

The nature conservation value of scrub in Britain

Appendix 5.5 Main scrub types and management techniques adopted, ranked in decreasing order of their success.

Key: Lowland, *Upland and lowland*, **Upland**.

BIRCH (<i>Betula</i>)			
ID	Scrub type	Management	Success (5 high, 1 low)
9	Birch (<i>Betula</i>)	Grazing with cattle	5
32	Birch (<i>Betula</i>)/Willow (<i>Salix</i>)	Coppicing	5
163	Birch (<i>Betula</i>)	Application of Krenite	5
163	Birch (<i>Betula</i>)	Raising water levels - quickly during summer	5
162	Birch (<i>Betula</i>) scrub	Weedwiping	5
172	<i>Birch (Betula)</i>	<i>Enhance by expansion and depending on site type enrichment with other site native species. Exclude stock on some sites to allow natural regeneration</i>	4-5
29	Birch (<i>Betula</i>) - heath	Cut - introduce chemical treatment and grazing	4
12	Birch (<i>Betula</i>) /Pine (<i>Pinus</i>)	Mechanical and herbicide	4
35	Birch (<i>Betula</i>) on heathland	Remove using power tools/hand tools followed by pesticide treatments	4
35	Birch (<i>Betula</i>) scrub in woodland	Coppice / thin to promote age diversity and structure	4
9	Birch (<i>Betula</i>)/Scots Pine (<i>Pinus sylvestris</i>)	Cut, treat re-growth, to prevent encroachment and restore heath	4
32	Birch(<i>Betula</i>)/Willow (<i>Salix</i>)	Grazing	4
41	Silver Birch (<i>Betula pendula</i>)	Removal by volunteers to encourage spread of Heather (<i>Calluna vulgaris</i>)(in conjunction with Bracken [<i>Pteridium aquilinum</i>] control)	4
120	Birch (<i>Betula</i>)	Cut and treat to prevent encroachment	4
163	Birch (<i>Betula</i>)	Machine & flail	4
173	<i>Birch (Betula)</i>	<i>Cutting and spraying. Krenite very effective</i>	4
103	Birch (<i>Betula</i>) - upland	Remove any exotic species	4
186	Birch (<i>Betula</i>) and mire edge	Coppicing of scrub/existing trees. Grazing with cattle.	4
191	Birch (<i>Betula</i>) lowland heath	Graze with cattle/ponies to control encroachment	4
162	Birch (<i>Betula</i>) scrub	Spraying	4
175	Birch (<i>Betula</i>)/Alder (<i>Alnus glutinosa</i>)	Cutting followed by chemical treatment	4
132	<i>Birch (Betula)/Elder (Sambucus nigra)/Elm (Ulmus)/non natives</i>	<i>Needs repeating</i>	4
191	Birch (<i>Betula</i>)/Gorse (<i>Ulex</i>) lowland heath	Coppice/remove to control succession/coppice rotation	4
186	Birch (<i>Betula</i>)/Pine (<i>Pinus</i>) on heath	Cut on 5 year rotation. Maintain circa 10% / grazing	4
106	<i>Birch (Betula)/Willow (Salix) scrub</i>	<i>Deer control to encourage natural regeneration</i>	4
129	Birch (<i>Betula</i>)/Willow (<i>Salix</i>) scrub	Flailing/stump treatment	4
124	Upland Birch (<i>Betula</i>)	Clearance to restore moorland	4
107	Upland Birch (<i>Betula</i>)/Willow (<i>Salix</i>)	Heavy deer cull, exclusion of grazing and removal of shading non-native trees	4

19	Birch (<i>Betula</i>)	Uprooting and scraping to subsoil to allow natural regeneration	3-4
9	Birch (<i>Betula</i>)/Scots Pine (<i>Pinus sylvestris</i>)	Allow succession	3
32	Birch (<i>Betula</i>)/Willow (<i>Salix</i>)	Cut and herbicide	3
114	Birch (<i>Betula</i>)	Reduce area to restore wet heath habitat for rare butterfly - too early to judge success	3
146	Birch (<i>Betula</i>)	Felling and treating with herbicide	3
163	Birch (<i>Betula</i>)	Raising water levels - slowly through year	3
159	Birch (<i>Betula</i>) & conifers	Manual cutting and treatment with herbicide - continual cycle	3
105	Birch (<i>Betula</i>) in conifer		3
162	Birch (<i>Betula</i>) scrub	Cut stump treatment (have to go back over areas 70-90% success)	3
171	Birch (<i>Betula</i>) coastal	Cutting/stump/foliar treatment	3
149	Birch (<i>Betula</i>) -conifer	Pulling self seeds, cutting and poisoning.	3
161	W4 (<i>Betula pubescens</i> / <i>Molinia caerulea</i> [Downy Birch/Purple Moor-grass] woodland)	Ponies for ring back more mature scrub	3 not much used yet
162	Birch (<i>Betula</i>) scrub	Uprooting (gave massive disposal problem)	2
6	Birch (<i>Betula</i>)/Oak (<i>Quercus</i>)/Aspen (<i>Populus tremula</i>) - acid grassland	Clearance by saws - without chemicals followed by mowing 1-2 a year	2-3
7	Birch (<i>Betula</i>)/Pine (<i>Pinus</i>) on heathland	Cutting and grazing re-growth	2-3
6	Birch (<i>Betula</i>)/Oak (<i>Quercus</i>) /Aspen (<i>Populus tremula</i>)	Coppicing to produce good bird habitats	too early
106	Birch (<i>Betula</i>)/Willow (<i>Salix</i>) scrub	Cleaning/chemical control to prevent encroachment *but can be difficult to keep on top of situation when covering large areas	

