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# Conservation and Individual Worth

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**ABSTRACT:** It is commonly supposed that individual animals are of little relevance to conservation which is concerned, instead, with groups of things or ‘wholes’ such as species, habitats, and the like. It is further contended by some that by prioritising individuals, two of those values that are held dear by conservation – namely natural selection and fitness – are compromised. Taking wildlife rehabilitation as a paradigm case of concern for the individual, it is argued that the latter claim is based upon mistaken assumptions. Then, using red deer culling as a case study, the discord between conservation’s holistic values and a concern for individual worth is explored. It emerges that the conservation value of red deer culling is more apparent than real and thus that there is more room for conservationists’ acceptance of individual worth than usually supposed.

**KEYWORDS:** Wildlife rehabilitation, culling, holistic, ‘wholes’, natural selection, fitness

## INTRODUCTION

Conservation is widely held to be properly concerned with groups or ‘wholes’ that make up the natural world. These groups may consist in populations, species, habitats, ecosystems, and other such assemblages. Such concern tends to eclipse any potential consideration for individuals, indeed it is very often at the expense of individuals. Holistic thinking is not merely theoretical: it permeates practical conservation. Perhaps the clearest example is to be found in the conservation practice of culling: grey squirrels and red deer are culled in order to prevent damage to woodland; the Royal Society for the Protection of Birds (RSPB) and Wildfowl and Wetlands Trust proposed a cull of the ruddy duck,<sup>1</sup> as a rare species – the white-headed duck – is said to be threatened by interbreeding with the former;<sup>2</sup> foxes, crows, stoats and other predatory animals are culled in their thousands for the conservation aim of protecting ‘game’ bird species such as grouse, which are thought to be an important constituent of

moorland habitat.<sup>3</sup> In the light of conservation's neglect of consideration for individuals, it may be supposed that any practice that prioritises individuals – as exemplified by wildlife rehabilitation – would at best have no conservation value, and at worst, compromise conservation. Furthermore, wildlife rehabilitation has been accused of compromising the conservation values of 'natural selection' and 'fitness'. For example, in the aftermath of oil spills, the clean-up operation commonly includes the rescue, washing and rehabilitation of oiled birds. While widely recognised as a humanitarian exercise, it has been severely criticised by some as not only a waste of potential conservation resources (it is costly and labour-intensive) but, more seriously, as potentially damaging to populations.<sup>4</sup> Are these criticisms justified?

### PLACING WILDLIFE REHABILITATION

Wildlife rehabilitation may be described as 'the rescue of incapacitated wild animals that are considered unable to survive in the wild without human intervention, their care and subsequent release'. While this description is a good starting point, it leaves us unclear as to what, precisely, would *count* as rehabilitation.

For example, in order for an action to be considered as rehabilitation, an individual must receive direct help. That is, rehabilitation consists in specific action for a specific individual. Indirect, or incidental help will not do. In treating and releasing a lactating fox, it could not be said that her offspring – though clearly saved by this action – have been rehabilitated. In addition to this, it is necessary for a problem to first be identified before rehabilitation can take place. Putting food out for the birds over winter as an 'insurance policy' against their starvation cannot be considered to be rehabilitation. However, should one of these birds be found huddled in a corner one morning, it is a candidate for rehabilitation. Rehabilitation is embarked upon when, with respect to its wild existence, an animal is disadvantaged.

The notion of 'disadvantage' requires clarification. It refers to those animals that are suspected of being in imminent danger of dying, those whose lives are apparently under threat, or those whose quality of life in the wild is seriously compromised. There are five categories of 'disadvantage': illness; injury; incapacity (e.g. oiling); dispossession (e.g. disturbance from hibernation) and orphaning. Though categories are useful methods of clarification, clearly some cases will straddle more than one category.

The degree of human intervention in the process of rehabilitation varies greatly, and can be categorised in the following way:

- (i) De-training<sup>5</sup> and/or re-training.<sup>6</sup>
- (ii) Rearing, including hand-feeding.<sup>7</sup>
- (iii) Treatment, of varying intensity and duration.

## CONSERVATION AND INDIVIDUAL WORTH

(iv) Sometimes, all that is required to set a disadvantaged wild animal on its way again is intervention of the most minimal kind. Grounded swifts are a fairly frequent summer casualty at rehabilitation centres (Fenter 1990: 55). All that is needed is for the bird to be held aloft on an open hand, thereby allowing it to take off – an action the swift, with its long wings, is unable to do from the ground.

Although widely differing degrees of human intervention are to be found within rehabilitation practice, what is common to all is some kind of correction procedure, a procedure that changes the expected course of the animal's life, thereby allowing it to resume its earlier mode of being (wild survival).

