

Results Fieldwork Atlantic Hazel Survey in Assynt and Coigach April-December 2017

Environmental Data

		Site Name and Subcompartment number	Grid Reference	Surveyor	Date surveyed # if more than one visit	Area (ha) approx (measured with NWSS)	Geology	Dominant habitat as assessed by surveyor -	Distance to coast (m). Estimate from map.	Main hazel stand type(s) *woodland may have been hazel pasture historically	Other hazel stand types present in site	Aspect(s) of site	Slope (degrees)	Is a significant proportion of the hazel stand associated with a burn or loch? 0: no, some, yes*, 3: most or all.	Is a significant proportion of the hazel stand associated with a road or wide track? 0: no, 1: some, 2: yes*, 3: most or all.	Is a significant proportion of the hazel stand associated with a cliff or boulder scree? 0: no, 1: some, 2: yes*, 3: most or all.
1	Coigach	Coigach Glean an Strathain	NB08638 16515	RS ES	24/11/2017	0.5	Lewisian Gneiss	hazel pasture	600m	Hazel pasture	hazel in woodland, ravines, cliffs	S	0-30	0	0	1
2a	Inverkirkaig	Inverkirkaig road		RS		0.6	Lewisian Gneiss	W9 birch hazel woodland	800m	Hazel woodland			40			3
2b		Inverkirkaig enclosure	NC08849 19319	RS	# 21/09/2017	0.7	Lewisian Gneiss	W9 birch hazel woodland	800m	Hazel woodland	hazel pasture, cliffs, riparian	S	0-40	2	2	2
2c		Inverkirkaig enclosure	NC08849 19316	RS	# 21/09/2017	as above	Lewisian Gneiss	W9 birch hazel woodland	750m	Hazel woodland	hazel pasture, cliffs, riparian	S	0-40	2	2	2
2d		Inverkirkaig enclosure	NC08809 19329	RS	# 21/09/2017	as above	Lewisian Gneiss	W9 birch hazel woodland	750m	Hazel woodland	hazel pasture, cliffs, riparian	S	0-40	2	2	2
2e		Inverkirkaig beyond gate	NC08929 19298	RS	#13/12/17		Lewisian Gneiss	W9 birch hazel woodland	850m	Hazel woodland	hazel pasture, cliffs, riparian	S	0-30	2	2	2
2f		Inverkirkaig Car Park	NC08522 19330	RS AS	#13/12/18		Lewisian Gneiss	W9 birch hazel woodland	650m	Hazel woodland	hazel pasture, cliffs, riparian	S	0-30	2	2	2
3	Culag	Culag Woods	NC09530 21665	LochinverP7	# 28/11/17	0.6	Lewisian Gneiss	W9 birch hazel woodland	750m	Hazel woodland	hazel in woodland	E	0-30	0	1	1
4a	Cnoc SW	Cnocnaneach SW of loch	NC 11070 21490	GR IM	# 02/11/17	0.25	Lewisian Gneiss	W9 birch hazel woodland	1750m	Hazel woodland	Hazel in woodland	SE	0-40	1	1	
4b	Cnoc S	Cnocnaneach S of loch	NC 1110 2130	RS ES AS	11/01/2018	1.4	Lewisian Gneiss	W9 birch hazel woodland	2000m	Hazel woodland	Hazel ravine		0-50	3	0	3
5a	Baddidarrach	Baddidarrach Ken	NC07154 24853	RS ES	# 09/05/17	0.15	Lewisian Gneiss	W9 birch hazel woodland	300m	Hazel pasture	hazel in woodland	S	30	0	0	1
5b		Baddidarrach unfenced	NC08512 23145	RS	# 13/12/17	0.5	Lewisian Gneiss	W9 birch hazel woodland	400m	Hazel pasture	hazel in woodland	E	20 40	3	2	2
6a	Achmelvich x ha	Achmelvich 1	NC07260 24685	RS ES	17/08/2017	all	Lewisian Gneiss	W9 birch hazel woodland	750m	Hazel pasture	hazel in woodland	S	0-30	0	0	1
6b		Achmelvich 2	NC07336 24698	RS ES	17/08/2017	site	Lewisian Gneiss	W9 birch hazel woodland	650m	Hazel in woodland	hazel in woodland, cliffs	S	0-35	2	1	2
6c		Achmelvich 3	NC07075 24850	RS ES	# 17/08/2017	=	Lewisian Gneiss	W9 birch hazel woodland	700m	Hazel in woodland	hazel in woodland	S	0-30	2	1	1
6d		Achmelvich 4	NC07151 24851	RS ES	# 04/09/2017		Lewisian Gneiss	W9 birch hazel woodland	750m	Hazel in woodland	hazel in woodland	S	30-40	0	1	1
6e		Achmelvich 5 BM	NC07017 24689	RS	# 23/05/17		Lewisian Gneiss	W9 birch hazel woodland	100m	Hazel pasture	hazel in woodland, ravines, cliffs	S	20-30	0	0	1
7a	Torbreck x ha	Torbreck (Ach Bridge S)	NC08271 24763	RS ES GR	# 31/05/17	0.7	Lewisian Gneiss	W9 birch hazel woodland	1500m	Hazel woodland	hazel in woodland, riparian	S	30	1	2	2
7b		Torbreck (Ach Bridge N)	NC08253 24817	RS GR	# 19/10/17	0.2	Lewisian Gneiss (with outcrop)	W4	1500m	Hazel woodland	hazel in woodland	S	0-60	0	3	3
7c		Torbreck H croft	NC09031 24073	RS ES GR	# 19/08/17	2.7	Lewisian Gneiss	W9 birch hazel woodland	2000m	Hazel pasture	hazel in woodland	S	0-30	0	1	1
8	Polchapple	T+A32:AG34	NC10712 33200	RS ES	# 26/8/17	1.2	Lewisian Gneiss	W9 birch hazel woodland	100m	Hazel pasture	hazel in woodland	S	0-20	0	1	1
9	Drumbeg	Drumbeg	NC11910 32953	RS ES	03/08/2017	0.16	Lewisian Gneiss	W9 birch hazel woodland	200m	Hazel woodland	Hazel in woodland	NE	20-40	0	1	2
10	Duart	Duart near Nedd	NC13483 32383	RS	30/11/2017	3.0	Lewisian Gneiss	W9 birch hazel woodland	5m	Hazel pasture	hazel in woodland, ravines, cliffs	N, NE	0-70	1	1	3

