

Appendix 4: Occurrence and trajectory of change

A4.1 Direction of Change

To gain an impression of how different HLC types have changed from the mid-19th to the early 21st century, the area of each type was compared and the percentage change grouped into eight categories: decreasing critically (>50% loss), decreasing rapidly (21-49% loss), decreasing slowly (1-20% loss), stable, increasing slowly (1-20% gain), increasing rapidly (21-69% gain), increasing significantly (>70% gain), and new (ie not present in c.1860).

HLC type	2007 ha	1860 ha	Difference	% change	direction of change
open lowland moorland	222	11,335	11,114	98	decreasing critically
open upland moorland	18,800	125,014	106,214	85	decreasing critically
horticulture	66	106	40	38	decreasing rapidly
dunes	1,054	1,342	288	21	decreasing rapidly
piecemeal enclosure	25,843	44,832	18,989	42	decreasing rapidly
other lowland irregular	27,324	38,596	11,272	29	decreasing rapidly
lowland enclosed moorland	30,116	40,098	9,982	25	decreasing rapidly
natural open water	162	176	14	8	decreasing slowly
river	971	1,079	108	10	decreasing slowly
ancient woodland	3,303	3,899	595	15	decreasing slowly
other small surveyed	3,280	3,659	379	10	decreasing slowly
intertidal zone	3,893	4,232	339	8	decreasing slowly
surveyed enclosure erratic edge	15,776	18,022	2,245	12	decreasing slowly
woodland pre-1860	11,458	12,438	980	8	decreasing slowly
surveyed enclosure straight edged	45,592	57,060	11,469	20	decreasing slowly
surveyed enclosure wavy edged	64,528	77,121	12,593	16	decreasing slowly
rocky foreshore	909	919	10	1	stable
other small irregular by settlement	505	505	0	0	stable
other irregular upland	2,510	2,510	0	0	stable
settlement pre-1860s	2,888	2,886	-2	0	stable
cliffs	21	21	0	0	stable
ancient enclosure	390	390	0	0	stable
misc floodplain fields	2,393	2,374	-19	-1	increasing slowly
ancient replanted woodland	2,268	2,254	-14	-1	increasing slowly
designed landscape	7,806	7,195	-610	-8	increasing slowly
industry active extractive site	1,874	1,280	-594	-46	increasing slowly
scrub	1,831	1,085	-746	-68	increasing slowly
railway	508	367	-141	-38	increasing rapidly
reorganised piecemeal enclosure	7,360	6,038	-1,322	-21	increasing rapidly
saltmarsh	239	66	-172	-260	increasing significantly
abandoned industry	248	47	-201	-427	increasing significantly
artificial lake/pond	171	30	-141	-470	increasing significantly
school	260	10	-250	-2500	increasing significantly
institution	308	5	-304	-6080	increasing significantly
abandoned extractive site	949	344	-604	-175	increasing significantly
road	627	171	-456	-266	increasing significantly
other active industry	1,285	151	-1,134	-750	increasing significantly
other parkland and recreational	1,124	64	-1,060	-1656	increasing significantly
reservoir	1,923	95	-1,828	-1924	increasing significantly
enclosed upland moorland	76,282	28,003	-48,279	-172	increasing significantly
sports ground	240	0	-240		new
utilities	179	0	-179		new

airfield	172	0	-172	new
active military site	122	0	-122	new
disused military airfield	484	0	-484	new
reverted moorland	2,678	0	-2,678	new
golf course	1,749	0	-1,749	new
C20 restored	4,841	0	-4,841	new
settlement C20	6,354	0	-6,354	new
harbour	28	0	-28	new
active military airfield	23	0	-23	new
other farming	16	0	-16	new
disused military site	12	0	-12	new
marsh	10	0	-10	new
other C20 fields	45,688	0	-45,688	new
woodland C20	60,974	0	-60,974	new
				* minus = gain, plus = loss

A4.2 Rarity

All the HLC types have been assessed against each other according to the area that they cover to produce a scale of occurrence, or rarity. The area of each type was converted to a percentage and this figure plotted on a logarithmic scale in Excel. This enabled breaks and jumps in the range to be identified and six categories were developed: **extremely rare** (<0.01%), **very rare** (0.01-0.09%), **rare** (0.1-0.3%), **occasional** (0.35-1.0%), **frequent** (1.0-5.8%), and **common** (>5.9%).