BLACKTHORN (*Prunus spinosa*) (all lowland)

ID	Scrub type	Management	Success (5 high, 1 low)
32	Blackthorn (<i>Prunus spinosa</i>)/Hawthorn (<i>Crataegus monogyna</i>) – lowland	grazing etc.	5
122	Lowland Blackthorn (<i>Prunus spinosa</i>)	Fencing to increase density	5
32	Blackthorn (<i>Prunus spinosa</i>)/Hawthorn (<i>Crataegus monogyna</i>) – lowland	Coppicing / laying	4
134	Blackthorn (<i>Prunus spinosa</i>)	Herbicide	4
121	Blackthorn (<i>Prunus spinosa</i>)	Cutting (coppicing) for benefit of Brown Hairstreaks (<i>Thecla betulae</i>). Cutting to prevent encroachment	4
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Strimming and flailing edges	4 Good for Bramble (<i>Rubus fruticosus</i>) and young scrub but needs repeating
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Cutting and treating cut stems with herbicide. Arisings removed and burnt.	4 Usually some re-growth. Doesn't always go back to desired habitat
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Spraying re-growth with herbicide	4

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13	Blackthorn (<i>Prunus spinosa</i>)	Rotational coppicing over 8 years, 1 block per 2 years to provide dense blackthorn thicket.	3
16	Blackthorn (<i>Prunus spinosa</i>)	Conserve/enhance scrub margins - exclude animals/direct cuts	3
44	Blackthorn(<i>Prunus spinosa</i>)	Patchwork	3
4	Blackthorn (<i>Prunus spinosa</i>) in old orchard	Conserve/enhance scrub margins - exclude animals/direct cuts	3
32	Blackthorn (<i>Prunus spinosa</i>)/Hawthorn (<i>Crataegus monogyna</i>) – lowland	Scalloping etc.	3
10	Lowland Blackthorn (<i>Prunus spinosa</i>)	Layering to maintain new growth on old thorn. Coppicing to maintain clearings and sheltered areas	3
119	Blackthorn (<i>Prunus spinosa</i>) - lowland	Hand cutting and tractor-mounted brushcutter	3
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Machine flailing (cutting) of main blocks and shredding arisings	3 Not used much yet because of steep slopes or problems of leaving or removing arisings
32	Blackthorn (<i>Prunus spinosa</i>)/Hawthorn (<i>Crataegus monogyna</i>) – lowland	Cut and herbicide etc	2
187	Blackthorn(<i>Prunus spinosa</i>)	Chainsaw. No grazing available, so nettles a problem at Fenilford.	2
135	Blackthorn (<i>Prunus spinosa</i>) - lowland	Cutting/topping +/- treatment	2
30	Blackthorn (<i>Prunus spinosa</i>) – coombes	Exclude domestic livestock to encourage natural regeneration - for rotational coppicing	to be started
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Grazing - young scrub	

BRAMBLE (*Rubus fruticosus*)(all lowland)

ID	Scrub type	Management	Success (5 high, 1 low)e
32	Bramble (<i>Rubus fruticosus</i>)	Cutting and flail	4
32	Bramble (<i>Rubus fruticosus</i>)	Grazing	4
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Strimming and flailing edges	4 Good for Bramble (<i>Rubus fruticosus</i>) and young scrub but needs repeating
	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub		
	W24 <i>Rubus fruticosus</i> / <i>Holcus lanatus</i> (Bramble/Yorkshire Fog) underscrub		
32	Bramble (<i>Rubus fruticosus</i>)	Scalloping	3
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Machine flailing (cutting) of main blocks and shredding arisings	3 Not used much yet because of steep slopes or problems of leaving or removing arisings
	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub		
	W24 <i>Rubus fruticosus</i> / <i>Holcus lanatus</i> (Bramble/Yorkshire Fog) underscrub		
161	W24 <i>Rubus fruticosus</i> / <i>Holcus lanatus</i> (Bramble/Yorkshire Fog) underscrub	Weedwiping re-growth - small scattered plants in dune grazed sward	2 Not much used
13	Bramble (<i>Rubus fruticosus</i>)	Digging roots out and flailing to prevent encroachment on grassland	2

45	Bramble (<i>Rubus fruticosus</i>)	Livestock grazing for 'removal'	3-4
161	W22 <i>Prunus spinosa</i> / <i>Rubus fruticosus</i> (Blackthorn/Bramble) scrub	Grazing - young scrub	
	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub		
	W24 <i>Rubus fruticosus</i> / <i>Holcus lanatus</i> (Bramble/Yorkshire Fog) underscrub		

DOGWOOD (*Cornus sanguinea*)(all lowland)

ID	Scrub type	Management	Success (5 high, 1 low)e
115	Dogwood (<i>Cornus sanguinea</i>) - Lowland	Grazing in Summer with Sheep	4
34	Dogwood (<i>Cornus sanguinea</i>)	Revert chalk grassland	3
115	Dogwood (<i>Cornus sanguinea</i>) - Lowland	Chemical. Will be trying different chemicals next year. Have tried no mix system. Chemical brand name is Stirrup-Glyphosate based (no good).	2
115	Dogwood (<i>Cornus sanguinea</i>) - Lowland	Mowing.	1
169	Dogwood (<i>Cornus sanguinea</i>) dominated	Swipe	1
169	Dogwood (<i>Cornus sanguinea</i>) dominated	Weed-wipe	1
169	Dogwood (<i>Cornus sanguinea</i>) dominated	Drott	?

