

TABLE 1: EAST MIDLANDS REGIONAL CONSERVATION STRATEGY PRIORITY BUTTERFLIES

Common Name	Scientific Name	Ecological classification	1 km squares occupied in East Midlands (2005-2014)	Regional occupancy (% occupied 1km squares 2005-14)	Regional distribution trend (1990-2014) (* P<0.05; ** p<0.01; *** p<0.001)	Regional population trend (1990-2016) (* P<0.05; ** p<0.01; *** p<0.001)	GB Red List	W & C Act Schedule 5	UK BAP	England NERC s41	EU Red List	EU Habitats Directive Annex	Cons. Habitats & Species Regs.	BC UK Threat Priority 1997	BC UK Threat Priority 2005	BC UK Threat Priority 2016	BC UK Conservation Priority 2016	East Midlands RAP 2000	East Midlands RCS Threat Priority 2016-25	East Midlands RCS Conservation Priority 2016-25
Dingy Skipper	<i>Erynnis tages</i>	HS	276	2.06	231***		VU		X	X				L	H	H	B	M	H	A
Grizzled Skipper	<i>Pyrgus malvae</i>	HS	97	0.72	16		VU		X	X				M	H	H	B	H	H	A
Grayling	<i>Hipparchia semele</i>	HS	24	0.18			VU		X	X				L	H	H	B	M	H	A
Duke of Burgundy	<i>Hamearis lucina</i>	HS	2	0.01			EN	P	X	X				M	H	H	A	H	H	A
Large Heath	<i>Coenonympha tullia</i>	HS	4	0.03			VU	P	X	X	VU			M	H	H	B	H	H	B
Brown Hairstreak	<i>Thecla betulae</i>	HS	28	0.21			VU	P	X	X				M	H	M	C	H	H	B
White-letter Hairstreak	<i>Satyrion w-album</i>	WCS	252	1.88	-62**		EN	P	X	X				M	H	H	C	M	H	B
Black Hairstreak	<i>Satyrion pruni</i>	HS	7	0.05			EN	P						M	M	H	C	H	H	B
Wall	<i>Lasiommata megera</i>	WCS	461	3.44	-92***	-94***	NT		X	X				L	H	H	R		M	C
Small Heath	<i>Coenonympha pamphilus</i>	WCS	715	5.33	-63***	-61***	NT		X	X				L	H	H	R		M	C
Silver-washed Fritillary	<i>Argynnis paphia</i>	HS	80	0.60										L	L	L		M	M	C
Dark Green Fritillary	<i>Argynnis aglaja</i>	HS	68	0.51										L	M	M		M	M	C
White Admiral	<i>Limenitis camilla</i>	HS	84	0.63	-17		VU		X	X				L	H	H	C	M	M	C
Green Hairstreak	<i>Callophrys rubi</i>	HS	100	0.75	43									L	M	M		M	M	C
Small Blue	<i>Cupido minimus</i>	HS					NT	P	X	X				M	H	M	C	H	M	C
Chequered Skipper	<i>Carterocephalus palaemon</i>	HS						P	X	X				H	H	H	B	HER	L	
Wood White	<i>Leptidea sinapis</i>	HS	1	0.01				P	X	X				M	M	H	A	H	L	
Purple Emperor	<i>Apatura iris</i>	HS	1	0.01				P											L	
Marsh Fritillary	<i>Eurodryas aurinia</i>	HS	3	0.02				F	X	X	VU	2		H	H	H	A	HER	L	
Small Pearl-bordered Fritillary	<i>Boloria selene</i>	HS							X	X				M	H	H	B	EMR	L	
Brown Argus	<i>Aricia agestis</i>	WCS	621	4.63	283***									L	L	L			L	

