition, possums eat pasture and cause a fall in farm production (estimated at (NZ) \$35 million annually). They also eat planted pine seedlings and horticultural produce.'

(www.teara.govt.nz/en/possums/page-1)

Therefore, the use New Zealand refuge strategies as an example, (and I interpret its inclusion as support for the concept of a refuge for the non-native red squirrel), is ironic given that the very introductions of various non-natives to New Zealand have, in fact, forced the use of refuges as a means of protecting native species from extinction.

It may be that New Zealand has learned lessons from previous mistakes, since red squirrels are classed as a "prohibited new organism" under New Zealand's [Hazardous Substances and New Organisms Act 1996](#) preventing them from being imported into the country. We may do well to learn from New Zealand's long, and negative experiences with non-native introductions.'

'In general, the history of deleterious and unforeseen consequences of introducing non-native species onto islands is a well-established testament as to why such actions should not be considered or undertaken. The list of islands where native extinctions and ecological declines have occurred due to non-native introduction of animals is long and includes;

New Zealand, Australia, Hawaii, Reunion, Mauritius, Guam, Isla Nublar and even the Calf of Man, to name a very few. The consequences are typically bad for native wildlife and habitats and expensive to remediate, if indeed possible. The Isle of Man Government, **as a signatory to the Convention on Biological Diversity**, should be aware of programmes under that convention which are specifically aimed at managing alien introductions and their effects;

See: <https://www.cbd.int/island/invasive.shtml>, in relation to islands and alien species, and in particular the responsibilities of signatories to the CBD;'

'There is further irony to reflect that the current deteriorated status of red squirrel in the UK is considered to have been directly caused by disease resulting from a deliberate non-native introduction, a more competitive species of squirrel (eastern grey squirrel from north America), and anthropogenic effects of habitat destruction.'

'In summary, I consider there to be little scientific justification for the introduction of red squirrels onto the Isle of Man, and therefore no justification for changing their current status. There are so many examples of the negative consequences and costs associated with non-native introductions, particularly to islands, that I would be surprised if any professional biologist/ecologist would support such a proposal and I strongly consider that this is a scientific and not an economic question (which must have been the presumed basis for the proposal)(see New Zealand brushtail possum example for cost: benefit comparison of short versus long term economic considerations of non-native introductions).

Such an introduction would appear to be contrary to Isle of Man and UK government policy and most probably to the international agreements made by the Manx government under the UN Convention on Biological Diversity.

The proposal, if accepted and undertaken, could therefore seriously undermine the government's credibility in relation to natural resource management. In my view, the time, resources and effort would be better directed at preserving native Manx biodiversity and ensuring that the Government's biodiversity strategy is fully implemented'

Etherton 'The Isle of Man does have interesting wildlife – but it does not have a network of ground handlers who can assist visitors to go and find it nor is there really detailed information designed to help visitors do so on their own. Information is often generalised, it's not seasonally focussed and it is fragmented – produced by a variety of organisations rather than collated in one place, making it difficult for visitors to access it. These are issues which need to be addressed to increase tourist visits from those who include wildlife experiences in their holiday package.'

Moughtin mentioned, as an aside, the damage that can occur to houses when squirrels get into the loft.

Wells 'Why can we not be generous-hearted enough to join them [the UK] in their commitment to save this endearing little creature.'

Fenced sanctuary suggested.

Gelling (experienced pest controller) 'Once released there would be no hope of trapping or killing all the released squirrels (assuming that more than a handful are released) if deemed necessary.'

'Our man-made plantations have altered some good native wildlife habitat. However, I fear that they would be a stronghold for squirrels. ... Our plantations are arguably most useful as outdoor gyms and recreation areas. We fear that should squirrels become established within any plantation access restrictions may be put in place to protect a introduced species.'

'We already have one introduced mammal that has a very restricted range in England, and like red squirrels is doing OK in parts of Scotland. What have we learnt from that experience? How has having a good populations of blue hares affected:

- our tourist industry?
- native upland wildlife?
- the far from abundant blue hare in England?
- populations of predators?

- native tree regeneration in ungrazed areas?
- road safety?'

'Why should we believe we know any more about the impacts of red squirrels 70 years after introduction?'

The quotes above bring out the range of issues and views provided, but the list of comments should be consulted for a fair view of the numbers providing each of these.

Queries

Some questions were raised which are answered here for wider benefit

Can a species be added to both Sch 5 and Sch 8?

There is no species currently on both schedules, but we see no reason why a species could not be on both schedules if the relevant restrictions were necessary. The relevant tests would, however, have to be applied. Addition to Schedule 5 must be 'on a representation made .. by the Wildlife Committee' because the species 'is in danger of extinction in the Island or is likely to become so endangered unless conservation measures are taken' (Wildlife Act, S23) and may not be applicable.

Re. Parapox zoonosis, *Could you please advise whether you support the view that these sources of danger to humans should be allowed to be bred and spread around the Isle of Man?'*

The Department has no intention of allowing any parapox-ridden squirrels into the Isle of Man, because squirrel parapox is deadly to red squirrels. With regard to the specific concern, the Wikipedia page on squirrel parapox https://en.wikipedia.org/wiki/Squirrel_parapoxvirus#cite_note-MI-DNR-6 states 'many poxviruses are potentially zoonotic, and other poxviral infections have been reported in man. However, no cases of transmission to humans are known.'