GORSE (*Ulex*)

ID	Scrub type	Management	Success (5 high, 1 low)e
13	Gorse (<i>Ulex</i>)	Coppicing on block rotation (varies in length - dependent upon areas) to regenerate Gorse (<i>Ulex</i>)	5
45	Gorse (<i>Ulex</i>)	Cutting to ground level to allow natural regeneration	5
35	Gorse (<i>Ulex</i>) blocks	Cut on a rotation to provide age diversity	5
173	Gorse (<i>Ulex</i>)	<i>The cutting has worked very well. Would consider burning if it could be controlled</i>	5
130	Gorse (<i>Ulex</i>) Lowland	Flailing/cutting and chemical treatment	5
121	Gorse (<i>Ulex</i>) scrub	Cutting/burning and follow-up grazing where appropriate	5
161	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub	Burning on rotation	5
12	Gorse (<i>Ulex</i>)	Mechanical and herbicide	4
37	Gorse (<i>Ulex</i>)	Removal of Gorse (<i>Ulex</i>) to increase heathland	4
40	Gorse (<i>Ulex</i>)	Coppicing, chemical treatments, grazing	4
29	Gorse (<i>Ulex</i>) - heath	Cut - introduce chemical treatment and grazing	4
120	Gorse (<i>Ulex</i>)	Bburning and/or cutting	4
125	Gorse (<i>Ulex</i>)	Cutting and spraying re-growth	4
172	Gorse (<i>Ulex</i>)	<i>Remove where dominance is limiting desired woodland development. Retain some areas for diversity or where site sensitivities require this habitat type</i>	<i>4 Gorse (<i>Ulex</i>) may continue to spread inhibiting woodland development</i>

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135	Gorse (<i>Ulex</i>) - lowland, Birch (<i>Betula</i>)- lowland	Coppicing for structural diversity	4
191	Gorse (<i>Ulex</i>) and Bramble (<i>Rubus fruticosus</i>) chalk grassland	Remove to conserve scrub habitat/grassland	4
169	Gorse (<i>Ulex</i>) block	Swipe	4
169	Gorse (<i>Ulex</i>) block	Drott	4
174	Gorse (<i>Ulex</i>) lowland	Bulldozing to remove litter and bushes to reinstate chalk heath	4
101	Gorse (<i>Ulex</i>) on magnesian Limestone	Cut, spray re-growth, graze with suckler cows	4
160	Gorse (<i>Ulex</i>) /Birch (<i>Betula</i>)/Willow (<i>Salix</i>)	Cutting, stump treatment to remove cutting on rotation and grazing	4
161	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub	Strimming and flailing edges	4 Good for Bramble (<i>Rubus fruticosus</i>) and young scrub but needs repeating
161	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub	Burning and if possible aftermath grazing (and removal of above ground remains)	4 Needs to be followed up by cattle grazing to deal
26	Gorse (<i>Ulex</i>) on lowland heath	Coppicing to reduce fire risk	3
129	Gorse (<i>Ulex</i>)	Cutting to promote structural diversity/scarification after bracken control	3
167	<i>Gorse (Ulex)</i>	<i>Rotational cutting/burning</i>	3
104	Gorse (<i>Ulex</i>)		3
119	Gorse (<i>Ulex</i>) – lowland	Hand cutting and tractor-mounted brushcutter	3
119	Gorse (<i>Ulex</i>) – upland	Hand cutting and tractor-mounted brushcutter	3
134	Gorse (<i>Ulex</i>) etc.	Cutting - ongoing	3
132	<i>Gorse (Ulex), Broom (Cytisus scoparius)</i>	<i>Planting - expensive, not always successful. Natural regeneration - great if it works, but variable.</i>	3
161	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub	Machine flailing (cutting) of main blocks and shredding arisings	3 Not used much yet because of steep slopes or problems of leaving or removing arisings
161	W23 <i>Ulex europaeus</i> / <i>Rubus fruticosus</i> (Gorse/Bramble) scrub	Rotational Coppicing	3 (Expensive no marketable produce)
191	Gorse (<i>Ulex</i>) and Bramble (<i>Rubus fruticosus</i>) chalk grassland	Graze with cattle and sheep.	2
174	Gorse (<i>Ulex</i>) lowland	Cutting, clearing and burning to recover chalk grassland	2
124	Gorse (<i>Ulex</i>)	Burning to maintain scrub/grass mosaics	1
156	Gorse (<i>Ulex</i>)	Reduce area and prevent encroachment by manual, mechanical means and treat	2-3
112	Gorse (<i>Ulex</i>) on heaths	Burning - some accidental, some deliberate. Success very variable - best if grazed after	1-5
154	<i>Gorse (Ulex)</i>	<i>Manual coppicing to provide variety of structure and encourage breeding birds</i>	