**Ecological classification:** HS = Habitat Specialist; WCS = Wider Countryside Species.  
**Distribution and population trends:** Red = meets criteria for High Priority status; Yellow = meets criteria for Medium Priority status. Note for some species timeline for calculating population trend is shorter than maximum 1990-2016.  
**GB Red List status:** CR = Critically Endangered; EN = Endangered; VU = Vulnerable; NT = Near Threatened.  
**Wildlife and Countryside Act (1981) status:** F = full protection; P = partial protection (sale only).  
**UK BAP and national legislative conservation status:** X = listed; E? = probably extinct.  
**BC UK Threat Priority:** H = High Priority; M = Medium Priority; L = Low Priority; R = Research.  
**BC UK Conservation Priority:** A = Action urgent across UK range; B = Action necessary in parts of UK range; C = Action necessary in parts of UK range but less urgent.  
**Regional Action Plan (RAP) Priority:** H = High Priority; M = Medium Priority; HER = Extinct High Priority Species to the Region;  
 EMR = Extinct Medium Priority Species Restored to the Region.  
**Regional Conservation Strategy (RCS) Threat Priority:** H = High Priority; M = Medium Priority; L = Low Priority.  
**Regional Conservation Strategy (RCS) Conservation Priority:** A = Action urgent across all occupied landscapes/sites; B = Action necessary in some occupied landscapes/sites; C = Action less urgent regionally but may be necessary in some landscapes/sites.

**Explanation of proposed changes:**  
 Dingy Skipper: Loss of key brownfield sites to development and natural succession.  
 Chequered Skipper: Reintroduction to Bardney Limewoods failed.  
 Wood White: No longer present in the region. Introductions to Lincolnshire (Bardney Limewoods) and Derbyshire (Whitwell Wood) have failed to establish breeding populations. No longer present in Leicestershire (Leire Cutting).  
 Wall: Ongoing decline; restricted to <10 sites in East Midlands Branch; more or less restricted to coastal sites in Lincolnshire.  
 Grayling: Restricted to Scunthorpe Warrens; conservation status uncertain.  
 Small Heath: Ongoing decline; restricted distribution.  
 White-letter Hairstreak: Ongoing decline due Dutch Elm Disease.  
 Black Hairstreak: No change in priority; persists at Luffenham Golf Course; introduced to Bardney Limewoods.  
 Small Blue: Extinct in the Peak District. Possible candidate for re/introduction.  
 Marsh Fritillary: Introduced to Bardney Limewoods & Moor Farm and Kirkby Moor.  
 Small Pearl-bordered Fritillary: No longer present in the region. Introductions to Lincolnshire (Bardney Limewoods) and Derbyshire  
 Dark Green Fritillary: No change in priority. Recently re-colonised Robert's Field LWT reserve.  
 Purple Emperor: Established in Nottinghamshire (Cotgrave Forest) but provenance unclear; recently established in several Lincolnshire woods.  
 Brown Argus: Peak District race of regional interest.