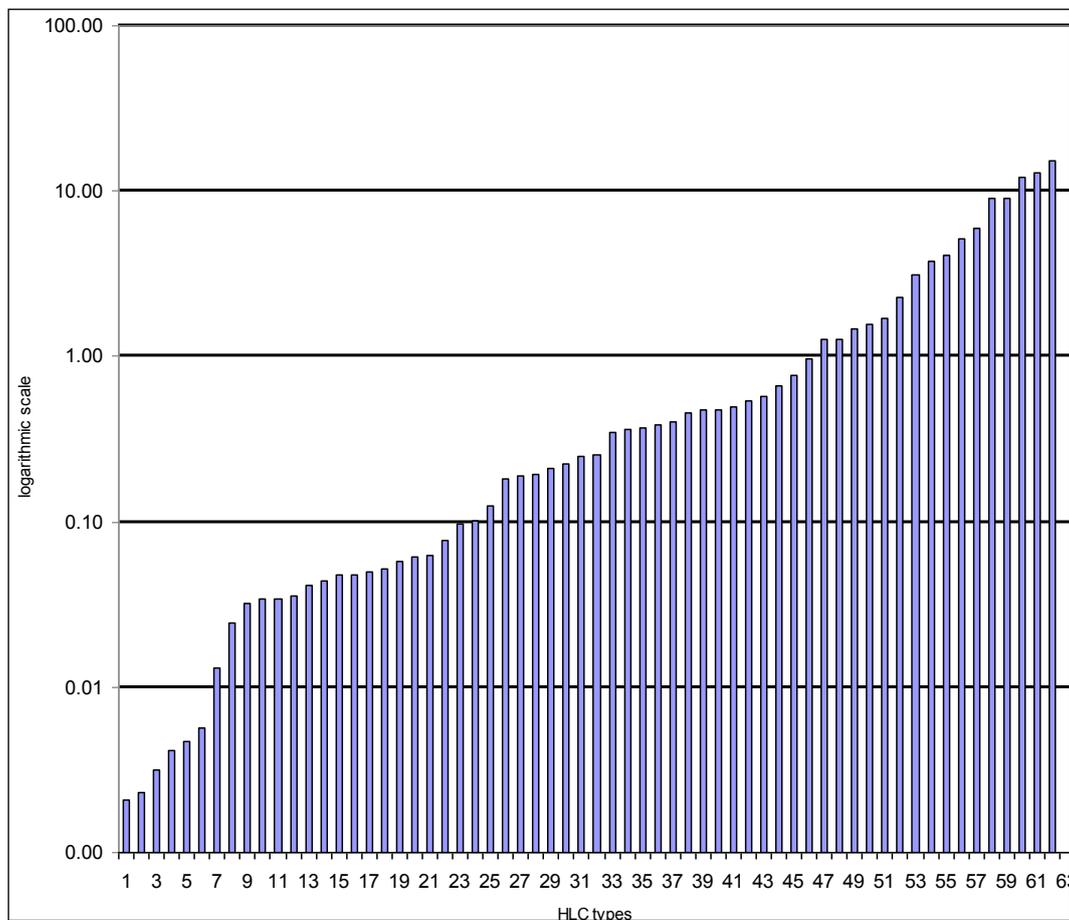


Chart showing distribution of the total area of HLC types

Character Type	Total Of Area m sq	percentage	rarity
water marsh	103,830	0.00	extremely rare
military disused site	116,553	0.00	extremely rare
fields other farming	158,094	0.00	extremely rare
coastal cliff	208,925	0.00	extremely rare
military active airfield	234,245	0.00	extremely rare
communications harbour	282,367	0.01	extremely rare
horticulture	659,122	0.01	extremely rare
military active site	1,224,767	0.02	very rare
water natural open	1,617,276	0.03	very rare
water artificial lake/pond	1,711,643	0.03	very rare
communications airfield	1,717,478	0.03	very rare
industry utilities	1,791,353	0.04	very rare
fields other small irregular	2,067,409	0.04	very rare
moorland open lowland	2,215,323	0.04	very rare
coastal saltmarsh	2,385,740	0.05	very rare
recreation sports ground	2,395,030	0.05	very rare
industry abandoned	2,483,241	0.05	very rare
school	2,601,595	0.05	very rare
settlement Late C19	2,898,026	0.06	very rare
institution	3,082,131	0.06	very rare
communications disused railway	3,118,122	0.06	very rare
fields ancient	3,902,144	0.08	very rare
military disused airfield	4,837,094	0.10	rare
fields other small irregular by settlement	5,049,853	0.10	rare
communications road	6,270,292	0.12	rare
coastal rocky foreshore	9,092,276	0.18	rare
industry abandoned extractive site	9,487,587	0.19	rare
water river	9,713,561	0.19	rare
coastal dunes	10,537,244	0.21	rare
ornamental other parkland and recreational	11,241,694	0.22	rare
fields other small surveyed upland	12,541,031	0.25	rare
other active industry	12,846,755	0.26	rare
recreation golf course	17,487,491	0.35	occasional
woodland scrub	18,307,964	0.36	occasional
industry active extractive site	18,737,401	0.37	occasional
water reservoir	19,231,334	0.38	occasional
fields other small surveyed lowland	20,258,669	0.40	occasional
woodland ancient replanted	22,676,726	0.45	occasional
woodland late C19	23,757,857	0.47	occasional
fields floodplain irregular	23,932,398	0.48	occasional
fields other irregular upland	25,098,703	0.50	occasional
moorland reverted	26,780,590	0.53	occasional
settlement pre-1860s	28,884,919	0.58	occasional
woodland ancient	33,034,600	0.66	occasional
coastal intertidal zone	38,926,228	0.78	occasional

