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APPENDICES, REFERENCES AND INDEX

Appendix 1 – Model performance

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
32	<i>Erynnis tages</i> (LINNAEUS, 1758)	0.72	0.35	0.66	0.50	0.50	0.88	0.12	17709
34	<i>Erynnis marloti</i> (BOISDUVAL, 1834)	0.98	0.40	0.98	0.98	0.02	0.52	0.48	904
36	<i>Carcharnidus alcae</i> (ESPER, 1870)	0.71	0.39	0.68	0.60	0.40	0.87	0.13	12571
38	<i>Carcharnidus lanatherae</i> (ESPER, 1783)	0.73	0.15	0.83	0.86	0.14	0.36	0.64	3262
40	<i>Carcharnidus flocciferus</i> (ZELLER, 1847)	0.79	0.30	0.81	0.87	0.13	0.47	0.53	4213
42	<i>Carcharnidus orientalis</i> (REVERDIN, 1913)	0.92	0.41	0.96	0.97	0.03	0.54	0.46	1232
44	<i>Carcharnidus baeticus</i> (RAMBUR, 1840)	0.8	0.20	0.96	0.99	0.01	0.18	0.82	414
46	<i>Spialia phlomidis</i> (HERRICH-SCHÄFFER, 1845)	0.93	0.30	0.99	1.00	0.00	0.20	0.80	383
48	<i>Spialia sertorius</i> (HOFFMANNSEGG, 1804)	0.77	0.35	0.74	0.76	0.24	0.67	0.33	6768
50	<i>Spialia orbifer</i> (HÜBNER, 1823)	0.89	0.40	0.91	0.93	0.07	0.57	0.43	2728
52	<i>Syrichthus proto</i> (OCHESENHEIMER, 1808)	0.89	0.30	0.85	0.85	0.15	0.88	0.13	3666
54	<i>Syrichthus tessellum</i> (HÜBNER, 1803)	0.89	0.37	0.97	0.98	0.02	0.73	0.27	1059
56	<i>Syrichthus carthami</i> (HÜBNER, 1813)	0.76	0.26	0.75	0.77	0.23	0.61	0.39	6563
58	<i>Pyrgus sidae</i> (ESPER, 1782)	0.85	0.24	0.94	0.96	0.04	0.30	0.70	1343
60	<i>Pyrgus andromedae</i> (WALLENGRÉN, 1853)	0.87	0.43	0.94	0.96	0.04	0.57	0.43	1931
62	<i>Pyrgus cavaliae</i> (RAMBUR, 1840)	0.92	0.50	0.97	0.98	0.02	0.60	0.40	1153
64	<i>Pyrgus centaurae</i> (RAMBUR, 1840)	0.96	0.71	0.94	0.94	0.06	0.95	0.05	5760
66	<i>Pyrgus malvae</i> (LINNAEUS, 1758) / <i>malvoides</i> (ELWES & EDWARDS, 1897) (complex)	0.71	0.35	0.68	0.48	0.52	0.87	0.13	20440
68	<i>Pyrgus serratalae</i> (RAMBUR, 1840)	0.82	0.34	0.77	0.81	0.19	0.61	0.39	6215
70	<i>Pyrgus onopordi</i> (RAMBUR, 1840)	0.78	0.22	0.87	0.89	0.11	0.46	0.54	2169
72	<i>Pyrgus carlinae</i> (RAMBUR, 1840)	0.9	0.35	0.97	0.97	0.03	0.63	0.37	818
74	<i>Pyrgus arctii</i> (RAMBUR, 1840)	0.9	0.24	0.83	0.83	0.17	0.76	0.24	4352
76	<i>Pyrgus armoricanus</i> (OBERTHÜR, 1910)	0.78	0.27	0.74	0.76	0.24	0.60	0.40	6658
78	<i>Pyrgus abeas</i> (HÜBNER, 1803) (complex)	0.73	0.27	0.70	0.74	0.26	0.56	0.44	10912
80	<i>Pyrgus bellieri</i> (OBERTHÜR, 1910)	0.94	0.49	0.98	0.99	0.01	0.59	0.41	406
82	<i>Pyrgus warrenensis</i> (VERITY, 1928)	0.99	0.43	0.96	0.96	0.04	0.97	0.03	1405
84	<i>Heteropterus morpheus</i> (PALLAS, 1771)	0.78	0.27	0.74	0.76	0.24	0.64	0.36	7559

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
86	<i>Cartocephalus palaemon</i> (PALLAS, 1771)	0.79	0.41	0.76	0.84	0.16	0.57	0.43	11232
88	<i>Cartocephalus sibiricus</i> (MEIGEN, 1829)	0.93	0.59	0.92	0.95	0.05	0.63	0.37	5493
90	<i>Thymelicus lineola</i> (OCHSENHEIMER, 1806)	0.75	0.42	0.70	0.55	0.45	0.87	0.13	19431
92	<i>Thymelicus sylvestris</i> (PODA, 1761)	0.72	0.39	0.69	0.64	0.36	0.76	0.24	12329
94	<i>Thymelicus acteon</i> (ROTTEMBURGER, 1775)	0.76	0.36	0.69	0.66	0.34	0.79	0.21	9801
96	<i>Hesperia omnia</i> (LINNAEUS, 1758)	0.77	0.41	0.71	0.71	0.29	0.70	0.30	11806
98	<i>Ochlodes sylvanus</i> (ESPER, 1777)	0.75	0.42	0.72	0.53	0.47	0.88	0.12	20554
100	<i>Gegens pumilio</i> (HOFMANNSEGG, 1804)	0.96	0.42	0.96	0.98	0.02	0.38	0.62	525
102	<i>Gegens nostradamus</i> (FABRICIUS, 1793)	0.94	0.30	0.92	0.94	0.06	0.57	0.43	1225
104	<i>Zerynthia rumina</i> (LINNAEUS, 1767)	0.91	0.39	0.86	0.86	0.14	0.85	0.15	3500
106	<i>Zerynthia polyxena</i> ([SCHIFFERMÜLLER], 1775)	0.85	0.42	0.85	0.86	0.14	0.69	0.31	4899
108	<i>Zerynthia verisyy</i> (GODART, 1822)	0.91	0.37	0.97	0.99	0.01	0.31	0.69	579
110	<i>Parnassius mnemosyne</i> (LINNAEUS, 1758)	0.77	0.33	0.74	0.77	0.23	0.63	0.37	9109
112	<i>Parnassius phoebus</i> (FABRICIUS, 1793)	0.99	0.63	0.98	0.98	0.02	0.88	0.13	1113
114	<i>Parnassius apollo</i> (LINNAEUS, 1758)	0.8	0.37	0.78	0.81	0.19	0.62	0.38	6273
116	<i>Iphiclides podalirius</i> (LINNAEUS, 1758)	0.76	0.43	0.72	0.71	0.29	0.74	0.26	10378
118	<i>Papilio machaon</i> LINNAEUS, 1758	0.67	0.37	0.73	0.46	0.54	0.88	0.12	21332
120	<i>Papilio alexanor</i> ESPER, 1799	0.94	0.38	0.97	0.98	0.02	0.43	0.57	687
122	<i>Lepidea sinapis</i> (LINNAEUS, 1758) / <i>realis</i> REISSINGER, 1990 (complex)	0.63	0.26	0.64	0.53	0.47	0.73	0.27	18126
124	<i>Lepidea diponcheli</i> (STAUDINGER, 1871)	0.69	0.29	0.95	0.98	0.02	0.31	0.69	1117
126	<i>Lepidea morsei</i> (FENTON, 1881)	0.92	0.31	0.94	0.96	0.04	0.55	0.45	1567
128	<i>Anthocharis cardamines</i> (LINNAEUS, 1758)	0.7	0.36	0.69	0.66	0.34	0.71	0.29	18795
130	<i>Anthocharis ephrenoides</i> STAUDINGER, 1869	0.91	0.35	0.86	0.88	0.12	0.69	0.31	2970
132	<i>Anthocharis gruneri</i> HERRICH-SCHÄFFER, 1851	0.92	0.34	0.97	0.97	0.03	0.50	0.50	997
134	<i>Zegris epheme</i> (ESPER, 1805)	0.97	0.40	0.96	0.97	0.03	0.67	0.33	858
136	<i>Enachoe boemia</i> (ESPER, 1798)	0.96	0.38	0.96	0.97	0.03	0.44	0.56	695
138	<i>Enachoe atsonia</i> (HÜBNER, 1806) (complex)	0.85	0.53	0.85	0.88	0.16	0.79	0.21	4483

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
140	<i>Enachloe tagis</i> (HÜBNER, 1804)	0.86	0.19	0.84	0.84	0.52	0.83	0.17	3152
142	<i>Aporia crataegi</i> (LINNAEUS, 1758)	0.69	0.30	0.64	0.48	0.66	0.93	0.07	18785
144	<i>Pieris brassicae</i> (LINNAEUS, 1758)	0.66	0.31	0.75	0.34	0.03	0.59	0.41	23482
146	<i>Pieris keruperti</i> (STAUDINGER, 1860)	0.91	0.40	0.96	0.97	0.06	0.34	0.66	1314
148	<i>Pieris mannii</i> (MAYER, 1851)	0.76	0.31	0.88	0.94	0.66	0.97	0.03	1710
150	<i>Pieris rapae</i> (LINNAEUS, 1758)	0.69	0.37	0.78	0.34	0.07	0.48	0.52	24143
152	<i>Pieris ergane</i> (GEYER, 1828)	0.84	0.34	0.90	0.93	0.65	0.93	0.07	2146
154	<i>Pieris napi</i> (LINNAEUS, 1758)	0.73	0.32	0.77	0.35	0.02	0.48	0.52	26459
156	<i>Pieris bryoniae</i> (HÜBNER, 1791)	0.92	0.50	0.95	0.98	0.02	0.67	0.33	1183
158	<i>Pontia callidice</i> (HÜBNER, 1800)	0.98	0.61	0.98	0.98	0.39	0.81	0.19	891
160	<i>Pontia daplidice</i> (LINNAEUS, 1758) / <i>edusa</i> (FABRICIUS, 1777) (complex)	0.72	0.42	0.71	0.61	0.03	0.66	0.34	15310
162	<i>Colias phicomone</i> (ESPER, 1780)	0.96	0.55	0.96	0.97	0.09	0.77	0.23	1423
164	<i>Colias palaeno</i> (LINNAEUS, 1758)	0.9	0.66	0.88	0.91	0.04	0.51	0.49	9886
166	<i>Colias erate</i> (ESPER, 1805)	0.92	0.45	0.93	0.96	0.45	0.89	0.11	2394
168	<i>Colias croceus</i> (GEOFFROY, 1785)	0.76	0.45	0.73	0.55	0.01	1.00	0.00	16185
170	<i>Colias beata</i> LEFEBVRE, 1836	0.99	0.77	0.99	0.99	0.10	0.77	0.23	980
172	<i>Colias myrmidone</i> (ESPER, 1780)	0.92	0.36	0.89	0.90	0.01	0.25	0.75	4252
174	<i>Colias chrysotheme</i> (ESPER, 1780)	0.89	0.28	0.98	0.99	0.20	0.72	0.28	752
176	<i>Colias hyle</i> (LINNAEUS, 1758)	0.84	0.51	0.77	0.80	0.27	0.79	0.21	12535
178	<i>Colias ajacariensis</i> RIBBE, 1905	0.84	0.44	0.74	0.73	0.44	0.86	0.14	9648
180	<i>Gonepteryx rhamni</i> (LINNAEUS, 1758)	0.73	0.44	0.74	0.56	0.01	0.44	0.56	20599
182	<i>Gonepteryx farinosa</i> ZELLER, 1847	0.94	0.49	0.98	0.99	0.11	0.82	0.18	645
184	<i>Gonepteryx cleopatra</i> (LINNAEUS, 1767)	0.92	0.60	0.88	0.89	0.73	0.94	0.06	4249
186	<i>Lycæna phlaeas</i> (LINNAEUS, 1761)	0.65	0.25	0.74	0.27	0.05	0.28	0.72	23910
188	<i>Lycæna belle</i> (SCHIFFERMÜLLER, 1775)	0.78	0.26	0.90	0.95	0.11	0.57	0.43	2439
190	<i>Lycæna dispar</i> (HAWORTH, 1803)	0.88	0.46	0.83	0.89	0.22	0.84	0.16	8048
192	<i>Lycæna virgaureae</i> (LINNAEUS, 1758)	0.86	0.60	0.80	0.78	0.00	0.38	0.62	14822

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
194	<i>Lycæna ottomana</i> (LEFEBVRE, 1830)	0.98	0.46	0.98	1.00	0.26	0.77	0.23	473
196	<i>Lycæna tityrus</i> (PODA, 1761)	0.82	0.48	0.75	0.74	0.23	0.66	0.34	11172
198	<i>Lycæna aliciphron</i> (ROTTEMBURG, 1775)	0.8	0.40	0.74	0.77	0.25	0.80	0.20	9113
200	<i>Lycæna hippolthoe</i> (LINNAEUS, 1761)	0.85	0.53	0.77	0.75	0.00	0.22	0.78	14109
202	<i>Lycæna candens</i> (HERRICH-SCHÄFFER, 1844)	0.86	0.30	0.98	1.00	0.09	0.58	0.42	657
204	<i>Lycæna thersamon</i> (ESPER, 1784)	0.93	0.41	0.87	0.91	0.32	0.79	0.21	4545
206	<i>Thecla betulae</i> (LINNAEUS, 1758)	0.79	0.42	0.72	0.68	0.41	0.81	0.19	12908
208	<i>Favonius quercus</i> (LINNAEUS, 1758)	0.72	0.37	0.68	0.59	0.19	0.79	0.21	13886
210	<i>Laeosopis roboris</i> (ESPER, 1793)	0.81	0.20	0.81	0.81	0.02	0.29	0.71	4024
212	<i>Tomares ballus</i> (FABRICIUS, 1787)	0.91	0.25	0.96	0.98	0.54	0.76	0.24	397
214	<i>Callophrys rubi</i> (LINNAEUS, 1758)	0.63	0.23	0.65	0.46	0.03	0.38	0.62	21380
216	<i>Callophrys avis</i> CHAPMAN, 1909	0.9	0.25	0.96	0.97	0.34	0.78	0.22	433
218	<i>Satyrium n-album</i> (KNOCH, 1782)	0.78	0.37	0.69	0.66	0.26	0.80	0.20	11103
220	<i>Satyrium pruni</i> (LINNAEUS, 1758)	0.83	0.43	0.75	0.74	0.27	0.63	0.37	12270
222	<i>Satyrium spini</i> (FABRICIUS, 1787)	0.71	0.31	0.70	0.73	0.37	0.75	0.25	8540
224	<i>Satyrium ilicis</i> (ESPER, 1779)	0.71	0.33	0.67	0.63	0.13	0.74	0.26	10856
226	<i>Satyrium esculi</i> (HÜBNER, 1804)	0.82	0.32	0.87	0.87	0.26	0.68	0.32	3010
228	<i>Satyrium acaciae</i> (FABRICIUS, 1787)	0.76	0.32	0.73	0.74	0.20	0.80	0.20	7748
230	<i>Lampides boeticus</i> (LINNAEUS, 1767)	0.83	0.48	0.80	0.80	0.04	0.48	0.52	6381
232	<i>Cacyreus marshalli</i> (BUTLER, 1898)	0.85	0.24	0.95	0.96	0.17	0.76	0.24	800
234	<i>Lepotes pirithous</i> (LINNAEUS, 1767)	0.83	0.45	0.82	0.83	0.03	0.56	0.44	5475
236	<i>Zizeeria kenysna</i> (TRIMEN, 1862)	0.94	0.34	0.96	0.97	0.42	0.74	0.26	822
238	<i>Capido minimus</i> (FUSSIX, 1775)	0.71	0.30	0.64	0.58	0.04	0.25	0.75	13437
240	<i>Capido ostris</i> (MEIGEN, 1829)	0.76	0.22	0.91	0.96	0.37	0.88	0.12	1116
242	<i>Capido argyades</i> (PALLAS, 1771)	0.81	0.38	0.69	0.63	0.06	0.49	0.51	15026
244	<i>Capido decoloratus</i> (STAUDINGER, 1886)	0.93	0.27	0.92	0.94	0.08	0.42	0.58	2040
246	<i>Capido alectas</i> (HOPPMANSEGG, 1804)	0.77	0.30	0.88	0.92	0.54	0.81	0.19	2208

