

How important are landownership and the scale(s) of forest management and governance for multifunctional forestry?



A case study of forestry in the Cairngorms Region



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Talk Overview

- What is multifunctional forestry?
- Scale mis-matches and resilience
- Research questions and methods
- A typology of forest management
- Constraints and opportunities – Scale mis-matches
- Conclusions





What is multifunctional forestry?

- **Multiple functions: social/economic/environmental**
- **Forests as coupled social-ecological systems**
- **Multiple scales of management – cross boundary approaches**
- **Integrated and participative**



Resilience and Scale Mis-matches

- Functionality of social-ecological systems a product of resilience/adaptive capacity
(www.resalliance.org)
- Scale mis-matches (Cumming *et al.*, 2006)
 - Spatial
 - Temporal
 - Organisational
- Scale mis-matches = loss of resilience = loss of functionality



Research Questions and Methods

- **Key questions**
 - What is Multifunctional Forestry?
 - Does landownership influence functionality?
 - How important is scale?

- **Methodology**
 - Case study of Cairngorms
 - Forester interviews (27)
 - Landowner survey and GIS



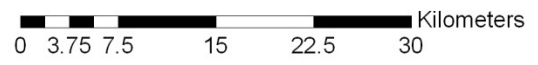
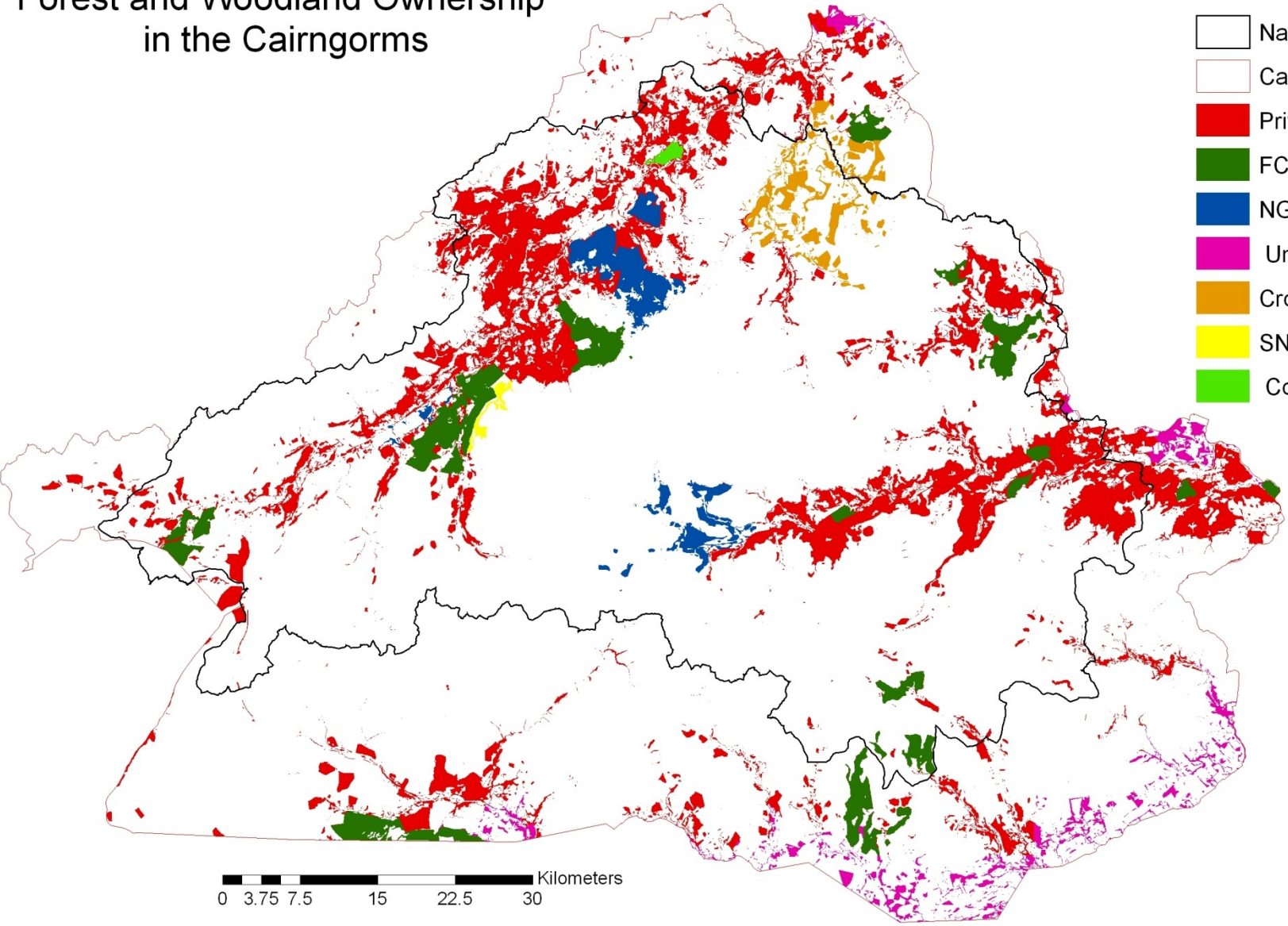