11a		Nedd IME	NC13863 21998	RS ES	# 030817	0.15	Lewisian Gneiss	Garden	40m	Hazel woodland	NA	NE	0	0	1	0
11b		Nedd	records coming	RS	#	5.0	Lewisian Gneiss	W9 birch hazel woodland	200m	Hazel woodland						
12		Gleann Leireag hatchery	NC15063 31211	RS	04/12/2017	3.0	Lewisian Gneiss	W9 birch hazel woodland	500m	Hazel pasture	hazel in woodland,cliffs, riparian	NE	0-60	2	1	2
13		Torr na Ghamhna	NC21234 32280	RS RG	09/11/2017	2.0	Lewisian Gneiss	W9 birch hazel woodland	500m	Hazel woodland	hazel pasture, cliffs, riparian	NE	50	2	2	2
14		Creag nan Spardain	NC22225 32639		09/11/2017	1.0	Lewisian Gneiss	W9 birch hazel woodland	100m	Hazel woodland	hazel pasture, cliffs, riparian	NE	60	0	0	3
15		Doire Cuilinn N Loch Assynt	NC21140 25782	RS RG	09/11/2017	0.1	Gneiss	W9 birch hazel woodland	15000m	Hazel woodland on cliffs	hazel pasture, cliffs, riparian	S	60	0	0	3

