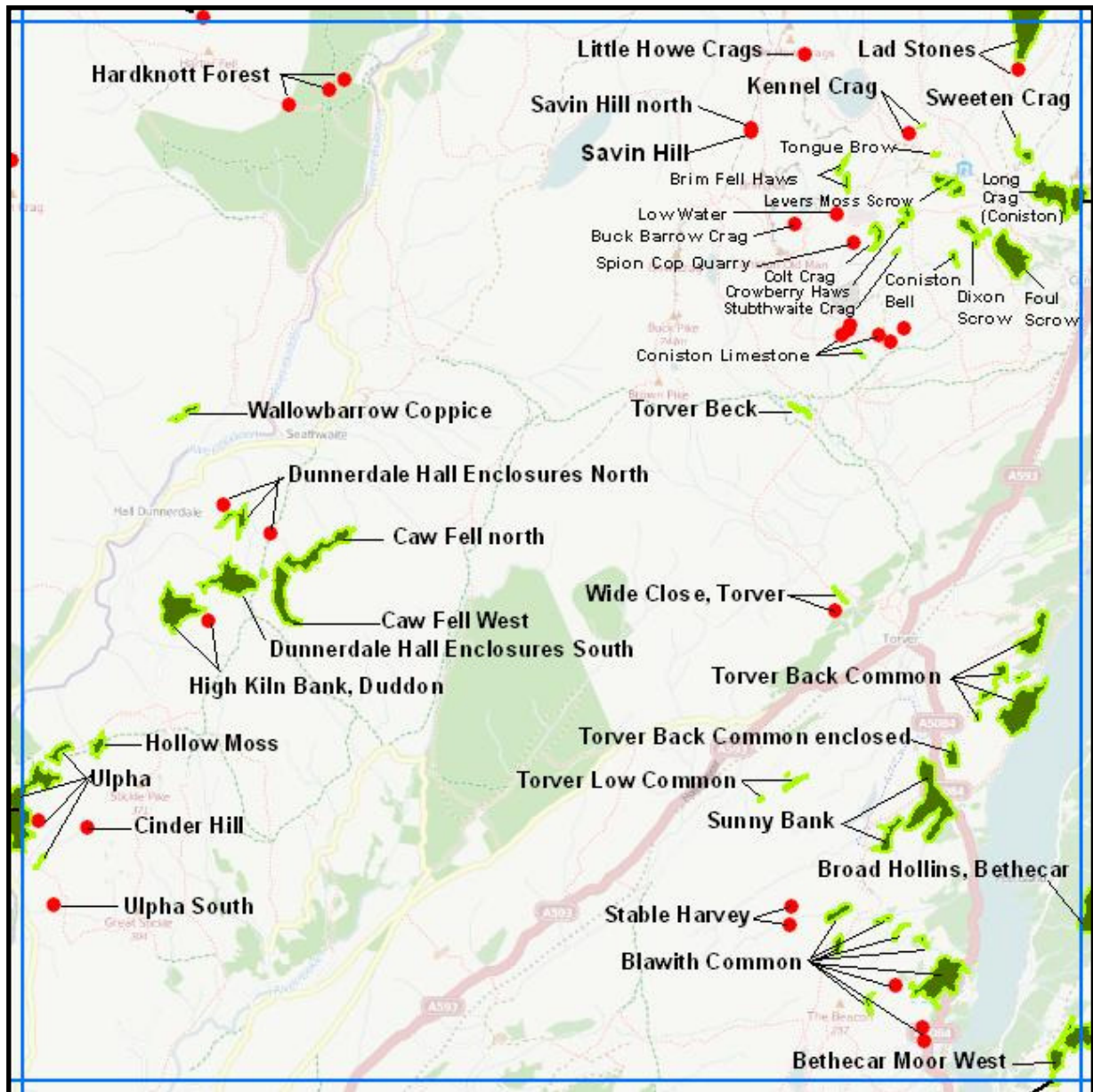


SD29



Sites List:

Jun-NY2900-01	Lad Stones	Jun-SD2798-02	Low Water
Jun-SD1992-01	Ulfha	Jun-SD2798-03	Brim Fell Haws
Jun-SD2091-01	Ulfha South	Jun-SD2799-01	Little Howe Craggs
Jun-SD2092-01	Cinder Hill	Jun-SD2890-01	Blawith Common
Jun-SD2093-01	Hollow Moss	Jun-SD2892-01	Sunny Bank
Jun-SD2194-01	High Kiln Bank, Duddon	Jun-SD2893-01	Torver Back Common enclosed
Jun-SD2194-02	Dunnerdale Hall Enclosures South	Jun-SD2897-01	Colt Crag
Jun-SD2196-01	Wallowbarrow Coppice	Jun-SD2897-02	Stubthwaite Crag
Jun-SD2294-01	Caw Fell West	Jun-SD2897-03	Coniston Bell
Jun-SD2295-01	Caw Fell north	Jun-SD2898-01	Levers Moss Scrow
Jun-SD2295-02	Dunnerdale Hall Enclosures North	Jun-SD2898-02	Dixon Scrow
Jun-SD2299-01	Hardknott Forest	Jun-SD2898-03	Crowberry Haws
Jun-SD2698-01	Savin Hill	Jun-SD2898-03	Tongue Brow

Jun-SD2699-01 Savin Hill north
Jun-SD2791-01 Stable Harvey
Jun-SD2792-01 Torver Low Common
Jun-SD2794-01 Wide Close, Torver
Jun-SD2796-01 Torver Beck
Jun-SD2796-02 Coniston Limestone
Jun-SD2797-01 Spion Cop Quarry
Jun-SD2798-01 Buck Barrow Crag

Jun-SD2899-01 Kennel Crag
Jun-SD2990-01 Bethacar Moor West
Jun-SD2993-01 Torver Back Common
Jun-SD2997-01 Foul Scrow
Jun-SD2998-01 Long Crag (Coniston)
Jun-SD2998-02 Sweeten Crag
Jun-SD3091-01 Broad Hollins, Bethacar



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Lad Stones	Equiv. L. Ward site (s): Lad Stones
Site Ref. Code: Jun-NY2900-01	Survey date: 13/01/2012
Recorder name (s): M. Douglas	Cent. grid ref: NY 29500 00140
Valley / area: Tilberthwaite	Altitude: 340m – 600m
Aspect: 90 degrees	Ownership:

2. Stand area:

a) Have you changed the boundaries of the stand on the survey map?