TABLE 2: EAST MIDLANDS REGIONAL CONSERVATION STRATEGY PRIORITY MOTHS

Common Name	Scientific Name	ABH No.	B & F No.	W & C Act Schedule 5	UK BAP	England NERC s41	EU Habitats Directive Annex	Cons. Habitats & Species Regs.	BC Threat Priority 2016	BC Conservation Priority 2016	East Midlands RAP 2000	Lincolnshire 2016	Derbyshire 2016	Nottinghamshire 2016	Leicestershire 2016	East Midlands RCS Threat Priority 2016-25	East Midlands RCS Conservation Priority 2016-25	Comment
	<i>Gelechia hippohaella</i>	35.104	805									P				H	A	
Goat Moth	<i>Cossus cossus</i>	50.001	162		X	X			H	C	M	P		P	E	H	A	
Welsh Clearwing	<i>Synanthedon scoliaeformis</i>	52.005	376						H	B				P		H	A	Sherwood Forest only
Forester	<i>Adscita stances</i>	54.002	163		X	X			H	B		P	P	P	P	H	A	
	<i>Gymnancyla canella</i>	62.043	1464									P				H	A	
Small Eggar	<i>Eriogaster lanestris</i>	66.005	1633								M	P		P		H	A	
Broad-bordered Bee Hawk-moth	<i>Hemaris fuciformis</i>	69.009	1983								M	P	P?	P		H	A	
Chalk Carpet	<i>Scotopteryx bipunctaria</i>	70.043	1731		X	X			H	C	H		P		E	H	A	
Argent and Sable	<i>Rheumaptera hastata</i>	70.120	1787		X	X			H	A	H		P			H	A	
Marsh Carpet	<i>Perizoma sagittata</i>	70.140	1810								M			P		H	A	
Scarce Pug	<i>Eupithecia extensaria ssp. occidua</i>	70.178	1847		X	X			H	A	H	P				H	A	
Scarce Vapourer	<i>Orgyia recens</i>	72.018	2025		X	X			H	B	H	P		P		H	A	
Four-spotted	<i>Tyta luctuosa</i>	73.031	2465		X	X			H	B	H	P			P	H	A	
Marsh Moth	<i>Athetis pallustris</i>	73.103	2392		X	X			H	A	H	P				H	A	
Lyme Grass	<i>Photedes elymi</i>	73.138	2348								M	P				H	A	
White-spotted Pinion	<i>Cosmia diffinis</i>	73.214	2317		X	X			H	B		P				H	A	
	<i>Nemophora fasciella</i>	7.004	144				X	X	H	C		P				H	B	2015 record
Currant Shoot Borer	<i>Lampronia capitella</i>	9.001	133				X	X	H	B		PO				H	B	1995/98 records
Large Red-belted Clearwing	<i>Synanthedon culiciformis</i>	52.007	381								M			P		H	B	
Triangle	<i>Heterogenea asella</i>	53.002	174								H	P				H	B	
Cistus Forester	<i>Adscita geryon</i>	54.003	164								M		P			H	B	
	<i>Anania funebris</i>	63.024	1381				X	X	H	B		P				H	B	1999 record Twyford Forest
False Mocha	<i>Cyclophora porata</i>	70.035	1679				X	X	H	C				P		H	B	2000 record
Barberry Carpet	<i>Pareulype berberata</i>	70.124	1785				X	X	H	A		E				H	B	Failed (Mid 2000s) introduction Ancaster Valley
Dentated Pug	<i>Anticollix sparsata</i>	70.129	1863								M			PO		H	B	
Light Orange Underwing	<i>Boudinotiana notha</i>	70.204	1662									P				H	B	
Wormwood	<i>Cucullia absinthii</i>	73.050	2211								M	P		P	P	H	B	
Star-wort	<i>Cucillia asteris</i>	73.055	2217								M	PO				H	B	
Concolorous	<i>Chortedes extrema</i>	73.149	2347		X	X			H	C	H				P	H	B	
Portland Moth	<i>Actebia praecox</i>	73.308	2099								M	PO		PO		H	B	
Coast Dart	<i>Euxoa cursoria</i>	73.311	2083								M	P				H	B	
Pauper Pug	<i>Eupithecia egenaria</i>	70.164	1824								H					M	C	
Rush Wainscot	<i>Archanara algae</i>	73.152	2374								H					M	C	
Square-spotted Clay	<i>Xestia rhomboidea</i>	73.354	2131								H					M	C	
Hornet Moth	<i>Sesia apiformis</i>	52.002	370								M					L		
Red-tipped Clearwing	<i>Synanthedon formicaeformis</i>	52.008	380								M					L		
Red-belted Clearwing	<i>Synanthedon myopaeformis</i>	52.011	379								M					L		
Yellow-legged Clearwing	<i>Synanthedon vespiformis</i>	52.012	374								M					L		
Currant Clearwing	<i>Synanthedon tipuliformis</i>	52.013	373								M					L		