Is there any evidence that red squirrel populations can affect the spread of tree diseases e.g. Chalara Ash dieback or Sudden oak death?

Phytophthora ramorum (sudden oak death) is found on the IoM but *Hymenoscyphus fraxineus* (ash die-back, previously known under Chalara) has not been recorded here. We believe that the introduction of squirrels is very unlikely to have a significant, if any, detrimental impact to the wider environment in relation to known plant health and biosecurity issues.

Phytophthora is spread by spores. Spread is thought to be via moist winds and wet substrates to a large extent, but animal/human vectors might play a part, and biosecurity is therefore important in known infected areas. This would not require an animal /person to be in a tree, as it will be on the leaf litter beneath, too. The question is therefore what increase in risk of spread could relate to the presence of squirrels, above that already present from other wildlife (eg. birds) or humans and the effect of the wind. This itself will depend on the level of movement of squirrels between woodland areas, which would probably change with density, year to year (weather, tree stand maturity, etc) and with squirrel age. There is forestry interest in this issue (see <http://www.forestry.gov.uk/forestry/inf-d-8rcmkv> regarding grey squirrels) but the disease seems most likely to spread with attached soil/litter, than

via small quantities of spores attached directly to fur, as spore numbers affect the likelihood of infection and they don't last long in dry environments. Tree species differ in their susceptibility, too.

Also bear in mind that the Department is felling affected areas and removing sporulating hosts such as larch, which is particularly prolific at spreading it. Control is approached by risk management and wildlife and livestock incursions are deemed to be low risk and somewhat unavoidable.

There are certainly a number of unknowns, and it is a complicated issue to give a simple answer to but on the balance of information currently available, we believe that squirrels probably wouldn't have a significant effect on the rates of spread of these diseases, but new research may enlighten us and lead to a much better view.

Has this idea been costed in any way? If so by whom and when, and what was concluded on what basis?

Not that we are aware of.

Has this 'idea' been endorsed (or otherwise) by any person or organisation of independent and credible scientific repute?

The consultation provides for this consideration, though the Department has received advice from the Wildlife Committee and the proposal is discussed in the European Red Squirrel Initiative report, available for reference at DEFA headquarters.

Has DEFA or anyone else confirmed what (ultimate) population of squirrels could be supported by the available habitat?

The recent MSc report available for reference in the Department headquarters (Owen) discusses habitat availability and potential sites. Feeding may be required to sustain a population, at least in the short term, until habitat adjustments are made.

Who were the 'highly-respected mammalogists in the UK' consulted by the Wildlife Committee prior to 2010 and when and how did they give their opinions?

1991: letters were received in response to a request, from John Gurnell, the late Derek Yalden and Pat Morris.

Has the ability to restrict any imported animals to representatives of the native British subspecies been credibly and independently established?

This would be a matter of licensing conditions and require suitable evidence to be provided. It is clear that conditions can be set out but less clear whether any proposal coming forward for licensing might fulfil the requirements, but as this would be the basis for a conservation justification, it seems a reasonable requirement, if an introduction were to take place. A question remains regarding what evidence might be acceptable and the conditions of any resulting licence are a matter under consideration in the consultation.

Has any UK source undertaken to fund an introduction and fully monitor its effects on both the introduced species and the rest of our biodiversity long term?

No, though we have had interest from UK residents in such a project, previously, though not offering to fund it, though noting the European Red Squirrel Initiative consideration. There are, however, local residents interested in funding such a project.

Has any UK Government Agency requested the IOM to consider an introduction? If so which one(s) and have they stated unequivocally that an IOM introduction would materially 'aid' the survival of the UK population of the native sub species?

No, see the policy statement in the consultation.

Response to a point

'The Island is geologically similar to all neighbouring countries who have several species not seen on the IoM and the reason for this can only be the destructive nature of humans'.

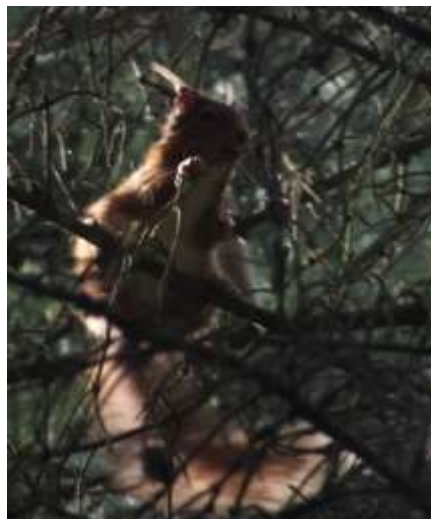
The reasons include island biogeographic theory and the IoM's geographic history, though man has also transformed the habitats. The size and degree of isolation of the island, and the timing, period and habitats of a land-bridge linking to with the British mainland after the retreat of the ice, all affect the numbers and kinds of species that can survive with a viable population on the IoM. A small island cannot sustain the same species inventory as an adjacent larger island. Allen (1984) noted that 'in every plant and animal order (except the wholly freshwater ones) that has so far been adequately worked, with striking consistency Man proves to have two-thirds of the Irish total and two-fifths of the British'.

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Another wild red squirrel in Fife (RG Selman).