26.58

## Description

Slope to N of road. Bracken, *viola* spp. *P.crocata* on med2. Poss *G.alboscripta* and *P.norvegica*. Most younger stems above grazing height. Many Sma3 small girth (<30cm) and moribund. W extent of site NB08607 16554. Glue NB08638 16515. I believe these trees were burnt by a wildfire in May 2011

Coastal side of road. Wind blasted. Strong growth.  
Some stools coppiced around 20 years ago (MBJ pers com). Woodland quite dark as has been deer fenced. NC\* whole stool cut ~20 years ago, majority stems 23cm. NC\*\* stool also cut but one immediately next not, hence anomaly of on @52cm. Most stems 24 or so. NC\*\*\* not cut. Most trees in enclosure have max size stools.

Some stools quite moribund but most have good strong shoots above browsing height. Used to be for tups. Common grazing.

Via school path. The children quickly recognised hazel by the remaining leaves and the multistem form, and they helped to count and measure the trees and we looked at the deer browsing, and identified the other trees - rowan, birch, Scots pine, sitka spruce, willow. They found glue fungus, and admired the graphidion and lobarion lichens.

Birches and rowans, most hazel. Used to be inside deer fence. Broad stems. 20% fallen over, 61% had live new stems above sheep grazing level. Nut caches found under 3 trees, eater

Kens garden. Stems cut to make the twigloo in Culag Wood, also in adjacent fenced ground which now has a few deer living there. His and Ellies land fenced 13 years ago. Land outside the fence by burn to E of interest with fallen gondola trees.

Gleann an Salach. Are willows to E of burn, and further hazels to east up hill below big rockface

South slope below Achmelvich road. Dark. Large aspen debarked by horses.

Along a wee gully W-E with boulders.

Continuous to E of gully

N side of Achmelvich road. Hazels very vigorous, many young stems. Subcompartment surveys in appendix .  
To W side of Ardroe road. Birch, loads aspen, aspen suckers, bluebells, primroses. Burnett rose. Sheep off 1991, was pasture now woodland. Cattle grazed 1 year 2005 but thought damage too much. FG regen grant, not enough regen.  
20m wide strip below road 90% hazel. Boulders moss-covered. Very damp (yellow pimpernel, wood ruff) Deer fence on river side. Honeysuckle, bluebell, bramble. Used to be Clachtoll's hazel. Very varied trees. Later were pigs digging up site.

Above road. Seedlings growing out of cliff. Glue attaching *Rosa* spp to live hazel. Strange soil from outcropping rocks.  
Fabulous woodland enclosed in relict stock fence. Previously cattle now sheep and deer. Glades. Losing vigour with quite a lot of senescence now. Good variety of stool sizes. *P.crocata*, glue. Curled end twigs in places.  
Damp pasture with old drainage surrounded by trees on ridges and walls and rock exposures including cliffs. Trees surround pasture, near road 80% hazel. Only a few younger trees but very varied in structure. Massive hazel NC10796 33156. Turners regenerating stools.  
Torr Beag. Narrow band of hazel with birch atop and heather. On glacial till. 70% hazel. Many senescent with only few stems good diameter. Ancient large *S*, *cinerea*. Wet area with deer wallow.

NE and E facing slopes down to Loch Nedd. Was inhabited and site has cultivation fields now largely colonised by birch. Very rich site, recently grazed by sheep but now many deer signs. Some very old willow, aspen, and giant hazel stool NC13496 32879 ~14m girth. Stems >80cm. Near pc house hazels unusual see photos. Masses of hazels.

Fenced off 1990, 27 years. Has 26 trees and 150 new seedlings. Keeps pulling out of veg bed. On glacial till. Heathers, bird cherry, birch, rowan, aspen. Bank vole, woodmice, badgers, moles. Many garden plants.