Six-belted Clearwing	<i>Bembecia ichneumoniformis</i>	52.014	382							M					L
Purple-bordered Gold	<i>Idaea muricata</i>	70.002	1698							M					L
Dotted-border Wave	<i>Idaea sylvestraria</i>	70.010	1701							M					L
Rosy Wave	<i>Scopula emutaria</i>	70.028	1691							M					L
Oblique Striped	<i>Phibalapteryx virgata</i>	70.039	1718							M					L
Balsam Carpet	<i>Xanthorhoe biriviata</i>	70.050	1721							M					L
Devon Carpet	<i>Lampropteryx otregiata</i>	70.104	1751							M					L
Blomer's Rivulet	<i>Discoloxia blomeri</i>	70.116	1872							M					L
Pinion-spotted Pug	<i>Eupithecia valerianata</i>	70.174	1820							M					L
Bleached Pug	<i>Eupithecia expallidata</i>	70.180	1833							M					L
Valerian Pug	<i>Eupithecia insigniata</i>	70.181	1821							M					L
Campanula Pug	<i>Eupithecia denotata</i> spp. <i>denotata</i>	70.185	1836							M					L
Yarrow Pug	<i>Eupithecia millefoliata</i>	70.186	1841							M					L
Broom-tip	<i>Chesias rufata</i>	70.196	1865		X					M					L
Light Orange Underwing	<i>Archiearis notha</i>	70.204	1662							M					L
Large Thorn	<i>Ennomos autumnaria</i>	70.232	1911							M					L
Great Oak Beauty	<i>Boarmia roboraria</i>	70.267	1943							M					L
Small Grass Emerald	<i>Chlorissa viridata</i>	70.306	1670							M					L
Small Chocolate-tip	<i>Clostera pigra</i>	71.028	2017							M					L
Water Ermine	<i>Spilosoma urticae</i>	72.021	2062							M					L
Dotted Fan-foot	<i>Machrochilo cribrumalis</i>	72.052	2493							M					L
Common Fan-foot	<i>Pechipogo strigilata</i>	72.056	2488	X	X	B	B	H	B	M					L
Rosy Marbled	<i>Elaphria venustula</i>	73.091	2396							M					L
Webb's Wainscot	<i>Archanara sparganii</i>	73.134	2373							M					L
Mere Wainscot	<i>Photedes fluxa</i>	73.145	2349							M					L
Crescent Striped	<i>Apamea oblonga</i>	73.161	2325							M					L
Angle-striped Sallow	<i>Enargia paleacea</i>	73.211	2313							M					L
Silvery Arches	<i>Polia hepatica</i>	73.260	2149							M					L
White Colon	<i>Sideridis albicolon</i>	73.275	2152							M					L
Shore Wainscot	<i>Mythimna litoralis</i>	73.299	2201							M					L
Light Feathered Rustic	<i>Agrotis cinerea</i>	73.316	2084							M					L
Sand Dart	<i>Agrotis ripae</i>	73.323	2093							M					L
Cream-bordered Green Pea	<i>Earias clorana</i>	74.011	2418							M					L

**Wildlife and Countryside Act (1981) status:** F = full protection; P = partial protection (sale only).  
**UK BAP and national legislative conservation status:** X = listed; E? = probably extinct.  
**BC UK Threat Priority:** H = High Priority; M = Medium Priority; L = Low Priority; R = Research.  
**BC Conservation Priority:** A = Action urgent across UK range; B = Action less urgent across UK range, but may be required at the country/regional level;  
C = Action less urgent, but may be required at the landscape/site level. Also includes species with poorly understood autecology.  
**Regional Action Plan (RAP) Priority:** H = High Priority; M = Medium Priority.  
**County status notes:** P = Present post-2000 (more widespread than a few sites); PO = No records post-2000 but may still be resident;  
P? = Present post-2000 but breeding status doubtful; UNC = Uncommon; E = Extinct; NRR = No recent records post-2000; RR = Recent record; R = Record;  
LR = Year last record; FR = Year first record; UC = status uncertain; V = Vagrant.  
**County data supplied by or extracted from:** NMRS database (2014).  
**Regional Conservation Strategy (RCS) Threat Priority:** H = High Priority; M = Medium Priority; L = Low Priority.  
**Regional Conservation Strategy (RCS) Conservation Priority:** A = Action urgent across all occupied landscapes/sites; B = Action necessary in some occupied landscapes/sites ; C = Action less urgent regionally but may be necessary in some landscapes/sites.