Forest and Woodland Ownership in the Cairngorms

Legend

-  National Park
-  Cairngorms Partnership
-  Private
-  FCS (Public)
-  NGO
-  Unknown
-  Crown Estate
-  SNH (Public)
-  Community Woodland





Forest management typology

- **22 Sites**
- **Variable size of land unit and forest resource**
- **All landownership types accounted for
(private/NGO/FCS/SNH/community)**
- **Typology based on management objectives
and multi-functionality criteria**



Typology categorisation procedure

SITE	P1	P2	P6	FCS1A	FCS1B	FCS2A	NGO1
Management Objectives							
Recreation/Access	P	P	P/S	P	P	P	S
Education/Interpretation	S	S	S	P	P	P	S
Participation	S	S	-	P	P	P	S
Timber	P	P	P	P	P	P	P
Farm-forestry integration	S	S	-	n/a	n/a	n/a	P
Sporting	-	P	S	-	-	-	P
Biodiversity/Conservation	P	P	P	P	P	P	P
Landscape	P	P	P	P	P	P	P
Research	-	-	-	P	S	-	S
Forest expansion	M	H	M	L	-	L	L
Management Approaches							
Public involvement	L	L	L	L-M	L-M	L-M	L-M
Rangers/Interpretation	Y	Y	Y	Y	Y	Y	Y
Thinning regularity	H	M-H*	H	M	H	M	H
Natives or exotics emphasis	Mix (n)	Mix(n)	Mix(n)	Mix(n)	Mix(n)	Mix	Mix(e)
Regen/planting emphasis	Mix (p)	Regen	Mix(r)	Mix(r)	Mix	Mix	Mix(r)
Deer: Cull/Fence/Hybrid	Hy	Hy(f)	Hy(f)	Hy(c)	Hy(c)	Hy	Hy
Long-term planning	H	H	H	H	H	H	H
Forest Plan (LTFP)	-	Y	-	Y	Y	Y	Y**

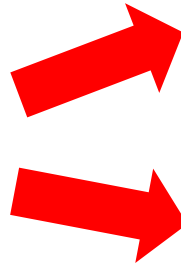


Management Themes

Sub-Themes

Key Drivers

A. Sustainable multifunctional forestry



A1. High biodiversity/high public benefit (direct) (P 3/FCS 3/NGO 1)

A2. Traditional silviculture indirect public benefit (P 4/FCS 1)

Economic Sustainability and owner priorities

B. Restricted functionality forest

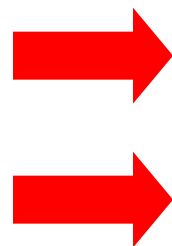


B1. Large-scale moderate Functionality (P 2)

B2. Small-scale low functionality (P 2)

Owner priorities, resource capacity and available grant aid

C. Dual function forest management (access and conservation)



C1. Fixed (NGO 2/SNH 2)

C2. Flexible (Community 2)