Many massive stools. Often have fallen down hill and regrowing in different shape. Wilsons filmy fern on hazel!

Above Allt nan Caorach. Really good condition hazel. Could not do detailed measurements until is drier as is so steep above river. Described by Chris Ferrer as being un coppiced, single trees and this is a good thing. However, now the trees have become multistemmed, many have fallen over, still thriving. Ground flora fantastic.

Doire Cuilinn holly cliffs. Boulders which would have more hazel if less deer. Small site but worthwhile

Detailed Site Measurements

Max1 Stool location	No. Stools	Stool Girth 1 cm	No. Stems	Stem Girth Max bh cm	Stem Girth Min bh cm	No. dead	% dead	Med2 Stool location	No. Stools	Stool Girth 2 cm	No. Stems	Stem Girth Max bh cm	Stem Girth Min bh cm	No. Dead	% dead	Sma3 Stool location	No. Stools	Stool girth 3 cm	No. Stems	Stem Girth Max bh cm	Stem Girth Min bh cm	No. Dead	
NB08638 16515	7	360	4	64	47	0	0.0	NB08638 16482	23	184	4	99	40	0	0.0	NB08639 16074	40	94	1	41	N		0
NC08846 19319 *	NA	564	58	26	3	2	3.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NC08849 19316 **	NA	480	32	52	2	0	0.0	19311	NA	190	25	42	2	0	0.0	19304	NA	80	10	14	1	1	1
NC08809 19329 ***	NA	420	60	49	2	4	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NC08929 19298	NA	400	13	36	12	1	7.7	19315	NA	240	8	42	2	0	0.0	19312	NA	150	1	150	N		0
NC08522 19330	NA	300	40	25	1	5	12.5	19328	NA	130	21	46	1	5	23.8	19344	NA	87	2	23	14	0	0
NC09530 21665	25	275	12	41	6	NA		NC10685 22083	15	69	6	51	15	NA		NA	NA	NA	NA	NA	NA	NA	NA
NC11070 21490	45	270	22	50	2	NA	18.0	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
NC08434 23123	29	310	20	39	4	3	15.0	NC08448 23109	26	208	10	28	6	0	0.0	NC08463 23113	5	47	3	8	3	0	0
NC08551 23210	NA	320	40	41	1	4	10.0	23236	NA	150	9	21	2	1	11.1	NC08578 23248	NA	33	1	N	N	N	
NC07260 24685	4	286	27	39	6	3	11.1	NC07285 24674	13	145	10	49	28	3	30.0	NC07380 24711	4	75	1	28	N		0
NC07336 24698	7	361	5	45	16	1	20.0	NC07364 24709	25	112	4	32	18	1	25.0	NC07380 24911	15	94	2	23	9	0	0
NC07444 247771	38	325	22	47	3	7	31.8	NC07461 24775	82	239	9	50	3	1	11.1	NC07423 24791	40	104	1	24	N		0
NC07075 24850	30	385	48	45	2	11	22.9	NC10718 33176	92	206	17	43	2	3	17.6	NC07129 24857	5	104	1	8	N		0
NC07071 24706	NA	360	39	46	2	8	20.5	NC07082 24704	NA	210	17	50	2	7	41.2	NC07105 24732	NA	35	1	14	N		0
NC08304 24881	53	370	18	84	5	5	27.8	NC08357b2 4922	55	205	16	33	5	2	12.5	NC08313 24897	17	31	2	8	1	0	0
NC082553 24817	8	276	56	48	3	7	12.5	NC08359 24844	12	89	6	19	8	0	0.0	NC08305 24891	5	27	3	5	2	0	0
NC09031 24073	57	386	45	46	1	11	24.4	NC09018 24061	79	186	12	31	3	3	25.0	NA	32	75	1	51	N		0
NC10756 33196	56	270	19	52	4	5	26.3	NC10814 33053	47	230	6	42	11	1	33.0	NC10710 33167	31	112	1	45	N		0
NA 32584	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
NC13593 32584	NA	394	11	42	3	3	27.3	NC13589 32593	NA	142	4	43	15	1	25.0	NC13618 32599	NA	71	1	23		0	0