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
248	<i>Celastrina argiolus</i> (LINNAEUS, 1758)	0.65	0.28	0.68	0.46	0.08	0.53	0.47	20422
250	<i>Scolitantides baton</i> (BERGSTRÄSSER, 1779)	0.83	0.41	0.87	0.92	0.14	0.54	0.46	2643
252	<i>Scolitantides vicrama</i> (MOORE, 1865)	0.85	0.31	0.83	0.86	0.11	0.93	0.07	5393
254	<i>Scolitantides abenerregas</i> (PIERRET, 1837)	0.94	0.17	0.89	0.89	0.00	0.10	0.90	2679
256	<i>Scolitantides banus</i> (EVERSMANN, 1832)	0.86	0.14	0.99	1.00	0.17	0.48	0.52	428
258	<i>Scolitantides orion</i> (PALLAS, 1771)	0.78	0.25	0.79	0.83	0.06	0.61	0.39	6270
260	<i>Scolitantides panoptes</i> (HUBNER, 1813)	0.87	0.27	0.94	0.94	0.45	0.75	0.25	1493
262	<i>Glanopsyche alexis</i> (PODA, 1761)	0.7	0.25	0.61	0.55	0.15	0.79	0.21	15676
264	<i>Glanopsyche melanops</i> (BOISDUVAL, 1828)	0.8	0.29	0.85	0.85	0.10	0.50	0.50	3577
266	<i>Iolana iolas</i> (OCHSENHEIMER, 1816)	0.82	0.24	0.88	0.90	0.36	0.75	0.25	3307
268	<i>Plebejus arion</i> (LINNAEUS, 1758)	0.77	0.31	0.67	0.64	0.19	0.70	0.30	13242
270	<i>Plebejus telcius</i> (BERGSTRÄSSER, 1779)	0.84	0.37	0.80	0.81	0.10	0.65	0.35	6483
272	<i>Plebejus nausithous</i> (BERGSTRÄSSER, 1779)	0.91	0.44	0.88	0.90	0.21	0.68	0.32	3619
274	<i>Plebejus alcon</i> (SCHIFFERMÜLLER, 1775)	0.83	0.38	0.77	0.79	0.46	0.83	0.17	6643
276	<i>Plebejus argus</i> (LINNAEUS, 1758)	0.69	0.37	0.69	0.54	0.36	0.78	0.22	19107
278	<i>Plebejus idas</i> (LINNAEUS, 1761)	0.74	0.41	0.70	0.64	0.16	0.59	0.41	18438
280	<i>Plebejus argyrogonon</i> (BERGSTRÄSSER, 1779)	0.8	0.37	0.81	0.84	0.10	0.74	0.26	5588
282	<i>Plebejus optilete</i> (KNOCH, 1781)	0.9	0.63	0.86	0.90	0.01	0.60	0.40	10092
284	<i>Plebejus glandon</i> (PRUNNER, 1798)	0.99	0.63	0.98	0.99	0.01	0.95	0.05	425
286	<i>Plebejus aquilo</i> (BOISDUVAL, 1832)	1	0.78	0.99	0.99	0.02	0.73	0.27	695
288	<i>Plebejus orbitulus</i> (PRUNNER, 1798)	0.98	0.64	0.97	0.98	0.03	0.33	0.67	1242
290	<i>Plebejus sephirus</i> (FRIVALDSZKY, 1835)	0.93	0.22	0.96	0.97	0.24	0.69	0.31	1189
292	<i>Aricia emedon</i> (ESPER, 1780)	0.8	0.39	0.75	0.76	0.09	0.79	0.21	13389
294	<i>Aricia cramera</i> (ESCHSCHOLTZ, 1821)	0.91	0.49	0.90	0.91	0.48	0.87	0.13	2471
296	<i>Aricia agestis</i> (SCHIFFERMÜLLER, 1775)	0.7	0.34	0.65	0.52	0.21	0.56	0.44	15253
298	<i>Aricia artaxerxes</i> (FABRICIUS, 1793)	0.72	0.33	0.74	0.79	0.03	0.50	0.50	9668
300	<i>Aricia montensis</i> (VERITY, 1928)	0.7	0.29	0.96	0.97	0.00	0.19	0.81	859

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
302	<i>Aricia anteros</i> (FREYER, 1838)	0.96	0.30	0.98	1.00	0.07	0.51	0.49	503
304	<i>Aricia nicias</i> (MEIGEN, 1829)	0.82	0.28	0.91	0.93	0.38	0.77	0.23	4301
306	<i>Cyaniris semiargus</i> (ROTTEMBERG, 1775)	0.76	0.39	0.69	0.62	0.08	0.47	0.53	17359
308	<i>Polyommatus escheri</i> (HÜBNER, 1823)	0.8	0.33	0.88	0.92	0.13	0.51	0.49	2310
310	<i>Polyommatus dorylas</i> ([SCHIFFERMÜLLER], 1775)	0.81	0.36	0.81	0.87	0.02	0.54	0.46	4520
312	<i>Polyommatus nivevens</i> (KEFERSTEIN, 1851)	0.98	0.40	0.98	0.98	0.19	0.65	0.35	467
314	<i>Polyommatus amandus</i> (SCHNEIDER 1792)	0.83	0.44	0.76	0.81	0.24	0.64	0.36	10087
316	<i>Polyommatus ibersites</i> (CANTENER, 1834)	0.75	0.31	0.74	0.76	0.76	0.96	0.04	6959
318	<i>Polyommatus icarus</i> (ROTTEMBERG, 1775)	0.65	0.25	0.79	0.24	0.09	0.50	0.50	25320
320	<i>Polyommatus eros</i> (OGCHSENHEIMER, 1808)	0.71	0.26	0.90	0.91	0.24	0.73	0.27	2651
322	<i>Polyommatus daphnis</i> ([SCHIFFERMÜLLER], 1775)	0.84	0.35	0.76	0.76	0.41	0.79	0.21	8483
324	<i>Polyommatus bellargus</i> (ROTTEMBERG, 1775)	0.72	0.32	0.65	0.59	0.23	0.67	0.33	12245
326	<i>Polyommatus coridon</i> (PODA, 1761)	0.82	0.41	0.74	0.77	0.04	0.54	0.46	8806
328	<i>Polyommatus hispanus</i> (HERRICH-SCHÄFFER, 1851)	0.95	0.34	0.95	0.96	0.02	0.70	0.30	792
330	<i>Polyommatus albicans</i> (HERRICH-SCHÄFFER, 1851)	0.88	0.52	0.97	0.98	0.03	0.33	0.67	950
332	<i>Polyommatus admetus</i> (ESPER, 1785)	0.88	0.26	0.95	0.97	0.01	0.20	0.80	1537
334	<i>Polyommatus ripartii</i> (FREYER, 1830)	0.75	0.25	0.97	0.99	0.01	0.38	0.63	460
336	<i>Polyommatus dolus</i> (HÜBNER, 1823)	0.97	0.37	0.98	0.99	0.08	0.40	0.60	214
338	<i>Polyommatus damon</i> ([SCHIFFERMÜLLER], 1775)	0.85	0.29	0.88	0.92	0.17	0.53	0.47	2338
340	<i>Flamearis lucina</i> (LINNAEUS, 1758)	0.77	0.35	0.75	0.83	0.11	0.59	0.41	6207
342	<i>Libythea celtis</i> (LAICHTING, 1782)	0.8	0.37	0.86	0.89	0.38	0.85	0.15	3684
344	<i>Argynnis paphia</i> (LINNAEUS, 1758)	0.78	0.47	0.74	0.62	0.15	0.62	0.38	18276
346	<i>Argynnis pandora</i> ([SCHIFFERMÜLLER], 1775)	0.83	0.40	0.81	0.85	0.40	0.84	0.16	5433
348	<i>Argynnis aglaja</i> (LINNAEUS, 1758)	0.78	0.46	0.74	0.60	0.28	0.71	0.29	20551
350	<i>Argynnis adippe</i> ([SCHIFFERMÜLLER], 1775)	0.78	0.43	0.71	0.72	0.43	0.84	0.16	14199
352	<i>Argynnis niobe</i> (LINNAEUS, 1758)	0.74	0.35	0.66	0.57	0.05	0.65	0.35	16539
354	<i>Argynnis laodice</i> (PALLAS, 1771)	0.89	0.48	0.94	0.95	0.30	0.78	0.22	4961

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
356	<i>Isooria lathonia</i> (LINNAEUS, 1758)	0.78	0.48	0.74	0.70	0.21	0.82	0.18	14060
358	<i>Brentlis ino</i> (ROTTEMBURG, 1775)	0.87	0.59	0.80	0.79	0.19	0.57	0.43	13788
360	<i>Brentlis daphne</i> (BERGSTRÄSSER, 1780)	0.77	0.32	0.77	0.81	0.12	0.47	0.53	5509
362	<i>Brentlis hucate</i> ([SCHIFFERMÜLLER], 1775)	0.79	0.28	0.84	0.88	0.06	0.70	0.30	3814
364	<i>Boloria eunomia</i> (ESPER, 1799)	0.89	0.64	0.90	0.94	0.46	0.85	0.15	7954
366	<i>Boloria euphroyne</i> (LINNAEUS, 1758)	0.73	0.39	0.69	0.54	0.05	0.43	0.57	21529
368	<i>Boloria titania</i> (ESPER, 1793)	0.9	0.36	0.91	0.95	0.37	0.83	0.17	1910
370	<i>Boloria selene</i> ([SCHIFFERMÜLLER], 1775)	0.73	0.46	0.73	0.63	0.00	0.64	0.36	20468
372	<i>Boloria chariclea</i> (SCHNEIDER, 1794)	1	0.73	0.99	1.00	0.06	0.85	0.15	528
374	<i>Boloria freija</i> (BECKLIN, 1791)	0.95	0.62	0.93	0.94	0.17	0.65	0.35	5507
376	<i>Boloria dia</i> (LINNAEUS, 1767)	0.86	0.47	0.78	0.83	0.03	0.56	0.44	8338
378	<i>Boloria thore</i> (HÜBNER, 1806)	0.95	0.49	0.96	0.97	0.06	0.87	0.13	1624
380	<i>Boloria frigga</i> (BECKLIN, 1791)	0.96	0.64	0.94	0.94	0.04	0.54	0.46	5945
382	<i>Boloria pales</i> ([SCHIFFERMÜLLER], 1775)	0.89	0.47	0.94	0.96	0.06	0.62	0.38	1516
384	<i>Boloria aquilonaris</i> (STICHEL, 1908)	0.89	0.60	0.86	0.94	0.62	0.88	0.12	8177
386	<i>Boloria graeca</i> (STAUDINGER, 1870)	0.75	0.19	0.98	0.99	0.51	0.75	0.25	481
388	<i>Vanessa atalanta</i> (LINNAEUS, 1758)	0.65	0.28	0.73	0.38	0.40	0.89	0.11	22574
390	<i>Vanessa cardui</i> (LINNAEUS, 1758)	0.63	0.24	0.68	0.49	0.39	0.83	0.17	20136
392	<i>Aglais io</i> (LINNAEUS, 1758)	0.8	0.50	0.77	0.60	0.49	0.90	0.10	20483
394	<i>Aglais urticae</i> (LINNAEUS, 1758)	0.8	0.45	0.76	0.61	0.05	0.50	0.50	21818
396	<i>Nymphalis c-album</i> (LINNAEUS, 1758)	0.77	0.43	0.73	0.51	0.27	0.74	0.26	21399
398	<i>Nymphalis ogea</i> (CRAMER, 1775)	0.94	0.44	0.91	0.95	0.47	0.83	0.17	1780
400	<i>Nymphalis antiopa</i> (LINNAEUS, 1758)	0.76	0.47	0.73	0.73	0.09	0.45	0.55	16102
402	<i>Nymphalis polychloris</i> (LINNAEUS, 1758)	0.7	0.34	0.66	0.53	0.07	0.46	0.54	15861
404	<i>Nymphalis xanthomelas</i> (ESPER, 1781)	0.87	0.25	0.88	0.91	0.20	0.81	0.19	4111
406	<i>Nymphalis l-album</i> (ESPER, 1780)	0.89	0.25	0.91	0.93	0.01	0.96	0.04	5237
408	<i>Araschnia levana</i> (LINNAEUS, 1758)	0.87	0.58	0.80	0.80	0.00	0.38	0.62	12725

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
410	<i>Euphydryas iduna</i> (DALMAN, 1816)	1	0.64	0.99	0.99	0.01	0.50	0.50	1320
212	<i>Euphydryas cynthia</i> (SCHIFFERMÜLLER, 1775)	0.98	0.48	0.98	1.00	0.10	0.40	0.60	395
414	<i>Euphydryas intermedia</i> (MENETRIES, 1859)	0.98	0.52	0.99	0.99	0.08	0.59	0.41	269
416	<i>Euphydryas maturna</i> (LINNAEUS, 1758)	0.79	0.26	0.84	0.90	0.18	0.54	0.46	7164
418	<i>Euphydryas desfontainii</i> (GODART, 1819)	0.88	0.20	0.92	0.92	0.41	0.82	0.18	1641
420	<i>Euphydryas aurinia</i> (ROTTEMBERG, 1775)	0.72	0.36	0.74	0.82	0.22	0.67	0.33	6513
422	<i>Melitaea cinxia</i> (LINNAEUS, 1758)	0.75	0.36	0.67	0.59	0.02	0.58	0.42	13195
424	<i>Melitaea phoebe</i> (GOETZE, 1779)	0.77	0.41	0.75	0.78	0.12	0.59	0.41	7693
426	<i>Melitaea aetherie</i> (HÜBNER, 1826)	0.95	0.37	0.97	0.98	0.35	0.81	0.19	392
428	<i>Melitaea trinia</i> (SCHIFFERMÜLLER, 1775)	0.86	0.40	0.84	0.88	0.25	0.68	0.32	5195
430	<i>Melitaea didyma</i> (ESPER, 1779)	0.77	0.40	0.70	0.65	0.13	0.47	0.53	12400
432	<i>Melitaea diamina</i> (LANG, 1789)	0.84	0.37	0.73	0.75	0.01	0.44	0.56	8633
434	<i>Melitaea deione</i> (GEYER, 1832)	0.76	0.19	0.85	0.87	0.11	0.54	0.46	2426
436	<i>Melitaea varia</i> (MEYER-DÜR, 1851)	0.96	0.42	0.98	0.99	0.13	0.55	0.45	506
438	<i>Melitaea parthenoides</i> (KIFFERSTEIN, 1851)	0.84	0.33	0.86	0.89	0.14	0.49	0.51	3183
440	<i>Melitaea aurelia</i> (NICKERL, 1850)	0.82	0.37	0.83	0.87	0.27	0.69	0.31	4423
442	<i>Melitaea britomartis</i> (ASSMANN, 1847)	0.83	0.18	0.85	0.86	0.22	0.76	0.24	4280
444	<i>Melitaea albalia</i> (ROTTEMBERG, 1775)	0.79	0.43	0.71	0.73	0.22	0.72	0.28	15482
446	<i>Limenitis populi</i> (LINNAEUS, 1758)	0.84	0.49	0.78	0.78	0.17	0.64	0.36	11332
448	<i>Limenitis camilla</i> (LINNAEUS, 1764)	0.81	0.45	0.76	0.78	0.06	0.63	0.37	8833
450	<i>Limenitis reducta</i> (STAUDINGER, 1901)	0.82	0.43	0.79	0.83	0.04	0.45	0.55	5716
452	<i>Nepis sappho</i> (PALLAS, 1771)	0.92	0.44	0.93	0.94	0.08	0.76	0.24	2607
454	<i>Nepis rivularis</i> (SCOPOLI, 1763)	0.87	0.42	0.92	0.96	0.05	0.66	0.34	2135
456	<i>Charaxes jasius</i> (LINNAEUS, 1767)	0.94	0.48	0.91	0.92	0.17	0.73	0.27	1979
458	<i>Apatura melis</i> (FREYER, 1829)	0.98	0.34	0.94	0.95	0.17	0.69	0.31	2091
460	<i>Apatura ilia</i> (SCHIFFERMÜLLER, 1775)	0.86	0.53	0.80	0.83	0.02	0.53	0.47	9958
462	<i>Apatura iris</i> (LINNAEUS, 1758)	0.85	0.50	0.79	0.83	0.64	0.96	0.04	8784