147	Gorse <i>U.europaeas/ U.gallii</i>	Cut stems treated with herbicide. Strim and burn	Used by dead wood inverts and song/hunting perches.
118	Gorse (<i>Ulex</i>) control	<i>In progress - cutting and use of herbicides - some potential problems with regeneration of gorse</i>	
161	W23 <i>Ulex europaeus/Rubus fruticosus</i> (Gorse/Bramble) scrub	Grazing - young scrub	
184	Western Gorse (<i>Ulex gallii</i>)	<i>Ideally a couple of small exclosures for a few years (haven't done it yet)</i>	

HAWTHORN (*Crataegus monogyna*)

ID	Scrub type	Management	Success (5 high, 1 low)
27	Hawthorn (<i>Crataegus monogyna</i>) – lowland	Coppice to prevent encroachment into grassland	5
27	Hawthorn (<i>Crataegus monogyna</i>) – lowland	Coppicing to prevent succession to woodland	5
45	Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) - lowland	Scalloping and ride creation for structural and age diversity	5
39	mainly Hawthorn (<i>Crataegus monogyna</i>)	Excavator technique	5
125	Hawthorn (<i>Crataegus monogyna</i>)	Grubbing out	5
129	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Periodic flailing/coppicing to promote structural diversity/exclusion of rabbits	5
115	Hawthorn (<i>Crataegus monogyna</i>) - lowland grassland	Remove: Chemical treat in summer with no mix lance system. Glyphosate based.	5
115	Hawthorn (<i>Crataegus monogyna</i>) - lowland grassland	Conserve: Fence out grazing stock	5
115	Hawthorn (<i>Crataegus monogyna</i>) - lowland grassland	Enhance: Coppice	5
177	Hawthorn (<i>Crataegus monogyna</i>) - neutral grassland	Only carried out where an appropriate grassland management regime can be introduced	5
157	Hawthorn (<i>Crataegus monogyna</i>) on lowland grassland	Coppicing of selected areas to increase age diversity	5
160	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)/Dogwood (<i>Cornus sanguinea</i>)/Elder (<i>Sambucus nigra</i>)	Cutting to remove to extend areas of chalk grassland and grazing	5
14	Hawthorn (<i>Crataegus monogyna</i>)	Coppicing, uprooting	4
29	Hawthorn (<i>Crataegus monogyna</i>) - chalk downland	Cut - introduce grazing	4
4	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Grazing	4
20	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Goat and Hebridean sheep browsing to reverse encroachment	4
22	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Coppice, scallop	4
45	Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) - lowland	Full removal and grazing to create chalk grassland areas	4
41	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)	Removal by contractors and volunteers to encourage spread of chalk grassland habitat	4
41	Hawthorn (<i>Crataegus monogyna</i>) /Blackthorn (<i>Prunus spinosa</i>) on chalk grassland	Limited control of spread using sheep to graze land	4
8	Hawthorn (<i>Crataegus monogyna</i>)/Dogrose (<i>Rosa canina</i>)	Marginal diversification by coppicing, or allowing spread then coppicing	4

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48	Hawthorn (<i>Crataegus monogyna</i>)/Willow (<i>Salix</i>)	Remove most scrub and graze subsequently	4
39	mainly Hawthorn (<i>Crataegus monogyna</i>)	Sheep grazing (especially upland breeds)	4
39	mainly Hawthorn (<i>Crataegus monogyna</i>)	Amcide	4
152	Hawthorn (<i>Crataegus monogyna</i>)	Cut/clear/chemically treat	4
158	Hawthorn <i>Crataegus monogyna</i>)	Divided blocks of scrub up and devised annual cutting programme - a % at a time.	4
131	Hawthorn (<i>Crataegus monogyna</i>)	Cut/swipe/herbicide to return to chalk grassland	4
137	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Cut and treat/grazing to halt encroachment	4
128	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Cutting by tractor or by hand	4
115	Hawthorn (<i>Crataegus monogyna</i>) - lowland grassland	Remove: Cut and treat stumps	4
125	Hawthorn (<i>Crataegus monogyna</i>) in chalk grassland	<i>Sswiping (essentially fairly frequent cutting)</i>	4
116	Hawthorn (<i>Crataegus monogyna</i>) in parkland	Plant with protection, or reduce grazing	4
168	Hawthorn (<i>Crataegus monogyna</i>) lowland	Cut - treat cut stumps - burn out material at suitable location - graze	4
187	Hawthorn (<i>Crataegus monogyna</i>) mix	Chainsaw clearance with stump treatment	4
166	Hawthorn (<i>Crataegus monogyna</i>) on limestone grass	Cutting/stump treatment	4
166	Hawthorn (<i>Crataegus monogyna</i>) on limestone grass	Maintain matrix of scrub, butterfly glades on limestone grassland	4
166	Hawthorn (<i>Crataegus monogyna</i>) on neutral grass	Cutting/stump treatment	4
116	Hawthorn (<i>Crataegus monogyna</i>) on upland grassland	Plant with protection, or reduce grazing	4
142	Hawthorn(<i>Crataegus monogyna</i>) /Blackthorn (<i>Prunus spinosa</i>) – lowland	Cutting and treatment/grazing	4
142	Hawthorn (<i>Crataegus monogyna</i>)/Bramble (<i>Rubus fruticosus</i>) – lowland	Periodic/rotational cutting/coppicing	4
149	Hawthorn(<i>Crataegus monogyna</i>) – Gorse (<i>Ulex</i>)	<i>Grazing - still embryonic</i>	4
184	Daleside Hawthorn (<i>Crataegus monogyna</i>)	<i>Removal</i>	4
179	Lowland Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>) and mixed calcareous	Coppicing to create variety of successional Stages and structures	4
179	Lowland Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>) and mixed calcareous	Layering to provide/enhance structures	4
105	Thorn & similar	Limited action required	4
161	W21 <i>Crataegus monogyna</i> /Hedera helix (Hawthorn/Ivy) scrub	Low density grazing	4 (problem of succession to woodland)
161	W21 <i>Crataegus monogyna</i> /Hedera helix (Hawthorn/Ivy) scrub	Strimming and flailing edges	4 Good for Bramble (<i>Rubus fruticosus</i>) and young scrub but needs repeating
161	W21 <i>Crataegus monogyna</i> /Hedera helix (Hawthorn/Ivy) scrub	Cutting and treating cut stems with herbicide. Arisings removed and burnt.	4 Usually some re-growth. Doesn't always go back to desired habitat