Organisational policy, membership and community priorities

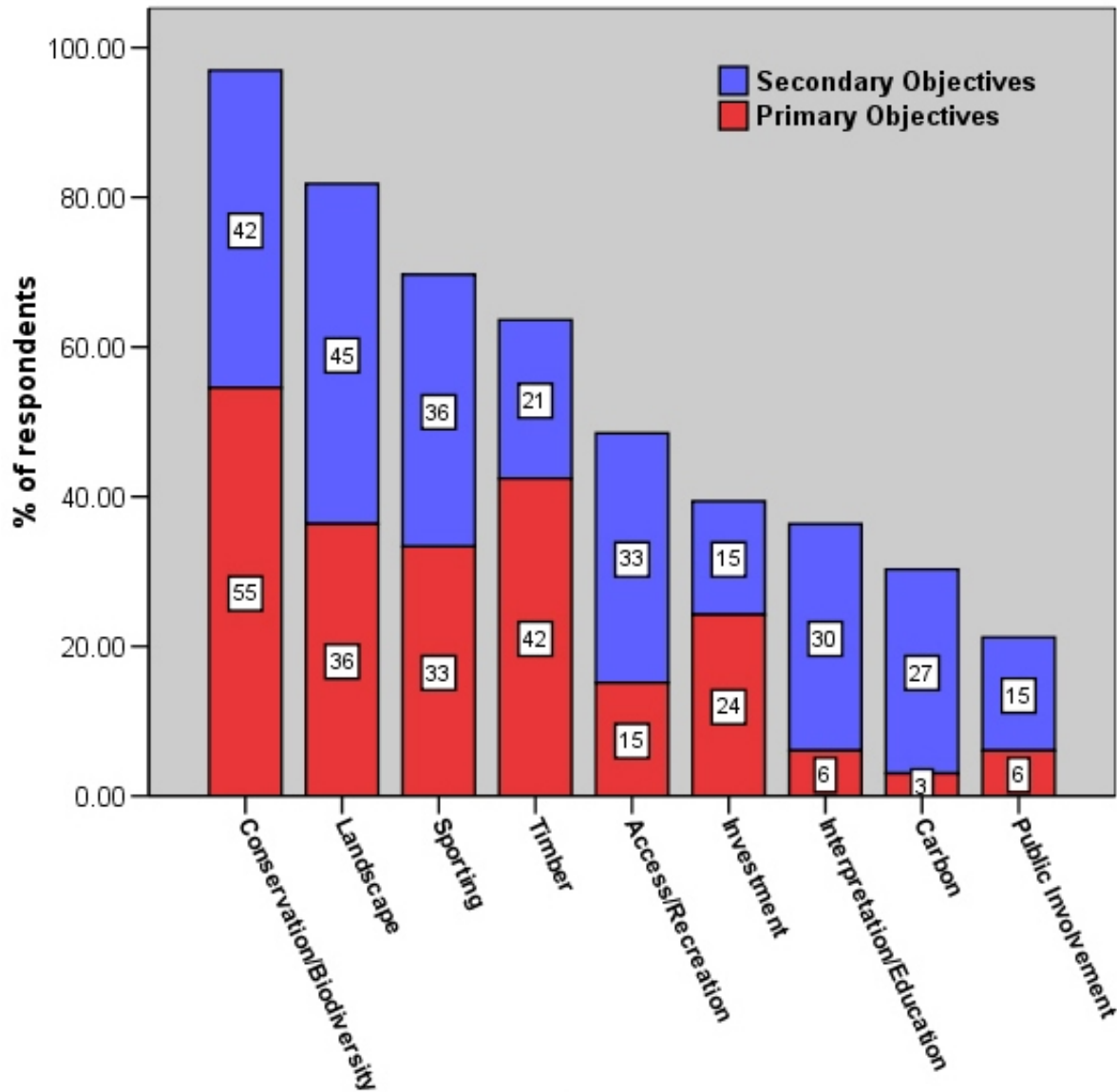


Private estate survey results

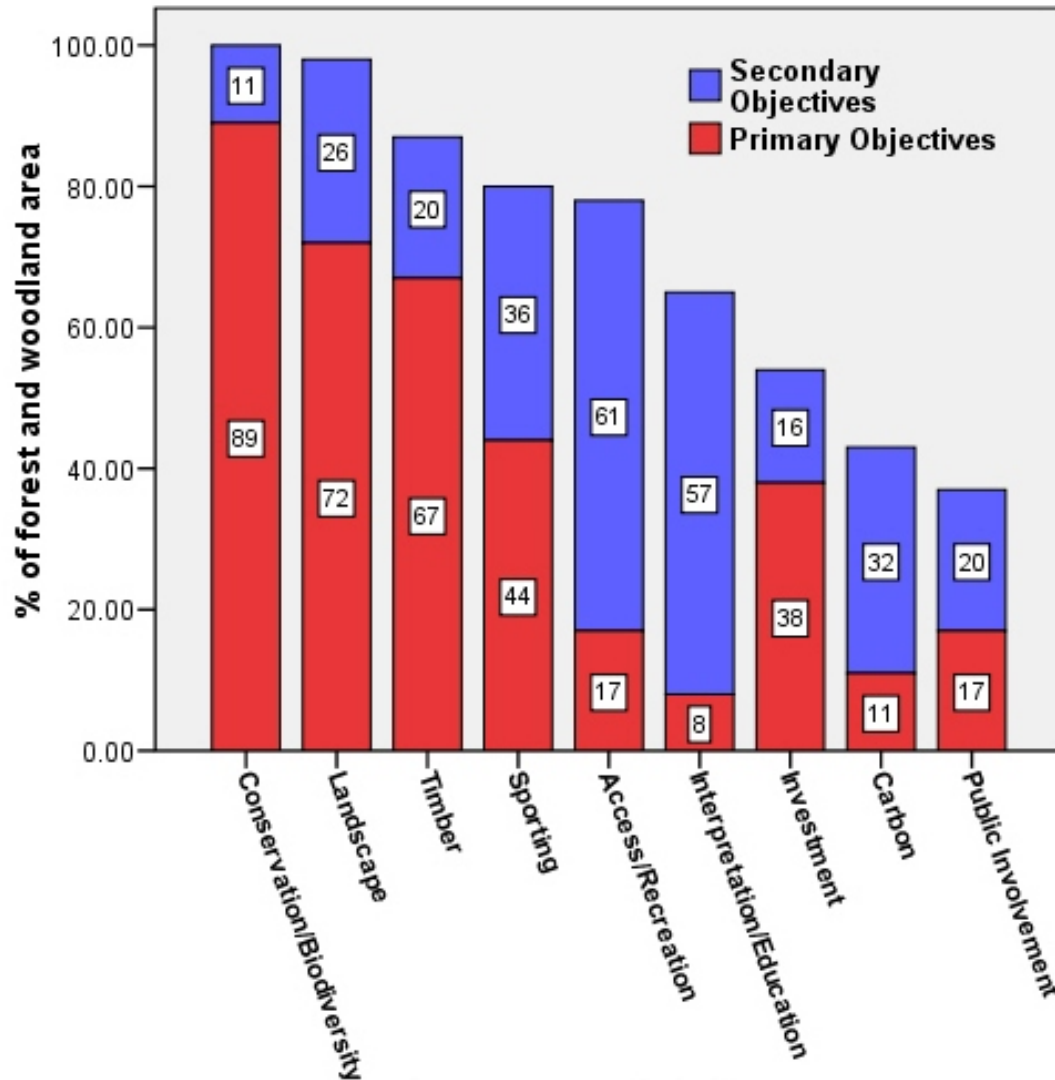
- **33 Landholdings**
- **Mean 8000ha**
- **Long term (av.151yr)**
- **Total survey area:**
 - 265,000ha
 - Forest cover: 44,000ha

No. objectives (Pr./ Sec)	Percentage of landowners
At least 2	97%
At least 3	79%
At least 4	68%
5+	55%
Pr. objectives	
At least 2	64%
At least 3	33%
4+	18%
Sec. objectives	
At least 2	79%
At least 3	49%
4+	21%


Management objectives by % responses




Management objectives by area



Constraints / Opportunities

Key Constraints	Key Responses	Specific measures
<p><u>1. Land use conflict <i>within</i> estates.</u> Deer/Weak farm-forestry integration.</p>	<p>Improve Estate management integration</p> 	<ul style="list-style-type: none">•Improve intra-estate communication•Develop woodland stalking market•Responsible access and zoning•Farm tenant forestry co-ops
<p><u>2. Inter-estate conflicts and complexities of regionalisation</u></p>	<ul style="list-style-type: none">•Landowner cooperation•Regionalised policy	<ul style="list-style-type: none">•Joint landowner partnerships•Regional targeted grant scheme/FHN