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
464	<i>Kirinia roxelana</i> (CRAMER, 1777)	0.91	0.51	0.96	0.98	0.43	0.89	0.11	1198
466	<i>Pararge aegeria</i> (LINNAEUS, 1758)	0.65	0.36	0.73	0.36	0.13	0.62	0.38	22882
468	<i>Lastommata megera</i> (LINNAEUS, 1767)	0.75	0.47	0.74	0.57	0.32	0.67	0.33	16529
470	<i>Lastommata petropolitana</i> (FABRICIUS, 1787)	0.84	0.46	0.83	0.87	0.14	0.55	0.45	9156
472	<i>Lastommata maera</i> (LINNAEUS, 1758)	0.75	0.35	0.67	0.68	0.22	0.77	0.23	14684
474	<i>Lopinga achine</i> (LINNAEUS, 1763)	0.81	0.35	0.82	0.86	0.03	0.37	0.63	6680
476	<i>Coenonympha tullia</i> (MÜLLER, 1764)	0.83	0.50	0.77	0.78	0.03	0.21	0.79	13062
478	<i>Coenonympha oedippus</i> (FABRICIUS, 1787)	0.95	0.26	0.95	0.97	0.30	0.80	0.20	1055
480	<i>Coenonympha rhodopensis</i> ELMES, 1900	0.95	0.15	0.96	0.97	0.19	0.81	0.19	759
482	<i>Coenonympha arcania</i> (LINNAEUS, 1761)	0.83	0.47	0.74	0.70	0.02	0.64	0.36	13544
484	<i>Coenonympha glycyton</i> (BORKHAUSEN, 1788)	0.86	0.57	0.81	0.81	0.13	0.64	0.36	12835
486	<i>Coenonympha gardetta</i> (PRUNNER, 1798)	0.97	0.57	0.97	0.98	0.09	0.55	0.45	941
488	<i>Coenonympha dorus</i> (ESPER, 1782)	0.83	0.28	0.86	0.87	0.01	0.37	0.63	2781
490	<i>Coenonympha hera</i> (LINNAEUS, 1761)	0.88	0.38	0.88	0.91	0.58	0.85	0.15	3543
492	<i>Coenonympha leander</i> (ESPER, 1784)	0.89	0.35	0.98	0.99	0.15	0.64	0.36	827
494	<i>Coenonympha pamphilus</i> (LINNAEUS, 1758)	0.66	0.29	0.73	0.42	0.07	0.68	0.32	22310
496	<i>Pyronia tibonus</i> (LINNAEUS, 1771)	0.82	0.47	0.79	0.85	0.15	0.80	0.20	6411
498	<i>Pyronia ecilia</i> (VALLANTIN, 1894)	0.91	0.55	0.90	0.93	0.22	0.80	0.20	2350
500	<i>Pyronia batlseba</i> (FABRICIUS, 1793)	0.83	0.30	0.85	0.85	0.54	0.96	0.04	3461
502	<i>Aphantopus hyperantus</i> (LINNAEUS, 1758)	0.84	0.58	0.79	0.78	0.19	0.55	0.45	16672
504	<i>Maniola jurtina</i> (LINNAEUS, 1758)	0.7	0.48	0.80	0.46	0.08	0.55	0.45	21820
506	<i>Hyponphele lycan</i> (KÜHN, 1774)	0.78	0.32	0.76	0.81	0.17	0.75	0.25	6884
508	<i>Hyponphele lupina</i> (COSTA, 1836)	0.88	0.38	0.89	0.92	0.05	0.51	0.49	2829
510	<i>Erebia tigea</i> (LINNAEUS, 1758)	0.86	0.55	0.80	0.83	0.01	0.65	0.35	12462
512	<i>Erebia euryale</i> (ESPER, 1805)	0.89	0.47	0.90	0.95	0.03	0.56	0.44	2092
514	<i>Erebia eriphyle</i> (FREYER, 1836)	0.99	0.64	0.99	0.99	0.10	0.64	0.36	385
516	<i>Erebia mantis</i> ([SCHIFFERMÜLLER], 1775)	0.9	0.48	0.95	0.97	0.03	0.75	0.25	1353

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
518	<i>Erebia ephron</i> (KNOCH, 1783)	0.84	0.38	0.88	0.90	0.03	0.79	0.21	3243
520	<i>Erebia pharte</i> (HÜBNER, 1804)	0.89	0.51	0.96	0.97	0.12	0.54	0.46	1356
522	<i>Erebia melampus</i> (FUESSL, 1775)	0.98	0.53	0.96	0.97	0.04	0.50	0.50	1421
524	<i>Erebia aethiops</i> (ESPER, 1777)	0.82	0.40	0.82	0.88	0.02	0.76	0.24	4523
526	<i>Erebia triaria</i> (PRUNNER, 1798)	0.81	0.36	0.94	0.96	0.01	0.72	0.28	1169
528	<i>Erebia embla</i> (BECKLIN, 1791)	0.97	0.70	0.96	0.98	0.09	0.56	0.44	3804
530	<i>Erebia disa</i> (BECKLIN, 1791)	0.99	0.72	0.99	0.99	0.03	0.49	0.51	1475
532	<i>Erebia medusa</i> (FABRICIUS, 1787)	0.9	0.49	0.85	0.91	0.02	0.63	0.37	4124
534	<i>Erebia albertanus</i> (PRUNNER, 1798)	0.87	0.42	0.96	0.97	0.04	0.54	0.46	1025
536	<i>Erebia phito</i> (PRUNNER, 1798)	0.98	0.52	0.97	0.98	0.01	0.45	0.55	883
538	<i>Erebia gorge</i> (ESPER, 1805)	0.88	0.42	0.94	0.96	0.00	0.17	0.83	1706
540	<i>Erebia mnestra</i> (ESPER, 1805)	0.96	0.46	0.99	0.99	0.01	0.21	0.79	280
542	<i>Erebia epistygne</i> (HÜBNER, 1819)	0.91	0.22	0.99	1.00	0.01	0.64	0.36	172
544	<i>Erebia ottomana</i> (HERRICH-SCHÄFFER, 1847)	0.81	0.28	0.98	0.99	0.03	0.40	0.60	631
546	<i>Erebia tyndarus</i> (ESPER, 1781)	0.99	0.53	0.99	0.99	0.04	0.57	0.43	435
548	<i>Erebia cassioidea</i> (REINER & HOHENWARTH, 1792) (complex)	0.8	0.35	0.95	0.97	0.01	0.40	0.60	1176
550	<i>Erebia prone</i> (ESPER, 1780)	0.89	0.42	0.94	0.96	0.01	0.68	0.32	1680
552	<i>Erebia styx</i> (FREYER, 1834)	0.95	0.36	0.98	0.99	0.02	0.63	0.38	429
554	<i>Erebia montana</i> (PRUNNER, 1798)	0.98	0.58	0.98	0.99	0.01	0.29	0.71	635
556	<i>Erebia neortidas</i> (BOISDUVAL, 1828)	0.93	0.52	0.97	0.98	0.03	0.39	0.61	677
558	<i>Erebia melas</i> (HERBST, 1796)	0.84	0.32	0.98	0.99	0.09	0.71	0.29	650
560	<i>Erebia oene</i> (ESPER, 1805)	0.89	0.38	0.95	0.97	0.05	0.73	0.27	1095
562	<i>Erebia melans</i> (PRUNNER, 1798)	0.92	0.45	0.90	0.91	0.06	0.44	0.56	2758
564	<i>Erebia pandrose</i> (BORKHAUSEN, 1788)	0.86	0.62	0.93	0.95	0.29	0.81	0.19	4493
566	<i>Melanargia russiae</i> (ESPER, 1784)	0.85	0.33	0.92	0.94	0.04	0.50	0.50	1515
568	<i>Melanargia galathea</i> (LINNAEUS, 1758)	0.81	0.50	0.75	0.71	0.02	0.41	0.59	13958
570	<i>Melanargia lachesis</i> (HÜBNER 1790)	0.89	0.44	0.94	0.96	0.02	0.64	0.36	1394

Page		AUC	Kappa	Diag	r.abs	f.pre	r.pre	f.abs	occupied cells
572	<i>Melanargia larisia</i> (ESPER, 1784)	0.89	0.39	0.96	0.98	0.07	0.51	0.49	1121
574	<i>Melanargia arge</i> (SULZER, 1776)	0.98	0.44	0.97	0.98	0.04	0.48	0.52	617
576	<i>Melanargia occitanica</i> (ESPER, 1793)	0.86	0.30	0.91	0.93	0.08	0.51	0.49	1405
578	<i>Melanargia ines</i> (HOFFMANSEGG, 1804)	0.95	0.37	0.94	0.96	0.06	0.68	0.32	1108
580	<i>Satyrus ferula</i> (FABRICIUS, 1793)	0.76	0.35	0.89	0.92	0.09	0.52	0.48	2203
582	<i>Satyrus actaea</i> (ESPER, 1780)	0.92	0.39	0.93	0.94	0.21	0.72	0.28	1618
584	<i>Miniois dryas</i> (SCOPOLI, 1763)	0.83	0.43	0.84	0.91	0.11	0.45	0.55	4240
586	<i>Hipparchia fagi</i> (SCOPOLI, 1763)	0.83	0.39	0.78	0.79	0.06	0.67	0.33	6537
588	<i>Hipparchia hermione</i> (LINNAEUS, 1764)	0.72	0.31	0.83	0.89	0.37	0.82	0.18	3309
590	<i>Hipparchia syriaca</i> (STAUDINGER, 1871)	0.95	0.34	0.94	0.94	0.01	0.31	0.69	1919
592	<i>Hipparchia semele</i> (LINNAEUS, 1758)	0.79	0.43	0.71	0.63	0.21	0.61	0.39	13833
594	<i>Hipparchia volgensis</i> (MAZUCHIN-PORSHNYAKOV, 1952)	0.94	0.33	0.97	0.99	0.03	0.63	0.38	981
596	<i>Hipparchia statilinus</i> (HUFNAGEL, 1766)	0.76	0.33	0.76	0.79	0.10	0.70	0.30	6117
598	<i>Hipparchia fatua</i> (FREYER, 1845)	0.98	0.45	0.96	0.97	0.02	0.39	0.61	1024
600	<i>Hipparchia fidia</i> (LINNAEUS, 1767)	0.88	0.32	0.89	0.90	0.18	0.63	0.37	2192
602	<i>Hipparchia semthes</i> (FRUHSTORFER, 1908)	0.94	0.36	0.96	0.98	0.22	0.73	0.27	840
604	<i>Arelbasana arethusa</i> ([SCHIFFERMÜLLER], 1775)	0.77	0.32	0.80	0.82	0.25	0.70	0.30	5621
606	<i>Brintesia cire</i> (FABRICIUS, 1775)	0.81	0.42	0.77	0.78	0.01	0.58	0.42	7539
608	<i>Chazara briseis</i> (LINNAEUS, 1764)	0.8	0.34	0.74	0.75	0.02	0.70	0.30	7292
610	<i>Pseudochazara anthele</i> (LEFEBVRE, 1831)	0.9	0.52	0.98	0.99	0.02	0.78	0.22	818
612	<i>Oeneis norna</i> (BECKLIN, 1791)	0.98	0.58	0.97	0.98	0.05	0.86	0.14	2077
614	<i>Oeneis glacialis</i> (MOLL, 1785)	0.99	0.59	0.98	0.98	0.02	0.50	0.50	930
616	<i>Oeneis jutta</i> (HUBNER, 1806)	0.96	0.68	0.94	0.95	0.05	0.86	0.14	5991
618	<i>Danaus chrysippus</i> (LINNAEUS, 1758)	0.89	0.36	0.97	0.98	0.02	0.50	0.50	412

Appendix 2 – Scenario results

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
32	-2873 (-16.22%)	-2385 (-13.47%)	-1786 (-10.09%)	-4268 (-24.1%)	-3834 (-21.65%)	-3203 (-18.09%)	-7225 (-40.8%)	-5429 (-30.66%)	-4695 (-26.51%)	-10729 (-60.59%)	-8408 (-47.48%)	-6615 (-37.35%)	-10729 (-60.59%)	-8408 (-47.48%)	-6615 (-37.35%)	-10729 (-60.59%)	-8408 (-47.48%)	-6615 (-37.35%)
34	-222 (-24.56%)	-240 (-26.55%)	-123 (-13.61%)	-631 (-69.8%)	-583 (-64.49%)	-521 (-57.63%)	-658 (-72.79%)	-572 (-63.27%)	-72 (-7.96%)	-862 (-95.35%)	-807 (-89.27%)	-578 (-63.94%)	-862 (-95.35%)	-807 (-89.27%)	-578 (-63.94%)	-862 (-95.35%)	-807 (-89.27%)	-578 (-63.94%)
36	2940 (23.39%)	2554 (20.32%)	3884 (30.9%)	-1476 (-11.74%)	-1255 (-9.98%)	-568 (-4.52%)	-1188 (-9.45%)	-222 (-1.77%)	1889 (15.03%)	-6139 (-48.83%)	-4815 (-38.3%)	-2106 (-16.75%)	-6139 (-48.83%)	-4815 (-38.3%)	-2106 (-16.75%)	-6139 (-48.83%)	-4815 (-38.3%)	-2106 (-16.75%)
38	-379 (-11.62%)	-132 (-4.05%)	-21 (-0.64%)	-1893 (-58.03%)	-1578 (-48.38%)	-1482 (-45.43%)	-454 (-13.92%)	284 (8.71%)	1101 (33.75%)	-2792 (-85.59%)	-2409 (-73.85%)	-1978 (-60.64%)	-2792 (-85.59%)	-2409 (-73.85%)	-1978 (-60.64%)	-2792 (-85.59%)	-2409 (-73.85%)	-1978 (-60.64%)
40	104 (2.47%)	1228 (29.15%)	460 (10.92%)	-1661 (-39.43%)	-1188 (-28.2%)	-1148 (-27.25%)	2972 (70.54%)	2427 (57.61%)	2641 (62.69%)	-2925 (-69.43%)	-2346 (-55.68%)	-1670 (-39.64%)	-2925 (-69.43%)	-2346 (-55.68%)	-1670 (-39.64%)	-2925 (-69.43%)	-2346 (-55.68%)	-1670 (-39.64%)
42	-94 (-7.63%)	-119 (-9.66%)	-26 (-2.11%)	-695 (-56.41%)	-594 (-48.21%)	-611 (-49.59%)	-266 (-21.59%)	-435 (-35.31%)	255 (20.7%)	-1116 (-90.58%)	-972 (-78.9%)	-729 (-59.17%)	-1116 (-90.58%)	-972 (-78.9%)	-729 (-59.17%)	-1116 (-90.58%)	-972 (-78.9%)	-729 (-59.17%)
44	168 (40.58%)	75 (18.12%)	88 (21.26%)	-229 (-55.31%)	-233 (-56.28%)	-239 (-57.73%)	248 (59.9%)	138 (33.33%)	106 (25.6%)	-293 (-70.77%)	-288 (-69.57%)	-275 (-66.43%)	-293 (-70.77%)	-288 (-69.57%)	-275 (-66.43%)	-293 (-70.77%)	-288 (-69.57%)	-275 (-66.43%)
46	-110 (-28.72%)	-88 (-22.98%)	-59 (-15.4%)	-260 (-67.89%)	-228 (-59.53%)	-195 (-50.91%)	-319 (-83.29%)	-262 (-68.41%)	27 (7.05%)	-381 (-99.48%)	-352 (-91.91%)	-229 (-59.79%)	-381 (-99.48%)	-352 (-91.91%)	-229 (-59.79%)	-381 (-99.48%)	-352 (-91.91%)	-229 (-59.79%)
48	-1114 (-16.46%)	-331 (-4.89%)	-426 (-6.29%)	-2425 (-35.83%)	-1755 (-25.93%)	-1771 (-26.17%)	-2218 (-32.77%)	-1006 (-14.86%)	-553 (-8.17%)	-4639 (-68.54%)	-3188 (-47.1%)	-2424 (-35.82%)	-4639 (-68.54%)	-3188 (-47.1%)	-2424 (-35.82%)	-4639 (-68.54%)	-3188 (-47.1%)	-2424 (-35.82%)
50	1211 (44.39%)	528 (19.35%)	2229 (81.71%)	-976 (-35.78%)	-987 (-36.18%)	-341 (-12.5%)	1443 (52.9%)	-59 (-2.16%)	1025 (37.57%)	-2000 (-73.31%)	-1848 (-67.74%)	-1188 (-43.55%)	-2000 (-73.31%)	-1848 (-67.74%)	-1188 (-43.55%)	-2000 (-73.31%)	-1848 (-67.74%)	-1188 (-43.55%)
52	-1928 (-52.59%)	-1862 (-50.79%)	-1328 (-36.22%)	-2248 (-61.32%)	-2012 (-54.88%)	-1802 (-49.15%)	-2945 (-80.33%)	-3014 (-82.21%)	-1929 (-52.62%)	-3553 (-96.92%)	-3242 (-88.43%)	-2530 (-69.01%)	-3553 (-96.92%)	-3242 (-88.43%)	-2530 (-69.01%)	-3553 (-96.92%)	-3242 (-88.43%)	-2530 (-69.01%)
54	53 (5%)	-303 (-28.61%)	305 (28.8%)	-960 (-90.65%)	-938 (-88.57%)	-806 (-76.11%)	-736 (-69.5%)	-755 (-71.29%)	-270 (-25.5%)	-1059 (-100%)	-1058 (-99.91%)	-907 (-85.65%)	-1059 (-100%)	-1058 (-99.91%)	-907 (-85.65%)	-1059 (-100%)	-1058 (-99.91%)	-907 (-85.65%)
56	-761 (-11.6%)	-770 (-11.73%)	222 (3.38%)	-2712 (-41.32%)	-2415 (-36.8%)	-1952 (-29.74%)	-3285 (-50.05%)	-1787 (-27.23%)	-1051 (-16.01%)	-5563 (-84.76%)	-4285 (-65.29%)	-3471 (-52.89%)	-5563 (-84.76%)	-4285 (-65.29%)	-3471 (-52.89%)	-5563 (-84.76%)	-4285 (-65.29%)	-3471 (-52.89%)
58	-352 (-26.21%)	-427 (-31.79%)	33 (2.46%)	-981 (-73.05%)	-917 (-68.28%)	-831 (-61.88%)	-384 (-28.59%)	-808 (-60.16%)	-178 (-13.25%)	-1328 (-98.88%)	-1286 (-95.76%)	-1051 (-78.26%)	-1328 (-98.88%)	-1286 (-95.76%)	-1051 (-78.26%)	-1328 (-98.88%)	-1286 (-95.76%)	-1051 (-78.26%)