Yes

b) GPS number and track name / label?

N / A

c) Area of sub stands and total area?

Sub stand	A									Total
Area	22.14									22.14ha
Confidence	4									4

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	A									Total
Count	3650									3650
Method	VP									VP
Confidence	M									M

4. Dominant Vegetation ...acid grassland.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Much of the grassland throughout the stand dominated by *Nardus stricta*. DSH mostly on inaccessible crags or where present elsewhere, browsed to cushions or drumsticks. Occasional browsing of last year's shoots throughout, and browsing of some of the more accessible junipers has limited growth dramatically. Less grazing higher up (above 480m) where there is some *Empetrum nigrum* and better growth of *Vaccinium myrtillus*.

6. Other threats: none

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	present	present	present	X	Present
Comments: Only three seedlings seen on more inaccessible parts of the crag.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-NY2900-01A	NY 30009 00491	258 degrees		Whole stand photo
Jun-NY2900-01B				Heavily browsed junipers
Jun-NY2900-01C	NY 29375 00420			<i>Juniperus communis nana</i> or intermediate form.

9. Comments (associated flora and fauna, survey / access difficulties?):

Declining stand due to lack of regeneration. This is unlikely to change under current management regimes with too many out-wintered sheep limiting the growth of plants and preventing regeneration.

Clone of aspen trees (30 stems) at NY 29651 00105.

Juniperus communis nana or hybrid growing amongst common juniper on Steel Edge at NY29375 00420.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Ulpha	Equiv. L. Ward site (s): Dunnersdale Fell, West and East
Site code: Jun-SD1992-01	Survey date: 23/11/2012
Recorder name (s): M. Douglas and S. Townsend.	Cent. grid ref: SD 19920 92700
Valley / area: Duddon	Altitude: 60 – 200m
Aspect: Various	Ownership:

2. Stand area:

- b) Have you changed the boundaries of the stand on the survey map?
Yes
- d) GPS number and track name / label?
N/A
- e) Area of sub stands and total area?

Sub stand	A	B	C	D						Total
Area	15.11	2.13								17.24
Confidence	5	5	5	5						5

3. Plant numbers and Juniper sub-species?

Ssp... *J.c.comm*.....

Sub stand	A	B	C	D						Total
Count	830	195	34	34						1093
Method	VP	VP	VP	VP						VP
Confidence	M	H	H	H						M

4. Dominant Vegetation ...bracken.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Majority of junipers show signs of winter browsing, hard and extensive on some bushes. Some bushes at the north end of the stand have been browsed recently. Only one seedling found and no young trees. Lots of mature trees showing suppressed growth, illustrating long term heavy browsing pressure.

6. Other threats:

Succession to tall trees. Almost all regeneration of tall trees is within the protective canopy of existing junipers, leading to the death of these junipers in the long term.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
1 of	X	present	present	X	Present
Comments: Almost all bushes mature or old. Berry bearing trees abundant.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD1992-01A				Aspen suckers establishing in protection of juniper.
Jun-SD1992-01B				Ash and yew established after regenerating within juniper canopy.

9. Comments (associated flora and fauna, survey / access difficulties?):

Sub stands and outliers comprise A: Main stand, B: Northern sub-stand adjacent to Birks Wood, C: outliers to east of main stand and D: Southern outlier at Cinderhill Beck.

Large juniper stand of variable density, with abundant oak, ash, rowan, birch, hawthorn, holly, yew and aspen. Two large clones of the latter numbered 8 and 10 large stems respectively, with many smaller suckers present. Largest mature stem at SD19883 92480, measuring 1.85m. circumference or 59cm DBH.

Few sycamore and 1 beech present (planted).

Almost all regeneration of tall tree species is within the protection of juniper canopies, something which will aid the decline of this juniper stand given its complete lack of regeneration at present.

Numerous large juniper present including one of 44cm diameter at base, or 140cm circumference, at SD 19890 92254.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Hollow Moss	Equiv. L. Ward site (s): None
Site code: Jun-SD2093-01	Survey date: 13/12/2012
Recorder name (s): M. Douglas	Cent. grid ref: SD 20710 93180
Valley / area: Duddon	Altitude: 180 – 210m.
Aspect: 315 degrees	Ownership:

2. Stand area:

- c) Have you changed the boundaries of the stand on the survey map?
N/A
- f) GPS number and track name / label?
N/A
- g) Area of sub stands and total area?

Sub stand	A									Total
Area	1.74									1.74
Confidence	5									5

3. Plant numbers and Juniper sub-species?

Ssp...comm

Sub stand	A									Total
Count	180									180
Method	WT									WT
Confidence	H									H

4. Dominant Vegetation ...Bracken.....

Other habitats / vegetation types present:

- | | |
|-----------------------|---------------------------|
| <u>acid grassland</u> | wet grassland / rushes |
| dry heath | wet heath / mire |
| Limestone grassland | Bracken |
| Scree | <u>Outcrop / cliff</u> |
| Limestone scree | Limestone outcrop / cliff |
| Woodland | |

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

No signs of browsing damage on shoots from last two growing seasons, despite previous heavy browsing pressure (illustrated by form of junipers).

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	X	present	present	X	X
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point

9. Comments (associated flora and fauna, survey / access difficulties?):

Juniper looking healthy despite the lack of any boundaries between this stand and the more heavily browsed Upha stand to the south.

