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Deer Impact Assessments

Considerations when assessing impacts of deer in forests

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Overview of impacts from deer in forests

- Browsing
- Bark stripping
- Trashing
- Bole scoring
- Damage to fencing
- Ecological
- Soil compaction/erosion

What are the results of deer induced damage?

Economic –

- Loss in annual growth
- Tree failures
- Replanting costs – material/labour
- Reduction in quality of trees reaching maturity
- Infection of stem due to bark damage
- Repair costs of fencing & other protective measures

What are the results of deer induced damage?

Ecological –

- Reduction in plant diversity
- Intensive grazing can lead to loss of specialised plants leading to a mono vegetation structure ie. Heavy sword of unpalatable grasses
- Less diverse structure may lead to unfavourable germination conditions for regeneration
- Loss of secondary species due to losses of habitats ie. Insect/bird species

Why should we assess direct impacts?

- Direct tree impact assessment will give objective results on browsing pressures
- How can we talk about a ‘deer problem’ if we haven’t assessed the impacts?
- Quantifying damage levels provide the basis for next steps in management
- Deer impacts assessments are widely regarded in the continent as the guiding principle of deer management – not counting, why?

Counting V Impacts or both??

- Counting can be expensive and very subjective
- So now we have a number, what next?
- It is widely accepted by wildlife biologists that ‘acceptable’ deer densities vary extensively – highly subjective to give a acceptable deer density for a particular woodland type ie. Native woodlands in Ireland or Sitka spruce plantations
- This is the reason deer are rarely if ever counted on the continent – woodlands are assessed at regular intervals and cull figures adjusted accordingly

Counting V Impacts or both??

- Any deer count has to be part of an objective deer impact survey (trees in our case) otherwise what use is count data – need to compare levels of impact with density
- Define objectives, what do we want? Commercial/Conservation/Recreation or everything?
- Define reference levels for ‘acceptable damage’? What is economically or ecologically acceptable?
- Key is to accept that deer are an integral part of our forest ecosystem and they can co-exist

Signs and identification of damage

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- Is it deer? Frayed or clean abscission
- Signs? Slots, racks, droppings or hair in fences
- Old/New damage?

Assessment methods

- Define objectives
- Decide on intensity of assessment based on objectives
- Commercial or Biodiversity? Has the site been systematically established or are we looking at natural regeneration?
- For systematically established sites use standard stocking assessment method and assess damage as %
- For natural regeneration assess regeneration units as separate ‘plots’

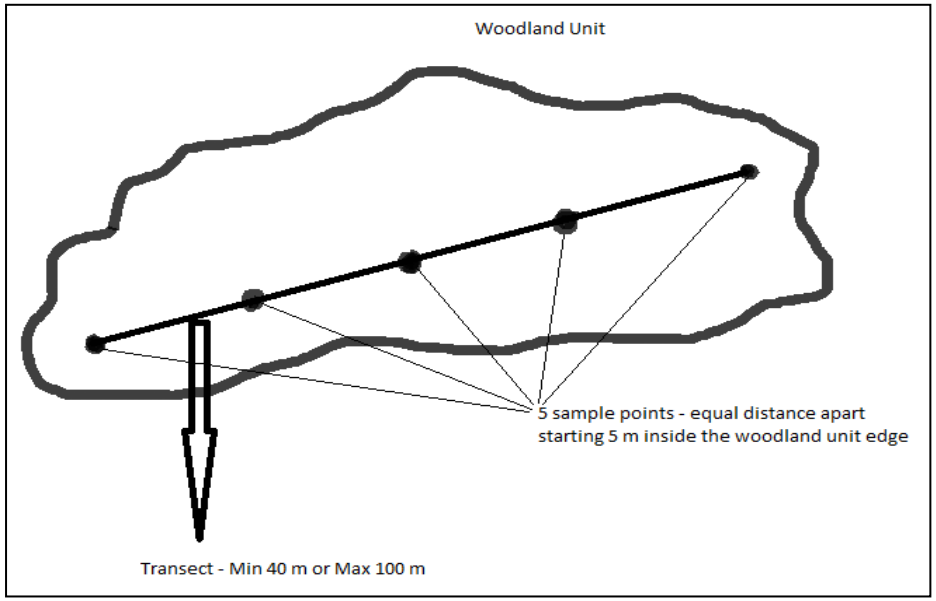
Method 1 – Sites systematically planted units

- Use Forest Service plot number guidelines
- Take circular plots @ 8 m radius and assess damage v no damage – will give %
- Similar to stocking assessment, this is a quick and easy method of assessing damage
- Cost effective & will quickly give a good idea of site situation