Constraints / Opportunities

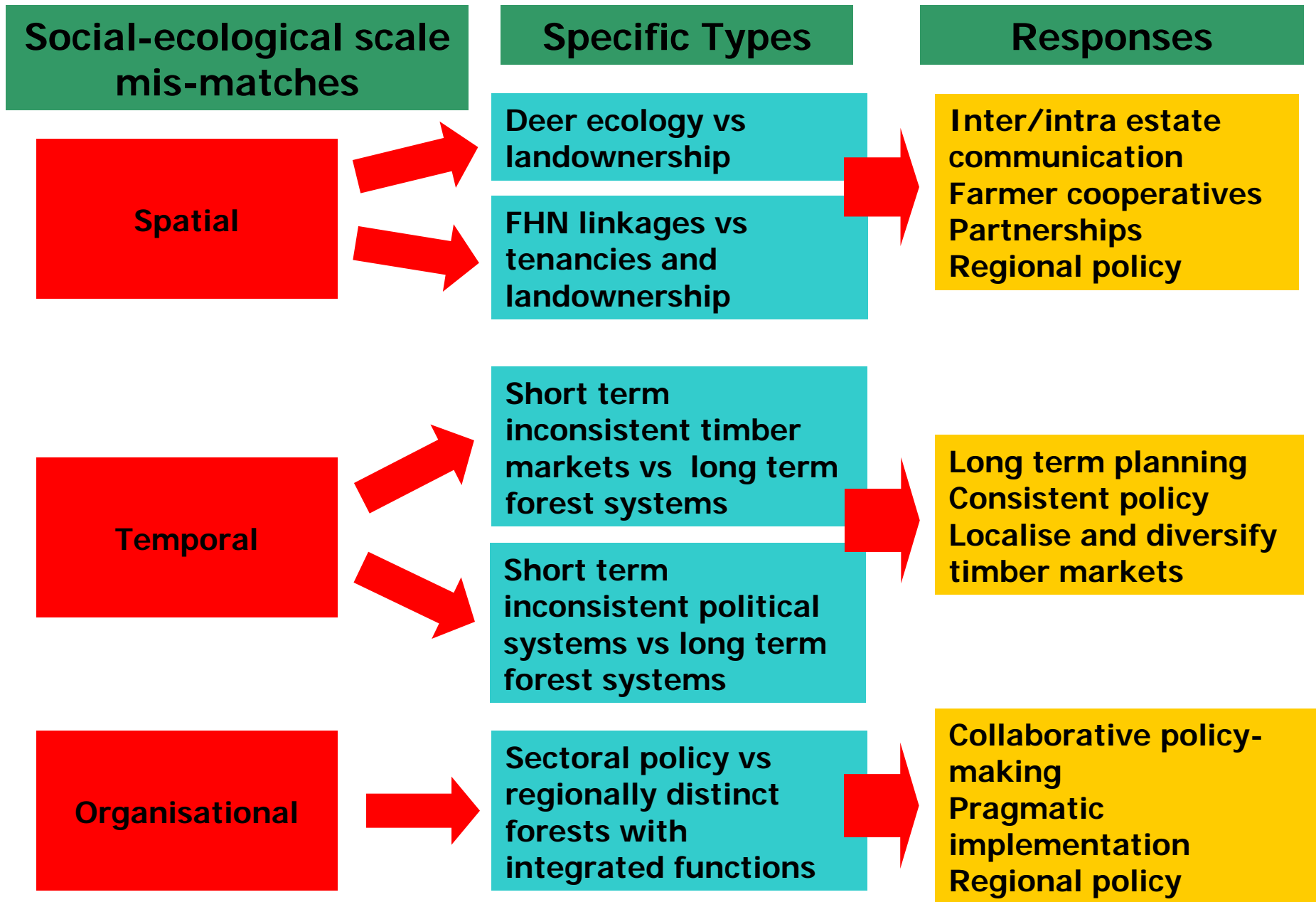
Key Constraints	Key Responses	Specific measures
<u>3. Global scale of timber markets</u> and resource/market accessibility	Market Diversification and localisation 	<ul style="list-style-type: none">•Market diversification and localisation of processing/marketing•Develop regional woodfuel market•Diversify into non-timber based incomes
<u>4. Complex bureaucracy</u> – policy conflicts and micro management	Integrated policy and communication	<ul style="list-style-type: none">•Collaborative policy development•Pragmatic policy implementation



Constraints / Opportunities



Key Constraints	Key Responses	Specific measures
5. <u>Unpredictability</u> and inconsistency: <ul style="list-style-type: none">• Natural• Political• Ownership and management	Increased resilience and long-term view	Flexible long-term spatial planning and management Consistent integrated policy Develop resilient and adaptable forest systems (diversity)



Conclusions

Multifunctionality not clearly linked with landownership type

- Regional landownership diversity important
- Linked to structural and species diversity (CCF)

Different management 'types' respond differently to incentives – targeted grant systems

Regionalised policy and market systems (scale match-ups)
key component of strengthening social-ecological
resilience and delivering sustainable land use