## DOES WILDLIFE REHABILITATION UNDERMINE EVOLUTIONARY FITNESS?

Conservationists value natural processes in which natural selection plays a pivotal role. Natural selection, it is believed, ensures the 'survival of the fittest', and this, some critics say, is seriously undermined by the sort of human intervention typical of wildlife rehabilitation. Kirkwood (1993: 237), for instance, has written that '[t]reating compromised individuals and therefore giving the less fit a second chance represents an interference with natural selection'. Elsewhere, Kirkwood & Sainsbury (1996: 239) expand on this:

Wild animals have always fought their own battles with competitors, parasites, infections, and with the rigours of the environment and are as they are – anatomically, physiologically, behaviourally and immunologically – entirely because of this. The treatment of compromised individuals and thus giving the evolutionarily 'less fit' (which, by definition is what wild animals that are sick or injured through natural causes are) a second chance, is no less an interference than shooting the fit.

There are serious problems with this criticism. To begin with, the authors claim that wild animals that are sick or injured through natural causes are, *by definition*, evolutionarily less fit. Here, however, they conflate evolutionary fitness (a hereditary concept) with the popular notion of fitness as 'vigour' or 'health'. Elsewhere, while discussing the vital part played by the release process in rehabilitation, they reinforce this confusion: '[t]he fitness of the animal and the timing, location and other circumstances of the release must be carefully considered'.<sup>8</sup> This is clearly a reference to fitness as a quality that can be assessed and thus something akin to vigour. Since frequently, part of conservation-based criticisms of wildlife rehabilitation rely upon a misuse of the term 'fitness' they are undeniably weakened.

Kirkwood and Sainsbury's claim is further inaccurate in suggesting that the less fit are those individuals *that become sick or injured*. This, however, is quite wrong. Fitness ought to be judged, not merely on the basis of *succumbing* to one or another ailment, but also on the basis of the ability to recover. Evolutionary

fitness may be understood in one of two senses. In one understanding it is synonymous with 'survival' – that is to say, those individuals that are fit are those that survive (Darwin's 'survival of the fittest' is seen to be tautological<sup>9</sup>). With this reading of 'fitness' an individual can only be deemed unfit if it does not survive, and so clearly recovery (from disease *x*, for example) is just as relevant as is resistance to disease *x*. Alternatively, fitness may be understood as meaning 'good design' – a quality that an animal passes on to its offspring but which cannot be predicted in advance: animals with a thick coat may turn out to be better designed for survival than those without such coats, should the climate turn colder.<sup>10</sup> As with the previous reading of fitness, an animal's good design is as reliant upon 'ability to recover from *x*' every bit as much as it is upon 'resistance to *x*'. This is so, not only because the ability to fight against adversity is a sign of good design. Many debilitated animals have succumbed, not because of a flaw in their design, but because they have simply met with misfortune; they have been *unlucky*. Very often, debilitated animals have been in the wrong place at the wrong time; the victims of an oil spill, for example. Darwin himself said that such individuals may be every bit as fit as other members of the species; misfortune is unrelated to evolutionary fitness. Thus, it is clear that, however 'fitness' is understood, the idea that individuals earmarked for rehabilitation can be identified as 'less fit' is ill-conceived.

However, wildlife rehabilitation is still open to the challenge that if an animal requires *help* in order to recover, this must indicate that it was, after all, 'less fit'. The treatment of debilitated individual animals may mask the fact that they are 'less fit'. Treatment may mask one of two things: either the animal's poor design (which was responsible for it succumbing in the first place) or, assuming it to be unlucky to have succumbed, its lack of fitness in terms of ability to recover on its own. Either way, natural selection would appear to be compromised.

Whilst it is important to recognise the help that rehabilitation offers debilitated wildlife, such help does not promote the survival of less fit individuals. Rehabilitation in itself requires a certain capability for coping. There is no doubt that it can be a stressful process as Kirkwood and Sainsbury (1996: 238) note:

the stresses of capture from the wild, hospitalisation, treatment and subsequent release are hard to assess but may be substantial. For example, Rebar *et al.*...considered that confinement and handling may have contributed to deaths due to shock in oiled sea otters at rehabilitation centres.<sup>11</sup>

Thus, if an animal is to survive not only its disability but rehabilitation too, it must be an animal that is well-designed for survival. A likely objection will be that fitness, as a product of *natural* selection, demands a selection procedure devoid of human influence. Alongside this may be found the related objection that an animal's capability to survive rehabilitation procedures is not a relevant capability; it is of little value in nature. The way Kirkwood and Sainsbury state their case gives weight to these objections. Whereas natural selection is usually contrasted with artificial selection (which involves human-determined reproductive out-