NC13815 31983	18	390	71	56	2	10	14.1	NC13812 31985	7	42	24	2	3	3	12.5	NC13787 31950	150	65	6	8	2	0
NC15063 31211	NA	300	7	83	38	1	14.3	N								NC15017 30986	NA	128	1	49		
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NC21150 25796	24	NA	NA	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3	294	46	22	2	10	21.7	21140 25782	15	136	19	14	2	2	10.5	NA	9	NA	3	NA	NA	NA

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Glue Fungus

Lichens

Cutting and Herbivore impacts

Glue Fungus	Lichens	Evidence of selective cutting (Y/N) - if Y make note	Evidence of whole stool cutting (Y/N) - if Y make note	If hazel stands present in subcompt are they dominated by tree form hazels? (Y/N)	In the surveys opinion do a significant number of hazels require a flush of basal regen. in the near future to prevent loss of hazels/decline of hazel stand	In the surveys opinion does a significant proportion of the stand require a flush of basal regen. in the near future for continuity of Graphidion habitat	Evidence of cattle C or horses (H) Pigs (P)	Evidence of sheep (S)	Evidence of deer (D)	Any evidence of bark stripping? (0: none, 1: scarce, 2: occasional, 3: frequent)	Bark stripping culprit (deer, horse, cattle, rabbit, goat etc) if known	Is the subcompt 1: unfenced, 2: stock fenced, 3: deer fenced?	Potential for expansion of hazelwood habitat? 1: Unsuitable/do ubtful, 2: Yes/probably, 3: Good potential for expansion.	Basal shoots currently suppressed 1 or chewed 2 on most hazel stools Not chewed 3	at least 4 in 20 hazels have at least 1 successful shoot < 9 cm cbh reaching (or nearly reaching) the canopy (Y/N).	Proportion of hazel stems in subcompt. that are 27cm cbh 0: none, 1: some, 2: plenty, 3: most	Proportion of hazel stems in subcompt. that are 22- 47cm cbh (0: none, 1: some, 2: plenty; most)	Proportion of hazel stems/trunk s in subcompt. that are >47cm dbh (0: none, 1: some, 2: plenty; 3: most)	
0. Not found 1. Scarce 2. Occasional 3. Frequent	Mossy hazel stems in subcompt. with a 'lush' well-developed Lobarion 0: none, 1: scarce, 2: occasion, 3: frequent Smooth hazel, stems in subcompt. dominated by Graphidion 0: none, 1: scarce, 2: occasion, 3: frequent, 4: most stems in subcompt. dominated by Graphidion																		
	2 Leafy lobarians and oceanic graphidions	N	N	Y	Y	Y	NA	NA	D		3 deer	1		1					
	3 One or two graphidions on new stems.	Y	Y 20 yrs	N	N	N	N	N	N	NA	NA	3	1	3 Y		3	2	1	
	3 Leafy lobarians and oceanic graphidions		Y 20 yrs						N	NA	NA	3	1	3 Y		3	2	1	
	3 Graphis scripta and Opegrapha atra. Pseudocyphillaria norvegica. Graphis scripta and Opegrapha atra.		N						N	NA	NA	3	1	3 Y		3	2	1	
	2																		
	2 Leafy lobarians and oceanic graphidions Pertusaria leioplaca, T.petractoides, P.macrospora, Parmelia crinita	Y occ	N	N	Y	N	N	N	D		2 deer	1	2	2 Y		3	2	1	
		Y occ	N	Y	Y	Y	N	S	D		2 deer	1	2	1 N		1	2	2	
NA	Leafy lobarians and oceanic graphidions	Y	Y hydro	N	N	N	N	N	N (occ)	N	NA	3	3	3 Y		2	2	2	
	2 Leafy lobarians and oceanic graphidions	Y occ	N	N	N	N	N	N	D		2 deer	1	2	1 Y		2	2	1	
	2 Leafy lobarians and oceanic graphidions	Y occ	N	N	Y	Y	H	N	D		3 horse	2	3	2 Y		2	3	2	
	2 Leafy lobarians and oceanic graphidions	Y occ	N	N	Y	Y	H	N	D		1 deer	2	1	2 N		1	2	2	
	2 Leafy lobarians and oceanic graphidions	Y occ	N	N	N	N	H	N	D		2 horse	2	1	2 Y		2	2	2	
	2 Leafy lobarians and oceanic graphidions	Y occ	Y hydro	N	N	N	N	N (occ)	D		1 deer	1	1	2 Y		2	2	1	
	2 Leafy lobarians and oceanic graphidions	N	N	N	N	N	C past	N	D		2 deer	2	2	2 Y		2	2	2	
	3 Leafy lobarians and oceanic graphidions	Y occ	N	N	N	N	P	S	D		1 deer	3 part	1	2 Y		2	2	2	
	2 Leafy lobarians and oceanic graphidions Pseudocyphillaria crocata G. scripta, 1 plenty lobarions	Y occ	Y road	N	N	N	P	S	D		2 deer	1	2	2 Y		2	2	2	
		Y occ	N	N	Y	Y	N	S	D		1 deer	1	2	1 N		2	3	2	
	1 Leafy lobarians and oceanic graphidions	Y occ	N	N	Y	Y	N	S	D		2 deer	2 part	2	1 N		2	2	2	
NA	Leafy lobarians and oceanic graphidions P. Norvegica, P.crocata, varied graphidions	Y occ	N	N	Y	Y	N	S	D		2 deer	1	2	1 N		1	2	1	
2. NC13518 32829		Y occ	N	N	Y	N	NA	S	D		2 deer	2 part	1	1 Y		2	3	2	