14	Hawthorn (<i>Crataegus monogyna</i>)	Coppicing	3
34	Hawthorn(<i>Crataegus monogyna</i>)	Revert chalk grassland	3
6	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Coppicing to produce invertebrate/bird habitat	3 (early)
20	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Fence to prevent stock access	3
20	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Coppice and scallop edges (prejudiced by excessive Rabbit [<i>Oryctolagus cuniculus</i>] populations in places)	3
20	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Cut and remove	3
48	Hawthorn (<i>Crataegus monogyna</i>)/Bramble (<i>Rubus fruticosus</i>)	Allow natural regeneration on derelict land	3
8	Hawthorn (<i>Crataegus monogyna</i>)/Dogrose (<i>Rosa canina</i>)	Selective clearance and rotational mowing and stump treatment - to conserve calcareous grassland	3
146	Hawthorn (<i>Crataegus monogyna</i>)	Coppicing and treating	3
167	Hawthorn (<i>Crataegus monogyna</i>)	<i>Non intervention</i>	3
187	Hawthorn (<i>Crataegus monogyna</i>)	Coppicing	3
177	Hawthorn(<i>Crataegus monogyna</i>) - acid grassland	Ongoing works to remove scrub will only be ultimately successful if grazing restored	3
145	Hawthorn (<i>Crataegus monogyna</i>) - lowland	Cutting on rotation to diversify structure and maintain present extent	3
119	Hawthorn (<i>Crataegus monogyna</i>) - lowland grassland	Hand cutting and tractor-mounted brushcutter	3
101	Hawthorn (<i>Crataegus monogyna</i>) - magnesian limestone	Cut to vary age structure	3
102	Hawthorn (<i>Crataegus monogyna</i>) on upland grassland	Modification of grazing levels to encourage regeneration	3
124	Hawthorn (<i>Crataegus monogyna</i>) on upland grassland	Clearance to restore grassland habitat and mosaics	3
122	Hawthorn (<i>Crataegus monogyna</i>) upland	Fencing to allow regeneration	3
191	Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>), Hazel (<i>Corylus avellana</i>), chalk grassland	Can save existing scrub by coppicing	3
172	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)	<i>Exclude livestock and allow natural regeneration. Cut where dominance is limiting site conservation interest</i>	<i>3 Eventual development into woodland, or held in check by cutting</i>
142	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)– lowland	Periodic/rotational cutting/coppicing	3
132	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)/Willow (<i>Salix</i>)/ Hazel (<i>Corylus avellana</i>)	<i>Can be limited by age of plants (low vigour) and grazing (rabbits and deer)</i>	<i>3</i>
176	Hawthorn (<i>Crataegus monogyna</i>)/Bramble (<i>Rubus fruticosus</i>)	Cutting and treating stump / grazing	3
142	Hawthorn (<i>Crataegus monogyna</i>)/Bramble (<i>Rubus fruticosus</i>)– lowland	Cutting and treatment	3
149	Hawthorn (<i>Crataegus monogyna</i>)-Birch (<i>Betula</i>) –Gorse (<i>Ulex</i>)	<i>Cutting and poisoning</i>	<i>3</i>
184	Daleside Hawthorn (<i>Crataegus monogyna</i>)	<i>Conserve/enhance</i>	<i>3</i>
176	Ditch with Hawthorn (<i>Crataegus monogyna</i>) and other	Cutting or remove stump	3

