

Reviewing the human dimensions of wildlife management and recreation



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Human Dimensions of Species Management

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Human Dimensions of Species Management

Primary Areas of Social Research

- Identify stakeholder (including 'public') attitudes towards & perceptions of wildlife management, & specific methods
- Understand the relationships between governance (e.g. legislation and policy) & future management options and needs
- Understand and 'map' the development of human-wildlife conflicts, e.g. in urban areas
- Promote best partnership / collaborative working practices for wildlife management & conservation (balancing government and others' roles and responsibilities)
- Social values of wildlife and biodiversity
- ... often within an interdisciplinary context

Main Research Areas / Questions

Forestry objectives and wildlife management

- How does FC wildlife management fit with other FC objectives?

Wildlife stakeholders – types, perspectives and behaviour

- What are 'public' (and other non-FC 'stakeholders') attitudes to wildlife management? Who opposes wildlife management and why?

Change in the human dimensions of wildlife management

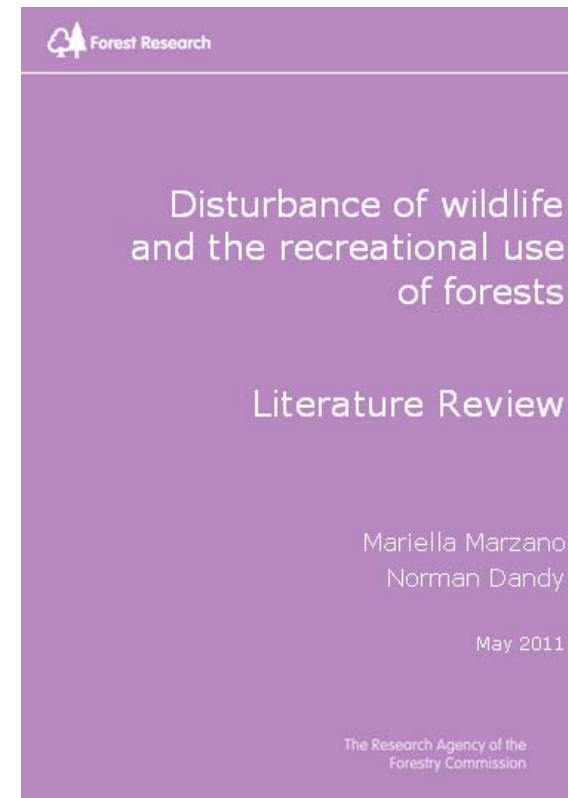
- Where and when do species become a 'problem'?

Forest use and disturbance

- How do the different types of forest 'users' impact on flora and fauna?

Evidence Review: “Disturbance of Wildlife and the Recreational Use of Forests” (Marzano & Dandy 2011)

- Overview of disturbance relating to recreational activities
- Direct (e.g. ‘flight’) and indirect (e.g. soil erosion) impacts
- Walking and hiking, cycling and mountain biking, off-roading, horse riding, camping, nature-watching
- 450 journal articles, book chapters, reports and other published materials (171 used in the Review)



1. Which social factors affect the type and scale of impacts (e.g. holiday periods; crowding; desire to go off path/trail)?
2. How do recreational users perceive their own and others' impacts on wildlife and habitats?
3. What affects recreational users' behaviour in natural areas (e.g. knowledge; understanding of, and attitudes towards, 'rules'; signs and interpretation)?



Evidence that recreational activities disturb wildlife and habitats (e.g. 'flight', behaviour change, erosion) and introduce pests and pathogens

- Less than one third of the literature with focus on forests.
- Little research conducted in UK forests. Only 5 published studies of recreational disturbance with primary research carried in UK forests.
- Large proportion of literature focuses on (i) walking, (ii) trampling of vegetation/soil erosion, (iii) flight responses of birds (ground-nesting).
- Limited long-term impacts reported.



Comparing disturbance impacts of different recreational users

Study		Activities Compared				Comparison
First Author	Date	Walking	Cycling	Horse-riding	Off-road vehicle use	
Trampling Studies						
Torn	2009	X	-	X	-	No difference
Thurston	2001	X	X	-	-	No difference
Weaver	1978	X	-	X	X	Vehicles and horses slightly greater impact
Buckley	2004	X	-	-	X	Vehicles significantly greater impact
Littlemore	2005	X	-	-	X	Vehicles significantly greater impact
Ruff	1993	X	X	X	-	No difference
Wildlife Disturbance Studies						
Lathrop	2003	X	X	-	-	Biking significantly greater impact
George	2006	X	X	X	X	Walking and biking no difference but greater impact than other activities
Naylor	2009	X	X	X	X	Vehicles significantly greater impact than all other activities
Sastre	2009	X	-	-	X	Vehicles significantly greater impact
Wolf	2010	X	-	-	X	Walking significantly greater impact
Blanc	2006	X	-	-	X	Walking significantly greater impact

- Link between activities carried out, preferred places and visitor behaviour, attitudes and expectations
- Limited evidence available on recreational users' attitudes and behaviour
- Little awareness of impacts of their activities
- Users hold other user groups responsible
- Wildlife not disturbed if it has not been seen



- Access restrictions e.g. zoning, set-back distances, time restrictions, screening.
- Often a recommendation for educational programmes
 - ‘Low impact’ education which aims to persuade
 - Providing a rationale for recommended behaviour more effective.
- More examples needed on what management actions work, in which context, why and how.



- Need to weigh the benefits gained from outdoor recreation against the disturbance of wildlife and habitats – how to do this?
- More research across a range of forest types
- Social research needed on:
 - Social and cultural difference between users and types of use
 - Recreational users' perceptions of impact and actual behaviour
 - How can we monitor effectiveness of management responses incl. formal and informal rules, education, signs and interpretation



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- Approaches and mechanisms for behaviour change
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- Which species/habitats are the most difficult to manage?
- Who recreates in your forests?
- What perceptions and attitudes have you encountered in relation to management of forest flora and fauna?
- Have you monitored the effectiveness of management actions? What has/has not worked?