Page	2050		2050		2050		2050		2080		2080		2080		2080		
	full dispersal	BAMBU	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	full dispersal	GRAS	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	SEDG
60	-511 (-26.46%)	-280 (-14.5%)	-432 (-22.37%)	-517 (-26.77%)	-356 (-18.44%)	-546 (-28.28%)	-517 (-26.77%)	-306 (-15.85%)	-584 (-30.24%)	-425 (-22.01%)	-306 (-15.85%)	-517 (-26.77%)	-306 (-15.85%)	-777 (-40.24%)	-542 (-28.07%)	-586 (-30.35%)	-586 (-30.35%)
62	-312 (-27.06%)	-207 (-17.95%)	-272 (-23.59%)	-368 (-31.92%)	-320 (-27.75%)	-400 (-34.69%)	-368 (-31.92%)	-336 (-29.14%)	-523 (-45.36%)	-514 (-44.58%)	-336 (-29.14%)	-368 (-31.92%)	-514 (-44.58%)	-719 (-62.36%)	-538 (-46.66%)	-630 (-54.64%)	-630 (-54.64%)
64	-1565 (-27.17%)	-1446 (-25.1%)	-1313 (-22.8%)	-1372 (-23.82%)	-1465 (-25.43%)	-1588 (-27.57%)	-1372 (-23.82%)	-2932 (-50.9%)	-3722 (-64.62%)	-1836 (-31.87%)	-2932 (-50.9%)	-1372 (-23.82%)	-1836 (-31.87%)	-3811 (-66.16%)	-3022 (-52.47%)	-2073 (-35.99%)	-2073 (-35.99%)
66	-2638 (-12.91%)	-2324 (-11.37%)	-1529 (-7.48%)	-3197 (-15.64%)	-3586 (-17.54%)	-4159 (-20.35%)	-3197 (-15.64%)	-4212 (-20.61%)	-5554 (-27.17%)	-2288 (-11.19%)	-4212 (-20.61%)	-3197 (-15.64%)	-4212 (-20.61%)	-10058 (-49.21%)	-7735 (-37.84%)	-5349 (-26.17%)	-5349 (-26.17%)
68	-638 (-10.27%)	-450 (-7.24%)	52 (0.84%)	-1871 (-30.1%)	-2061 (-33.16%)	-2411 (-38.79%)	-1871 (-30.1%)	-1483 (-23.86%)	-3008 (-48.4%)	-759 (-12.21%)	-1483 (-23.86%)	-1871 (-30.1%)	-1483 (-23.86%)	-4947 (-79.6%)	-3798 (-61.11%)	-2952 (-47.5%)	-2952 (-47.5%)
70	-449 (-20.7%)	-306 (-14.11%)	-279 (-12.86%)	-1032 (-47.58%)	-1069 (-49.29%)	-1312 (-60.49%)	-1032 (-47.58%)	-373 (-4.52%)	-373 (-4.52%)	88 (4.06%)	-98 (-4.52%)	-1032 (-47.58%)	88 (4.06%)	-2079 (-95.85%)	-1602 (-73.86%)	-1395 (-64.32%)	-1395 (-64.32%)
72	-133 (-16.26%)	22 (2.69%)	-100 (-12.22%)	-481 (-58.8%)	-419 (-51.22%)	-506 (-61.86%)	-481 (-58.8%)	-362 (-44.25%)	-362 (-44.25%)	-197 (-24.08%)	-197 (-24.08%)	-481 (-58.8%)	-197 (-24.08%)	-703 (-85.94%)	-614 (-75.06%)	-714 (-87.29%)	-714 (-87.29%)
74	-1107 (-25.44%)	-524 (-12.04%)	-472 (-10.85%)	-1306 (-30.01%)	-1326 (-30.47%)	-1933 (-44.42%)	-1306 (-30.01%)	-3080 (-70.77%)	-3080 (-70.77%)	-1773 (-40.74%)	-1773 (-40.74%)	-1306 (-30.01%)	-1773 (-40.74%)	-3713 (-85.32%)	-2764 (-63.51%)	-1936 (-44.49%)	-1936 (-44.49%)
76	386 (5.8%)	362 (5.44%)	1076 (16.16%)	-2050 (-30.79%)	-2404 (-36.11%)	-2691 (-40.42%)	-2050 (-30.79%)	-402 (-6.04%)	-402 (-6.04%)	67 (1.01%)	67 (1.01%)	-2050 (-30.79%)	987 (14.82%)	-5276 (-79.24%)	-4177 (-62.74%)	-3082 (-46.29%)	-3082 (-46.29%)
78	-1796 (-16.46%)	580 (5.32%)	-102 (-0.93%)	-2549 (-23.36%)	-2013 (-18.45%)	-3665 (-33.59%)	-2549 (-23.36%)	246 (2.25%)	246 (2.25%)	1087 (9.96%)	1087 (9.96%)	-2549 (-23.36%)	2539 (23.27%)	-6117 (-56.06%)	-4815 (-44.13%)	-3680 (-33.72%)	-3680 (-33.72%)
80	-109 (-26.85%)	-172 (-42.36%)	-180 (-44.33%)	-338 (-87.68%)	-369 (-85.25%)	-369 (-90.89%)	-338 (-87.68%)	-113 (-27.83%)	-113 (-27.83%)	-60 (-14.78%)	-60 (-14.78%)	-338 (-87.68%)	242 (59.61%)	-406 (-100%)	-404 (-99.51%)	-395 (-97.29%)	-395 (-97.29%)
82	-537 (-38.22%)	-437 (-31.1%)	-447 (-31.81%)	-568 (-40.43%)	-541 (-38.51%)	-644 (-45.84%)	-568 (-40.43%)	-796 (-56.65%)	-796 (-56.65%)	-655 (-46.62%)	-655 (-46.62%)	-568 (-40.43%)	-655 (-46.62%)	-997 (-70.96%)	-834 (-59.36%)	-954 (-67.9%)	-954 (-67.9%)
84	2282 (30.19%)	4028 (53.29%)	1974 (26.11%)	-2272 (-30.06%)	-1937 (-25.63%)	-2646 (-35%)	-2272 (-30.06%)	819 (10.83%)	819 (10.83%)	2305 (30.49%)	2305 (30.49%)	-2272 (-30.06%)	1760 (23.28%)	-5718 (-75.64%)	-4136 (-54.72%)	-3328 (-44.03%)	-3328 (-44.03%)
86	-1877 (-16.71%)	113 (1.01%)	-1722 (-15.33%)	-3397 (-30.24%)	-2117 (-18.85%)	-3570 (-31.78%)	-3397 (-30.24%)	-748 (-6.66%)	-748 (-6.66%)	41 (0.37%)	41 (0.37%)	-3397 (-30.24%)	696 (6.2%)	-4725 (-42.07%)	-3528 (-31.41%)	-2961 (-26.36%)	-2961 (-26.36%)

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	full dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
88	-599 (-10.9%)	-919 (-16.73%)	-1008 (-18.35%)	-2200 (-40.05%)	-2273 (-41.38%)	-2364 (-43.04%)	-2565 (-46.7%)	-2655 (-46.7%)	-2664 (-43.04%)	-2565 (-46.7%)	-1746 (-31.79%)	-1928 (-35.1%)	-4642 (-84.51%)	-3780 (-68.81%)	-3609 (-65.7%)	-4642 (-84.51%)	-3780 (-68.81%)	-3609 (-65.7%)
90	-2839 (-14.61%)	-2572 (-13.24%)	-1906 (-9.81%)	-4045 (-20.82%)	-3506 (-18.04%)	-3176 (-16.35%)	-7605 (-39.14%)	-7605 (-39.14%)	-3176 (-16.35%)	-7605 (-39.14%)	-5580 (-28.72%)	-3425 (-17.63%)	-10551 (-54.3%)	-7891 (-40.61%)	-5330 (-27.43%)	-10551 (-54.3%)	-7891 (-40.61%)	-5330 (-27.43%)
92	-2283 (-18.52%)	-1880 (-15.25%)	-979 (-7.94%)	-4097 (-33.23%)	-3492 (-28.32%)	-2907 (-23.58%)	-5406 (-43.85%)	-5406 (-43.85%)	-2907 (-23.58%)	-5406 (-43.85%)	-4395 (-35.65%)	-3060 (-24.82%)	-8045 (-65.25%)	-6533 (-52.99%)	-4995 (-40.51%)	-8045 (-65.25%)	-6533 (-52.99%)	-4995 (-40.51%)
94	-445 (-4.54%)	-456 (-4.65%)	222 (2.27%)	-2359 (-24.07%)	-2089 (-21.31%)	-1744 (-17.79%)	-2860 (-29.18%)	-2860 (-29.18%)	-1744 (-17.79%)	-2860 (-29.18%)	-2148 (-21.92%)	-827 (-8.44%)	-5473 (-55.84%)	-4552 (-44.4%)	-2875 (-29.33%)	-5473 (-55.84%)	-4552 (-44.4%)	-2875 (-29.33%)
96	-2913 (-24.67%)	-2321 (-19.66%)	-1980 (-16.77%)	-4003 (-33.91%)	-3408 (-28.87%)	-3034 (-25.7%)	-7069 (-59.88%)	-7069 (-59.88%)	-3034 (-25.7%)	-7069 (-59.88%)	-5466 (-46.3%)	-4598 (-38.95%)	-9066 (-76.79%)	-7294 (-61.78%)	-6026 (-51.04%)	-9066 (-76.79%)	-7294 (-61.78%)	-6026 (-51.04%)
98	-1398 (-6.8%)	-953 (-4.64%)	-726 (-3.53%)	-4058 (-19.74%)	-3309 (-16.1%)	-3276 (-15.94%)	-3892 (-18.94%)	-3892 (-18.94%)	-3276 (-15.94%)	-3892 (-18.94%)	-2082 (-10.13%)	-750 (-3.65%)	-9349 (-45.49%)	-6893 (-33.54%)	-4881 (-23.75%)	-9349 (-45.49%)	-6893 (-33.54%)	-4881 (-23.75%)
100	-39 (-7.43%)	-15 (-2.86%)	-11 (-2.1%)	-239 (-45.52%)	-201 (-38.29%)	-195 (-37.14%)	-223 (-42.48%)	-223 (-42.48%)	-195 (-37.14%)	-223 (-42.48%)	-123 (-23.43%)	90 (17.14%)	-420 (-80%)	-342 (-65.14%)	-220 (-41.9%)	-420 (-80%)	-342 (-65.14%)	-220 (-41.9%)
102	-718 (-58.61%)	-626 (-51.1%)	-628 (-51.27%)	-927 (-75.67%)	-828 (-67.59%)	-805 (-65.71%)	-1035 (-84.49%)	-1035 (-84.49%)	-805 (-65.71%)	-1035 (-84.49%)	-912 (-74.45%)	-731 (-59.67%)	-1216 (-99.27%)	-1142 (-93.22%)	-1005 (-82.04%)	-1216 (-99.27%)	-1142 (-93.22%)	-1005 (-82.04%)
104	-1187 (-33.91%)	-1378 (-39.37%)	-802 (-22.91%)	-2196 (-62.74%)	-1932 (-55.2%)	-1847 (-52.77%)	-1967 (-56.2%)	-1967 (-56.2%)	-1847 (-52.77%)	-1967 (-56.2%)	-2119 (-60.54%)	-1574 (-44.97%)	-3405 (-97.29%)	-3078 (-87.94%)	-2617 (-74.77%)	-3405 (-97.29%)	-3078 (-87.94%)	-2617 (-74.77%)
106	3098 (63.24%)	3218 (65.69%)	3753 (76.61%)	-1499 (-30.6%)	-1107 (-22.6%)	-722 (-14.74%)	4141 (84.53%)	4141 (84.53%)	-722 (-14.74%)	4141 (84.53%)	3432 (70.06%)	4158 (84.87%)	-3917 (-79.96%)	-3156 (-64.42%)	-1612 (-32.9%)	-3917 (-79.96%)	-3156 (-64.42%)	-1612 (-32.9%)
108	2080 (359.24%)	2079 (359.07%)	1685 (291.02%)	-23 (-3.97%)	-10 (-1.73%)	-11 (-1.9%)	4073 (703.45%)	4073 (703.45%)	-11 (-1.9%)	4073 (703.45%)	3022 (521.93%)	2970 (512.95%)	-71 (-12.26%)	-73 (-12.61%)	-35 (-6.04%)	-71 (-12.26%)	-73 (-12.61%)	-35 (-6.04%)
110	-1983 (-21.77%)	-1793 (-19.68%)	-465 (-5.1%)	-3222 (-35.37%)	-2980 (-32.71%)	-2308 (-25.34%)	-2163 (-23.75%)	-2163 (-23.75%)	-2308 (-25.34%)	-2163 (-23.75%)	-2536 (-27.84%)	-175 (-1.92%)	-7025 (-77.12%)	-6269 (-68.82%)	-4413 (-48.45%)	-7025 (-77.12%)	-6269 (-68.82%)	-4413 (-48.45%)
112	-314 (-28.21%)	-198 (-17.79%)	-275 (-24.71%)	-488 (-43.85%)	-388 (-34.86%)	-455 (-40.88%)	-574 (-51.57%)	-574 (-51.57%)	-455 (-40.88%)	-574 (-51.57%)	-364 (-32.7%)	-526 (-47.26%)	-804 (-72.24%)	-645 (-57.95%)	-755 (-67.83%)	-804 (-72.24%)	-645 (-57.95%)	-755 (-67.83%)
114	-2915 (-46.47%)	-2609 (-41.59%)	-1887 (-30.08%)	-3479 (-55.46%)	-3126 (-49.83%)	-2568 (-40.94%)	-3972 (-63.32%)	-3972 (-63.32%)	-2568 (-40.94%)	-3972 (-63.32%)	-3319 (-52.91%)	-2234 (-35.61%)	-4758 (-75.85%)	-4177 (-66.59%)	-3431 (-54.69%)	-4758 (-75.85%)	-4177 (-66.59%)	-3431 (-54.69%)

Page	2050		2050		2050		2050		2050		2080		2080		2080		2080	
	full dispersal	GRAS	full dispersal	BAMBU	full dispersal	SEDG	full dispersal	GRAS	full dispersal	BAMBU	full dispersal	SEDG	full dispersal	GRAS	full dispersal	BAMBU	full dispersal	SEDG
116	3058 (29.47%)	3818 (36.79%)	4099 (39.5%)	-1226 (-11.81%)	-852 (-8.21%)	-483 (-4.65%)	3433 (33.08%)	3105 (29.92%)	4380 (42.2%)	-4169 (-40.17%)	4380 (42.2%)	3105 (29.92%)	4380 (42.2%)	-4169 (-40.17%)	-3182 (-30.66%)	-4169 (-40.17%)	-3182 (-30.66%)	-1186 (-11.43%)
118	1346 (6.31%)	1206 (5.65%)	1744 (8.18%)	-742 (-3.48%)	-428 (-2.01%)	-449 (-2.1%)	227 (1.06%)	1066 (5%)	2637 (12.36%)	-4167 (-19.53%)	2637 (12.36%)	1066 (5%)	2637 (12.36%)	-4167 (-19.53%)	-2547 (-11.94%)	-4167 (-19.53%)	-2547 (-11.94%)	-809 (-3.79%)
120	-278 (-40.47%)	-277 (-40.32%)	-224 (-32.61%)	-454 (-66.08%)	-436 (-63.46%)	-404 (-58.81%)	-462 (-67.25%)	-380 (-55.31%)	-257 (-37.41%)	-592 (-86.17%)	-257 (-37.41%)	-380 (-55.31%)	-257 (-37.41%)	-592 (-86.17%)	-534 (-77.73%)	-592 (-86.17%)	-534 (-77.73%)	-455 (-66.23%)
122	97 (0.54%)	236 (1.3%)	1829 (10.09%)	-3575 (-19.72%)	-2733 (-15.08%)	-2394 (-13.21%)	795 (4.39%)	1117 (6.16%)	2744 (15.14%)	-7192 (-39.68%)	2744 (15.14%)	1117 (6.16%)	2744 (15.14%)	-7192 (-39.68%)	-5664 (-31.25%)	-7192 (-39.68%)	-5664 (-31.25%)	-3709 (-20.46%)
124	22 (1.97%)	-186 (-16.65%)	221 (19.79%)	-856 (-76.63%)	-812 (-72.69%)	-712 (-63.74%)	-594 (-53.18%)	-628 (-56.22%)	32 (2.86%)	-1066 (-95.43%)	32 (2.86%)	-628 (-56.22%)	32 (2.86%)	-1066 (-95.43%)	-1009 (-90.33%)	-1066 (-95.43%)	-1009 (-90.33%)	-782 (-70.01%)
126	188 (12%)	761 (48.56%)	370 (23.61%)	-1154 (-73.64%)	-988 (-63.05%)	-893 (-56.99%)	293 (18.7%)	196 (12.51%)	-133 (-8.49%)	-1416 (-90.36%)	-133 (-8.49%)	196 (12.51%)	-133 (-8.49%)	-1416 (-90.36%)	-1328 (-84.75%)	-1416 (-90.36%)	-1328 (-84.75%)	-1198 (-76.45%)
128	-2928 (-15.58%)	-2021 (-10.75%)	-1416 (-7.53%)	-4787 (-25.47%)	-3707 (-19.72%)	-3168 (-16.86%)	-6918 (-36.81%)	-4765 (-25.35%)	-2159 (-11.49%)	-10040 (-53.42%)	-2159 (-11.49%)	-4765 (-25.35%)	-2159 (-11.49%)	-10040 (-53.42%)	-7476 (-39.78%)	-7476 (-39.78%)	-7476 (-39.78%)	-4447 (-23.66%)
130	-1374 (-46.26%)	-1299 (-43.74%)	-989 (-33.3%)	-2012 (-67.74%)	-1763 (-59.36%)	-1744 (-58.72%)	-1956 (-65.86%)	-1948 (-65.59%)	-1313 (-44.21%)	-2887 (-97.21%)	-1313 (-44.21%)	-1948 (-65.59%)	-1313 (-44.21%)	-2887 (-97.21%)	-2614 (-88.01%)	-2887 (-97.21%)	-2614 (-88.01%)	-2309 (-77.74%)
132	-356 (-35.71%)	-330 (-33.1%)	-266 (-26.68%)	-696 (-69.81%)	-648 (-64.99%)	-613 (-61.48%)	-773 (-77.53%)	-666 (-66.8%)	-224 (-22.47%)	-971 (-97.39%)	-224 (-22.47%)	-666 (-66.8%)	-224 (-22.47%)	-971 (-97.39%)	-888 (-89.07%)	-971 (-97.39%)	-888 (-89.07%)	-695 (-69.71%)
134	-456 (-53.15%)	-536 (-62.47%)	-411 (-47.9%)	-580 (-67.6%)	-562 (-65.5%)	-520 (-60.61%)	-849 (-98.95%)	-837 (-97.55%)	-765 (-89.16%)	-849 (-98.95%)	-765 (-89.16%)	-837 (-97.55%)	-765 (-89.16%)	-849 (-98.95%)	-837 (-97.55%)	-837 (-97.55%)	-837 (-97.55%)	-766 (-89.28%)
136	-400 (-57.55%)	-424 (-61.01%)	-289 (-41.58%)	-446 (-64.17%)	-432 (-62.16%)	-377 (-54.24%)	-649 (-93.38%)	-607 (-87.34%)	-338 (-48.63%)	-670 (-96.4%)	-338 (-48.63%)	-607 (-87.34%)	-338 (-48.63%)	-670 (-96.4%)	-626 (-90.07%)	-626 (-90.07%)	-626 (-90.07%)	-495 (-71.22%)
138	-794 (-25.19%)	-999 (-31.69%)	-590 (-18.72%)	-1692 (-53.68%)	-1507 (-47.81%)	-802 (-17.89%)	-265 (-5.91%)	-327 (-7.29%)	338 (7.54%)	-2472 (-55.14%)	338 (7.54%)	-327 (-7.29%)	338 (7.54%)	-2472 (-55.14%)	-2058 (-45.91%)	-2472 (-55.14%)	-2058 (-45.91%)	-1439 (-32.1%)
140	-1530 (-8.14%)	-703 (-3.74%)	-661 (-3.52%)	-3266 (-17.39%)	-2451 (-13.05%)	-1537 (-48.76%)	-1749 (-55.49%)	-1535 (-48.7%)	-920 (-29.19%)	-2743 (-87.02%)	-920 (-29.19%)	-1535 (-48.7%)	-920 (-29.19%)	-2743 (-87.02%)	-2350 (-74.56%)	-2743 (-87.02%)	-2350 (-74.56%)	-1943 (-61.64%)
142	-3241 (-13.8%)	-3133 (-13.34%)	-1904 (-8.11%)	-4419 (-18.82%)	-4027 (-17.15%)	-2426 (-12.91%)	-3323 (-17.69%)	-2410 (-12.83%)	-1604 (-8.54%)	-8101 (-43.12%)	-1604 (-8.54%)	-2410 (-12.83%)	-1604 (-8.54%)	-8101 (-43.12%)	-6143 (-32.7%)	-8101 (-43.12%)	-6143 (-32.7%)	-4323 (-23.01%)

