

requiring dog owners to remove their pets' seats or to an unmeasured effect of the scent-marking behavior of native carnivores or domestic dogs (Lenth et al. 2008). In general, however, carnivore scat abundance was not related to proxy measures of human visitation to the recreation areas (trail length, trail density, and number of adjacent residential properties). Instead, estimates of human and dog activity levels obtained from direct observation were more closely associated with abundance of carnivore seats (Table 2). Many researchers note there are few data on recreational visitation to protected areas (e.g., Hill & Courtney 2006; Lenth et al. 2008; Balmford et al. 2009), and this data gap may limit the measurement and prediction of impacts of recreation on native species.

The number of human visitors and dogs was associated with many fewer observations of seats of bobcats than coyotes (Table 2). This finding for bobcats is consistent with prior observations in protected areas in southern California and Colorado (George & Crooks 2006; Lenth et al. 2008). Total carnivore scat abundance also decreased as visitation rates increased. Although coyote seats were widespread and abundant throughout the study area, total carnivore scat abundance more closely resembled that of bobcats, presumably because seats of the less common mountain lions and gray foxes also declined in abundance as the visitation rates of humans and dogs increased. Our laboratory analyses suggested that when it is possible to visually distinguish domestic dog seats, total mammalian carnivore seat abundance is a reliable indicator of the relative abundance of seat of native species (Fig. 1).

Due to the relation between human and dog visitation rates (Table 1), we could not separate the effects of human from the effects of dogs. In fact, the additive interaction between the visitation rates of humans and dogs best explained variation in both bobcat and total carnivore scat abundances (Table 2), which suggests carnivores may be responding to the overall level of recreation in a site. Moreover, in quantile regressions, the slope of the relation with additive visitation decreased—and thereby the magnitude of species' response to recreational activity increased—for increasing quantiles of both bobcat and total carnivore scat abundances (Fig. 3). This means that in places where carnivore abundances are high, recreation could have a greater effect on carnivores.

Given the uncertainty about the effectiveness of domestic dog policies and costs associated with enforcing management regulations (Dixon & Sherman 1991), we believe that enforcing leash laws may not be the best use of limited management resources. Prohibiting dogs in protected areas, however, may affect human visitation rates. Although many factors affect visitation to protected areas, including distance and accessibility to human population centers, topography, land cover, and site amenities (Hill & Courtney 2006; Reed & Seymour 2008), in our study, recreation areas that allowed dogs had 60%

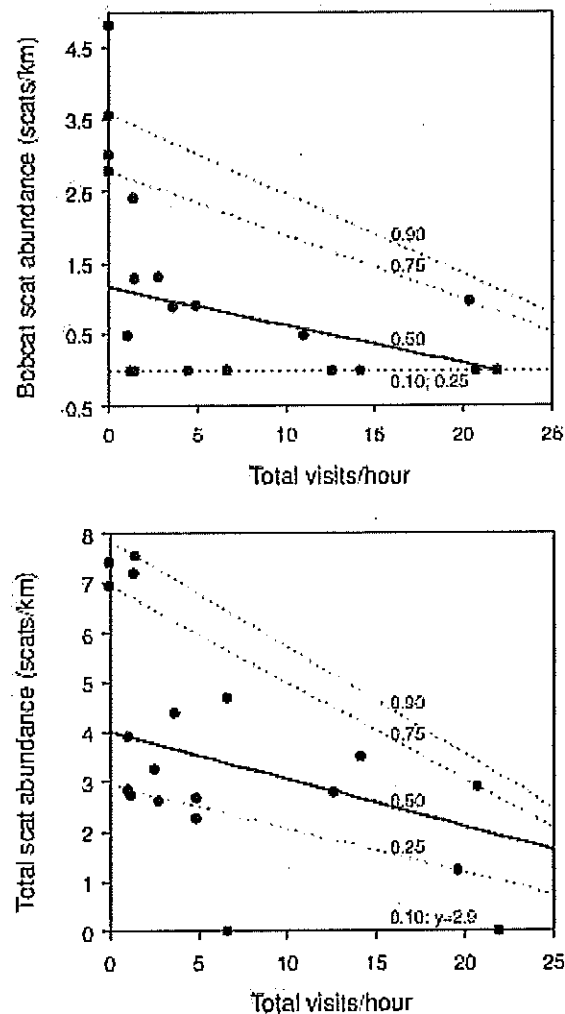


Figure 3. Bobcat scat abundance (2005 only) and total carnivore scat abundance (2004–2005) versus human and dog visitation rates in 21 recreation areas in northern California. Linear-regression model estimates are shown for the 0.90, 0.75, 0.50, 0.25, and 0.10 quantiles of the distributions of scat abundances.