## CONSERVATION AND INDIVIDUAL WORTH

comes – as in domestication) the contrast Kirkwood and Sainsbury are making is of a more rigorous kind, in which natural selection is taken to mean selection devoid of any human influence. Quite apart from the question of whether, given the all-pervading nature of human influence upon the natural world, it makes sense to make such a rigorous distinction,<sup>12</sup> natural selection is rarely understood in this way. Kirkwood and Sainsbury themselves make the implicit assumption that individual animals that do not succumb to debility (or indeed, recover on their own) are ‘fit’, thereby legitimising the human-influenced environment as one in which it makes sense to talk of fitness. Indeed, to do otherwise, is to invoke some kind of mythical selection procedure in which human influence does not feature. An animal’s good design must relate to a real context not an illusory one, and it is a fact that wild animals’ environments include humans and human hazards.

It is a separate question as to whether wild animals can become well-designed in a human-influenced environment, for we are uniquely random in our actions: we oscillate between destruction and protection in a most haphazard way, and it may be that species require consistent pressures in order to become adapted.<sup>13</sup> Irrespective of this, given our ubiquitous presence and widespread impact on natural selection, it would be quite wrong to single out rehabilitation as guilty of compromising natural selection and undermining Darwinian fitness. If rehabilitation is guilty, then so too, are all our activities, including conservation – be it the management of a wood or the reintroduction of a species. It is not clear that there is a difference in kind between the conservation practice of re-establishing a threatened species (which is losing the battle in the face of human hazards) and the rehabilitation practice of aiding the recovery of a compromised individual animal. Nor is it clear that there is any important difference (in terms of ‘fitness’) between providing red squirrels with food-hoppers (or managing a woodland for them) and rehabilitation. Indeed, in that rehabilitated animals have survived debility and the process of rehabilitation, they may be argued to have survived not (as may be said of red squirrels whose competitors, the greys, are controlled) by the *removal* of challenge, but rather, by the *replacement* of challenge. And as we have seen, the challenge presented by rehabilitation is no more different, or less relevant to wild survival than a plethora of other challenges faced by wild animals. Getting by in the face of direct and indirect challenges from humans is the lot of today’s wild animals.

Though wildlife rehabilitation is merely one of a whole range of human influences upon natural selection, the different influences require differing evaluation. Rehabilitation is, in common with aspects of conservation practice, of a particular kind of human influence: it is reparational in nature, it is in the business of making amends. This is in contrast with many other human activities that are indifferent to, or even antagonistic towards all concerns other than human ones. Kirkwood and Sainsbury (1996: 239) are quite wrong, for instance, in claiming that ‘[t]he treatment of compromised individuals ... is no less an interference than shooting the fit’, if their intention is – as it would seem to be

– to suggest that they ought to be evaluated in the same way. Their claim has to be rejected immediately on pragmatic grounds, since evolutionary fitness is not a quality that we can predict or even recognise. Shooting the fit would be an impossible task. However, putting aside this practical difficulty, there are other factors that illustrate the difference in nature between helping the less fit and shooting the fit.

An important point of distinction between the two approaches is the degree to which they are amenable to human control. Help can never dictate a desired outcome, it can merely facilitate one. Shooting, on the other hand, has a far more certain outcome. Furthermore, unlike shooting, rehabilitation requires an input from the animal itself – it is reliant upon the animal's coping mechanisms. Although an animal will sometimes manage to avoid being shot, more often, the animal's wiles and the gun are grossly mis-matched.<sup>14</sup> Shooting, therefore, generally works against the animal (in that it leaves little or no room for drawing upon survival strategies) whereas help in the form of rehabilitation works *with* the animal. In this respect, rehabilitation is shown to be much closer to Kirkwood and Sainsbury's ideal of wild animals as having 'always fought their own battles' than is shooting – which leaves little room for a battle at all. So, although the criticism that rehabilitation compromises natural selection has immediate – and popular – appeal, it does not stand up to scrutiny. There is no evidence to suggest that wildlife rehabilitation works against the conservation values of 'natural selection' and 'fitness' which might lead to an undermining of conservation. At least this one example of prioritising the individual is compatible – in the terms discussed – with the practice of conservation.

There is, nevertheless, no room for complacency. If concern for the individual does not compromise the particular conservation values of natural selection and fitness, there would appear to be little room for this sentiment within the holistic philosophy adopted – and practised – by conservationists.