**FIGURE 1: EAST MIDLANDS REGIONAL CONSERVATION STRATEGY PRIORITY LANDSCAPES AND SITES MAP**

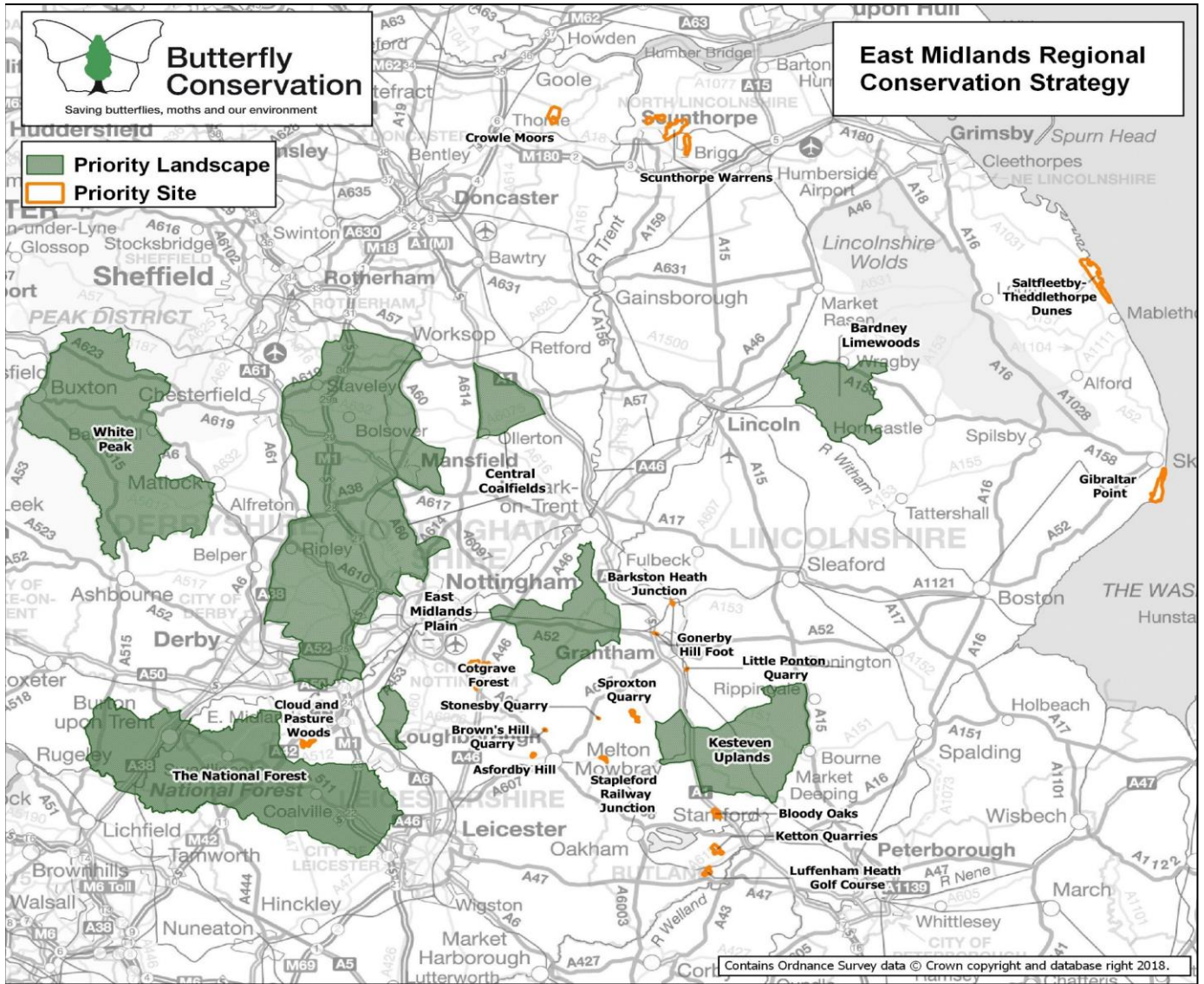




TABLE 3: EAST MIDLANDS REGIONAL CONSERVATION STRATEGY PRIORITY LANDSCAPES & OTHER PRIORITY SITES

Branch	Lincs		E Mids				Lincs							East Mids									
	43	44	45	46	47	48	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
<b>High Priority Landscape</b>																							
<b>Priority Landscape</b>	X	X	X	X	X	X																	
<b>Landscape Number</b>	43	44	45	46	47	48	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
<b>Landscape Name</b>	Bardney Limewoods	Kesteven Uplands	White Peak	Central Coalfields	East Midlands Plain	The National Forest	Crowle Moor	Scunthorpe Warrens	Saltfleetby-Theddlethorpe Dunes	Gibraltar Point	Little Ponton Quarry	Gonerby Hill Foot	Barkston Heath Junction	Cotgrave Forest	Cloud and Pasture Woods	Asfordby Hill	Brown's Hill Quarry	Stonesby Quarry	Sproxtton Quarry	Stapleford Railway Junction	Luffenham Heath Golf Course	Ketton Quarries	Bloody Oaks
<b>High Priority Butterflies (Conservation Priority A)</b>																							
Dingy Skipper	R	H	H	H	H	H						H	H			H	H	H	H	E		H	H
Grizzled Skipper	E	H	E	E	H	E				H	H	H			H	E			H			H	H
Grayling							H																
Duke of Burgundy		H																					
<b>High Priority Butterflies (Conservation Priority B)</b>																							
Large Heath							H																
Brown Hairstreak	H																						
White-letter Hairstreak	H	H	H	H		H				H				H	H					E	H		
Black Hairstreak	R																			H			
<b>Medium Priority Butterflies</b>																							
Wall	E	E	M	E	E	M										M	E	E		E	E		
Small Heath	E	M	M	M	M	M										M	E	M	M			M	
Silver-washed Fritillary	M	M				M								M	M							M	M
Dark Green Fritillary		M	M																			M	M
White Admiral	M	M				M																	
Green Hairstreak		M	M	M		M			M	M	M		M			M	M		M			M	M
Small Blue			E																				
<b>High Priority Moths (Conservation Priority A only)</b>																							