NA	Leafy lobarians and oceanic graphidions	Y occ	N		N	N	N	N	N	N	N	NA	3	1	3	Y	3	2	2
			Y		N	Y	Y	N	S	D		3 deer	1	3	1	N	2	2	2
	0 Very rich assemblage of lichens	N	N		N	Y	Y	N	N	D		2 deer	1	1	2	N	2	3	2
NA	Leafy lobarians and oceanic graphidions	N	N		N	N	N	N	N	D	NA	NA	1	1	1	Y	2	2	2
	0 Leafy lobarians and oceanic graphidions	N	N		N	N	N	N	S	D		2 deer	1	3	2				
	Graphidions and few lobarions. Not as																		
	0 rich perhaps	N	N		N	Y	Y	N	N	D		1 deer	1	3	1	Y	3	2	0



Dead stems 9-22cm cbh in subcompt 0: none, 1: some, 2: plenty	Dead stems 22-47 cm cbh in subcompt (0: none, 1: some, 2: plenty)	Dead stems > 47cm cbh in subcompt. 0: none, 1: some, 2: plenty	Hazel seedlings/young saplings <1.5m 0: none, 1: some, 2: plenty	Hazel saplings (>1.5m) 0: none, 1: some, 2: plenty
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1	1 NA		1	1
1	1 NA		1	1
1	1 NA		1	1

1	1	0	1	0
2	2	1	0	0

1	1	0	2	1
1	1	1	1	1
1	2	2	0	0
2	2	1	0	0
1	1	1	1	1
1	1	0	1	1
1	1	0	1	1
1	1	1	1	1
1	1	0	1	1
1	1	1	0	1
1	1	1	0	0
1	1	1	0	0
1	1	1	0	0

	1	1	0	2	2
	2	2	1	0	0
	1	1	1	0	0
NA	NA	NA		1	1
	1	1	0	1	1