## CONSERVATION, CULLING AND PRIORITISING INDIVIDUALS

The culling of individual animals is a holistically-driven conservation strategy. For example, in order to promote the revival, in Scotland, of the capercaillie species, the RSPB has undertaken extensive culling of foxes and crows.<sup>15</sup> The culling of red deer in parts of Scotland is believed to be an ecological necessity, the deer population having apparently increased to the point at which they are 'out of control' and an ecological liability.<sup>16</sup>

The conservationist's pro-culling holistic argument contains three premises. The first is that conservation value is placed on the 'whole'; individuals are mere members or parts of the 'whole'. The second premise is that conservationists ought to promote the good of the 'whole', be this species, habitat or ecosystem. Given the third premise – that selective culling is good for the 'whole' –

## CONSERVATION AND INDIVIDUAL WORTH

conservationists conclude that selective culling is desirable for the sake of conservation.

(i) *Conservation value is placed upon the 'whole'*

If the protection of 'wholes' is of paramount importance to conservation, it is curious that culling, by its very nature, is a form of *compartmentalising* nature. To advocate culling is to differentiate, to segregate, to divide nature into parts according to perceived worth. In the case of red deer culling, the red deer species is isolated from the wider environment which it inhabits, in its identification as an unwanted 'part'. And further, the process of culling involves differentiating between those groups of deer to be targeted and those to be left alone. The culling of red deer, for instance, is achieved by targeting hinds of particular age and condition.<sup>17</sup> If conservationists' 'wholes' (themselves, of course, only parts) are to be holistic concepts at all, then they ought to be seen as being *whole* 'wholes', that is, complete in themselves and part of the wider picture. The notion of culling seems to be anathema to a coherent approach to the protection of 'wholes'.

The conservation supremacy of the 'whole' must be questioned further. In advocating the sacrificing of individuals for the sake of the 'whole', conservationists usually (thankfully) exclude human individuals. They cannot, therefore, be taken literally when they argue that the 'whole' is always of greatest value. This must be seen for what it is: mere 'conservation-speak', a rough shorthand that suggests where their priorities tend to lie. Humans, after all, are the worst offenders of environmental damage. It behoves the conservationist to explain why the taking of non-human life is to be so very differently regarded to the taking of human life. Yet even assuming a convincing argument could be made, the conservationist will still surely find it difficult to justify the taking of non-human lives for the sake of 'wholes'. For the fact is that the value of these 'wholes' is not only usurped by the value of human lives, but also by very much more trivial things to do with human comfort, amusement and convenience. Though individual conservationists may spurn certain conveniences, conservationists do not, as a body, boycott cars, meat-eating, or houses without cavity-wall insulation, all of which contribute to the degradation of the environment. Nature's 'wholes' may be worthy of protection but there are clear limits to the costs involved. These limits cannot merely be assumed by conservationists to include the culling of non-human individuals. Indeed, the difficulty is in understanding how conservationists can justify culling. Furthermore, for conservationists to argue that humans ought to be afforded special treatment because they are not part of nature is neither in tune with a holistic philosophy nor does it sit entirely comfortably with the conservationist's championing of nature.

In the conservation clamour to protect 'wholes', not only is the necessity for particular measures often taken for granted, but so too may the true nature of such measures be masked. Such is the case with culling. It should not be forgotten that



the term ‘culling’ is a euphemism for ‘killing’. Too easily a subconscious connection is forged between conservation and culling, as if they somehow belonged together, facilitated, no doubt, by the apparent innocuousness of the term ‘culling’. It has become sanitised killing – part of the great conservation quest. But the act of killing de-humanises us and takes its toll, even on the most hardened of killers. Wigan (1993: 96), in discussing a particular red deer cull in Scotland in which the population is regularly reduced by 35 percent writes:

Something that is seldom taken into account is the emotional stress to stalkers having to shoot animals in these numbers, piled upon the physical stress. Only those who have done it, who have followed up an unmothered calf, hanging round its suddenly-deceased parent, yet somehow awkward to get a sure shot at, will understand the stress I am talking about....No one normal enjoys shooting dependent calves, or a slaughter of hinds. A large estate cull in east Sutherland had to be interrupted for a week while stalkers recharged their psychological batteries before continuing.

Lacy (1995: 118) makes culling sound more acceptable by characterising it thus: ‘Culling is the termination of the life of an animal before it would have died from unavoidable disease or failures of organ systems (old age or natural causes).’ It is as if culling is merely the end-result that comes about anyway. However, such consequentialist thinking misses a vitally important point. To view killing in this way is to ignore the importance of process: the process of life and the process of death. Thus, neither the wonder of life nor the way in which death comes about is seen worthy of mention. Yet for those conservationists (such as Lacy) who adhere to an evolutionary biological approach to conservation, process clearly does matter. And if process is of relevance to conservation, then it is not self-evident that the processes surrounding individual lives are of less importance than the processes connected with species. Indeed, to dismiss the former is to impoverish conservation: the wonder of *lived* lives provides most of the motivation and energy that is required for the uphill task of conservation. Deer-watching, for instance, inspires many, and in Scotland, the red deer has become a national symbol.<sup>18</sup> A recognition of the value – to conservation – of the processes connected with individual lives prompts a quite different perception of culling.