Holly, rowan and a few scattered ash present including one ancient (?), hollow ash along stream.



plants for Juniper Project – Survey Form

1. Site details

Site Name: High Kiln Bank, Duddon	Equiv. L. Ward site (s): High Kiln Bank, Brockbarrow West
Site Ref. code: Jun-SD2194-01	Survey date: 19/02/2013
Recorder name (s): M. Douglas	Cent. grid ref: SD 2148 9446
Valley / area: Duddon	Altitude: 140m – 260m
Aspect: 270 degrees	Ownership:

2. Stand area:

- d) Have you changed the boundaries of the stand on the survey map?
Yes
- h) GPS number and track name / label?
N / A
- i) Area of sub stands and total area?

Sub stand	A	B								Total
Area	8.63	-								8.63ha
Confidence	3	4								3

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B								Total
Count	342	13								355
Method	VP	VP								VP
Confidence	M	H								M

4. Dominant Vegetation ...Acid grass.....

Other habitats / vegetation types present:

- acid grassland wet grassland / rushes
- dry heath wet heath / mire
- Limestone grassland Bracken
- Scree Outcrop / cliff
- Limestone scree Limestone outcrop / cliff
- Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Bark stripping and browsing easy to find on juniper on lower slopes but very difficult to find higher up. Soft rush grazed throughout though, and only two seedlings were found on higher slopes despite abundant berry bearing bushes.

6. Other threats: None

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	present	present	>85%	x	10%
Comments: Very old stand reaching the end of its life span					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2194-01A	SD21327 94511	40 degrees		
Jun-SD2194-01B	SD21620 94398	325 degrees		

9. Comments (associated flora and fauna, survey / access difficulties?):

Scattered stand of old juniper with many dead trees. Holly, rowan and oak also present.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Dunnerdale Hall Enclosures South	Equiv. L. Ward site (s): Low Hall Above / Hall Dunnerdale
Site Ref. code: Jun-SD2194-02	Survey date: 08/04/2013
Recorder name (s): M. Douglas	Cent. grid ref: SD2196 9475
Valley / area: Duddon	Altitude: 180m – 250m
Aspect: 350 degrees	Ownership:

2. Stand area:

- e) Have you changed the boundaries of the stand on the survey map?
Yes
- j) GPS number and track name / label?
N / A
- k) Area of sub stands and total area?

Sub stand	A	B								Total
Area										8.79ha
Confidence	5	5								5

3. Plant numbers and Juniper sub-species?

Ssp...J.c. communis

Sub stand	A	B								Total
Count	265	20								285
Method	VP	VP								VP
Confidence	M	H								M

4. Dominant Vegetation ...wet heath / mire.....

Other habitats / vegetation types present:

- | | |
|-----------------------|---------------------------|
| <u>acid grassland</u> | wet grassland / rushes |
| dry heath | wet heath / mire |
| Limestone grassland | <u>Bracken</u> |
| Scree | <u>Outcrop / cliff</u> |
| Limestone scree | Limestone outcrop / cliff |
| Woodland | |

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Browsing on juniper easy to find, sometimes 100% of shoots browsed. Some bushes browse lined.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
		present	80%		15%
Comments: Many dead bushes. Lots of old bushes nearing end of their life-span.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2194-02	SD 2207 9449	355 degrees		

9. Comments (associated flora and fauna, survey / access difficulties?):

Smaller sub-stand to the east of the larger sub-stand. Very old and heavily browsed stand with scattered ash, rowan, larch and two old sycamore.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Wallowbarrow Coppice	Equiv. L. Ward site (s): Wallowbarrow Above
Site Ref. code: Jun-SD2196-01	Survey date: 09/08/2013
Recorder name (s): M. Douglas	Cent. grid ref: SD2152 9629
Valley / area: Duddon	Altitude: 170m – 200m
Aspect: 135 degrees	Ownership:

2. Stand area:

- f) Have you changed the boundaries of the stand on the survey map?
Yes
- l) GPS number and track name / label?
N / A
- m) Area of sub stands and total area?

Sub stand	A									Total
Area	1.31									1.31ha
Confidence	5									5

3. Plant numbers and Juniper sub-species?

Ssp...*J.c.comm*

Sub stand	A									Total
Count	255									255
Method	WT									WT
Confidence	H									H

4. Dominant Vegetation ...wet heath / mire.....

Other habitats / vegetation types present:

<u>acid grassland</u>	wet grassland / rushes
dry heath	wet heath / mire
Limestone grassland	<u>Bracken</u>
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff
<u>Woodland</u>	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Hard to find signs of browsing on juniper and 2 holly saplings have got away in recent years. Two patches of heather had been browsed to drumstick / carpet forms though. The latter may be due to more recent grazing by escaped sheep. The land has just gone into HLS and is to be cattle grazed only.

6. Other threats: A number of large sycamore are present on neighbouring ground and these could spread into the juniper area if grazing is relaxed too much.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
1 found	2 found	20%	75%	X	4 found
Comments: Lots of berry bearing bushes with abundant fruit at present.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2196-01A				
Jun-SD2196-01B				

9. Comments (associated flora and fauna, survey / access difficulties?):

This area has recently gone into HLS and is to be grazed by cattle only. At the moment sheep are getting in though, and this could be a problem in the future if large numbers gain access in the winter period.

The strong growth of ground flora may be preventing juniper regeneration at the moment, and the NT Tenant aims to counter this through experimenting with grazing cattle numbers and periods. 50 juniper will also be planted within the existing juniper (as well as 100 on Wallowbarrow Crag).

Ash, oak, birch, hazel, holly and gorse are present and redpoll and tree pipit were calling on the day of the survey.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Caw Fell West	Equiv. L. Ward site (s): Brockbarrow East (part of)
Site Ref. Code: Jun-SD2294-01	Survey date: 04/10/2012
Recorder name (s): M. Douglas	Cent. grid ref: SD 2241 9456
Valley / area: Duddon Valley	Altitude: 220 380 m
Aspect: 270 degrees	Ownership:

2. Stand area:

- g) Have you changed the boundaries of the stand on the survey map?
yes
- n) GPS number and track name / label?
N / A
- o) Area of sub stands and total area?