more human visitors than those that did not (Table 1). This suggests that people may be more attracted to sites where they are permitted to bring dogs. Visitation, in turn, was associated with the distribution and relative abundances of native carnivore seats in our study sites (Table 2). Because controlling visitation is likely to be even more difficult and expensive than enforcing domestic dog policies, we suggest that designating some sites as recreation areas open to the public and others as nature reserves closed to the public may be the most efficient strategy for managing the effects of recreation on carnivores.

Acknowledgments

We are grateful to the agencies, organizations, and private landowners who granted us permission to survey their properties. The Hopland Research and Extension Center provided logistical support for field surveys, and the laboratory of P.J. Palsboll provided equipment and guidance for genetic analyses. S.E.R. was supported by a Budweiser Conservation Scholarship, National Science Foundation Graduate Research Fellowship, Phi Beta Kappa Doctoral Fellowship, Sigma Xi Grant-In-Aid-of-Research, Switzer Environmental Fellowship, and the Department of Environmental Science, Policy and Management.

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BALLANTRUAN FARMHOUSE • KIRKMICHAEL • BALLINDALLOCH • AB37 9AQ

Mary Grieg
Albert Memorial Hall
Station Square
Ballater

10th November 2011

Formal Objection: 2011/0302/DET - Glenlivet Bike Trails

Dear Mary,

While pleased to see that the Crown Estate no longer intend to pursue the cycle track route on Cairn Ballantruan, I am afraid I must maintain my objection to the proposal on the grounds of a *"Failure to provide an appropriate environment impact assessment and mitigation strategy for wildcat; contradiction of key assertions contained in the Environmental Statement by Davis and Grey (2010)"* as set out in my 13 January 2011 objection to the original proposal (attachment 1).

The Ecological Statement given by the Crown Estate, as presented on the Moray Council website, is of limited validity because large sections have been redacted (blacked out). However it is evident that the Estate continues to place undue emphasis on dogs rather than the simple presence and numbers of human visitors to a location. The Estate has not provided robust evidence to support this claim, and outright contradictions of this continue to be made in the scientific literature. For example a research paper published this year in the highly respected journal Conservation Biology (Reed and Merenlender 2011, attachment 2) concludes (see abstract, final sentence) *"The policy on domestic dogs did not appear to affect species richness and abundance of mammalian carnivores ... the key factors associated with recreational effects on carnivores appear to be the presence and number of human visitors to protected areas."* There may be a substantial difference between an event once in many cat generations (forestry operations) and continual high level day to day human activity.

The Estate's Ecological Statement continues to place high weight on partial or incomplete evidence that it believes supports its case (e.g the undocumented ongoing survey in 'Glenlivet') while continuing to dismiss without sufficient grounds contrary arguments (local reports of sightings, dens). It also ignores the need to prevent habitat degradation in areas at or adjacent to sites with high cat numbers (see details in original objection). Because no legal standard has yet been set for the threshold of hybridisation of a 'European Protected Species', at which protection no longer applies, the use of the 'hybridisation' argument is immaterial. Nor have the mitigation measures been adequately defined to allow an assessment of the net effect of the cycle trails plus mitigation measures.

The substance of my objection vis-a-vis wildcats remains. It may be that an ecological assessment of sufficient quality will indicate that no adverse effects on wildcat is to be expected. But the Estate's Ecological Assessment remains too weak to make the Estate's case. Accepting it would create a poor precedent for assessing the impact of planning proposals on European Protected Species.