(ii) *Conservationists ought to promote the good of the ‘whole’*

In order for conservationists to promote the good of the ‘whole’ they must first recognise which ‘wholes’ are worthy of this help and how to assess their relative value. In any one area there will be a number of ‘wholes’ that might be considered worth protecting (a variety of habitats, species, subspecies or populations). With no objective decision-making process, judgements are made according to the particular perspective of the conservationist in charge. For example, Deakin (1997: 70) points out that ‘[t]he designation of an SSSI often dictates a tunnel

## CONSERVATION AND INDIVIDUAL WORTH

vision of the habitat, skewed towards the debatable selection of what is deemed “scientifically interesting”. Discussing the Countryside Council for Wales’ decision to remove more than 900m of hedgerow in North Wales in order to encourage waders to feed there, he writes of the terrible dilemma between the uprooting of fast-disappearing hedgerow and the creation of open space in which declining lapwing thrive:

Uprooting hedgerows is like taking an India rubber to the history that is written into the landscape. It also silences what Richard Mabey memorably calls ‘the rich harvest of bird song’. Of course, saltmarshes and wetlands are valuable habitats – and beautiful places – but who is to say that a dunlin is more ‘valuable’ than a dunnock?

Even within a single organisation, the task of prioritising is problematic. Wigan (1993: 77) tells of the confusion over the Nature Conservancy Council for Scotland’s management of SSSI’s: ‘It often seemed to the ordinary farmer, crofter or landowner that within the conservancy one hand did not know what the other was doing. The peat-bog specialist would arrive in nesting-time to trample over a site just desecrated as vital for rare nesting birds’.

In parts of Scotland, red deer populations are considered to be too large and culling seen to be a necessity for two distinct but interconnected reasons: the requirement for the regeneration of past habitats and the desire for protection from degradation of existing valued habitats (in both cases, usually woodland). It is supposed, usually without critical discussion, that tree regeneration is a laudable conservation objective. However, it is not obvious that the forested hillside has greater conservation value than the treeless hillside. Each habitat has its own combination of plant and animal species, its own ecological interest and attractions.

To justify woodland regeneration conservationists often adopt the argument of historical precedence. However, this argument is every bit as susceptible to bias as is the evaluation of different ‘wholes’. There is no objective way of deciding which period from the past should be emulated. Although evidence from the pollen record informs us that most of Britain was covered with forest around 7,500 years ago,<sup>19</sup> the fortunes of forests have varied considerably over time.<sup>20</sup> Earlier, from at least 70,000 to 9,000 years ago tundra conditions prevailed throughout Britain,<sup>21</sup> while later, forest cover waxed and waned according to climate, human activity and disease.<sup>22</sup> From about 5,000 years ago ‘the representation of tree pollens becomes, erratically but inexorably, less and less [with the] minimal....reached around 300 bp’ followed by evidence of replanting.<sup>23</sup>

Conservationists may argue that there is no bias involved, for by removing deer they are simply allowing the land to do what it does best in the present climate – which is growing trees. The problem with this argument is that it relies upon an assumption that the appropriate circumstances for allowing the land to do what it is good at call for an absence of deer. Yet it is not clear why this should

be so. There seems no reason – other than bias – why the presence of deer ought to be any less acceptable a circumstance than the absence of deer. Perhaps, though, the conservationist equates large deer populations with human interference and thus with circumstances that run contrary to a conservation rationale. Such reasoning would, however, be difficult to sustain. Not only is human influence all-pervading,<sup>24</sup> so that it is unreasonable to characterise conservation as separate from it, but conservation makes use of human intervention for its own ends. Consider, for instance, the re-introduction of species, the re-flooding of wetlands, and the use of grazing animals to maintain certain habitats. Human impact, as such, may be viewed positively or negatively by conservationists. A clear example of negative impact is the destruction of a habitat (such as has recently occurred with the building of another runway at Manchester Airport). However, when a habitat is changed from one type to another, there is no obvious sense of conservation damage and it may simply be bias that dictates the acceptability of one but not the other.