Sub stand	A									Total
Area	6.49									6.49
Confidence	3									3

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	A									Total
Count	114									114
Method	VP									VP
Confidence	M									M

4. Dominant Vegetation ...acid grass.....

Other habitats / vegetation types present:

- | | |
|---------------------|---------------------------|
| acid grassland | wet grassland / rushes |
| dry heath | <u>wet heath / mire</u> |
| Limestone grassland | <u>Bracken</u> |
| <u>Scree</u> | <u>Outcrop / cliff</u> |
| Limestone scree | Limestone outcrop / cliff |
| Woodland | |

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

No seedlings found and most juniper on difficult to access crags. Most accessible junipers show signs of past browsing.

6. Other threats: None

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	X	present	>80%	X	present
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2294-01A				Rowan (bark stripped) growing from within shelter of juniper canopy.

9. Comments (associated flora and fauna, survey / access difficulties?):

Heavily grazed and browsed area with dwindling population of juniper. Occasional holly present and lone rowan regenerating within the protection of a juniper canopy.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Caw Fell North	Equiv. L. Ward site (s): None
Site Ref. Code: Jun-SD2295-01	Survey date: 18/09/2012
Recorder name (s): M. Douglas	Cent. grid ref: SD2280 9504
Valley / area: Duddon Valley	Altitude: 250 – 320m.
Aspect: 315 degrees	Ownership:

2. Stand area:

h) Have you changed the boundaries of the stand on the survey map?

N / A

p) GPS number and track name / label?

N / A

q) Area of sub stands and total area?

Sub stand	A	B								Total
Area	7.22 ha	N/A								7.22 ha
Confidence	5	3								5

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	A	B								Total
Count	676	26								696
Method	VP	VP								VP
Confidence	H	H								H

4. Dominant Vegetation ...acid grass.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Most junipers show signs of previous browsing, and browse lining and pruning due to browsing are easy to find. Only one seedling found. Most smaller bushes turned out to be at least mature (30 years plus) due to suppressed growth because of browsing.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	< 5%	>15%	80%	X	present
Comments: One seedling found. Few dead bushes.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2295-01A	SD23062 95232	229 degrees		Overview of part of stand from NE end
Jun-SD2295-01B				
Jun-SD2295-01C				

9. Comments (associated flora and fauna, survey / access difficulties?):

This stand seems to have experienced long term heavy browsing and this is illustrated by obvious browsing (winter) of shoots, suppressed growth of mature and old trees, and the low numbers of young and seedling junipers. Numerous old hollies and a few rowan present.

Management Recommendations (includes Caw West):

Juniper at Caw North and Caw West has suffered from heavy browsing for a long period. The lack of tall trees of other species may also be due to long term browsing pressure and the value of these stands for wildlife is much reduced as a result. Ideal management would be a reduction in the stocking rate in this area, grazing with less than 1 ewe/ha over the period April to October, and wintering livestock off site. This would encourage natural regeneration of juniper, though other trees would be slow to colonise the area due to a lack of nearby seed trees. Planting of birch, aspen and rowan at the start of any stock reduction period would counter this problem.

In the absence of stock reductions, enclosures could be built upslope of the existing juniper, and planted up with juniper, birch, aspen and rowan. Two separate enclosures, totalling around 10 ha in extent would allow the planting of 3000 juniper and 400 taller trees.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Dunnerdale Hall Enclosures North	Equiv. L. Ward site (s): Hall Dunnerdale Total
Site Ref. code: Jun-SD2295-02	Survey date: 08/04/2013
Recorder name (s): M. Douglas	Cent. grid ref: SD2204 9534
Valley / area: Duddon	Altitude: 110m - 180m
Aspect: 315 degrees	Ownership:

2. Stand area:

- i) Have you changed the boundaries of the stand on the survey map?
Yes
- r) GPS number and track name / label?
N / A
- s) Area of sub stands and total area?

Sub stand	A	B	C							Total
Area										2.64ha
Confidence	5	5	5							5

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B	C							Total
Count	79	177	23							279
Method	VP	VP	VP							VP
Confidence	H	H	H							H

4. Dominant Vegetation ...wet heath / mire.....

Other habitats / vegetation types present:

<u>acid grassland</u>	wet grassland / rushes
dry heath	wet heath / mire
Limestone grassland	<u>Bracken</u>
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff
Woodland	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Browse lines suggest that grazing has been heavy in the past, but recent juniper browsing is patchy and generally light.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	present	present	>90%	X	present
Comments: Two young bushes found					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point

9. Comments (associated flora and fauna, survey / access difficulties?):

Predominantly old juniper growing at variable density amongst scattered birch, rowan, holly, oak, hazel and ash.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Stable Harvey	Equiv. L. Ward site (s): Stable Harvey
Site Ref. code: Jun-SD2791-01	Survey date: 22/01/2013
Recorder name (s): M. Douglas	Cent. grid ref: SD2725 9149
Valley / area: Coniston	Altitude: 120m – 140m
Aspect: Various	Ownership:

2. Stand area:

- j) Have you changed the boundaries of the stand on the survey map?
Yes
- t) GPS number and track name / label?
N / A
- u) Area of sub stands and total area?