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
144	-25 (-1.9%)	11 (0.84%)	216 (16.44%)	-698 (-53.12%)	-604 (-45.97%)	-3228 (-13.75%)	-8906 (-37.93%)	-6368 (-27.12%)	-3429 (-14.6%)	-11751 (-50.04%)	-8473 (-36.08%)	-5640 (-24.02%)	-11751 (-50.04%)	-8473 (-36.08%)	-5640 (-24.02%)	-11751 (-50.04%)	-8473 (-36.08%)	-5640 (-24.02%)
146	222 (12.98%)	221 (12.92%)	214 (12.51%)	-803 (-46.96%)	-716 (-41.87%)	-619 (-47.11%)	36 (2.74%)	-141 (-10.73%)	446 (33.94%)	-1033 (-78.61%)	-900 (-68.49%)	-748 (-56.93%)	-1033 (-78.61%)	-900 (-68.49%)	-748 (-56.93%)	-1033 (-78.61%)	-900 (-68.49%)	-748 (-56.93%)
148	-891 (-3.69%)	-690 (-2.86%)	82 (0.34%)	-2258 (-9.35%)	-1742 (-7.22%)	-572 (-33.45%)	711 (41.58%)	639 (37.37%)	616 (36.02%)	-1497 (-87.54%)	-1318 (-77.08%)	-968 (-56.61%)	-1497 (-87.54%)	-1318 (-77.08%)	-968 (-56.61%)	-1497 (-87.54%)	-1318 (-77.08%)	-968 (-56.61%)
150	-90 (-4.19%)	-101 (-4.71%)	94 (4.38%)	-1043 (-48.6%)	-932 (-43.43%)	-1502 (-6.22%)	-4088 (-16.93%)	-3119 (-12.92%)	-670 (-2.78%)	-8043 (-33.31%)	-6008 (-24.89%)	-3296 (-13.65%)	-8043 (-33.31%)	-6008 (-24.89%)	-3296 (-13.65%)	-8043 (-33.31%)	-6008 (-24.89%)	-3296 (-13.65%)
152	-3275 (-12.38%)	-2497 (-9.44%)	-2543 (-9.61%)	-3819 (-14.43%)	-3022 (-11.42%)	-786 (-36.63%)	519 (24.18%)	223 (10.39%)	527 (24.56%)	-1894 (-88.26%)	-1684 (-78.47%)	-1157 (-53.91%)	-1894 (-88.26%)	-1684 (-78.47%)	-1157 (-53.91%)	-1894 (-88.26%)	-1684 (-78.47%)	-1157 (-53.91%)
154	-521 (-44.04%)	-320 (-27.05%)	-421 (-35.59%)	-594 (-50.21%)	-418 (-35.33%)	-3045 (-11.51%)	-7583 (-28.66%)	-5386 (-20.36%)	-3817 (-14.43%)	-8253 (-31.19%)	-6063 (-22.91%)	-4424 (-16.72%)	-8253 (-31.19%)	-6063 (-22.91%)	-4424 (-16.72%)	-8253 (-31.19%)	-6063 (-22.91%)	-4424 (-16.72%)
156	-211 (-23.68%)	-97 (-10.89%)	-182 (-20.43%)	-370 (-41.53%)	-296 (-33.22%)	-520 (-43.96%)	-303 (-25.61%)	-197 (-16.65%)	-312 (-26.37%)	-844 (-71.34%)	-655 (-55.37%)	-637 (-53.85%)	-844 (-71.34%)	-655 (-55.37%)	-637 (-53.85%)	-844 (-71.34%)	-655 (-55.37%)	-637 (-53.85%)
158	3493 (22.82%)	1973 (12.89%)	4490 (29.33%)	-842 (-5.5%)	-918 (-6%)	-347 (-38.95%)	-481 (-53.98%)	-280 (-31.43%)	-452 (-50.73%)	-682 (-76.54%)	-509 (-57.13%)	-639 (-71.72%)	-682 (-76.54%)	-509 (-57.13%)	-639 (-71.72%)	-682 (-76.54%)	-509 (-57.13%)	-639 (-71.72%)
160	-432 (-30.36%)	-209 (-14.69%)	-306 (-21.5%)	-611 (-42.94%)	-450 (-31.62%)	-364 (-2.38%)	-1327 (-8.67%)	-157 (-1.03%)	3091 (20.19%)	-7478 (-48.84%)	-5708 (-37.28%)	-2391 (-15.62%)	-7478 (-48.84%)	-5708 (-37.28%)	-2391 (-15.62%)	-7478 (-48.84%)	-5708 (-37.28%)	-2391 (-15.62%)
162	-3095 (-31.31%)	-2799 (-28.31%)	-2875 (-29.08%)	-3361 (-34%)	-3063 (-30.98%)	-513 (-36.05%)	-665 (-46.73%)	-426 (-29.94%)	-562 (-39.49%)	-1017 (-71.47%)	-781 (-54.88%)	-890 (-62.54%)	-1017 (-71.47%)	-781 (-54.88%)	-890 (-62.54%)	-1017 (-71.47%)	-781 (-54.88%)	-890 (-62.54%)
164	1982 (82.79%)	815 (34.04%)	2797 (116.83%)	-989 (-41.31%)	-1199 (-50.08%)	-3210 (-32.47%)	-5087 (-51.46%)	-4202 (-42.5%)	-3370 (-34.09%)	-5433 (-54.96%)	-4562 (-46.15%)	-3889 (-39.34%)	-5433 (-54.96%)	-4562 (-46.15%)	-3889 (-39.34%)	-5433 (-54.96%)	-4562 (-46.15%)	-3889 (-39.34%)
166	-420 (-2.59%)	-123 (-0.76%)	1037 (6.41%)	-2931 (-18.11%)	-2525 (-15.6%)	-331 (-13.83%)	44 (1.84%)	-317 (-13.24%)	1379 (57.6%)	-2260 (-94.4%)	-2059 (-86.01%)	-1160 (-48.45%)	-2260 (-94.4%)	-2059 (-86.01%)	-1160 (-48.45%)	-2260 (-94.4%)	-2059 (-86.01%)	-1160 (-48.45%)
168	-784 (-80%)	-767 (-78.27%)	-736 (-75.1%)	-805 (-82.14%)	-791 (-80.71%)	-1750 (-10.81%)	-4329 (-26.75%)	-3091 (-19.1%)	-962 (-5.94%)	-7460 (-46.09%)	-5896 (-36.43%)	-3518 (-21.74%)	-7460 (-46.09%)	-5896 (-36.43%)	-3518 (-21.74%)	-7460 (-46.09%)	-5896 (-36.43%)	-3518 (-21.74%)
170	-1528 (-35.94%)	-2181 (-51.29%)	-329 (-7.74%)	-2196 (-51.65%)	-2616 (-61.52%)	-785 (-80.1%)	-963 (-98.27%)	-931 (-95%)	-828 (-84.49%)	-964 (-98.37%)	-949 (-96.84%)	-879 (-89.69%)	-964 (-98.37%)	-949 (-96.84%)	-879 (-89.69%)	-964 (-98.37%)	-949 (-96.84%)	-879 (-89.69%)

Page		2050		2050		2050		2050		2080		2080		2080		2080	
		full dispersal	GRAS	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	BAMBU	full dispersal	GRAS	no dispersal	BAMBU
172	<i>Colias myrmidone</i> (ESPER, 1780)	463 (61.57%)	-246 (-32.71%)	416 (55.32%)	-559 (-74.34%)	-565 (-75.13%)	-1351 (-31.77%)	-2667 (-62.72%)	-2971 (-69.87%)	-1896 (-44.59%)	-4048 (-95.2%)	-3887 (-91.42%)	-3193 (-75.09%)				
174	<i>Colias chrysothone</i> (ESPER, 1780)	-786 (-6.27%)	-305 (-2.43%)	-437 (-3.49%)	-3393 (-27.07%)	-2961 (-23.62%)	-489 (-65.03%)	-550 (-73.14%)	-490 (-65.16%)	-519 (-69.02%)	-733 (-97.47%)	-707 (-94.02%)	-665 (-88.43%)				
176	<i>Colias lyale</i> (LINNAEUS, 1758)	-144 (-1.49%)	32 (0.33%)	983 (10.19%)	-3278 (-33.98%)	-2997 (-31.06%)	-2793 (-22.28%)	-3035 (-24.21%)	-1777 (-14.18%)	-905 (-7.22%)	-9284 (-74.06%)	-7208 (-57.5%)	-5229 (-41.72%)				
178	<i>Colias aflicaricensis</i> RIBBE, 1905	-1973 (-9.58%)	-1593 (-7.73%)	-1084 (-5.26%)	-4092 (-19.87%)	-3440 (-16.7%)	-2101 (-21.78%)	-2461 (-25.51%)	-1547 (-16.03%)	-812 (-8.42%)	-6649 (-68.92%)	-5409 (-56.06%)	-4054 (-42.02%)				
180	<i>Gonepteryx rhamni</i> (LINNAEUS, 1758)	84 (13.02%)	75 (11.63%)	89 (13.8%)	-231 (-35.81%)	-188 (-29.15%)	-3228 (-15.67%)	-4146 (-20.13%)	-2555 (-12.4%)	-1165 (-5.66%)	-9486 (-46.05%)	-7022 (-34.09%)	-4835 (-23.47%)				
182	<i>Gonepteryx farinosa</i> ZIELLER, 1847	-31 (-0.73%)	-595 (-14%)	-17 (-0.4%)	-1653 (-38.9%)	-1527 (-35.94%)	-189 (-29.3%)	-144 (-22.33%)	-27 (-4.19%)	334 (51.78%)	-519 (-80.47%)	-369 (-57.21%)	-210 (-32.56%)				
184	<i>Gonepteryx cheopatra</i> (LINNAEUS, 1767)	-3923 (-16.41%)	-4048 (-16.93%)	-2168 (-9.07%)	-4776 (-19.97%)	-4602 (-19.25%)	-1417 (-33.35%)	-1293 (-30.43%)	-1013 (-23.84%)	-143 (-3.37%)	-3250 (-76.49%)	-2621 (-61.69%)	-1918 (-45.14%)				
186	<i>Lycæna phlaeas</i> (LINNAEUS, 1761)	-41 (-1.68%)	229 (9.39%)	159 (6.52%)	-686 (-28.13%)	-487 (-19.97%)	-3372 (-14.1%)	-11453 (-47.9%)	-8526 (-35.66%)	-5057 (-21.15%)	-13177 (-55.11%)	-10086 (-42.18%)	-6765 (-28.29%)				
188	<i>Lycæna belle</i> [SCHIFFERMÜLLER, 1775]	2980 (37.03%)	3583 (44.52%)	2192 (27.24%)	-1764 (-21.92%)	-1262 (-15.68%)	-563 (-23.08%)	-466 (-19.11%)	-36 (-1.48%)	-197 (-8.08%)	-1201 (-49.24%)	-968 (-39.69%)	-1073 (-43.99%)				
190	<i>Lycæna dispar</i> (HAWORTH, 1803)	-3078 (-20.77%)	-2665 (-17.98%)	-780 (-5.26%)	-4622 (-31.18%)	-3876 (-26.15%)	-1539 (-19.12%)	4375 (54.36%)	4992 (62.03%)	3656 (45.43%)	4188 (52.04%)	-3071 (-38.16%)	-2587 (-32.14%)				
192	<i>Lycæna virgauræa</i> (LINNAEUS, 1758)	102 (21.56%)	72 (15.22%)	103 (21.78%)	-247 (-52.22%)	-204 (-43.13%)	-2762 (-18.63%)	-7216 (-48.68%)	-5416 (-36.54%)	-2694 (-18.18%)	-10671 (-71.99%)	-8571 (-57.83%)	-6097 (-41.13%)				
194	<i>Lycæna ottomana</i> (LEFEBVRE, 1830)	-1329 (-11.9%)	-636 (-5.69%)	119 (1.07%)	-4083 (-36.55%)	-3400 (-30.43%)	-182 (-38.48%)	-89 (-18.82%)	-54 (-11.42%)	264 (55.81%)	-405 (-85.62%)	-346 (-73.15%)	-220 (-46.51%)				
196	<i>Lycæna tityrus</i> (PODA, 1761)	-2959 (-32.47%)	-2988 (-32.79%)	-503 (-5.52%)	-4292 (-47.1%)	-3855 (-42.3%)	-2721 (-24.36%)	-4194 (-37.54%)	-3278 (-29.34%)	-2294 (-20.53%)	-8250 (-73.85%)	-6816 (-61.01%)	-5357 (-47.95%)				
198	<i>Lycæna alcyon</i> (ROTTEMBURG, 1775)	-4808 (-34.08%)	-3282 (-23.26%)	-4111 (-29.14%)	-6020 (-42.67%)	-4839 (-34.3%)	-2545 (-27.93%)	-4303 (-47.22%)	-4297 (-47.15%)	-1861 (-20.42%)	-7612 (-83.53%)	-6740 (-73.96%)	-5247 (-57.58%)				