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161	W21 <i>Crataegus monogyna</i> / <i>Hedera helix</i> (Hawthorn/Ivy) scrub	Machine flailing (cutting) of main blocks and shredding arisings	3 Not used much yet because of steep slopes or problems of leaving or removing arisings
161	W21 <i>Crataegus monogyna</i> / <i>Hedera helix</i> (Hawthorn/Ivy) scrub	Rotational Coppicing	3 (Expensive no marketable produce)
44	Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>)	Prevent encroachment/reclaim grass	2
155	Hawthorn (<i>Crataegus monogyna</i>)	Graze: stop invasion of grassland	moderate 2
155	Hawthorn (<i>Crataegus monogyna</i>)	Cut then graze invasion of grassland	Poor 2
177	Hawthorn (<i>Crataegus monogyna</i>) - wetland	Ongoing works to remove scrub will only be ultimately successful if grazing restored	2
116	Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in lowland grassland.	Cut or increase grazing	2
122	Hawthorn (<i>Crataegus monogyna</i>) lowland	Cutting and stump treating	2
187	Hawthorn (<i>Crataegus monogyna</i>) mix	Chainsaw clearance without stump treatment	2
168	Hawthorn (<i>Crataegus monogyna</i>) upland	Cut - treat cut stumps - burn out material at suitable location - graze	2
161	W21 <i>Crataegus monogyna</i> / <i>Hedera helix</i> (Hawthorn/Ivy) scrub	Juniper - no grazing (see 15b)	2
161	W21 <i>Crataegus monogyna</i> / <i>Hedera helix</i> (Hawthorn/Ivy) scrub	Weedwiping re-growth - small scattered plants in dune grazed sward	2 Not much used
154	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>) on limestone grassland	Pony grazing	1 We are therefore going to change to sheep/goats
4	Hawthorn (<i>Crataegus monogyna</i>) – lowland	Cutting, treatment	2-3
144	Hawthorn (<i>Crataegus monogyna</i>) on lowland grassland	Cutting/herbicide treatment	3-4
158	Hawthorn (<i>Crataegus monogyna</i>), Dogwood (<i>Cornus sanguinea</i>) Mixed Southern	Depending on size cutting scrub, treating stumps, or smaller stuff especially Dogwood (<i>Cornus sanguinea</i>), spray re-growth	2-3
158	Hawthorn (<i>Crataegus monogyna</i>)/mixed southern scrub	Cutting of scrub - some to re-grow, otherwise stumps treated, and grazing of unit	3-4
146	Hawthorn(<i>Crataegus monogyna</i>)	Coppicing and aftermath grazing	1-4
184	Woodland edge – Hawthorn (<i>Crataegus monogyna</i>)	Exclosure of grassland adjacent to woodland, subsequent removal once scrub developed to maintain by casual browsing/occasional cutting	Early stages - 5
30	Hawthorn (<i>Crataegus monogyna</i>) coombes	Exclude domestic livestock to encourage natural regeneration - for rotational coppicing	to be started
155	Hawthorn (<i>Crataegus monogyna</i>)	Cut and treat invasion of grassland	Fair 3+
157	Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)– lowland	Yet to see results of coppicing (for enhancement) or flailing (for control)	
179	Lowland Hawthorn (<i>Crataegus monogyna</i>), Blackthorn (<i>Prunus spinosa</i>) and mixed calcareous	Layering to provide Black Hairstreak (<i>Strymonidia prunii</i>) habitat	? 1 - colonization seems very slow
161	W21 <i>Crataegus monogyna</i> / <i>Hedera helix</i> (Hawthorn/Ivy) scrub	Grazing - young scrub	

HAZEL (<i>Corylus avellana</i>)			
ID	Scrub type	Management	Success (5 high, 1 low)e
112	Hazel (<i>Corylus avellana</i>) etc. on geological site	Complete removal with JCB, including soil stripping	5
107	Hazel (<i>Corylus avellana</i>)	Heavy deer cull and exclusion of grazing and removal of shading non-natives	4
172	Hazel(<i>Corylus avellana</i>)	Exclude or limit grazing, possibly enrich with site native tree species. Expand if possible through layering or natural regeneration	4 Management depends on a number of site factors and species present
184	Hazel (<i>Corylus avellana</i>) retrogressive scrub	Cyclical cutting to maintain mosaics of structure and with grassland	4
121	Hazel (<i>Corylus avellana</i>)/Bramble (<i>Rubus fruticosus</i>)	Coppicing to promote re-growth in woodlands. Clearance to allow regeneration	4
103	Hazel <i>Corylus avellana</i> - upland	Remove any exotic spp.	3
152	Hazel (<i>Corylus avellana</i>)	Cut/clear/winch	3-4
JUNIPER (<i>Juniperus</i>)			
ID	Scrub type	Management	Success (5 high, 1 low)e
5	Juniper(<i>Juniperus</i>)	Stock grazing, digging scrapers for germination and careful management of protective light scrub manually work well if care is taken	4
115	Juniper (<i>Juniperus</i>) - Lowland	Enhance: Cut down scrub shadowing Juniper (<i>Juniperus</i>)	4
107	Juniper(<i>Juniperus</i>)	Heavy deer cull and exclusion of grazing and removal of shading non-natives	3
182	Juniper(<i>Juniperus</i>)	Protecting young, raised plants from grazing	2
102	Juniper(<i>Juniperus</i>)	Modification of grazing levels	2
104	Juniper(<i>Juniperus</i>)		2
115	Juniper (<i>Juniperus</i>) - Lowland	Expand area: Graze grassland and clear scrub (climate plays big part in germination so out of our control)	2
MIXED SCRUB (all lowland)			
ID	Scrub type	Management	Success (5 high, 1 low)e
174	Mixed deciduous on chalk grassland	Cutting, clearing, burning and treatment of stumps to recover chalk grassland	5 (with stump treatment) 3 (without stump treatment)
22	Mixed lowland	Cut - treat - burn - graze, prevent encroachment	5
22	Mixed lowland	Cut - treat - burn - graze, removal	5
22	Mixed lowland	Island creation - improve age/structure diversity	5
24	Mixed scrub	(1) Cut to ground level with clearing saw/chainsaw and burn (2) Stumps <15cm treat with herbicide (Grazon 90). (3) Stumps >15 cm stump grind and back fill material. (4) Annual mowing (3 cuts per year) with tractor rotary mower until desired heathland vegetation restored.	5