Sub stand	A	B								Total
Area										
Confidence										

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B								Total
Count	32	49								81
Method	VP	VP								VP
Confidence	M	M								M

4. Dominant Vegetation ...wet heath / mire.....

Other habitats / vegetation types present:

<u>acid grassland</u>	wet grassland / rushes
dry heath	wet heath / mire
Limestone grassland	<u>Bracken</u>
Scree	Outcrop / cliff
Limestone scree	Limestone outcrop / cliff
Woodland	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Browsing of junipers light and infrequent at present, but some bark stripping at sub-stand A.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
1%	4%	43%	48%	X	4%
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point

9. Comments (associated flora and fauna, survey / access difficulties?):

The two points represent scattered juniper along two stream / flush lines. There was a single rowan at sub-stand A and an old Scot's pine at sub-stand B.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Torver Low Common	Equiv. L. Ward site (s): Torver Low Common, E and W
Site Ref. Code: Jun-SD2792-01	Survey date: 16/10/2011
Recorder name (s): D. Benham, B. King	Cent. grid ref: SD27270 92820
Valley / area: Coniston	Altitude: 120 – 140m
Aspect: various	Ownership:

2. Stand area:

- k) Have you changed the boundaries of the stand on the survey map?
Yes
- v) GPS number and track name / label?

- w) Area of sub stands and total area?

Sub stand	1	2	3							Total
Area	0.08	0.7	0.2							0.98ha
Confidence	5	5	5							5

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	1	2	3							Total
Count	38	450	89							577
Method	count	count	Count							Ex. Count
Confidence	h	h	h							H

4. Dominant Vegetationwet heath / mire.....

Other vegetation types present:

<u>acid grassland</u>	wet grassland / rushes
dry heath	wet heath / mire
Limestone grassland	<u>Bracken</u>
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Little grazing of this year's vegetation but junipers appear to be grazed at some point every year.

6. Other threats: None

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	present	present	present	present	present
Comments: BK and D. Benham: 35% young, 35% mature and 20% old. MD (22/01/2013): 5% young, 65% mature and 20% old.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2792-01A	SD2714 9266	35 degrees		Rock outcrop view to Hazel Hall
Jun-SD2792-01B	SD2724 9278	60 degrees		View NE along valley mire
Jun-SD2792-01C				

9. Comments (associated flora and fauna, survey / access difficulties?):

Occasional rowan, hawthorn and holly present. Many junipers browsed very low and lost within bog asphodel, *Molinia* and cross-leaved heath. Some *Drosera intermedia* beside streams.

MD visited on 22/01/2013 and found that only one of 15 apparently young trees had a stem diameter at base of less than 25mm, which suggests that most of the bushes originally classed as old are mature.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Coniston Limestone	Equiv. L. Ward site (s): Con Limestone
Site Ref. Code: Jun-SD2796-02	Survey date: 30/08/2011
Recorder name (s): Peter and Ruth Howlett, Hilary Corton	Cent. grid ref: SD27900 96870
Valley / area: Coniston	Altitude: 340 – 470 m
Aspect: 135 degrees	Ownership:

2. Stand area:

- l) Have you changed the boundaries of the stand on the survey map?
Yes
- x) GPS number and track name / label?
- y) Area of sub stands and total area?

Sub stand										Total
Area										0.21ha
Confidence										3

3. Plant numbers and Juniper sub-species?

Ssp...comm

Sub stand	1	2	3	4	5	6	7			Total
Count	90	5	2	3	1	4	11			116
Method	VP	VP	VP	VP	VP	VP	VP			VP
Confidence	H	H	H	H	H	H	H			H

4. Dominant Vegetation/ habitat

Other vegetation / habitats present:

acid grassland	<u>wet grassland / rushes</u>
dry heath	<u>wet heath / mire</u>
Limestone grassland	Bracken
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff
Woodland	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Juniper growing in areas inaccessible to sheep

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
	present	present	present	Present	
Comments: Trees inaccessible so difficult to assess proportions in each age class					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point

9. Comments (associated flora and fauna, survey / access difficulties?):



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Blawith Common	Equiv. L. Ward site (s): Stable Harvey and Long Scars
Site Ref. code: Jun-SD2890-01	Survey date: 28/11/12 and 18/12/12 and 19/04/11 (MD).
Recorder name (s): P and C Matthiessen	Cent. grid ref: SD2862 9091
Valley / area: Coniston	Altitude: 50m – 200m
Aspect: Various	Ownership:

2. Stand area:

- m) Have you changed the boundaries of the stand on the survey map?
Yes
- z) GPS number and track name / label?
N / A
- aa) Area of sub stands and total area?

Sub stand	A	B	C	D	E	F	G	H	I	J	Total
Area											16.65ha
Confidence	5	3	5	3	3	5	3	3	3	3	3

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B	C	D	E	F	G	H	I	J	Total
Count	7	7	325	20	35	55	70	37	35	190	781
Method	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
Confidence	H	H	M	L	L	H	M	M	M	M	M

4. Dominant Vegetation ...Bracken.....

Other habitats / vegetation types present:

<u>acid grassland</u>	<u>wet grassland / rushes</u>
<u>dry heath</u>	<u>wet heath / mire</u>
Limestone grassland	Bracken
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff
<u>Woodland</u>	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

No seedling juniper found and very few young bushes recorded. Swaledale sheep browsing juniper during survey. MD – 22/01/2013 – 100% of shoots browsed on some bushes at sub-stand J.

6. Other threats: Shading by bracken and tall trees

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	present	40%	55%	5%	present
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point

9. Comments (associated flora and fauna, survey / access difficulties?):

Mostly scattered juniper growing on wet ground away from dense bracken and other tree species.

Boundary and count confidence ratings are low so some juniper may have been missed during surveys, and drawn boundaries may not encompass all juniper within each patch.

Point A is the southernmost point and the sequence follows an anti-clockwise route from this point, C being the largest sub-stand and J the highest altitude sub-stand.

MD re-surveyed sub-stand J on 22/01/2013, counting 190 juniper (M confidence), and more than 70% of these were old. No young juniper or seedlings were seen.

Browsing was patchy but on some bushes 100% of last years shoots were browsed off. Scattered yew, holly, rowan and large ash were present, and further down slope there were more birch, oak and ash with occasional willow species along stream sides.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Sunny Bank	Equiv. L. Ward site (s): Sunny Bank
Site Ref. Code: Jun-SD2892-01	Survey date: Various up to 25/07/11
Recorder name (s): M. Douglas, D. Benham, B. King	Cent. grid ref: SD28580 92650
Valley / area: Coniston	Altitude: 80 – 130m
Aspect: various	Ownership:

2. Stand area:

n) Have you changed the boundaries of the stand on the survey map?