Insofar as the Estate claims to have consulted and listened widely I note that the Estate has not approached me with regard to my original objection, nor responded to a letter written to the Estate following up on my concerns, also drawing to the Estate's attention their poor record of implementation in the vicinity of the proposal (letter to the Estate dated 10 June 2011, attachment 3).

I continue to regard the economic cost benefit assessment as unrealistic, the more so with the proposal as now defined (including no maintenance budget, viability of the cafe), and I still consider that any trail overcoming these objections should start from the north of Tomintoul, to bring benefits to existing trades.

Last, I note that the Long Term Forest Plans submitted as part of the current application indicate that much of the forestry within which the tracks are based will be cut within 5 years, with virtually all of it to be cut during the coming decade.

Yours faithfully



Dr Malcolm MacGarvin

Attachments

- 1) Original Objection, 12 January 2011
- 2) Reed, S.E and Merenlender, A.M. (2001) Effects of Management of Domestic Dogs and Recreation on Carnivores in Protected Areas in Northern California, Conservation Ecology 25, 504-513.
- 3) Letter to Crown Estate 10 June 2011

BALLANTRUAN FARMHOUSE • KIRKMICHAEL • BALLINDALLOCH • AB37 9AQ

Vicky Hilton
The Crown Estate
Glenlivet Estate Office
Main Street, Tomintoul
Ballindalloch AB37 9EX

10th June 2011

Proposed Mountain Bike Project: Pre Application Consultation

Dear Vicky,

Thank you for providing an opportunity to provide feedback before the Estate consider resubmitting a planning proposal for the Mountain Bike Project. I take this as an invitation to provide 'friendly advice', at the risk of appearing somewhat bumptious.

I would like to make some hopefully constructive proposals about the environmental impact of the proposals, followed by brief comments about the proposal as they effect the economics, jobs and road safety, being aware that these will likely be addressed in more detail by others.

You will likely have already seen my objection, 13th January, to the original proposal, which I have attached for convenience to this correspondence.

1) General level of disturbance, vis-a-vis cyclists vs dogs, etc.

I note that the Crown Estate continues to rely heavily, for example in the Pre Application Fact Sheet, on the argument that 'the biggest cause of disturbance to wildlife is caused by dogs'. As I noted in my original objection, the data within the publication cited in aid by the Estate does not actually confirm the point made. To this end, the Estate may be interested in the attached paper, Reed and Merenlender (2010), published in the respected academic journal *Conservation Biology*, specifically on the impact of dog disturbance and visitor numbers on natural carnivores. This also concludes that cumulative disturbance of all sorts—the number of human visitors to an area—is the key indicator and, interestingly, that the policy on dog access could not be shown, at the sites assessed, to additionally affect species richness or abundance.

There is a mass of other research on this issue, which leads me to suggest to the Estate is that it is unwise to maintain this line of argumentation (disturbance is caused by dogs, not cyclists), and to instead emphasise mitigation measures, and indeed make a commitment for measures that will go beyond mitigation with a declared aim of resulting in a demonstrable improvement in biodiversity and wildlife status in the immediate and wider vicinity of the trails, with corrective measures taken if the declared aims are not met.

2) Wild Cat

My advice would be not to get into a dispute about whether wild cats are present; whether they are hybrids; or over the competence of residents

and estate workers to identify them. I'd instead advise starting from a minimum agreed point: that they certainly have been present; are presumed to still be present; that the cycle tracks are located within or adjacent to areas documented as having the second equal highest number of probable national records (David & Grey (2010) Fig 5.); and that the national need is to prevent range contraction, and promote range expansion, by not degrading habitats adjacent to core areas; and where possible enhance these areas so that wild cat numbers verifiably increase.

If you find this line of argument convincing, then I would suggest that the Estate makes a compelling commitment of concrete verifiable measures to enhance wildcat numbers in the vicinity, by measures that can be agreed by the widest possible number of stakeholders, with a commitment to monitoring and taking corrective actions should these aims not be met.

Known historical locations of winter lairs and breeding dens in the vicinity of the cycle tracks should be identified and subject to specific evaluation and future monitoring. These can be provided in confidence.