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
200	-75 (-11.42%)	-161 (-24.51%)	192 (29.22%)	-414 (-63.01%)	-376 (-57.23%)	-5600 (-39.69%)	-8606 (-61%)	-6505 (-46.11%)	-5935 (-42.07%)	-9862 (-69.9%)	-8317 (-58.95%)	-7427 (-52.64%)	-9862 (-69.9%)	-8317 (-58.95%)	-7427 (-52.64%)	-9862 (-69.9%)	-8317 (-58.95%)	-7427 (-52.64%)
202	1838 (40.44%)	1632 (35.91%)	2941 (64.71%)	-1584 (-34.85%)	-1421 (-31.27%)	-289 (-43.99%)	-394 (-59.97%)	-391 (-59.51%)	70 (10.65%)	-624 (-94.98%)	-504 (-85.84%)	-343 (-52.21%)	-624 (-94.98%)	-504 (-85.84%)	-343 (-52.21%)	-624 (-94.98%)	-504 (-85.84%)	-343 (-52.21%)
204	-2925 (-22.66%)	-1298 (-10.06%)	-2243 (-17.38%)	-4462 (-34.57%)	-3214 (-24.9%)	-757 (-16.66%)	2058 (45.28%)	574 (12.63%)	2327 (51.2%)	-3651 (80.33%)	-3143 (-69.15%)	-1739 (-38.26%)	-3651 (80.33%)	-3143 (-69.15%)	-1739 (-38.26%)	-3651 (80.33%)	-3143 (-69.15%)	-1739 (-38.26%)
206	-3105 (-22.36%)	-2778 (-20.01%)	-2079 (-14.97%)	-4170 (-30.03%)	-3767 (-27.13%)	-3619 (-28.04%)	-5029 (-38.96%)	-3110 (-24.09%)	-3697 (-28.64%)	-9532 (-73.85%)	-6912 (-53.55%)	-5889 (-45.62%)	-3697 (-28.64%)	-9532 (-73.85%)	-6912 (-53.55%)	-9532 (-73.85%)	-6912 (-53.55%)	-5889 (-45.62%)
208	-1551 (-38.54%)	-1864 (-46.32%)	-912 (-22.66%)	-2621 (-65.13%)	-2456 (-61.03%)	-3083 (-22.2%)	-7703 (-55.47%)	-6242 (-44.95%)	-4962 (-35.73%)	-9184 (-66.14%)	-7466 (-53.77%)	-5822 (-41.93%)	-6242 (-44.95%)	-9184 (-66.14%)	-7466 (-53.77%)	-9184 (-66.14%)	-7466 (-53.77%)	-5822 (-41.93%)
210	-316 (-79.6%)	-296 (-74.56%)	-285 (-71.79%)	-341 (-85.89%)	-315 (-79.35%)	-2173 (-54%)	-2757 (-68.51%)	-2535 (-63%)	-1773 (-44.06%)	-3709 (-92.17%)	-3335 (-82.88%)	-2963 (-73.63%)	-2757 (-68.51%)	-3335 (-82.88%)	-2963 (-73.63%)	-3709 (-92.17%)	-3335 (-82.88%)	-2963 (-73.63%)
212	-4049 (-18.94%)	-3921 (-18.34%)	-2600 (-12.16%)	-4842 (-22.65%)	-4487 (-20.99%)	-309 (-77.83%)	-386 (-97.23%)	-340 (-85.64%)	-309 (-77.83%)	-394 (-99.24%)	-368 (-92.7%)	-358 (-90.18%)	-309 (-77.83%)	-394 (-99.24%)	-368 (-92.7%)	-394 (-99.24%)	-368 (-92.7%)	-358 (-90.18%)
214	-275 (-63.51%)	-320 (-73.9%)	-283 (-65.36%)	-390 (-90.07%)	-378 (-87.3%)	-3401 (-15.91%)	-10212 (-47.76%)	-7570 (-35.41%)	-4212 (-19.7%)	-11497 (-53.77%)	-8595 (-40.2%)	-5250 (-24.56%)	-4212 (-19.7%)	-11497 (-53.77%)	-8595 (-40.2%)	-11497 (-53.77%)	-8595 (-40.2%)	-5250 (-24.56%)
216	-2827 (-25.46%)	-2141 (-19.28%)	-1917 (-17.27%)	-3629 (-32.68%)	-2955 (-26.61%)	-386 (-89.15%)	-243 (-56.12%)	-303 (-69.98%)	-294 (-67.9%)	-425 (-98.15%)	-415 (-95.84%)	-408 (-94.23%)	-294 (-67.9%)	-425 (-98.15%)	-415 (-95.84%)	-425 (-98.15%)	-415 (-95.84%)	-408 (-94.23%)
218	-404 (-3.29%)	1089 (8.88%)	-289 (-2.36%)	-3596 (-29.31%)	-2245 (-18.3%)	-2641 (-23.79%)	-7380 (-66.47%)	-5644 (-50.83%)	-4836 (-43.56%)	-8657 (-77.97%)	-6698 (-60.33%)	-5477 (-49.33%)	-4836 (-43.56%)	-8657 (-77.97%)	-6698 (-60.33%)	-8657 (-77.97%)	-6698 (-60.33%)	-5477 (-49.33%)
220	-1547 (-18.11%)	-2078 (-24.33%)	5 (0.06%)	-3552 (-41.59%)	-3494 (-40.91%)	-3101 (-25.27%)	-2244 (-18.29%)	-702 (-5.72%)	-255 (-2.08%)	-7988 (-65.1%)	-6066 (-49.44%)	-4671 (-38.07%)	-702 (-5.72%)	-7988 (-65.1%)	-6066 (-49.44%)	-7988 (-65.1%)	-6066 (-49.44%)	-4671 (-38.07%)
222	-966 (-8.9%)	-613 (-5.65%)	-164 (-1.51%)	-3370 (-31.04%)	-2924 (-26.93%)	-2382 (-27.89%)	-1885 (-22.07%)	-2494 (-29.2%)	-695 (-8.14%)	-6706 (-78.52%)	-5899 (-69.07%)	-4290 (-50.23%)	-695 (-8.14%)	-6706 (-78.52%)	-5899 (-69.07%)	-6706 (-78.52%)	-5899 (-69.07%)	-4290 (-50.23%)
224	-1549 (-51.46%)	-1649 (-54.78%)	-1000 (-33.22%)	-2151 (-71.46%)	-1938 (-64.39%)	-2441 (-22.49%)	-4333 (-39.91%)	-3154 (-29.05%)	-2100 (-19.34%)	-7136 (-65.73%)	-5618 (-51.75%)	-4264 (-39.28%)	-3154 (-29.05%)	-7136 (-65.73%)	-5618 (-51.75%)	-7136 (-65.73%)	-5618 (-51.75%)	-4264 (-39.28%)
226	-399 (-5.13%)	-492 (-6.32%)	1205 (15.48%)	-3340 (-42.91%)	-2953 (-37.94%)	-1760 (-58.47%)	-2014 (-66.91%)	-2208 (-73.36%)	-1726 (-57.34%)	-2998 (-99.6%)	-2811 (-93.39%)	-2448 (-81.33%)	-2208 (-73.36%)	-2998 (-99.6%)	-2811 (-93.39%)	-2998 (-99.6%)	-2811 (-93.39%)	-2448 (-81.33%)

Page	2050		2050		2050		2050		2080		2080		2080		2080	
	full dispersal	GRAS	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG
228	950 (14.89%)	815 (12.77%)	1279 (20.04%)	1279 (20.04%)	-1156 (-18.12%)	-1240 (-19.43%)	-2303 (-29.59%)	-2303 (-29.59%)	-1287 (-16.53%)	57 (0.73%)	-2206 (-28.34%)	-6127 (-78.71%)	-5311 (-68.23%)	-1287 (-16.53%)	57 (0.73%)	-3942 (-50.64%)
230	-310 (-38.75%)	-277 (-34.62%)	-207 (-25.87%)	-207 (-25.87%)	-464 (-58%)	-557 (-69.62%)	-1030 (-16.14%)	-1030 (-16.14%)	10 (0.16%)	885 (13.87%)	-722 (-11.31%)	-3666 (-57.45%)	-2770 (43.41%)	10 (0.16%)	885 (13.87%)	-1663 (-26.06%)
232	654 (11.95%)	259 (4.73%)	998 (18.23%)	998 (18.23%)	-868 (-15.85%)	-1120 (-20.46%)	-437 (-54.42%)	-437 (-54.42%)	-592 (-7.4%)	-661 (-82.62%)	-629 (-78.62%)	-800 (-100%)	-780 (-97.5%)	-592 (-7.4%)	-661 (-82.62%)	-746 (-93.25%)
234	-619 (-75.3%)	-619 (-75.3%)	-528 (-64.23%)	-528 (-64.23%)	-643 (-78.22%)	-666 (-81.02%)	-759 (-13.86%)	-759 (-13.86%)	-30 (-0.55%)	800 (14.61%)	838 (15.31%)	-3855 (-70.41%)	-2922 (-53.37%)	-30 (-0.55%)	800 (14.61%)	-1775 (-32.42%)
236	-3245 (-24.15%)	-2256 (-16.79%)	-2124 (-15.81%)	-2124 (-15.81%)	-4134 (-30.77%)	-4134 (-30.77%)	-582 (-70.8%)	-582 (-70.8%)	-759 (-92.34%)	-575 (-69.95%)	-711 (-86.5%)	-815 (-99.15%)	-797 (-96.96%)	-759 (-92.34%)	-575 (-69.95%)	-708 (-86.13%)
238	-566 (-50.72%)	-506 (-45.34%)	-470 (-42.11%)	-470 (-42.11%)	-847 (-75.9%)	-961 (-86.11%)	-3032 (-22.56%)	-3032 (-22.56%)	-4491 (-33.42%)	-4157 (-30.94%)	-6299 (-46.88%)	-8702 (-64.76%)	-6672 (-49.65%)	-4491 (-33.42%)	-4157 (-30.94%)	-5451 (-40.57%)
240	746 (4.96%)	1387 (9.23%)	1445 (9.62%)	1445 (9.62%)	-2139 (-14.24%)	-2692 (-17.92%)	-810 (-72.58%)	-810 (-72.58%)	-427 (-38.26%)	-154 (-13.8%)	-373 (-33.42%)	-1101 (-98.66%)	-1039 (-93.1%)	-427 (-38.26%)	-154 (-13.8%)	-1003 (-89.87%)
242	147 (7.21%)	-308 (-15.1%)	775 (37.99%)	775 (37.99%)	-1582 (-76.86%)	-1582 (-76.86%)	-1822 (-12.13%)	-1822 (-12.13%)	1482 (9.86%)	1257 (8.37%)	626 (4.17%)	-7883 (-52.46%)	-5685 (-37.83%)	1482 (9.86%)	1257 (8.37%)	-3979 (-26.48%)
244	473 (21.42%)	796 (36.05%)	321 (14.54%)	321 (14.54%)	-933 (-42.26%)	-933 (-42.26%)	-940 (-46.08%)	-940 (-46.08%)	-933 (-45.74%)	-651 (-31.91%)	-879 (-43.09%)	-2031 (-99.56%)	-2007 (-98.38%)	-933 (-45.74%)	-651 (-31.91%)	-1757 (-86.13%)
246	-2795 (-13.69%)	-2646 (-12.96%)	-1703 (-8.34%)	-1703 (-8.34%)	-4341 (-21.26%)	-4341 (-21.26%)	-3670 (-32.34%)	-3670 (-32.34%)	1782 (80.71%)	1589 (71.97%)	1325 (60.01%)	-1785 (-80.84%)	-1328 (-60.14%)	1782 (80.71%)	1589 (71.97%)	-1036 (-46.92%)
248	-401 (-15.17%)	15 (0.57%)	-226 (-8.55%)	-226 (-8.55%)	-1295 (-49%)	-1295 (-49%)	-964 (-36.47%)	-964 (-36.47%)	-5101 (-24.98%)	-2427 (-11.88%)	-6682 (-32.72%)	-10036 (-49.14%)	-7524 (-36.84%)	-5101 (-24.98%)	-2427 (-11.88%)	-4943 (-24.2%)
250	1968 (36.49%)	383 (7.1%)	2985 (55.35%)	2985 (55.35%)	-1599 (-29.65%)	-962 (-17.84%)	-1037 (-39.24%)	-1037 (-39.24%)	-88 (-3.33%)	-81 (-3.06%)	-847 (-32.05%)	-2209 (-83.58%)	-1433 (-54.22%)	-88 (-3.33%)	-81 (-3.06%)	-1179 (-44.61%)
252	-1074 (-40.09%)	-1287 (-48.04%)	-567 (-21.16%)	-567 (-21.16%)	-1454 (-54.27%)	-1454 (-54.27%)	-353 (-6.55%)	-353 (-6.55%)	2622 (48.62%)	2198 (40.76%)	2622 (48.62%)	-3135 (-58.13%)	-2974 (-55.15%)	2622 (48.62%)	2198 (40.76%)	-1457 (-27.02%)
254	74 (17.29%)	36 (8.41%)	142 (33.18%)	142 (33.18%)	-210 (-49.07%)	-210 (-49.07%)	-1068 (-39.87%)	-1068 (-39.87%)	-2301 (-85.89%)	-1568 (-58.53%)	-2531 (-94.48%)	-2614 (-97.57%)	-2392 (-89.29%)	-2301 (-85.89%)	-1568 (-58.53%)	-1822 (-68.01%)

Page	2050			2050			2050			2080			2080			2080		
	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
256	-1532 (-24.43%)	-1291 (-20.59%)	-24 (-0.38%)	-269 (-43.05%)	-2663 (-42.47%)	-170 (-39.72%)	-2663 (-43.05%)	-2663 (-42.47%)	-170 (-39.72%)	-70 (-16.36%)	-124 (-28.97%)	307 (71.73%)	-406 (-94.86%)	-331 (-77.34%)	-230 (-53.74%)	-406 (-94.86%)	-331 (-77.34%)	-230 (-53.74%)
258	-1146 (-76.76%)	-1124 (-75.28%)	-867 (-58.07%)	-1207 (-80.84%)	-1130 (-75.69%)	-1835 (-29.27%)	-1207 (-80.84%)	-1130 (-75.69%)	-1835 (-29.27%)	-2649 (-42.25%)	-2659 (-42.41%)	-1446 (-23.06%)	-5527 (-88.15%)	-4917 (-78.42%)	-3844 (-61.31%)	-5527 (-88.15%)	-4917 (-78.42%)	-3844 (-61.31%)
260	1267 (8.08%)	2034 (12.98%)	2477 (15.8%)	-2065 (-13.17%)	-1448 (-9.24%)	-971 (-65.04%)	-2065 (-13.17%)	-1448 (-9.24%)	-971 (-65.04%)	-1493 (-100%)	-1493 (-100%)	-1324 (-88.68%)	-1493 (-100%)	-1493 (-100%)	-1344 (-90.02%)	-1493 (-100%)	-1493 (-100%)	-1344 (-90.02%)
262	-1333 (-37.27%)	-1708 (-47.75%)	-720 (-20.13%)	-2464 (-68.88%)	-2238 (-62.57%)	-729 (-7.22%)	-2464 (-68.88%)	-2238 (-62.57%)	-729 (-7.22%)	1591 (10.15%)	1588 (10.13%)	3155 (20.13%)	-6785 (-43.28%)	-5095 (-32.5%)	-2810 (-17.93%)	-6785 (-43.28%)	-5095 (-32.5%)	-2810 (-17.93%)
264	-974 (-29.45%)	-1610 (-48.68%)	-102 (-3.08%)	-1849 (-55.91%)	-1909 (-57.73%)	-2069 (-57.84%)	-1849 (-55.91%)	-1909 (-57.73%)	-2069 (-57.84%)	-2032 (-56.81%)	-2319 (-64.83%)	-1767 (-49.4%)	-3524 (-98.52%)	-3287 (-91.89%)	-2884 (-80.63%)	-3524 (-98.52%)	-3287 (-91.89%)	-2884 (-80.63%)
266	-2206 (-16.66%)	-330 (-2.49%)	-992 (-7.49%)	-4172 (-31.51%)	-2858 (-21.58%)	-1371 (-41.46%)	-4172 (-31.51%)	-2858 (-21.58%)	-1371 (-41.46%)	-2596 (-78.5%)	-2625 (-79.38%)	-1564 (-47.29%)	-3186 (-96.34%)	-2938 (-88.84%)	-2149 (-64.98%)	-3186 (-96.34%)	-2938 (-88.84%)	-2149 (-64.98%)
268	-1537 (-23.71%)	-551 (-8.5%)	-35 (-0.54%)	-3224 (-49.73%)	-4029 (-40.29%)	-2323 (-23.23%)	-3224 (-49.73%)	-4029 (-40.29%)	-2323 (-23.23%)	-3006 (-22.7%)	-1732 (-13.08%)	-1865 (-14.08%)	-8692 (-73.51%)	-6599 (-49.83%)	-5421 (-40.94%)	-8692 (-73.51%)	-6599 (-49.83%)	-5421 (-40.94%)
270	-1451 (-40.09%)	-699 (-19.31%)	-830 (-22.93%)	-2501 (-69.11%)	-1960 (-54.16%)	-2184 (-33.69%)	-2501 (-69.11%)	-1960 (-54.16%)	-2184 (-33.69%)	-2476 (-38.19%)	-1587 (-24.48%)	-1008 (-15.55%)	-5731 (-88.4%)	-4723 (-72.85%)	-3984 (-61.45%)	-5731 (-88.4%)	-4723 (-72.85%)	-3984 (-61.45%)
272	-1388 (-20.89%)	375 (5.65%)	-800 (-12.04%)	-2689 (-40.48%)	-1448 (-21.8%)	-1999 (-55.24%)	-2689 (-40.48%)	-1448 (-21.8%)	-1999 (-55.24%)	-2334 (-64.49%)	-1716 (-47.42%)	-789 (-21.8%)	-3460 (-95.61%)	-3061 (-84.58%)	-2643 (-73.03%)	-3460 (-95.61%)	-3061 (-84.58%)	-2643 (-73.03%)
274	-2138 (-11.19%)	-1803 (-9.44%)	-889 (-4.65%)	-4148 (-21.71%)	-3361 (-17.59%)	-2001 (-30.12%)	-4148 (-21.71%)	-3361 (-17.59%)	-2001 (-30.12%)	-2097 (-31.57%)	-1062 (-15.99%)	-741 (-11.15%)	-4883 (-73.51%)	-3525 (-53.06%)	-2794 (-42.06%)	-4883 (-73.51%)	-3525 (-53.06%)	-2794 (-42.06%)
276	-5296 (-28.72%)	-4401 (-23.87%)	-3965 (-21.5%)	-5309 (-28.79%)	-4419 (-23.97%)	-3151 (-16.49%)	-5309 (-28.79%)	-4419 (-23.97%)	-3151 (-16.49%)	-4123 (-15.58%)	-3038 (-15.9%)	-865 (-45.3%)	-9598 (-50.23%)	-7385 (-38.65%)	-5024 (-26.29%)	-9598 (-50.23%)	-7385 (-38.65%)	-5024 (-26.29%)
278	267 (4.78%)	1176 (21.05%)	995 (17.81%)	-2681 (-47.98%)	-2065 (-36.95%)	-3996 (-21.67%)	-2681 (-47.98%)	-2065 (-36.95%)	-3996 (-21.67%)	-9992 (-54.19%)	-7986 (-43.31%)	-6083 (-32.99%)	-10023 (-54.36%)	-8006 (-43.42%)	-6192 (-33.58%)	-10023 (-54.36%)	-8006 (-43.42%)	-6192 (-33.58%)
280	-3065 (-30.37%)	-2803 (-27.77%)	-2975 (-29.48%)	-3153 (-31.24%)	-2907 (-28.8%)	-33.7% (-33.7%)	-3153 (-31.24%)	-2907 (-28.8%)	-33.7% (-33.7%)	-655 (-11.72%)	297 (5.31%)	760 (13.6%)	-4776 (-85.47%)	-4064 (-72.73%)	-3178 (-56.87%)	-4776 (-85.47%)	-4064 (-72.73%)	-3178 (-56.87%)
282	-2 (-0.47%)	94 (22.12%)	14 (3.29%)	-237 (-55.76%)	-189 (-44.47%)	-3104 (-30.76%)	-237 (-55.76%)	-189 (-44.47%)	-3104 (-30.76%)	-6135 (-60.79%)	-4949 (-49.04%)	-4367 (-43.27%)	-6209 (-61.52%)	-5057 (-50.11%)	-4580 (-45.38%)	-6209 (-61.52%)	-5057 (-50.11%)	-4580 (-45.38%)