Yes

bb)GPS number and track name / label?

cc) Area of sub stands and total area?

Sub stand	A									Total
Area	17.47									17.47 ha
Confidence	3									3

3. Plant numbers and Juniper sub-species?

Ssp...comm...

Sub stand	A									Total
Count	1595									1595
Method	VP									VP
Confidence	M									M

4. Dominant Vegetation ...Bracken.....

Other vegetation types present:

acid grassland

dry heath

Limestone grassland

Scree

Limestone scree

wet grassland / rushes

wet heath / mire

Bracken

Outcrop / cliff

Limestone outcrop / cliff

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other Roe deer..

Indicators of high grazing / browsing pressure?

Young j. present only in mires and even here are heavily browsed. Bog myrtle also heavily browsed in April suggesting the site is heavily grazed in the winter.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
none	present	present	present	present	Present
Comments: Vast majority of trees are old					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2892-01A				
Jun-SD2892-01B				
Jun-SD2892-01C	SD28552 92233	30 degrees		

9. Comments (associated flora and fauna, survey / access difficulties?):

Heavily grazed area dominated by old trees, with little natural regeneration for many decades. It is varied though, with juniper of different densities and with a large variety of standard trees. Rowan, birch, holly, yew, hawthorn, blackthorn, oak and ash amongst juniper and willow and alder along Mere Beck. Most juniper growing amongst bracken but many younger trees growing in valley mire / flush vegetation. Variety of birds correspond with varied habitat with singing willow warbler, redpoll, chaffinch, redstart, whitethroat, wheatear, tree pipit, whinchat, stonechat and yellowhammer present.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Torver Back Common Enclosure	Equiv. L. Ward site (s): Torver Back
Site Ref. code: Jun-SD2893-01	Survey date: 30/06/2012
Recorder name (s): P and R Howlett, H. Corton	Cent. grid ref: SD 28775 93074
Valley / area: Coniston	Altitude: 50m – 150m
Aspect: Various	Ownership:

2. Stand area:

- o) Have you changed the boundaries of the stand on the survey map?
Yes
- dd) GPS number and track name / label?
N / A
- ee) Area of sub stands and total area?

Sub stand	A									Total
Area	2.83									2.83
Confidence	5									5

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A									Total
Count	241									241
Method	WT									WT
Confidence	M									M

4. Dominant Vegetation ...acid grass.....

Other habitats / vegetation types present:

acid grassland	wet grassland / rushes
<u>dry heath</u>	wet heath / mire
Limestone grassland	<u>Bracken</u>
Scree	Outcrop / cliff
Limestone scree	Limestone outcrop / cliff
Woodland	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other

Indicators of high grazing / browsing pressure?

Good age range amongst juniper. Adjacent vegetation generally tall and un-grazed.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	25%	65%	5%	X	X
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2993-01A				Old, browse lined juniper
Jun-SD2993-01B				Juniper growth form showing repeated browsing.

9. Comments (associated flora and fauna, survey / access difficulties?):

Fence seems to be successful in excluding livestock and bilberry and bell heather doing well alongside healthy, expanding juniper population.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Levers Moss Scrow	Equiv. L. Ward site (s): Levers Moss Scrow
Site Ref. code: Jun-SD2898-01	Survey date: 24/06/2013
Recorder name (s): R. Kingston	Cent. grid ref: SD2875 9848
Valley / area: Coniston	Altitude: 190m – 230m
Aspect: 90 degrees	Ownership:

2. Stand area:

p) Have you changed the boundaries of the stand on the survey map?

Yes

ff) GPS number and track name / label?

N / A

gg) Area of sub stands and total area?

Sub stand	A	B	C							Total
Area										2.99ha
Confidence	5	5	5							5

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B	C							Total
Count	48	92	175							315
Method	VP	VP	WT							WT
Confidence	H	H	M							M

4. Dominant Vegetation ...Acid Grassland.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Most juniper with sheep browse lines and evidence of recent browsing. No heather or bilberry present.

6. Other threats: None

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	1%	2%	74%	3%	20%
Comments:					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2898-01A	SD2873 9857	260 degrees		Across beck to northern sub-stand.
Jun-SD2898-01B	Same	180 degrees		To beck-side juniper
Jun-SD2898-01C	Same	120 degrees		Looking across to the two southern sub-stands.

9. Comments (associated flora and fauna, survey / access difficulties?):

A = southernmost sub-stand and C= northern most.

Like Dixon's Scrow nearby, this juniper is declining rapidly due to sheep grazing. Holly and birch present.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Dixon Scrow	Equiv. L. Ward site (s): Dixon Scrow
Site Ref. code: Jun-SD2898-02	Survey date: 19/05/2013
Recorder name (s): Roger and Liz Kingston	Cent. grid ref: SD28956 98048
Valley / area: Coniston	Altitude: 230m – 270m
Aspect: Various	Ownership:

2. Stand area:

q) Have you changed the boundaries of the stand on the survey map?

Yes

hh) GPS number and track name / label?

N / A

ii) Area of sub stands and total area?

Sub stand	A	B								Total
Area	2.05	0.41								2.46ha
Confidence	4	4								4

3. Plant numbers and Juniper sub-species?

Ssp...*J.c.comm*

Sub stand	A	B								Total
Count	369	16								385
Method	WT	WT								WT
Confidence	m	m								m

4. Dominant Vegetation ...acid grassland.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

All bushes winter browsed with browse lining on many bushes.