3) Other wildlife

I believe that the Proposal may benefit from being connected to more concrete measures to enhance wildlife adjacent to the proposed trails and in the wider vicinity.

I note that the proposal for a route on Cairn Ballantruan has been dropped. It was notable in the original proposal that the present and potential value of the naturally regenerated Scots pine in upper Ballantruan Wood was overlooked. I believe this is the largest current area reaching maturity on the Strathavon part of the Estate. This site is, I suggest, worthy of greater management for its wildlife potential.

Since the 1990s the value of habitat for capercaillie and blackgame, for example at Carn Mellich and Coire na h-Airnich has deteriorated. Reference to e.g. the New Naturalist *Grouse* volume suggests not only how far these have drifted from optimum habitat, but—encouragingly—the relatively simple measures that could be taken to restore habitat quality for these species here and in adjacent areas. It might be considered whether the responsibility for this would best be negotiated with and conducted by those operating the sporting rights, rather than forestry operations.

The recent forestry operations on Tom a' Chor left a considerable amount to be desired with regard to improving habitat at minimal cost. For example while upstanding wood was left, I suspect that much is too small a diameter to be of use to tree-hole nesting birds. An admirable example of what can be achieved is Cragganmore Wood, above Ballindalloch, and the area running south to Chapelton. This now holds capercaillie, blackgame, crested tits and redstarts, among others, with good woodland edge habitat, and sheltered clearings with sufficient substantial standing trunks and a thick growth of bilberry. Is there any reason why this should not be emulated more closely on the Crown Estate?

Other simple measures such as nesting boxes (crested tit, redstart) more extensive hazel and non-plantation Scots pine (red squirrel), nesting platforms (osprey – now frequently sighted on the river and ponds on either side of Carn Ballantruan) could readily be achieved as part of an overall plan for the area. I'd advise having specific plans as part of the Proposal for evaluating and monitoring those species that may be vulnerable to disturbance. This might include species such as capercaillie and blackgame, goshawk (locations can be provided in confidence), long-eared owl (nesting in shelter belt at Inverchore, one of only three areas so far confirmed breeding for Moray in the 2007-2011 UK Breeding Birds Atlas), short-eared owl (Chabet Water, upper catchment) and redshank.

The Estate may be perceived as, in effect, a business, making a business proposal. It may therefore wish to consider the merits of commissioning an independent party, accepted as such by all interests, to produce a new and more detailed environmental management plan and environmental impact assessment of the Proposal.

4) 'Verifiable goals, monitoring, and corrective measures'

I realise that sometimes attempting to do too many good things results in underachievement, and also that some actions undertaken by the Estate with counterproductive, unintended or avoidable environmental consequences are the results of actions taken some time ago and not involving current members of staff at the Glenlivet Estate.

Nevertheless, there are a significant number of actions and inactions, by the Estate in the vicinity of the mountain bike trails which have had undesirable or avoidable environmental consequences. This inevitably affects how new proposals, such as the Mountain Bike trails, are viewed. I suggest that, where possible, rectifying these issues, and— for new Proposals—making clear statements of verifiable goals, and a commitment to monitoring and corrective measures, as this would likely enhance the reception of such new proposals.

Examples of actions and inactions resulting in undesirable or avoidable environmental consequences include 1) the erection of fencing along river margins which are creating severe bank erosion and loss of trees at livestock access points where previously there was no erosion; where livestock simply walk into the river and around into the fenced margins; where no tree regeneration is likely to occur without ground preparation, but where valuable herb species on lime rich river shingle, such as autumn gentian, are being lost by scrub growth 2) failure to check the quality of fencing contractor work at the Alltnaglander natural woodland regeneration site, with the result that sheep and deer have had ready access within the site throughout last winter 3) the failure of the Estate to act on the illegal and highly evident discharging of distillery effluent on and around Cairn Ballantruan, which only came to a halt when residents complained to SEPA; 4) the erection of partial fencing along both sides of the existing Cairn Ballantruan cycle track, resulting in this becoming an impassable quagmire due to cattle poaching 5) the failure to complete or maintain the fencing on what was the Ballantruan Wood ESA, allowing access by stock 6) the recent construction of a pool on the south side of Carn Meilich. While admirable in intent, the species under pressure here

is redshank, and this needs shallow gently shelving muddy margins (as per the natural pool lower down the slope), not step sided margins surrounded by trees. 7) The avoidable collapse of the foot suspension bridge under snow weight below the Tomintoul Distillery. This was one of the most important architectural features of the built environment in the vicinity under the safeguard of the estate.