If the arguments of historical precedence or of allowing the land to do what it does best cannot convince us that tree-covered hillsides are of greater conservation value than deer-covered hillsides, the argument for biodiversity does little better. The conservation call to maximise biodiversity is a call for maximising representatives of as many different ‘wholes’ as possible. But as we have seen, there are no satisfactory answers to the question of how to compare or evaluate different ‘wholes’. While wooded hillsides carry representatives of different species of tree and support, for example, red squirrel, goshawk, redpoll, capercaillie and Scottish crossbill, open hillside will be covered in plants such as heather and grasses, and support species such as golden eagle, merlin, short-eared owl, ptarmigan, meadow pipit and mountain hare. As Wigan (1993: 95) has observed, under-grazing can disadvantage moorland wildlife.

Some conservationists would object, though, that the change from woodland habitat to moorland or grassland habitat is an example of habitat *degradation*. However, even if it were agreed that permanent disappearance represented either loss or degradation, the impact that deer have upon woodland could not be so described. Wigan (1993: 80-81), for instance, in a discussion of one man’s rigorous deer culling policy, notes that as soon as the grazing deer had gone, saplings sprouted up vigorously, ‘[p]roof, perhaps, that the notorious degradation of habitat is an over-simplification, or a misrepresentation’.

(iii) *Selective culling is good for the ‘whole’*

It may be argued that the claim that any habitat is as good as any other is too extreme. There may, sometimes, be good reasons for wishing to conserve particular habitats, and in order to achieve this, culling particular species may seem a reasonable strategy. However, even when a specific end-goal is desired – let us say, the protection of a forested hillside in the Scottish Highlands – the value of culling is not as clear-cut as might be supposed.

## CONSERVATION AND INDIVIDUAL WORTH

Let us accept – for it seems to be true – that in deer populated areas, without intervention of some kind, woodland regeneration will not occur. Accepting, for the sake of argument, that woodland has greater conservation value than moor or grassland, it would appear sensible to reduce deer numbers through culling. There are two problems with this apparently simple solution.

The first problem is that it fails to take into account the fact that deer population is just one factor out of many<sup>25</sup> that dictate the fate of a habitat. Of particular note is the effect of sheep grazing on habitats. Though aerial photographs have provided evidence ‘that Scotland’s vegetation profile is changing’, the causes have never been established. The stark fact is that ‘sheep effects were never separated out from those of deer or climate’, and the ‘[d]eer population reduction has seldom been talked of in the only sensible way – in conjunction with reduction in sheep numbers....[r]educing one and not the other will merely lead to increased fertility, bodily condition and productivity in the other’.<sup>26</sup> Thus, where habitat protection is sought, deer culling is not the panacea it is often supposed to be.

The second problem with taking the simplistic deer-culling line is that in order to achieve woodland regeneration, deer need to be virtually (or actually) eliminated.<sup>27</sup> However, when a deer populated area has all of its deer removed, there occurs the ‘sump effect’, ‘whereby deer are sucked in to ungrazed ground by the more succulent feeding it offers’.<sup>28</sup> Wigan notes that the East Grampians Deer Management Group ‘submitted that to create a deer-free zone on an area of 50,000 hectares of open hill would require a reduction in numbers over an area ten times that size’. It seems, in fact, that ‘[i]t will never be possible to kill out deer in a localised way and expect the gap to remain empty’.

The upshot of the problem with creating grazed-free zones is that if woodland regeneration is a serious aim, there is no alternative but to employ fencing. Trying to achieve natural regeneration without fencing is, in deer expert Ronnie Rose’s opinion like ‘making a circle in the sea and trying to stop the water coming in’.<sup>29</sup> Though fencing can be effective in allowing regeneration to occur,<sup>30</sup> some conservationists object on the grounds of artificiality.<sup>31</sup> The absurdity of this complaint coming from the same conservationists who advocate culling is quite profound. And further, if fencing is rejected in favour of culling alone, in order to control the deer, it will be necessary to create artificial clearings.<sup>32</sup> Thus, to insist on culling but not fencing on the grounds of artificiality is perverse. At the moment, culling is employed alongside fencing and it may be that fencing on its own would not achieve the desired results. However, given that fencing is, as it were, the active ingredient in the recipe for regeneration it would not be surprising if, with a little thought and ingenuity, it could be effective without the need to cull.

There are, then, problems with all three of the conservationist’s premises which lead to the conclusion that selective culling is desirable for the sake of conservation. We can therefore legitimately reject the conclusion. However, one final worry remains: culling will sometimes be advocated for the sake of the

individual animals. Perhaps wildlife rehabilitators – who have the welfare of the individuals at heart – should view culling favourably, as it prevents slow death through starvation in those cases where numbers have escalated. Furthermore, in such circumstances, wildlife rehabilitation would seem to be contra-indicated.