6. Other threats:

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
		10%	55%		35%
Comments: Collapsing branches quickly browsed by sheep.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2898-02A				Dead and browse lined juniper (06/04/2011)
Jun-SD2898-02B				Dead juniper and Swaledale sheep (06/04/2011)
Jun-SD2898-02C				Browse lined old juniper (06/04/2011)

9. Comments (associated flora and fauna, survey / access difficulties?):

Rapidly declining stand due to old age of bushes and heavy sheep browsing pressure.

Few hawthorn and holly present.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Bethocar Moor West	Equiv. L. Ward site (s): Bethocar Moor West
Site Ref. Code: Jun-SD2990-01	Survey date: 09/05/2012
Recorder name (s): M Douglas	Cent. grid ref: SD2989 9040
Valley / area: Coniston	Altitude: 130m - 210m
Aspect: 280 degrees	Ownership

2. Stand area:

- r) Have you changed the boundaries of the stand on the survey map?
Yes
- jj) GPS number and track name / label?
N / A
- kk) Area of sub stands and total area?

Sub stand										Total
Area										9.22ha
Confidence										5

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	A	B	C							Total
Count	480	308	300							1088
Method	VP	WT	VP							VP
Confidence	M	H	M							H

4. Dominant Vegetation ...Bracken.....

Other habitats / vegetation types present:

<u>acid grassland</u>	<u>wet grassland / rushes</u>
<u>dry heath</u>	<u>wet heath / mire</u>
Limestone grassland	Bracken
Scree	<u>Outcrop / cliff</u>
Limestone scree	Limestone outcrop / cliff
Woodland	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other Roe deer.....

Indicators of high grazing / browsing pressure?

Where present leggy old Calluna has not been browsed since last year, bracken litter layer is barely trampled and sedge rich flushes have not been grazed, all suggesting that sheep have not been outwintered. Some autumn / winter browsing of bilberry and holly though.

6. Other threats:

Sycamore and young spruce present amongst juniper – could lead to shading in the long term.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	present	present	present	present	Present
Comments: Dominated by old and mature juniper					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2990-01A				From track up to SE corner of plantation.
Jun-SD2990-01B				From upper boundary of stand looking to SW corner of plantation
Jun-SD2990-01C				From upper boundary of site looking west over southern sub-stand.

9. Comments (associated flora and fauna, survey / access difficulties?):

Singing birds: stonechat (1), yellowhammer (1), whitethroat (3), redpoll, garden warbler (1), willow warbler, dunnock, wren, chaffinch, cuckoo (>2), tree pipit (4) and wryneck! The latter mobbed by redpoll and other birds and still present on 11/05/2011. Buzzard, peregrine and red kite overhead. Green tiger beetle and green hairstreak at upper boundary of stand.

Trees: Ash, oak, rowan, holly, yew, hawthorn, blackthorn, birch, gorse and sycamore. Mosaic of habitats seem to be regenerating after past heavy grazing. Perhaps few niches for juniper regeneration though.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Torver Back Common	Equiv. L. Ward site (s): None
Site Ref. code: Jun-SD2993-01	Survey date: 30/06/2012 and 14/01/2013 (MD)
Recorder name (s): Peter and Ruth Howlett, H. Corton	Cent. grid ref: SD2941 9382
Valley / area: Coniston	Altitude: 50m – 150m
Aspect: Various	Ownership:

2. Stand area:

- s) Have you changed the boundaries of the stand on the survey map?
N / A
- ll) GPS number and track name / label?
N / A
- mm) Area of sub stands and total area?

Sub stand	A	B	C	D	E	F				Total
Area										19.54ha
Confidence	5	5	5	5	5	5				5

3. Plant numbers and Juniper sub-species?

Ssp...J.c.comm

Sub stand	A	B	C	D	E	F				Total
Count	200	40	172	58	64	64				598
Method	WT	WT	WT	WT	WT	WT				WT
Confidence	M	M	M	M	M	M				M

4. Dominant Vegetation ...Bracken.....

Other habitats / vegetation types present:

<u>acid grassland</u>	wet grassland / rushes
dry heath	<u>wet heath / mire</u>
Limestone grassland	Bracken
Scree	Outcrop / cliff
Limestone scree	Limestone outcrop / cliff
<u>Woodland</u>	

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep Cattle Red Deer Other Roe deer..

Indicators of high grazing / browsing pressure?

There has been little or no regeneration of juniper in many decades. The January visit coincided with the first snow of the winter and browsing of juniper was still patchy at that time, though it was severe and extensive to the south of Long Tarn, where bushes have obviously been heavily browsed for a number of years.

6. Other threats: Sycamore: middle aged tree at SD 29138 93658 (Long Tarn) risks the health of yew, old juniper and recently planted juniper.
Two young sycamores at SD 29175 93730 threaten the health of two yew trees and four old juniper.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	X	present	>90%	X	present
Comments: Little if any juniper regeneration in many decades.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD2993-01A				
Jun-SD2993-01B				

9. Comments (associated flora and fauna, survey / access difficulties?):
Interesting stand of both discrete patches of juniper and isolated individuals, with varied neighbouring habitats. More heavily wooded ground to the north and near the Lake shore has more dense scrub (none-juniper) and bracken, while the higher ground is dominated by grass after many years of bracken control by the only active Commoner. Despite recent planting (150 seedlings planted in 2012), management changes will be required if the stand is to regenerate and survive in the long term.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Long Crag (Coniston)	Equiv. L. Ward site (s):
Site Ref. Code: Jun-SD2998-01	Survey date: 20/10/11
Recorder name (s): M. Douglas, A. Crowe	Cent. grid ref: SD 29816 98335
Valley / area: Coniston	Altitude: 180m – 360m
Aspect: S / SE	Ownership:

2. Stand area:

t) Have you changed the boundaries of the stand on the survey map?

Yes

nn) GPS number and track name / label?

Long Crag A and B

oo) Area of sub stands and total area?

Sub stand	A	B								Total
Area	6.9	3.3								10.2
Confidence	5	5								5

3. Plant numbers and Juniper sub-species?

Ssp comm.....