<i>Gelechia hippohaella</i>									H	H													
Goat Moth																							
Welsh Clearwing																							
Forester																							
<i>Gymnancyla canella</i>									H	H													
Small Eggar																							
Broad-bordered Bee Hawk-moth	H																						
Chalk Carpet			H																				
Argent and Sable																							
Marsh Carpet																							
Scarce Pug									E	H													
Scarce Vapourer							E																
Four-spotted	H																					H	
Marsh Moth									H	H													
Lyme Grass									H	H													
White-spotted Pinion																							
<b>Total High Priority Butterflies</b>	4	4	2	3	2	2	1	1	0	1	1	2	2	1	1	2	1	1	1	1	1	3	2
<b>Total Medium Priority Butterflies</b>	2	5	4	2	1	5	0	2	3	3	2	1	2	1	1	2	2	1	2	0	0	4	3
<b>Total High Priority Moths (A only)</b>	2	0	1	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	1	0
<b>Total Priority Species</b>	8	9	7	5	3	7	1	3	7	9	3	3	4	2	2	4	3	2	3	1	1	8	5

**Key to species status**  
 E Extinct  
 R Re/introduced  
 ? Status uncertain

**Key to conservation delivery progress**  
 Unknown  
 No conservation delivery: e.g. occasional recording of target species; target species monitored on few sites.  
 Limited conservation delivery: e.g. co-ordinated surveys undertaken enabling distribution of target species across the landscape to be mapped; co-ordinated monitoring undertaken across several sites, enabling assessment of target species abundance trends; management advice provided on some sites; recovery management implemented on some sites (e.g. work parties).  
 Full conservation delivery: e.g. co-ordinated monitoring programme established on many sites enabling assessment of target species abundance trend and effectiveness of conservation action; management advice given to landowners across whole site networks; co-ordinated programme of recovery management implemented across whole site networks; long-term sustainable management (e.g. agri-environment schemes) implemented across sites.

