



Is recreational hunting important for landscape multi-functionality? Evidence from Denmark



Jens Friis Lund^{a,*}, Frank Søndergaard Jensen^b

^a Department of Food and Resource Economics, University of Copenhagen, Denmark

^b Department of Geosciences and Natural Resource Management, University of Copenhagen, Denmark

ARTICLE INFO

Article history:

Received 6 February 2016

Received in revised form 28 October 2016

Accepted 31 October 2016

Available online 6 December 2016

Keywords:

Farming

Recreational hunting

Landscape

Europe

ABSTRACT

Recreational hunting may be important to the shaping of the agricultural landscape. Land owners who hunt or lease out hunting rights have an incentive to promote landscapes that contain wildlife biotopes, which may serve wider societal values, such as landscape aesthetics, biodiversity, and preservation of valued and/or threatened animal and plant species. Recreational hunting may thus contribute to preserve and enhance landscape multifunctionality. Yet, little is known about the importance of hunting interests in motivating such landscape management. In this article, we seek to shed light on these issues on the basis of data from a nationally representative survey of Danish landowners. Our findings show a mixed picture of the role of recreational hunting in supporting multifunctional landscapes. We observe a broad swathe of landscape changes for multifunctionality cross properties with different forms of hunting utilization and non-hunted properties. The likelihood of such landscape changes is higher on holdings that are hunted by the owner or where the hunting is leased out, than on properties where the owner lets family or friends hunt for free or where there is no hunting. Non-hunted holdings are smaller and have a less varied land use pattern than larger, hunted holdings. Yet, some of their production characteristics appear to favor multifunctionality and they feature a high intensity of landscape changes that favor multifunctionality. In terms of policy implications, our results indicate that support for multifunctional landscapes should emphasize a broader focus on the interests and identity of different types of landscape managers in information and advisory services and stimulate owners of smaller holdings to cooperate across holdings and see their holding in a broader landscape context.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Policy makers across much of the world are interested in promoting multi-functional rural landscapes that can serve both traditional primary production (agriculture, forestry), but also produce other values for society in terms of preservation of landscape values, biodiversity, preservation of certain species, access to outdoor recreational opportunities and so forth (Knoche and Lupi, 2007; Zasada, 2011). This reflects a view of the cultivated landscape as multi-functional and emphasizing land sharing as opposed to land sparing (Christensen et al., 2014).

Recreational hunting is an important use of rural landscapes. Hunting has been seen to motivate landowners to manage landscapes in ways that support populations of wildlife species

(Primdahl et al., 2004, 2012). In some contexts, such landscape management efforts are also incentivized by hunters' willingness to pay for leasing of hunting landscapes with certain qualities – including landscape aesthetics (Lundhede et al., 2009a,b; Delibes-Mateos et al., 2014). Importantly, some of the landscape elements that are retained, enhanced or introduced for purposes of hunting, such as lakes, ponds, woodlots and earth dikes, may support broader social values, such as biodiversity and preservation of specific species and landscape aesthetics. Thereby, they constitute elements of a more multi-functional rural landscape.

Yet, little is known about the type and extent of landscape management practices motivated by hunting. We do not know whether hunting mainly motivates short-term changes in the farming landscape of direct relevance to the survival chances of certain game species, such as a strip of corn in a field giving cover and feed for rear-and-release pheasants. Such management practices arguably contribute less to augmenting landscape functionality. Yet, hunting interest may also motivate the creation of more long-term struc-

* Corresponding author.

E-mail address: jens@ifro.ku.dk (J.F. Lund).

tural changes, such as the establishment of small ponds, hedgerows and forest patches, that may support self-replenishing wildlife populations as well as a wider range of societal values. Some research has explored the role of recreational hunting in motivating rear-and-release practices, feeders, and predator control practices, and the associated benefits to certain wildlife species (e.g. Estrada et al., 2015). Yet, research on the role of hunting in motivating landscape management practices that contribute towards a broader multifunctionality is scarce (Macdonald and Johnson, 2000; Duckworth et al., 2003; Finch, 2004; Ewald et al., 2006; Carolino et al., 2011; Primdahl et al., 2012; Christensen et al., 2014). More knowledge about whether and to what degree hunting motivates such landscape management would be a useful starting point to discuss the role of hunting in nurturing and maintaining multifunctional rural landscapes (Holsman, 2000). This could be important to the formation of landscape policies. It could also be important to the legitimacy of recreational hunting (Dahles, 1993; Wood, 1997; Fischer et al., 2013). Hunters' associations and lobby groups often argue that hunting is key to maintain and enhance viable wildlife biotopes in farmed landscapes and claim that hunters are invested in and invest large sums towards that end. The European Federation of Associations for Hunting & Conservation (FACE), for instance, promotes this argument "FACE and its Members represent the 7 million hunters of Europe and therefore a large group of active and passionate conservationists investing countless work hours and financial resources in the conservation of biodiversity and habitats" (FACE, 2016).