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
312	-4505 (-44.66%)	-5353 (-53.07%)	-2889 (-28.64%)	-5013 (-49.7%)	-5575 (-55.27%)	-392 (-83.94%)	-467 (-100%)	-467 (-100%)	-466 (-99.79%)	-467 (-100%)	-467 (-100%)	-466 (-99.79%)	-467 (-100%)	-467 (-100%)	-466 (-99.79%)	-467 (-100%)	-467 (-100%)	-466 (-99.79%)
314	-140 (-2.01%)	-278 (-3.99%)	787 (11.31%)	-2824 (-40.58%)	-2569 (-36.92%)	-3583 (-35.52%)	-8935 (-88.58%)	-8257 (-81.86%)	-6907 (-68.47%)	-9088 (-90.1%)	-8426 (-83.53%)	-7321 (-72.58%)	-9088 (-90.1%)	-8426 (-83.53%)	-7321 (-72.58%)	-9088 (-90.1%)	-8426 (-83.53%)	-7321 (-72.58%)
316	-3054 (-12.06%)	-2902 (-11.46%)	-1508 (-5.96%)	-4374 (-17.27%)	-3836 (-15.15%)	-2140 (-30.75%)	-1437 (-20.65%)	-746 (-10.72%)	279 (4.01%)	-5673 (-81.52%)	-4622 (-66.42%)	-3388 (-48.69%)	-5673 (-81.52%)	-4622 (-66.42%)	-3388 (-48.69%)	-5673 (-81.52%)	-4622 (-66.42%)	-3388 (-48.69%)
318	-1162 (-43.83%)	-968 (-36.51%)	-880 (-33.2%)	-1322 (-49.87%)	-1130 (-42.63%)	-3252 (-12.84%)	-7231 (-28.56%)	-5208 (-20.57%)	-2279 (-9%)	-10608 (-41.9%)	-7950 (-31.4%)	-5242 (-20.7%)	-2279 (-9%)	-10608 (-41.9%)	-7950 (-31.4%)	-5242 (-20.7%)	-10608 (-41.9%)	-7950 (-31.4%)
320	-2615 (-30.83%)	-3054 (-36%)	-599 (-7.06%)	-3487 (-41.11%)	-3575 (-42.14%)	-1087 (-41%)	-1399 (-52.77%)	-1167 (-44.02%)	-1071 (-40.4%)	-1855 (-69.97%)	-1570 (-59.22%)	-1530 (-57.71%)	-1071 (-40.4%)	-1855 (-69.97%)	-1570 (-59.22%)	-1530 (-57.71%)	-1855 (-69.97%)	-1570 (-59.22%)
322	285 (2.33%)	1018 (8.31%)	1560 (12.74%)	-3061 (-25%)	-2600 (-21.23%)	-2243 (-26.44%)	-3937 (-46.41%)	-4525 (-53.34%)	-2162 (-25.49%)	-7016 (-82.71%)	-6338 (-74.71%)	-4723 (-55.68%)	-3937 (-46.41%)	-4525 (-53.34%)	-2162 (-25.49%)	-7016 (-82.71%)	-6338 (-74.71%)	-4723 (-55.68%)
324	-917 (-10.41%)	384 (4.36%)	304 (3.45%)	-3587 (-40.73%)	-2645 (-30.04%)	-2047 (-16.72%)	-1117 (-9.12%)	-405 (-3.31%)	411 (3.36%)	-6854 (-55.97%)	-5496 (-44.88%)	-3601 (-29.41%)	-1117 (-9.12%)	-405 (-3.31%)	411 (3.36%)	-6854 (-55.97%)	-5496 (-44.88%)	-3601 (-29.41%)
326	145 (18.31%)	68 (8.59%)	170 (21.46%)	-608 (-7.67%)	-559 (-70.58%)	-2524 (-28.66%)	-1527 (-17.34%)	-838 (-65.52%)	-501 (-5.69%)	-6483 (-73.62%)	-5197 (-59.02%)	-4088 (-46.42%)	-1527 (-17.34%)	-838 (-65.52%)	-501 (-5.69%)	-6483 (-73.62%)	-5197 (-59.02%)	-4088 (-46.42%)
328	-498 (-52.42%)	-691 (-72.74%)	-457 (-48.11%)	-707 (-74.42%)	-700 (-73.68%)	-557 (-70.33%)	151 (19.07%)	214 (27.02%)	500 (63.13%)	-787 (-99.37%)	-739 (-93.31%)	-656 (-82.83%)	151 (19.07%)	214 (27.02%)	500 (63.13%)	-787 (-99.37%)	-739 (-93.31%)	-656 (-82.83%)
330	-39 (-2.54%)	-452 (-29.41%)	568 (36.96%)	-1076 (-70.01%)	-1020 (-66.36%)	-62.95% (-62.95%)	-922 (-97.05%)	-946 (-99.58%)	-924 (-97.26%)	-950 (-100%)	-950 (-100%)	-926 (-97.47%)	-922 (-97.05%)	-946 (-99.58%)	-924 (-97.26%)	-950 (-100%)	-950 (-100%)	-926 (-97.47%)
332	-349 (-75.87%)	-342 (-74.35%)	-290 (-63.04%)	-384 (-83.48%)	-372 (-80.87%)	-842 (-54.78%)	-915 (-59.53%)	-1004 (-65.32%)	-150 (-9.76%)	-1464 (-95.25%)	-1357 (-88.29%)	-1016 (-66.1%)	-915 (-59.53%)	-1004 (-65.32%)	-150 (-9.76%)	-1464 (-95.25%)	-1357 (-88.29%)	-1016 (-66.1%)
334	-34 (-15.89%)	-90 (-42.06%)	-58 (-27.1%)	-202 (-94.39%)	-192 (-89.72%)	-336 (-73.04%)	-447 (-97.17%)	-406 (-88.26%)	-359 (-78.04%)	-456 (-99.13%)	-433 (-94.13%)	-408 (-88.7%)	-447 (-97.17%)	-406 (-88.26%)	-359 (-78.04%)	-456 (-99.13%)	-433 (-94.13%)	-408 (-88.7%)
336	-1112 (-47.56%)	-850 (-36.36%)	-660 (-28.23%)	-1526 (-65.27%)	-1277 (-54.62%)	-88.79% (-88.79%)	-36.92% (-36.92%)	-97 (-45.33%)	105 (49.07%)	-214 (-100%)	-214 (-100%)	-208 (-97.2%)	-36.92% (-36.92%)	-97 (-45.33%)	105 (49.07%)	-214 (-100%)	-214 (-100%)	-208 (-97.2%)
338	-686 (-11.05%)	529 (8.52%)	55 (0.89%)	-2928 (-47.17%)	-2161 (-34.82%)	-1169 (-50%)	-1409 (-60.27%)	-1091 (-46.66%)	-857 (-36.66%)	-2009 (-85.93%)	-1769 (-75.66%)	-1653 (-70.7%)	-1409 (-60.27%)	-1091 (-46.66%)	-857 (-36.66%)	-2009 (-85.93%)	-1769 (-75.66%)	-1653 (-70.7%)

Page	2050		2050		2050		2050		2050		2080		2080		2080		2080	
	full dispersal	GRAS	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	BAMBU	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG
340	-1165 (-31.62%)	-1280 (-34.74%)	-582 (-15.8%)	-2165 (-58.77%)	-1946 (-52.82%)	-2192 (-35.31%)	-1480 (-23.84%)	-452 (-7.28%)	-249 (-4.01%)	-5148 (-82.94%)	-4008 (-64.57%)	-3222 (-51.91%)						
342	-2577 (-14.1%)	-2110 (-11.55%)	-1366 (-7.47%)	-4369 (-23.91%)	-3766 (-20.61%)	-1642 (-44.57%)	-1312 (-35.61%)	-1635 (-44.38%)	-813 (-22.07%)	-3409 (-92.54%)	-3068 (83.28%)	-2341 (-63.55%)						
344	-587 (-10.8%)	-1933 (-35.58%)	1193 (21.96%)	-4723 (-18.34%)	-2566 (-47.05%)	-3351 (-18.34%)	-6457 (-35.33%)	-4872 (-26.66%)	-2912 (-15.93%)	-11083 (-60.64%)	-8253 (-45.16%)	-5757 (-31.5%)						
346	-2885 (-14.04%)	-2865 (-13.94%)	-1213 (-5.9%)	-4947 (-24.07%)	-4599 (-22.38%)	-1626 (-29.93%)	-2148 (-39.54%)	-3121 (-57.45%)	-1599 (-29.43%)	-4744 (-87.32%)	-4172 (-76.79%)	-3246 (-59.75%)						
348	-3720 (-26.2%)	-2493 (-17.56%)	-1589 (-11.19%)	-4865 (-34.26%)	-3556 (-25.04%)	-3328 (-16.19%)	-9906 (-48.2%)	-7493 (-36.46%)	-4162 (-20.25%)	-13024 (-63.37%)	-10512 (-51.15%)	-7016 (-34.14%)						
350	-2562 (-15.49%)	-2109 (-12.75%)	-1295 (-7.83%)	-3948 (-23.87%)	-3441 (-20.81%)	-2919 (-20.56%)	-8102 (-57.06%)	-5935 (-41.8%)	-3763 (-26.5%)	-10604 (-74.68%)	-8143 (-57.35%)	-5920 (-41.69%)						
352	-443 (-8.93%)	201 (4.05%)	-679 (-13.69%)	-2242 (-45.19%)	-1794 (-36.16%)	-2967 (-17.94%)	-7117 (-43.03%)	-5110 (-30.9%)	-3322 (-20.09%)	-10289 (-62.21%)	-7946 (-48.04%)	-6045 (-36.55%)						
354	-2031 (-14.45%)	-2545 (-18.1%)	-770 (-5.48%)	-3944 (-28.05%)	-4088 (-29.08%)	-2209 (-44.53%)	167 (3.37%)	960 (19.35%)	-358 (-7.22%)	-3849 (-77.59%)	-3083 (-62.14%)	-2923 (-58.92%)						
356	-2704 (-19.61%)	-2329 (-16.89%)	-2157 (-15.64%)	-5157 (-37.4%)	-4748 (-34.44%)	-2836 (-20.17%)	-7632 (-54.28%)	-6471 (-46.02%)	-4326 (-30.77%)	-10003 (-71.15%)	-8591 (-61.1%)	-6463 (-45.97%)						
358	763 (13.85%)	1916 (34.78%)	1518 (27.55%)	-1779 (-32.29%)	-1365 (-24.78%)	-4631 (-35.59%)	-6908 (-50.1%)	-4906 (-35.58%)	-4126 (-29.92%)	-10472 (-75.95%)	-8460 (-61.36%)	-7216 (-52.34%)						
360	-270 (-7.08%)	-589 (-15.44%)	554 (14.53%)	-2292 (-60.09%)	-2135 (-55.98%)	-1190 (-21.6%)	1929 (35.02%)	2007 (36.43%)	2653 (48.16%)	-3676 (-66.73%)	-2868 (-52.06%)	-1927 (-34.98%)						
362	-1564 (-19.66%)	-1220 (-15.34%)	-1589 (-19.98%)	-1760 (-22.13%)	-1399 (-17.59%)	-1741 (-45.65%)	-508 (-13.32%)	-554 (-14.53%)	-217 (-5.69%)	-3442 (-90.25%)	-3243 (-85.03%)	-2542 (-66.65%)						
364	-5707 (-26.51%)	-3553 (-16.5%)	-4042 (-18.77%)	-5782 (-26.86%)	-3587 (-16.66%)	-1783 (-22.42%)	-3171 (-39.87%)	-2410 (-30.3%)	-1843 (-23.17%)	-3443 (-43.29%)	-2747 (-34.54%)	-2291 (-28.8%)						
366	-580 (-30.37%)	-151 (-7.91%)	-377 (-19.74%)	-874 (-45.76%)	-525 (-27.49%)	-4132 (-19.19%)	-8912 (-41.4%)	-7044 (-32.72%)	-4372 (-20.31%)	-9059 (-42.08%)	-7118 (-33.06%)	-4649 (-21.59%)						