Sub stand	A	B								Total
Count	1311	845								2156
Method	VP	Photo								VP / photo
Confidence	M	M								M

4. Dominant Vegetation: Acid grassland.....

Other vegetation types present:

acid grassland

dry heath

Limestone grassland

Scree

Limestone scree

wet grassland / rushes

wet heath / mire

Bracken

Outcrop / cliff

Limestone outcrop / cliff

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Grassland dominated by *Nardus stricta* and DSH only present on inaccessible crags. Some juniper shoots browsed but evidence of more severe browsing during previous winters.

6. Other threats: Few sycamore present but no sign of recent regeneration.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
present	present	present	present	None seen	present
Comments: Majority of trees are old and only five seedlings found.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photos filed at: T:\Images\Projects\Wider Countryside\Juniper project\Coniston Coppermines area\Long Crag, Coniston

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
2011-10-21-002jpg	SD 30167 97724	317°		Overview of stand from Ruskin Museum

9. Comments (associated flora and fauna, survey / access difficulties?):

Associated trees: hawthorn, gorse, rowan, oak and sycamore.

Heavily grazed area with few opportunities for juniper regeneration. Winter grazing / browsing appears to be a problem.

Restoration:

This site appears to be heavily stocked with sheep and / or winter grazed. Despite the difficult terrain, there are few seedlings present, and the predominance of old trees suggests that grazing regimes / stocking rates have not allowed regeneration for many decades.

The health and regeneration of juniper here will require reductions in sheep stocking rate, and more off-wintering of livestock. The presence of a handful of seedlings at the site suggests that the stand will regenerate given the correct grazing regime.



Uplands for Juniper Project – Survey Form

1. Site details

Site Name: Broad Hollins, Bethacar	Equiv. L. Ward site (s): Broad Hollins
Site Ref. Code: Jun-SD3091-01	Survey date: 09/07/2012
Recorder name (s): M. Douglas	Cent. grid ref: SD30130 91610
Valley / area: Coniston	Altitude: 100m – 220m
Aspect: 100 degrees	Ownership:

2. Stand area:

u) Have you changed the boundaries of the stand on the survey map?

Yes

pp) GPS number and track name / label?

N / A

qq) Area of sub stands and total area?

Sub stand	A									Total
Area	11.91									11.91
Confidence	5									5

3. Plant numbers and Juniper sub-species?

Ssp...comm.....

Sub stand	A									Total
Count	523									523
Method	VP photo									VP Photo
Confidence	M									M

4. Dominant Vegetation ...bracken.....

Other habitats / vegetation types present:

acid grassland

wet grassland / rushes

dry heath

wet heath / mire

Limestone grassland

Bracken

Scree

Outcrop / cliff

Limestone scree

Limestone outcrop / cliff

Woodland

5. Grazing / browsing (circle appropriate grazing animal)?

Sheep

Cattle

Red Deer

Other

Indicators of high grazing / browsing pressure?

Almost all accessible junipers browsed, some severely, with more than two-thirds of last year's shoots removed. Some browse lining and topiary as a result and one example of bark stripping found. No obvious signs of red deer browsing found.

6. Other threats:

Shading – further down slope junipers dying as a result of shading. Shade bearing trees such as yew and sycamore present.

7. Juniper age:

Estimate Percentage					
seedling	young	mature	old	Ill	Dead
X	present	present	>80%	present	present
Comments: Two young trees present.					

Are fruit bearing trees present? Yes / no

8. Fixed point photography: Insert Grid reference and compass bearing fixed point photos.

Photo label / Number	Grid Ref.	Comp. bearing	Magnification	Description of fixed point
Jun-SD3091-01A	SD29110 91170	60 degrees		View of stand from across the lake.
Jun-SD3091-01B				Sheep browse line on juniper.
Jun-SD3091-01C				Bark stripping at around 1 metre height.

9. Comments (associated flora and fauna, survey / access difficulties?):

Ash, rowan, yew, holly, hazel, birch and sycamore present. Winter grazing appears to be a problem at this site given the shoot removal on junipers. Junipers dying downslope due to shading by tall trees.

Comparison with L. Ward data:

The L. Ward survey of 1973 estimated that there were 2100 junipers at this site. This suggests a decline of 1577 bushes, or 75%, over a forty year period. The earlier survey found that all age classes of juniper were present, though the vast majority were old trees, so the decline may have already begun in the 1970's. The Uplands for Juniper Survey estimated that more than 80% of junipers were old, and did not reveal any seedlings and found only two young trees.

Restoration:

Recent efforts have been made to restore the stand through the planting of 450 (?) seedling junipers. A quick transect of forty trees and protectors revealed that 30% (12 trees) had either been pushed over and browsed back hard, or had disappeared amongst strong growth of grasses or bracken.

The extent and severity of browsing on established trees at this site suggests that planted seedlings will struggle to establish themselves given current grazing regimes. The priority for the restoration of this SSSI juniper stand is therefore to reduce the impact of sheep on and around this site. The key period for the browsing of juniper is outside the growing season, particularly during the winter and into the early spring period before more palatable species have started to grow. Livestock numbers either

need to be reduced or sheep need to be shepherded away from the juniper during this key period. This should prompt natural regeneration, but it should also be a precursor to planting, and to the removal of guards from existing planted seedlings.

Planting:

The level of protection required by planted juniper will depend upon livestock densities and grazing periods around Broad Hollins. Protecting a proportion of planted trees with individual protectors may be required even after the manipulation of stocking densities. Junipers planted in clumps of between ten and fifty trees, with individuals 1.5 m to 3 m apart, should coalesce as they grow to form self-protecting thickets, with more value for invertebrates and feeding and nesting birds than scattered, individual bushes. Carefully selected planting areas should help to strengthen and link existing juniper stands within the common. See the attached map for suggestions of planting locations. These were selected due to their relatively high altitude, relative position to existing stands and ease of maintenance. The proposed areas will also avoid important habitats such as dry heath, wet flushes and mires.