The point of raising these issues here is to emphasise what may be increasing doubts regarding the practical ability of the Estate to meet the intent expressed in any new Proposal. As already mentioned, this may be due to lack of resources, so does not necessarily impugn the abilities of Estate staff. These doubts may go some way to explaining why the Estate may be getting a surprising amount of kickback to new proposals from some quarters, and why there is the emphasis in my advice for the Estate to make a commitment to verifiable environmental goals, monitoring, and a commitment to correct action where goals are not fulfilled.

5) Economic viability, economic impact on other interests, road safety

As I said at the top of this letter I would expect that others will have much to say on the detail of these issues.

For myself, I think the Estate might reflect on whether it was a strategic error not to base the centre at the north end of Tomintoul, with tracks developed northwards through Cnoc Lochy. Also, if the Estate wants cyclists to linger and spend money, then you might also consider whether it is an error not to include showering facilities. I can't imagine people wanting to hang around in steaming gear without a shower, or sit with other people in a likewise condition. It is not evident in the plans that this is proposed, and in terms of water flow and treatment, this might be easier to do at Tomintoul. As it is, the building can all too easily be characterised as just a 'shack with a bog'. Moreover, I doubt that parking space is what currently puts off more cyclists from using the current trails; so I think you may struggle to explain to your investors why you expect visitor numbers to increase much above current numbers, or conversely, why you could not organise major one off events using the current infrastructure without major new expenditure.

More employment opportunities are clearly needed in Tomintoul, so I sympathise with the aim and intent of the Estate. But the current proposals seem likely to damage as many businesses, and risk at least as many current jobs as it creates. I find it hard to believe that it will create viable jobs at the centre as it currently stands. Were I in the Estate's position, I'd consider an entirely different proposition. Given the compelling but often inaccessible wildlife you have on the Estate – wildcat, otters, pine martin, badger, red squirrel, red and roe deer, peregrine, goshawk, merlin, potentially osprey and eagle, salmon, sea trout, while not forgetting smaller animals and plants, I'd encourage you to consider setting up a wildlife centre in Tomintoul, with live and recorded camera feeds. The sort of people it is likely to attract are more likely to linger in Tomintoul and spend, and be more affluent. It is possible that on the back of this in turn would stimulate more local guides, and perhaps even the estates would see an opportunities for additional revenue for their staff – who are often wildlife experts and

knowledgeable trackers – to take people closer to some of the more elusive wildlife. It is potentially a 12 month attraction, and in the winter season could provide more reasons for coming to the Lecht, and for staying at Tomintoul.

However, such ideas are for the future. While I understand that the Estate's underlying motivations are for the best, my advice is that the Estate might consider a substantial rethink regarding the economic viability of this Proposal. If the trails do not create substantial employment, then the main reason fails for creating these facilities at Glenlivet, rather than at locations nearer to population centres and with better public transport, which would probably be the better overall environmental choice, and have greater use and therefore greater health benefits for the Nation.

Last, on road safety. Even if you can direct people to approach the proposed site from the west—which is questionable, given GPS navigation—the sharp bends west of Tomachlaggan, limited visibility and the precipitous drop immediately from the road edge at Carn Mellich down to the Chabet, coupled with drivers unfamiliar with the road, self-evidently requires significant investment in road alignment and crash barriers. Moray Council will no doubt get clear feedback to that effect, and I would not want to be in their shoes explaining their decision to grant approval with the road in it's current state, in the wake of a serious accident.

Yours faithfully



Dr Malcolm MacGarvin

Attachments:

Letter to Mary Grieg, dated 13th January 2011

Reed, S. E. and A. M. Merenlender (2010). *Effects of Management of Domestic Dogs and Recreation on Carnivores in Protected Areas in Northern California*. Conservation Biology: 000-000.