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174	Mixed deciduous and Gorse (<i>Ulex</i>) lowland	Use of goats and ponies to browse out and control re-growth from cut stumps	5
150	Mixed Gorse (<i>Ulex</i>), Hawthorn (<i>Crataegus</i>), Willow (<i>Salix</i>)	Regular cutting	5
169	Mixed scrub blocks	Coppice on rotation	5
102	Mixed species scrub (lowland)	Cutting followed by grazing	5
5	Lowland mixed thorn, Viburnum (<i>Viburnum</i>) etc.	Grazing, cutting, mowing, rooting out all successful if carefully applied to specific conditions	4
9	Mixed deciduous lowland grassland	Coppice on rotation to retain 'edge'	4
51	Mixed lowland	Removal of encroaching tree species	4
24	Mixed scrub	Complete coppicing of existing scrub and allowing regeneration of cut stumps	4
24	Mixed scrub	(1) annual mowing with tractor rotary mower. (2) three year scrub removal in building/mature Heather (<i>Calluna vulgaris</i>). (3) rotational grazing with Exmoor ponies	4
42	Mixed scrub – woodland fringe	Remove scrub	4
42	Mixed species chalk grassland	Cut scrub, spray and graze	4
135	Mixed - lowland, Gorse (<i>Ulex</i>) – lowland, Birch (<i>Betula</i>) - lowland, Sallow (<i>Salix</i>) – lowland	Cutting/topping +/- treatment	4
174	Mixed deciduous Hawthorn (<i>Crataegus monogyna</i>) lowland	Coppicing, periodic cutting of scrub boundary. Control of invasive spp. e.g. Sycamore (<i>Acer pseudoplatanus</i>). Coppicing to create range of age structures	4
150	Mixed Gorse (<i>Ulex</i>), Hawthorn (<i>Crataegus monogyna</i>), Willow (<i>Salix</i>)	Cutting and treatment	4
148	Mixed native broadleaf	Maintain and enhance to allow succession	4
148	Mixed native broadleaf	Remove to allow conifer growth	4
128	Mixed woodland edge		4
51	Mixed lowland	Coppicing	3
24	Mixed scrub	Selective coppicing of existing scrub and allowing regeneration of cut stumps.	3
42	Mixed species chalk grassland	Cut scrub, spray, mow	3
179	Lowland mixed including Gorse (<i>Ulex</i>)	Grazing to produce short scrub/grass mosaics	3
135	Mixed – lowland,	Coppicing for structural diversity	3
40	Mixed lowland Hawthorn (<i>Crataegus monogyna</i>)/Blackthorn (<i>Prunus spinosa</i>)	Coppicing, flailing/chemical, grazing	3-5
125	Mixed scrub in chalk grassland	Cutting to base. Stump treatment	too early
125	Mixed scrub in grassland	Cut to base spray re-growth	too early

RHODODENDRON (<i>Rhododendron ponticum</i>)			
ID	Scrub type	Management	Success (5 high, 1 low)e
191	Rhododendron (<i>Rhododendron ponticum</i>) lowland heath	Remove using tracked machine	5
37	Rhododendron (<i>Rhododendron ponticum</i>)	Removal of Rhododendron (<i>Rhododendron ponticum</i>) to increase heathland	4
4	Rhododendron (<i>Rhododendron ponticum</i>) - woodland	Cutting, treatment	4
104	Rhododendron (<i>Rhododendron ponticum</i>)		4
175	Rhododendron (<i>Rhododendron ponticum</i>)	Cutting followed by chemical treatment	4
191	Rhododendron (<i>Rhododendron ponticum</i>) lowland heath	Remove using chainsaw	4
7	Rhododendron (<i>Rhododendron ponticum</i>) in woods and heaths	Cutting/burning/stump treatment	3
172	<i>Rhododendron (Rhododendron ponticum)</i>	<i>Remove and treat with herbicide</i>	<i>3 Success varies with site type and thoroughness of treatment. Areas re-infested from outside seed sources.</i>
29	Rhododendron (<i>Rhododendron ponticum</i>) – woodland	Cut - chemical treatment	2

SEA-BUCKTHORN (<i>Hippophae rhamnoides</i>)(all lowland)			
ID	Scrub type	Management	Success (5 high, 1 low)e
170	Sea-buckthorn(<i>Hippophae rhamnoides</i>)/ Hawthorn (<i>Crataegus monogyna</i>)/Elder (<i>Sambucus nigra</i>)	Grazing	4
113	Sea-buckthorn (<i>Hippophae rhamnoides</i>) -dunes	Cut and stump treatment	4
170	Sea-buckthorn (<i>Hippophae rhamnoides</i>)/ Hawthorn (<i>Crataegus monogyna</i>)/Elder (<i>Sambucus nigra</i>)	Felling by chainsaw	3
153	Sea-buckthorn (<i>Hippophae rhamnoides</i>) on coastal grassland	Cutting, pulling to reduce area	2
154	Sea-buckthorn (<i>Hippophae rhamnoides</i>) on dunes	Manual control and herbicide	1 We are therefore going to reintroduce grazing
170	Sea-buckthorn (<i>Hippophae rhamnoides</i>)/ Hawthorn (<i>Crataegus monogyna</i>)/Elder (<i>Sambucus nigra</i>)	Hand cutting/pulling	1

