

Supplementary Information

Supplementary information for Guzman et al.: Using historical data to estimate bumble bee occurrence: Variable trends across species provide little support for community-level declines. Biological Conservation

Table S2: Species specific proportional change in occupancy under the SS_all_all model and MS_range_detected compared to the IUCN trend and status

North American Species						
Species	SS_all_all	MS_range_detected_soroye_specie	MS_range_detected	IUCN_status	IUCN_trend	
affinis	-0.8371847	-0.6969649	-0.6899705	CE	Decreasing	*boldface=95% BCI does not include zero
appositus	-0.4579175	0.08603656	0.08737633	LC	Unknown	*blue species are shared between EU and NA
auricomus	-0.4758581	0.00722642	0.00814525	LC	Stable	*grey species removed for being European species
bifarius	-0.5115957	-0.0508956	-0.0505823	LC	Stable	
bimaculatus	-0.1402487	0.49958869	0.49729112	LC	Stable	
bohemicus	-0.2707375	-0.7293029	-0.7257759	CE	Decreasing	
borealis	-0.6822298	-0.4275949	-0.4204975	LC	Stable	
centralis	-0.4263217	0.1673434	0.16416434	LC	Stable	
citrinus	-0.4267499	0.04684449	0.04841849	LC	Stable	
cryptarum	-0.1471993	0.74311598	0.71216783	DD	Unknown	
distinguendus	7.1967213		0.22068512	DD	Unknown	
fervidus	-0.4085839	-0.0215866	-0.0188627	VU	Decreasing	
flavifrons	-0.4342018	0.07831798	0.08337026	LC	Stable	
fraternus	-0.6858852	-0.4245862	-0.422973	EN	Decreasing	
frigidus	-0.5858808	-0.1197736	-0.122786	LC	Stable	
griseocollis	-0.1814596	0.40852725	0.40618915	LC	Stable	
huntii	-0.5645285	-0.0819036	-0.0811216	LC	Stable	
impatiens	-0.3358423	0.20605203	0.20744618	LC	Stable	
insularis	-0.5627733	-0.1340285	-0.1267717	LC	Stable	
jonellus	-0.2409722	0.41054374	0.4103317	DD	Unknown	
lucorum	-0.4016234	-0.772247		NA	NA	
melanopygus	-0.4488114	0.13265459	0.13509768	LC	Stable	
mixtus	-0.4196958	0.08111006	0.08205321	LC	Stable	
morrisoni	-0.7407441	-0.5137182	-0.5080666	VU	Decreasing	
nevadensis	-0.5234802	0.03215389	0.03808046	LC	Stable	
occidentalis	-0.5319369	-0.2074904	-0.2062261	VU	Decreasing	
pensylvanicus	-0.6576535	-0.4439245	-0.4429854	VU	Decreasing	
perplexus	-0.3355194	0.29738931	0.29531242	LC	Stable	
rufocinctus	-0.5119913	-0.1112096	-0.106133	LC	Stable	
sylvicola	-0.5552234	-0.0139117	-0.0152053	LC	Stable	
ternarius	-0.5879886	-0.197991	-0.1982817	LC	Stable	
terrestris	0.2266667	0.05634556		NA	NA	
terricola	-0.6610061	-0.390255	-0.3894941	VU	Decreasing	
vagans	-0.4768471	-0.0474256	-0.0498699	LC	Stable	
vandykei	-0.5514445	-0.0125522	-0.006885	LC	Stable	
vosnesenskii	-0.422007	-0.0434148	-0.0430238	LC	Stable	
European Species						
Species	SS_all_all		MS_range_detected	IUCN_status	IUCN_trend	
barbutellus	-0.2207424		-0.4877634	LC	Decreasing	
bohemicus	0.17178605		0.01642513	DD	Decreasing	
campestris	0.22138052		-0.0784277	LC	Stable	
cryptarum	0.46555771		0.48991511	DD	Unknown	
distinguendus	-0.5294737		-0.5850255	VU	Decreasing	
hortorum	-0.0379633		0.00122219	LC	Stable	
humilis	-0.2740826		-0.3361671	LC	Decreasing	
hypnorum	-0.0040043		0.15719423	LC	Increasing	
jonellus	-0.113471		-0.0674563	LC	Stable	
lapidarius	0.08114605		0.03283007	LC	Increasing	
lucorum	-0.053521		0.00154472	LC	Stable	
magnus	-0.1315975		-0.272512	LC	Unknown	
mendax	-0.0446743		0.08319283	NT	Decreasing	
mesomelas	-0.4342055		-0.1165279	LC	Decreasing	
monticola	0.3836918		0.36646891	LC	Decreasing	
mucidus	-0.4030583		-0.0884704	NT	Decreasing	
muscorum	-0.4209942		-0.3895454	VU	Decreasing	
norvegicus	0.17825165		0.84653148	LC	Stable	

pascuorum	-0.0986292	0.00087958	LC	Increasing		
pomorum	-0.8293986	-0.7836853	VU	Decreasing		
pratorum	0.05170269	0.00922023	LC	Increasing		
pyrenaeus	-0.4344535	-0.1735065	LC	Stable		
quadricolor	-0.0559806	0.03808961	LC	Decreasing		
runderarius	-0.1577883	-0.2920664	LC	Decreasing		
runderatus	-0.6691194	-0.6848099	LC	Decreasing		
rupestris	0.05185441	-0.1513242	LC	Unknown		
sicheli	-0.3308382	-0.0074773	LC	Stable		
soroensis	-0.1580336	-0.1782579	LC	Decreasing		
sporadicus	-0.2273059	-0.31883	LC	Stable		
subterraneus	-0.4993986	-0.4835246	LC	Decreasing		
sylvarum	-0.2391099	-0.3349362	LC	Decreasing		
sylvestris	0.05741744	0.08670464	LC	Stable		
terrestris	-0.0283256	0.01499479	LC	Increasing		
vestalis	-0.0464015	0.18583191	LC	Increasing		
veteranus	-0.5954808	-0.5932194	LC	Decreasing		
wurflenii	-0.5756737	-0.5684017	LC	Decreasing		