In this article, we seek to explore the role of recreational hunting in supporting multifunctional landscapes through incentivizing landowners to retain and create landscape elements that support such multi-functionality. We do this in the context of Denmark focusing on private landowners and using a national level survey dataset. Specifically, we explore three questions:

1. How do landscape and productive characteristics of properties vary with use for hunting?
2. What types of landscape changes for multifunctionality do landowners make?
3. How does hunting influence the likelihood and intensity of landscape changes for multifunctionality?

In the following, we provide a brief introduction to the Danish context in terms of development and use of the rural landscape with particular emphasis on hunting (Section 2). Then, in Section 3, we describe the methods used in collecting and analyzing data, including a presentation of descriptive statistics on key model variables. In Section 4 we present the results in accordance with the three research questions. Section 5 provides a discussion of the results and in Section 6 we conclude.

2. Hunting and the Danish landscape

The 43,000 km² of Denmark's land area comprises 66% agricultural land¹; 16% forest and moorland; 7% lakes, meadow and other wetlands; and 11% towns, roads and other use (Danmarks Statistik, 2014). The agricultural land is divided between almost 41,000 landowners, 47% of which have leased additional agricultural land from other landowners (Danmarks Statistik, 2012). The vastly predominant form of ownership for agricultural land is private (freehold) and farming is the major occupation for 41% of the

landowners.² With the vast majority of the Danish landscape in private ownership, it is important to understand the rationales of landowners for managing it and, as part of this, the role of hunting.

In Denmark, as in much of Europe, the cultivated landscape has undergone a major transformation over the past two centuries towards a more homogenous landscape structure (Fritzboeger, 2004; Hansen, 2011). This transformation has proceeded with high intensity since the 1950s due to technological transformations that have allowed for concentration, intensification and specialization of land holdings and production systems in Danish agriculture. This has, in turn, implied a drastic reduction in wildlife habitats and populations (Brandt, 1994; Kanstrup et al., 2009; Kærgaard and Dalgaard, 2014). This trend has been slowed down and even reversed in some parts of Denmark in the last two-three decades, also owing to changes to the EU Common Agricultural Policy that have favored a more multifunctional open rural landscape development (Agger and Brandt, 1991; Christensen et al., 2014). Irrespective of this more recent slowdown in the process of concentration and intensification, the post-WWII period has seen a dramatic decrease in the number of people having agriculture as their primary occupation, dropping from app. 280,000 at the end of the 1950s to app. 80,000 in 2010 (Christensen et al., 2014). As noted by Christensen et al. (2014) the number of hunters has remained more constant at app. 170,000³ implying that an increasing proportion of hunters do not own the land they hunt on. This changing dynamic of relations between landowners and hunters is also part of the justification for this study.

In Denmark, as in most other European countries, hunting rights is part of the bundle of rights held by the owner of the land. Some private landowners choose to exercise their rights personally, whereas others lend or lease out the hunting rights and again some do not allow hunting on their land at all. According to the Danish Hunting Act, rural landowners may hunt their land provided that it is larger than one ha. The hunting right may be shared with, given to, or leased to other persons for a limited time if the property area is larger than five ha, but the right is fundamentally linked to the property and cannot be sold separately. Annual hunting right leases in Denmark in 2006/07 were in the range of €30–50 per ha (Lundhede et al., 2009a,b) and in 2013 Danish hunters spent close to €240 million on hunting activities carried out in Denmark (Jakobsen et al., 2014). These figures indicate the substantial financial value of this activity.

In terms of numbers of game animals killed, the national statistics for the hunting season 2012–13 based on hunters' own reporting indicates that the following species are important for hunting in the cultivated landscape (as opposed to the coastal areas where more duck and geese species are important): pheasant (*Phasianus colchicus*, 710,800); grey mallard (*Anas platyrhynchos*, 486,000); common wood pigeon (*Columba palumbus*, 278,500); roe deer (*Capreolus capreolus*, 127,400); hare (*Lepus europaeus*, 55,300); fox (*Vulpes vulpes*, 37,500); and partridge (*Perdix perdix*, 28,800).⁴ What these numbers do not reflect, of course, is that hunting of roe deer and, in particular, red deer (*Cervus elaphus*, 9,500) are highly demanded forms of hunting that are decisive for the potential rental price. Hare and partridge populations have decreased since the 1950s owing to disappearance and fragmentation of habitats as part of the transformation of the Danish agricultural landscapes mentioned above. During the last 2–3 decades populations of roe and red deer have soared. The biotope requirements of these differ-

¹ This figure includes different small biotopes, among other thousands of km of hedgerows, which are not counted separately in the overall land cover statistics. Kærgaard and Dalgaard (2014) estimate the farmed area at 59–66% depending on what is included and not.

² For forest land, approximately 70% is in private ownership.

³ In the last decade it has actually been increasing towards 180,000.

⁴ Hunting of the two dominating species pheasant and grey mallard are supported by rear-and-release of around 1.0 mio. and 0.5 mio. individuals every year (Noer et al., 2008; Gamborg et al., 2016).

Download English Version:

<https://daneshyari.com/en/article/6461332>

Download Persian Version:

<https://daneshyari.com/article/6461332>

[Daneshyari.com](https://daneshyari.com)