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WILLOW (<i>Salix</i>)			
ID	Scrub type	Management	Success (5 high, 1 low)
35	Willow (<i>Salix</i>) blocks	Continue a scheme of rotational coppicing	5
160	Willow (<i>Salix</i>)	Cutting and stump treatment to remove coppice to rejuvenate	5
187	Willow (<i>Salix</i>)	Bulldoze with haycut/grazing provided open conditions for reappearance rare Fen Violets (<i>Viola persicifolia</i>) at Otmoor.	5
160	Willow (<i>Salix</i>) /Birch (<i>Betula</i>)/Alder (<i>Alnus glutinosa</i>)	Cut to remove and stump treat. coppice	5
161	W1 <i>alix cinerea</i> /Galium <i>palustre</i> (Grey Willow/Common Marsh- bedstraw) woodland	Pulling out	5
178	Sallow (<i>Salix</i>) in fens	Clear by machine	5
171	Sallow (<i>Salix</i>) -fen	Coppicing woodland/fen transition	5
8	Willow (<i>Salix</i>)	Hebridean sheep	4
12	Willow (<i>Salix</i>)	Mechanical and herbicide	4
13	Willow (<i>Salix</i>)	Coppicing of Willow on block rotation to increase diversity of ground flora.	4
103	Willow (<i>Salix</i>) - upland	Exclude domestic livestock, control deer numbers	4
168	Willow (<i>Salix</i>) lowland	Cut - treat cut stumps - burn out material at suitable location - graze	4
165	Willow (<i>Salix</i>) scrub	cutting and stump treatment	4
182	Willow (<i>Salix</i>)/Alder (<i>Alnus glutinosa</i>)	Rotational coppicing, clearance from good quality fen	4
113	Willow/(<i>Salix</i>)/Alder (<i>Alnus glutinosa</i>)- wetlands	Cut and stump treatment	4
113	Willow (<i>Salix</i>)/Birch (<i>Betula</i>) - dunes	Cut and stump treatment	4
113	Willow (<i>Salix</i>) Birch (<i>Betula</i>)- dunes	Goat browsing	4
183	Sallow (<i>Salix</i>) /Alder (<i>Alnus glutinosa</i>)	Grazing, Cutting	4
13	Willow (<i>Salix</i>)	Removal of Willow from reedbed	3
37	Willow (<i>Salix</i>)	Removal of Willow in parts to prevent silting	3
120	Willow (<i>Salix</i>)	Cut or cut and treat to enhance or remove	3
129	Willow (<i>Salix</i>)	Cutting/stump treatment	3
124	Moorland Willow (<i>Salix</i>)	Fencing to allow regeneration and better structure	3
116	Remove Willow (<i>Salix</i>)/Birch (<i>Betula</i>) in peatland	Cut and/or poison	3
178	Sallow (<i>Salix</i>) in fens	Cut/treat stumps	3
171	Sallow (<i>Salix</i>) -fen	Cutting/stump treatment	3 (very labour intensive)
146	Willow (<i>Salix</i>)	Coppicing and raising water levels	2
146	Willow (<i>Salix</i>)	Coppicing and aftermath grazing	2
176	Willow (<i>Salix</i>)	cutting	2
104	Willow (<i>Salix</i>) – upland		2
122	Willow (<i>Salix</i>) lakeside	Thinning, removing large bushes/trees	2
7	Willow (<i>Salix</i>), grass/fell/ditches	Cutting/burning/stump treatment	4-5
152	Willow (<i>Salix</i>)	Cut/clear/chemically treat	2-3

152	Willow (<i>Salix</i>)	Cut/clear/winch	3-4
112	Willow (<i>Salix</i>) and Alder (<i>Alnus glutinosa</i>) on wetland	Cutting - often very low success rates unless grazed or herbicided	1-3
147	Willow (<i>Salix</i>)/Alder (<i>Alnus glutinosa</i>)/Birch (<i>Betula</i>) on Fen/heath	Stem injection using vertical notch and herbicide injection using Glyphosate. Less disturbance to fen surface.	Best method no disturbance less time and money dead trees still used
147	Willow (<i>Salix</i>)/Birch (<i>Betula</i>)/Alder (<i>Alnus glutinosa</i>) on Fen/heath	Excavation by tracked excavator. Scrub carried off site and burnt and this causes disturbance - Ideal nursery for more trees.	Good but have to follow up with sapling pulling
147	Willow (<i>Salix</i>)/Birch (<i>Betula</i>)/Alder (<i>Alnus glutinosa</i>) on Fen/Heath	cutting with bow saws/chainsaws cut stumps painted with paintbrush with Glyphosate. Willow stems have to move to try areas.	Good but takes time and money.
178	Sallow (<i>Salix</i>) in fens	Cut	
171	Sallow (<i>Salix</i>) -fen	Large-scale mechanical removal	?