TABLE 4: EAST MIDLANDS REGIONAL CONSERVATION STRATEGY PRIORITY ACTIONS

	East Midlands RCS Threat Priority 2016-25	East Midlands RCS Conservation Priority 2016-25	East Midlands Species Recovery Curve Stage 2016	Survey	Monitoring	Research	Bespoke Management	Mosaic Management	Staff led	Input from staff	Volunteer led	Comment
<b>High and Medium Priority Butterflies</b>												
Dingy Skipper	H	A	3/4			X		X				Trial management: brownfields
Grizzled Skipper	H	A	3/4			X		X				Trial management: brownfields; re-introduction planned for Ticknall Limeyards in National Forest
Grayling	H	A	3	X		X	X	X				Research autecology: climate change; trial management: heathland
Duke of Burgundy	H	A	4				X					
Large Heath	H	B	4					X				
Brown Hairstreak	H	B	4				X	X				
White-letter Hairstreak	H	B	3	X	X	X		X				Data deficient
Black Hairstreak	H	B	4	X			X					Establish current status at Luffenham Golf Course
Wall	M	C	2			X		X				Research causes of decline
Small Heath	M	C	2			X		X				Research causes of decline
Silver-washed Fritillary	M	C	5					X				
Dark Green Fritillary	M	C	4					X				
White Admiral	M	C	2			X		X				Research autecology: climate change; Trial management: woodland
Green Hairstreak	M	C	2			X		X				Research causes of decline
Small Blue	M	C	4			X		X				Research: reintroduction feasibility in White Peak
<b>High Priority Moths (Conservation Priority A only)</b>												
<i>Gelechia hippohaella</i>	H	A	1	X				X			V	Undertake surveys of coastal sites to determine status; liaise with site managers
Goat Moth	H	A	2	X				X			V	Undertake surveys to determine status; liaise with site managers
Welsh Clearwing	H	A	3	X	X		X	X	S		V	Undertake surveys & monitor known Sherwood Forest sites to determine status; liaise with site managers
Forester	H	A	2	X	X			X			V	Undertake surveys & monitor known sites to determine status; liaise with site managers
<i>Gymnancyla canella</i>	H	A	1	X				X			V	Undertake surveys of coastal sites to determine status; liaise with site managers
Small Eggar	H	A	3	X				X			V	Undertake surveys to determine status; liaise with site managers
Broad-bordered Bee Hawk-moth	H	A	1	X				X			V	Undertake surveys to determine status; liaise with site managers
Chalk Carpet	H	A	2	X				X			V	Undertake surveys to determine status; liaise with site managers
Argent and Sable	H	A	3/4	X			X	X			V	Undertake surveys to determine status; liaise with site managers
Marsh Carpet	H	A	2	X	X			X			V	Undertake surveys & monitor known sites to determine status; liaise with site managers
Scarce Pug	H	A	2	X	X	X		X			V	Undertake surveys & monitor coastal sites to determine status; identify habitat preferences; liaise with site managers
Scarce Vapourer	H	A	2	X		X		X	S		V	Undertake surveys to determine status; research autecology; liaise with site managers
Four-spotted	H	A	2	X	X	X		X	S		V	Undertake surveys and monitor known sites to determine status; research autecology; liaise with site managers
Marsh Moth	H	A	3	X	X	X	X		S		V	Undertake surveys and monitor coastal sites to determine status; research autecology; liaise with site managers
Lyme Grass	H	A	1	X				X			V	Undertake surveys of coastal sites to determine status; liaise with site managers
White-spotted Pinion	H	A	4	X				X			V	Undertake surveys to determine status; liaise with site managers

**Species Recovery Curve Stages:** 1 Status assessment; 2 Diagnosis; 3 Solution testing; 4 Recovery management; 5 Sustainable management.

**Survey:** Improved surveying requiring to assess range and distribution trends.

**Monitoring:** Improved monitoring required to assess population trends.

**Research:** To improve autecological knowledge, identify causes of decline and assess potential habitat management solutions.

**Bespoke management:** Habitat management tailored to meet specific ecological requirements of the target species.

**Mosaic management:** Generic or best practice habitat management which integrates the ecological requirements of a suite of species.