### CULLING AND INDIVIDUAL WELFARE

In the wake of escalating deer numbers, concern for animal welfare has prompted responses such as this one:

The effect of over population on the animals themselves is, by any standards, unacceptable. Red Deer on the open Scottish hills are, even under good management, stunted specimens of their race. The lack of winter fodder that results from year-round heavy grazing can reduce them to starvation in the late winter and early spring, or at least bring them to a state of malnutrition that inflicts lengthy suffering and leaves the animals highly vulnerable to the stress of hard weather.<sup>33</sup>

It cannot be denied that some years, large numbers of deer die from starvation. Wigan (1993: 100) himself admits this. Talking of the winter of 1992-3 – at the time of his writing – he says that when the records are collated, deaths are certain to be high. However, the reason for the high mortality, Wigan claims, is climatic. A lack of rain in May 1992 produced little summer grass for fattening. Summer was followed by prolonged, inhospitable rain through to January 1993. He goes on to say:

Those who hasten to attribute deer deaths in 1992-3 to overpopulation should think again: deer deaths were as numerous in lowly-populated areas as in densely-populated ones. The explanation lies in the weather cycle. Nor is it simply to do with the fact of rain. It is when the rain falls, or fails to fall, that matters. The December/January Highland rains, which can be heavy, do not affect deer unduly. But if they enter the winter in poor condition it is a long time to wait until first grass in April or May from which to build up recovery.<sup>34</sup>

Talking of the many deer deaths in the winter of 1989-90, the pertinent point revealed by Wigan is this: ‘deaths had occurred in places where there was no perceptible population problem [such that] [i]t is now accepted that the relationship between population and winter death is not simple’.<sup>35</sup> Indeed, work by scientists on Rum’s deer populations has shown that ‘even heavily culled populations will not always affect the proportional number of winter deaths’.<sup>36</sup> The grounds, therefore, ‘for reducing deer numbers for humane reasons, to prevent them dying in bad winters, have weakened’.

The argument for culling as a humane measure is not only flawed because winter mortality is such a complex matter, it is also questionable in its assumption that it is preferable – from a deer’s point of view – to die by the gun than to die of natural causes. A strong case for the greater acceptability of a natural death

## CONSERVATION AND INDIVIDUAL WORTH

over death through culling has been put for the elephant (Guthrie 1992). According to Kiley-Worthington,<sup>37</sup> elephant culling cannot be achieved humanely. And with any social species (which includes red deer), the distress caused to other members of the group when an individual is killed, can be considerable.

We may be mistaken in assuming that it is kinder to kill a deer quickly by shooting than to let it die more slowly of cold or hunger. Two zoologists, Chris Barnard and Jane Hurst, both of Nottingham University, have recently put forward a new theory of animal suffering. They claim that suffering is triggered 'when the world frustrates an animal's adaptive drives' (Vines 1997: 31). If evolution has designed an animal to deal with a certain condition, then despite the way it may look to us, the animal may not be suffering, or at least may be suffering less than we imagine. Although this cannot be supported as a way of defining suffering,<sup>38</sup> it seems to add important vision to the animal welfare debate. According to this theory, the stag suffers so excessively in being hunted by hounds because it has not evolved to cope with a prolonged chase. This thinking would be in accord with the work on deer stress, set out in the Bateson Report<sup>39</sup> which has found that red deer are, in fact, sedentary and relatively unfit. It is not only that British red deer have no current predator (other than humans), it is, more importantly, that there was no ancestral predator that subjected them to a lengthy chase (a wolf chase, for instance, was brief).

Given this way of understanding suffering, it is no longer safe to assume that it is kinder to kill a deer quickly than to allow it to die of natural causes. It is part of the deer's long history to have been faced with inclement weather and starvation: it is possible that because these factors are part of the deer's evolution, they cause individuals less suffering than is supposed. Indeed, if Barnard and Hurst are right, an animal will suffer if it is deprived of making its own evolutionary-based choices – whether these are beneficial or harmful. As Vines<sup>40</sup> reports, Barnard claims that the paradoxical implication of the theory is 'that cost itself may not have welfare significance, but frustrating the animal's ability to incur a cost may have'. It might thus be ventured that – as it has been suggested is the case with elephants – a natural death is a better option for the deer than is culling, which involves the instant break-up of social groups, a certain number of injuries which result in painful, protracted death,<sup>41</sup> and the depriving of any opportunity for evolutionary choice. Assessment of the suffering experienced by other creatures will no doubt always be a thorny issue.<sup>42</sup> It is fair to say, though, that there is some evidence for the belief that, for the deer, death by natural causes may be preferable to death by shooting. Certainly, there is no clear evidence that even if deer mortality were proportionally related to population size (which, it has been argued, is not the case) deer culling would be a welfare requirement. There is nothing, then, to suggest that the wildlife rehabilitator need view culling in a favourable light. The worry that it may be necessary to impose limits on rehabilitation practice in order to safeguard deer welfare can be dismissed.