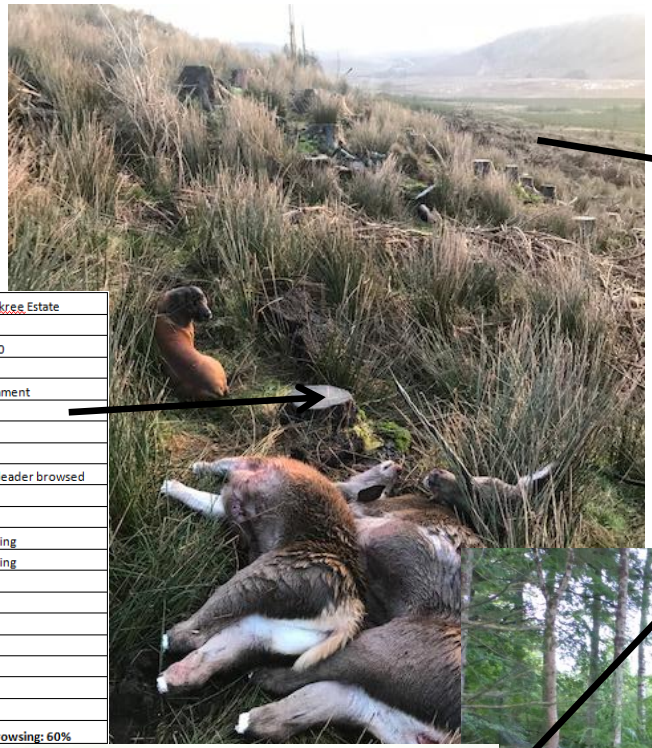
Woodland Unit (ha)	*Uniform Crop* <90%	*Variable* <100%
0.5 - 2	6	8
2 -10	8	12
Over 10	10	16

Method 2 – Assessment for natural regeneration units

- Regeneration does not occur systematically – survey needs to be targeted were it occurs



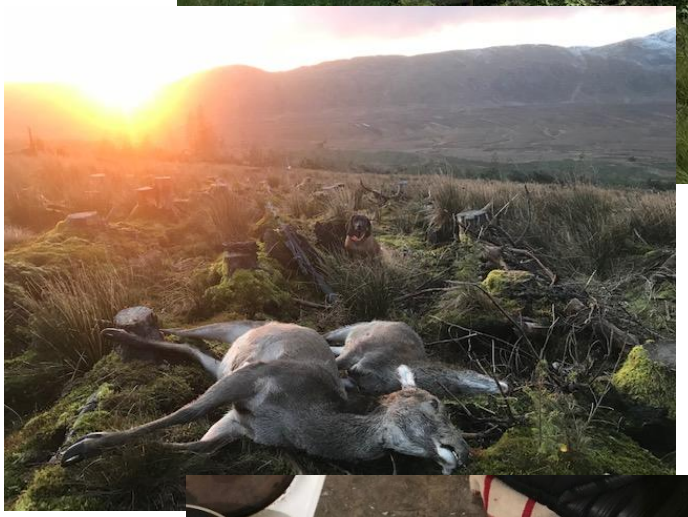
What next?



Fore				ocation	Markree Estate
				adius of Plot (cm)	420
Plot	1 of 7	**GPS Ref**	455564, 7[illegible]7445	**Stocking/ha**	2700
Tree No	Species	Height (cm)	Leader Browsed (Y/N)	Other damage (Y/N)	Comment
1	Oak	25	N	N	
2	Oak	22	N	N	
3	Ash	45	Y	N	
4	Ash	53	Y	N	Old leader browsed
5	Ash	21	N	N	
6	Ash	63	Y	N	
7	Rowan	75	Y	Y	Fraying
8	Ash	83	N	Y	Fraying
9	Rowan	34	N	N	
10	Rowan	56	Y	N	
11	Ash	48	N	N	
12	Oak	33	N	N	
13	Oak	32	N	N	
14	Ash	41	N	N	
15	Ash	49	Y	N	
Result	**No of trees in Plot:**	**15**	**No of trees browsed:**	**6**	**% Browsing: 60%**

Final thoughts

- Get actively involved in deer management (shooting!)
- Get as much training as possible – always good! (HCAP administered through the Deer Alliance is national deer training standard at present)
- Network with local hunters, hunting groups, NPWS staff and get to know the deer in your area
- Train the eye to actively assess and evaluate deer activity/impacts – do something about it!
- As foresters/woodland owners we are not just responsible for growing trees but also the animals that live in them – so lets proactively manage both!!



Thank you very much for your time

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