Character Type	Total Of Area m sq	percentage	rarity
fields C20 restored	48,413,895	0.97	occasional
settlement C20	63,535,184	1.27	frequent
fields other large lowland irregular	64,158,126	1.28	frequent
fields reorganised piecemeal enclosure	73,600,812	1.47	frequent
ornamental designed landscape	78,058,082	1.56	frequent
fields late C19	85,194,248	1.70	frequent
woodland pre-1860	114,584,084	2.28	frequent
fields surveyed enclosure erratic edge	157,763,459	3.15	common
moorland open upland	187,998,447	3.75	common
fields other medium lowland irregular	207,014,636	4.13	common
fields piecemeal enclosure	258,429,635	5.15	common
moorland lowland enclosed	301,162,167	6.00	common
fields surveyed enclosure straight edged	455,916,016	9.09	common
fields other C20	456,879,050	9.11	common
woodland C20	609,738,693	12.16	common
fields surveyed enclosure wavy edged	645,278,249	12.86	common
moorland enclosed upland	762,820,909	15.21	common

HLC types, area, percentage and occurrence

A4.3 Susceptibility

A rough measure of the susceptibility of each HLC type has been calculated using the direction of change and rarity scores. The logarithmic values of each have been added together to give a range of scores between 200 and minus 99 which have been divided into the ranges low (minus 99-1), medium (9-90), and high (100-200).

HLC type	direction of change	rarity	susceptibility	key		
open lowland moorland	100	100	200	direction of change	100	decreasing critically or rapidly
horticulture	100	100	200		10	decreasing slowly
dunes	100	10	110		1	stable
natural open water	10	100	110	rarity	-1	increasing slowly
open upland moorland	100	1	101		-10	increasing rapidly or significantly
piecemeal enclosure	100	1	101		-100	new
other lowland irregular	100	1	101	susceptibility	100	extremely or very rare
lowland enclosed moorland	100	1	101		10	rare or occasional
cliffs	1	100	101		1	frequent or common
ancient enclosure	1	100	101			
settlement Late C19	0	100	100			
saltmarsh	-10	100	90		200	high
abandoned industry	-10	100	90		110	high
artificial lake/pond	-10	100	90		101	high
school	-10	100	90		100	high
institution	-10	100	90		90	medium
river	10	10	20		20	medium
ancient woodland	10	10	20		11	medium
other small surveyed	10	10	20		9	medium

intertidal zone	10	10	20		1	low
surveyed enclosure erratic edge	10	1	11		0	low
woodland pre-1860	10	1	11		-90	low
surveyed enclosure straight edged	10	1	11		-99	low
surveyed enclosure wavy edged	10	1	11			
rocky foreshore	1	10	11			
other small irregular by settlement	1	10	11			
other irregular upland	1	10	11			
settlement pre-1860s	1	10	11			
woodland late C19	0	10	10			
misc floodplain fields	-1	10	9			
ancient replanted woodland	-1	10	9			
active extractive site	-1	10	9			
scrub	-1	10	9			
reorganised piecemeal enclosure	-10	1	9			
enclosed upland moorland	-10	1	9			
late C19 fields	0	1	1			
designed landscape	-1	1	0			
railway	-10	10	0			
abandoned extractive site	-10	10	0			
road	-10	10	0			
other active industry	-10	10	0			
other parkland and recreational	-10	10	0			
reservoir	-10	10	0			
sports ground	-100	100	0			
utilities	-100	100	0			
airfield	-100	100	0			
active military site	-100	100	0			
harbour	-100	100	0			
active military airfield	-100	100	0			
other farming	-100	100	0			
disused military site	-100	100	0			
marsh	-100	100	0			
disused military airfield	-100	10	-90			
reverted moorland	-100	10	-90			
golf course	-100	10	-90			
C20 restored	-100	10	-90			
settlement C20	-100	1	-99			
other C20 fields	-100	1	-99			
woodland C20	-100	1	-99			

Rarity

Value	Attribute	Log scale
Extremely rare	High	100
Very rare	High	100
Rare	Medium	10
Occasional	Medium	10

Frequent	Low	1
Common	Low	1

Direction of change

Value	Attribute	Log scale
Decreasing critically	High	100
Decreasing rapidly	High	100
Decreasing slowly	Medium	10
Stable	low	1
Increasing slowly	Low	-1
Increasing rapidly	Medium	-10
Increasing significantly	Medium	-10
New	High	-100

By adding these two scales together a series of values from 200 to minus 99 was produced, with 200 indicating extremely or very rare HLC types which are decreasing critically or rapidly, and minus 99 indicating new 20th century HLC types which are frequent or common.