## CONCLUSION

The popular criticism that wildlife rehabilitation works against the conservation values of natural selection and evolutionary fitness is unfounded. Furthermore, each of the conservationists' premises which lead to the conclusion that selective culling is desirable for the sake of the 'whole' have been found wanting. Within the limits of our discussion, then, there is no obvious clash between the individualistic stance of wildlife rehabilitation and conservation practice. Only some of the possible arguments relating to their compatibility have been considered. Wildlife rehabilitation and conservation practice cannot be assumed to be entirely compatible. Nevertheless, it seems fair to say that there is very little standing in the way of the conservationist's acceptance of the practice of wildlife rehabilitation. Concern for the individual need not, it seems, compromise conservation.

## NOTES

I am grateful to Alan Holland and Kate Rawles for comments on an earlier draft of this paper.

<sup>1</sup> Although the cull was cancelled due to 'unobliging' land owners and public protest (see Anon 1997, p. 9), the relevant conservation bodies are still keen to go ahead with it.

<sup>2</sup> Anon 1996a, p. 62.

<sup>3</sup> Anon 1996b, p. 8.

<sup>4</sup> See, for example, Sharp 1996, and Schmidt 1997.

<sup>5</sup> This is more commonly required in reintroduction procedures (see, for example, De Bliue's 1993 description of the red wolf reintroduction project). But it may also be required in rehabilitation with, for example, ex-performing dolphins (see Johnson 1990, p. 8).

<sup>6</sup> Re-training examples include the 'hacking back' and flying of raptors.

<sup>7</sup> Rearing usually takes place on rehabilitation premises. However, it has been advocated, for example by Robertson & Harris (1991), that orphan (weaned) fox cubs be reared at the earth in preference to captive rearing.

<sup>8</sup> Kirkwood and Sainsbury 1996, p. 236.

<sup>9</sup> Arguments in support of this claim can be found in Shimony (1989) and Ollason (1991).

<sup>10</sup> This example has been taken from Gould (1977: 42) who is a proponent of the 'good-design' theory.

<sup>11</sup> Kirkwood and Sainsbury 1996, p. 236. See also Schmidt (1997).

<sup>12</sup> See Aitken, forthcoming.

<sup>13</sup> Ibid.

<sup>14</sup> Even where animals escape with injury, the type of injuries inflicted by the gun often preclude the possibility of recovery.

<sup>15</sup> Linklater 1997, p. 7.

<sup>16</sup> Scott 1991, p. 848.

<sup>17</sup> See Wigan 1993, pp. 27; 137.

## CONSERVATION AND INDIVIDUAL WORTH

- <sup>18</sup> See Scott 1991, p. 848.
- <sup>19</sup> Yalden 1982, p. 10.
- <sup>20</sup> *Ibid.*, see pollen diagram, p. 6.
- <sup>21</sup> Dyer 1990, p. 23.
- <sup>22</sup> *Ibid.*, pp. 24-63; 92-118.
- <sup>23</sup> Yalden 1982, pp. 9-10.
- <sup>24</sup> Aitken, forthcoming.
- <sup>25</sup> Other factors include climate, human impact, and the effects of other grazers such as rabbits.
- <sup>26</sup> Wigan 1993, p. 142.
- <sup>27</sup> *Ibid.*, p. 143.
- <sup>28</sup> *Ibid.*, p. 82.
- <sup>29</sup> *Ibid.*, p. 76.
- <sup>30</sup> Tickell 1995, p. 27.
- <sup>31</sup> Wigan 1993, p. 85.
- <sup>32</sup> *Ibid.*, p. 76.
- <sup>33</sup> Watson 1989
- <sup>34</sup> Wigan 1993, p. 101.
- <sup>35</sup> *Ibid.*, p. 93.
- <sup>36</sup> *Ibid.*, p. 17.
- <sup>37</sup> Kiley-Worthington 1997.
- <sup>38</sup> See for example, the objections put forward by Manser (Vines, 1997: 33).
- <sup>39</sup> Bateson 1997.
- <sup>40</sup> Vines 1997, p. 33.
- <sup>41</sup> Bateson 1997.
- <sup>42</sup> For a thorough analysis of the problem see Mason and Mendle 1993.

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