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
368	-6093 (-29.77%)	-5114 (-24.99%)	-4708 (-23%)	-6442 (-31.47%)	-5424 (-26.5%)	-766 (-40.1%)	492 (23.76%)	570 (29.84%)	116 (6.07%)	-1181 (-61.83%)	-926 (-48.48%)	-863 (-45.18%)	-1181 (-61.83%)	-926 (-48.48%)	-863 (-45.18%)	-1181 (-61.83%)	-926 (-48.48%)	-863 (-45.18%)
370	-518 (-98.11%)	-518 (-98.11%)	-519 (-98.3%)	-524 (-99.24%)	-521 (-98.67%)	-5037 (-24.61%)	-10443 (-51.02%)	-8549 (-41.77%)	-6291 (-30.74%)	-10927 (-53.39%)	-8996 (-43.95%)	-6771 (-33.08%)	-10927 (-53.39%)	-8996 (-43.95%)	-6771 (-33.08%)	-10927 (-53.39%)	-8996 (-43.95%)	-6771 (-33.08%)
372	-1581 (-28.71%)	-1434 (-26.04%)	-1904 (-34.5%)	-1593 (-28.93%)	-1446 (-26.26%)	-523 (-99.05%)	-528 (-100%)	-526 (-99.62%)	-512 (-96.97%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)	-528 (-100%)
374	-2 (-0.02%)	1436 (17.22%)	1212 (14.54%)	-3190 (-38.26%)	-2450 (-29.38%)	-1930 (-35.05%)	-4189 (-76.07%)	-3324 (-60.35%)	-3654 (-66.35%)	-4197 (-76.21%)	-3340 (-60.65%)	-3670 (-66.64%)	-4197 (-76.21%)	-3340 (-60.65%)	-3670 (-66.64%)	-4197 (-76.21%)	-3340 (-60.65%)	-3670 (-66.64%)
376	-365 (-22.48%)	-237 (-14.59%)	-200 (-12.32%)	-471 (-29%)	-370 (-22.78%)	-2342 (-28.09%)	605 (7.26%)	892 (10.7%)	1325 (15.89%)	-6394 (-76.69%)	-5229 (-62.71%)	-4030 (-48.33%)	-6394 (-76.69%)	-5229 (-62.71%)	-4030 (-48.33%)	-6394 (-76.69%)	-5229 (-62.71%)	-4030 (-48.33%)
378	-1842 (-30.98%)	-1331 (-22.39%)	-1825 (-30.7%)	-1949 (-32.78%)	-1457 (-24.51%)	-396 (-24.38%)	388 (23.89%)	229 (14.1%)	579 (35.65%)	-549 (-33.81%)	-437 (-26.91%)	-405 (-24.94%)	-549 (-33.81%)	-437 (-26.91%)	-405 (-24.94%)	-549 (-33.81%)	-437 (-26.91%)	-405 (-24.94%)
380	-520 (-34.3%)	-286 (-18.87%)	-359 (-23.68%)	-631 (-41.62%)	-463 (-30.54%)	-1919 (-32.28%)	-3189 (-53.64%)	-2550 (-42.89%)	-3317 (-55.79%)	-3323 (-55.9%)	-2690 (-45.25%)	-3406 (-57.29%)	-3323 (-55.9%)	-2690 (-45.25%)	-3406 (-57.29%)	-3323 (-55.9%)	-2690 (-45.25%)	-3406 (-57.29%)
382	-2362 (-28.89%)	-1964 (-24.02%)	-2371 (-29%)	-2625 (-32.1%)	-2230 (-27.27%)	-493 (-32.52%)	-631 (-41.62%)	-417 (-27.51%)	-533 (-35.16%)	-1002 (-66.09%)	-782 (-51.58%)	-808 (-53.3%)	-1002 (-66.09%)	-782 (-51.58%)	-808 (-53.3%)	-1002 (-66.09%)	-782 (-51.58%)	-808 (-53.3%)
384	-4073 (-18.04%)	-4288 (-19%)	-2683 (-11.89%)	-5063 (-22.43%)	-4857 (-21.52%)	-2668 (-32.63%)	-4789 (-58.57%)	-3717 (-45.46%)	-3359 (-41.08%)	-5019 (-61.38%)	-4025 (-49.22%)	-3768 (-46.08%)	-5019 (-61.38%)	-4025 (-49.22%)	-3768 (-46.08%)	-5019 (-61.38%)	-4025 (-49.22%)	-3768 (-46.08%)
386	-3350 (-16.64%)	-4224 (-20.98%)	-1792 (-8.9%)	-5180 (-25.73%)	-5073 (-25.19%)	-353 (-73.39%)	-259 (-53.85%)	-330 (-68.61%)	-197 (-40.96%)	-433 (-90.02%)	-418 (-86.9%)	-370 (-76.92%)	-433 (-90.02%)	-418 (-86.9%)	-370 (-76.92%)	-433 (-90.02%)	-418 (-86.9%)	-370 (-76.92%)
388	-2035 (-9.94%)	-1744 (-8.51%)	-1220 (-5.96%)	-4094 (-19.99%)	-3602 (-17.59%)	-3874 (-17.16%)	-11874 (-52.6%)	-8963 (-39.7%)	-5008 (-22.18%)	-13684 (-60.62%)	-10381 (-45.99%)	-6755 (-29.92%)	-13684 (-60.62%)	-10381 (-45.99%)	-6755 (-29.92%)	-13684 (-60.62%)	-10381 (-45.99%)	-6755 (-29.92%)
390	-3835 (-17.58%)	-3394 (-15.56%)	-2522 (-11.56%)	-4718 (-21.62%)	-4153 (-19.03%)	-3883 (-19.28%)	-9272 (-46.05%)	-7054 (-35.03%)	-2799 (-13.9%)	-11805 (-58.63%)	-9170 (-45.54%)	-5567 (-27.65%)	-11805 (-58.63%)	-9170 (-45.54%)	-5567 (-27.65%)	-11805 (-58.63%)	-9170 (-45.54%)	-5567 (-27.65%)
392	-1943 (-9.08%)	-1830 (-8.55%)	-811 (-3.79%)	-3916 (-18.3%)	-3404 (-15.91%)	-3269 (-15.96%)	-5130 (-25.05%)	-3006 (-14.68%)	-1718 (-8.39%)	-10412 (-50.83%)	-7383 (-36.04%)	-5136 (-25.07%)	-10412 (-50.83%)	-7383 (-36.04%)	-5136 (-25.07%)	-10412 (-50.83%)	-7383 (-36.04%)	-5136 (-25.07%)
394	348 (19.55%)	309 (17.36%)	283 (15.9%)	-414 (-23.26%)	-330 (-18.54%)	-3317 (-15.2%)	-10097 (-46.28%)	-7863 (-36.04%)	-4391 (-20.13%)	-12111 (-55.51%)	-9692 (-44.42%)	-5898 (-27.03%)	-12111 (-55.51%)	-9692 (-44.42%)	-5898 (-27.03%)	-12111 (-55.51%)	-9692 (-44.42%)	-5898 (-27.03%)

Page		2050		2050		2050		2050		2080		2080		2080		2080	
		full dispersal	BAMBU	full dispersal	SEDG	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG
396	<i>Nymphalis e-album</i> (LINNAEUS, 1758)	-2083 (-12.94%)	-1047 (-6.5%)	-886 (-5.5%)	-886 (-5.5%)	-3979 (-24.71%)	-2840 (-17.64%)	-2936 (-13.72%)	-2936 (-13.72%)	-5154 (-24.09%)	-3567 (-16.67%)	-1279 (-5.98%)	-9934 (-46.42%)	-7489 (-3.5%)	-7489 (-3.5%)	-5032 (-23.52%)	
398	<i>Nymphalis egea</i> (CRAMER, 1775)	-2864 (-18.06%)	-2991 (-18.86%)	-1494 (-9.42%)	-1494 (-9.42%)	-4403 (-27.76%)	-4236 (-26.71%)	-368 (-20.67%)	-368 (-20.67%)	1380 (77.53%)	709 (39.83%)	937 (52.64%)	-1161 (-65.22%)	-784 (-44.04%)	-784 (-44.04%)	-471 (-26.46%)	
400	<i>Nymphalis antiopa</i> (LINNAEUS, 1758)	-272 (-6.62%)	-155 (-3.77%)	-292 (-7.1%)	-292 (-7.1%)	-2183 (-53.1%)	-1981 (-48.19%)	-2806 (-17.43%)	-2806 (-17.43%)	-5251 (-32.61%)	-3635 (-22.57%)	-805 (-5%)	-8017 (-49.79%)	-6079 (-37.75%)	-6079 (-37.75%)	-3615 (-22.44%)	
402	<i>Nymphalis polychloros</i> (LINNAEUS, 1758)	90 (1.72%)	1514 (28.91%)	101 (1.93%)	101 (1.93%)	-1836 (-35.06%)	-850 (-16.23%)	-3210 (-20.24%)	-3210 (-20.24%)	-8220 (-51.83%)	-6995 (-44.1%)	-4926 (-31.06%)	-10595 (-66.8%)	-8952 (-56.44%)	-8952 (-56.44%)	-6669 (-42.05%)	
404	<i>Nymphalis xanthomelas</i> (ESPER, 1781)	-1214 (-9.54%)	-231 (-1.82%)	-750 (-5.89%)	-750 (-5.89%)	-3737 (-29.37%)	-2980 (-23.42%)	-1789 (-43.52%)	-1789 (-43.52%)	-2297 (-55.87%)	-1738 (-42.28%)	-2210 (-53.76%)	-4031 (-98.05%)	-3683 (-89.59%)	-3683 (-89.59%)	-3846 (-93.55%)	
406	<i>Nymphalis l-album</i> (ESPER, 1780)	-1086 (-82.27%)	-1047 (-79.32%)	-1047 (-79.32%)	-1047 (-79.32%)	-1095 (-82.95%)	-1057 (-80.08%)	-1761 (-33.63%)	-1761 (-33.63%)	3035 (57.95%)	3350 (63.97%)	3311 (63.22%)	-2884 (-55.07%)	-2324 (-44.38%)	-2324 (-44.38%)	-1611 (-30.76%)	
408	<i>Arachnia teana</i> (LINNAEUS, 1758)	-132 (-33.42%)	-80 (-20.25%)	-77 (-19.49%)	-77 (-19.49%)	-180 (-45.57%)	-149 (-37.72%)	-3045 (-23.93%)	-3045 (-23.93%)	-2943 (-23.13%)	-1661 (-13.05%)	-2108 (-16.57%)	-9390 (-73.79%)	-7261 (-57.06%)	-7261 (-57.06%)	-5787 (-45.48%)	
410	<i>Euphydryas idana</i> (DALMAN, 1816)	-69 (-25.65%)	-11 (-4.09%)	-24 (-8.92%)	-24 (-8.92%)	-155 (-57.62%)	-123 (-45.72%)	-1062 (-80.45%)	-1062 (-80.45%)	-1315 (-99.62%)	-1276 (-96.67%)	-1211 (-91.74%)	-1315 (-99.62%)	-1280 (-96.97%)	-1280 (-96.97%)	-1223 (-92.65%)	
212	<i>Euphydryas Cynthia</i> ([SCHIFFERMÜLLER, 1775])	2526 (35.26%)	3998 (55.81%)	296 (4.13%)	296 (4.13%)	-1754 (-24.48%)	-981 (-13.69%)	-147 (-37.22%)	-147 (-37.22%)	-210 (-53.16%)	-165 (-41.77%)	-233 (-58.99%)	-327 (-82.78%)	-249 (-63.04%)	-249 (-63.04%)	-285 (-72.15%)	
414	<i>Euphydryas intermedia</i> (MENETRIES, 1859)	-1202 (-73.25%)	-1226 (-74.71%)	-1003 (-61.12%)	-1003 (-61.12%)	-1314 (-80.07%)	-1256 (-76.54%)	-127 (-47.21%)	-127 (-47.21%)	-105 (-39.03%)	-45 (-16.73%)	-157 (-58.36%)	-233 (-86.62%)	-193 (-71.75%)	-193 (-71.75%)	-231 (-85.87%)	
416	<i>Euphydryas maturna</i> (LINNAEUS, 1758)	-543 (-8.34%)	335 (5.14%)	-276 (-4.24%)	-276 (-4.24%)	-1292 (-19.84%)	-786 (-12.07%)	-2439 (-34.05%)	-2439 (-34.05%)	2476 (34.56%)	3987 (55.65%)	3354 (46.82%)	-3429 (-47.86%)	-2446 (-34.14%)	-2446 (-34.14%)	-1971 (-27.51%)	
418	<i>Euphydryas desfontainii</i> (GODART, 1819)	-2647 (-20.06%)	-2602 (-19.72%)	-1505 (-11.41%)	-1505 (-11.41%)	-3961 (-30.02%)	-3692 (-27.98%)	-1132 (-68.98%)	-1132 (-68.98%)	-1624 (-98.96%)	-1593 (-97.07%)	-1406 (-85.68%)	-1640 (-99.94%)	-1622 (-98.84%)	-1622 (-98.84%)	-1481 (-90.25%)	
420	<i>Euphydryas atarinia</i> (ROTTEMBERG, 1775)	1267 (16.47%)	1413 (18.37%)	2383 (30.98%)	2383 (30.98%)	-2473 (-32.15%)	-2181 (-28.35%)	-976 (-14.99%)	-976 (-14.99%)	-2488 (-38.2%)	-1115 (-17.12%)	-1055 (-16.2%)	-3659 (-56.18%)	-2365 (-36.31%)	-2365 (-36.31%)	-1908 (-29.3%)	
422	<i>Melitaea cinxia</i> (LINNAEUS, 1758)	214 (54.59%)	261 (66.58%)	51 (13.01%)	51 (13.01%)	-248 (-63.27%)	-184 (-46.94%)	-2787 (-21.12%)	-2787 (-21.12%)	-6896 (-52.26%)	-5706 (-43.24%)	-4653 (-35.26%)	-8941 (-67.76%)	-7293 (-55.27%)	-7293 (-55.27%)	-5935 (-44.98%)	

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	full dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
424	299 (5.76%)	-715 (-13.76%)	1635 (31.47%)	-2154 (-41.46%)	-2237 (-43.06%)	-1579 (-20.53%)	1843 (23.96%)	1417 (18.42%)	2605 (33.86%)	-5324 (-69.21%)	-4209 (-54.71%)	-2630 (-34.19%)	-5324 (-69.21%)	-4209 (-54.71%)	-2630 (-34.19%)	-5324 (-69.21%)	-4209 (-54.71%)	-2630 (-34.19%)
426	1374 (11.08%)	1759 (14.19%)	2540 (20.48%)	-2686 (-21.66%)	-2270 (-18.31%)	-215 (-54.85%)	4348 (1109.18%)	2480 (632.65%)	642 (163.78%)	-386 (-98.47%)	-351 (-89.54%)	-318 (-81.12%)	-386 (-98.47%)	-351 (-89.54%)	-318 (-81.12%)	-386 (-98.47%)	-351 (-89.54%)	-318 (-81.12%)
428	-1511 (-17.5%)	171 (1.98%)	-1169 (-13.54%)	-2780 (-32.2%)	-1648 (-19.09%)	-1421 (-27.35%)	-1070 (-20.6%)	-1820 (-35.03%)	-75 (-1.44%)	-4285 (-82.48%)	-3718 (-71.57%)	-2656 (-51.13%)	-4285 (-82.48%)	-3718 (-71.57%)	-2656 (-51.13%)	-4285 (-82.48%)	-3718 (-71.57%)	-2656 (-51.13%)
430	-1220 (-50.29%)	-1517 (-62.53%)	-832 (-34.3%)	-1824 (-75.19%)	-1792 (-73.87%)	-1554 (-12.53%)	-347 (-2.8%)	-73 (-0.59%)	1522 (12.27%)	-7258 (-58.53%)	-5816 (-46.9%)	-3397 (-27.4%)	1522 (12.27%)	-7258 (-58.53%)	-5816 (-46.9%)	-7258 (-58.53%)	-5816 (-46.9%)	-3397 (-27.4%)
432	-66 (-13.04%)	85 (16.8%)	-19 (-3.75%)	-298 (-58.89%)	-232 (-45.85%)	-2382 (-27.59%)	-3377 (-39.12%)	-1780 (-20.62%)	-2257 (-26.14%)	-6073 (-70.35%)	-4472 (-51.8%)	-4026 (-46.64%)	-2257 (-26.14%)	-6073 (-70.35%)	-4472 (-51.8%)	-6073 (-70.35%)	-4472 (-51.8%)	-4026 (-46.64%)
434	-805 (-25.29%)	-467 (-14.67%)	-263 (-8.26%)	-1756 (-55.17%)	-1326 (-41.66%)	-1587 (-65.42%)	-1062 (-43.78%)	-1236 (-50.95%)	-1099 (-45.3%)	-2213 (-91.22%)	-2071 (-85.37%)	-2005 (-82.65%)	-1099 (-45.3%)	-2213 (-91.22%)	-2071 (-85.37%)	-2213 (-91.22%)	-2071 (-85.37%)	-2005 (-82.65%)
436	801 (18.11%)	2241 (50.67%)	335 (7.57%)	-1641 (-37.1%)	-1117 (-25.25%)	-281 (-55.53%)	-249 (-49.21%)	-123 (-24.31%)	-232 (-45.85%)	-434 (-85.77%)	-355 (-70.16%)	-438 (-86.56%)	-232 (-45.85%)	-434 (-85.77%)	-355 (-70.16%)	-434 (-85.77%)	-355 (-70.16%)	-438 (-86.56%)
438	793 (18.53%)	31 (0.72%)	1268 (29.63%)	-1987 (-46.43%)	-2095 (-48.95%)	-1251 (-39.3%)	-1842 (-57.87%)	-1391 (-43.7%)	-1137 (-35.72%)	-2969 (-93.28%)	-2457 (-77.19%)	-2098 (-65.91%)	-1137 (-35.72%)	-2969 (-93.28%)	-2457 (-77.19%)	-2969 (-93.28%)	-2457 (-77.19%)	-2098 (-65.91%)
440	-1391 (-8.98%)	-610 (-3.94%)	109 (0.7%)	-3658 (-23.63%)	-2730 (-17.63%)	-1527 (-34.52%)	490 (11.08%)	1372 (31.02%)	625 (14.13%)	-3288 (-74.34%)	-2361 (53.38%)	-2076 (46.94%)	625 (14.13%)	-3288 (-74.34%)	-2361 (53.38%)	-3288 (-74.34%)	-2361 (53.38%)	-2076 (46.94%)
442	-2695 (-23.78%)	-937 (-8.27%)	-2247 (-19.83%)	-4819 (-42.53%)	-3448 (-30.43%)	-1324 (-30.93%)	-2251 (-52.59%)	-1961 (-45.82%)	-1646 (-38.46%)	-4035 (-94.28%)	-3747 (-87.55%)	-3144 (-73.46%)	-1646 (-38.46%)	-4035 (-94.28%)	-3747 (-87.55%)	-4035 (-94.28%)	-3747 (-87.55%)	-3144 (-73.46%)
444	-1369 (-15.5%)	890 (10.08%)	-1009 (-11.42%)	-3179 (-35.99%)	-1716 (-19.43%)	-2510 (-16.21%)	-2980 (-19.25%)	-1542 (-9.96%)	560 (3.62%)	-7785 (-50.28%)	-5975 (-38.59%)	-3902 (-25.2%)	-1542 (-9.96%)	-7785 (-50.28%)	-5975 (-38.59%)	-7785 (-50.28%)	-5975 (-38.59%)	-3902 (-25.2%)
446	161 (2.82%)	735 (12.86%)	347 (6.07%)	-1546 (-27.05%)	-1332 (-23.3%)	-4349 (-38.38%)	-3162 (-27.9%)	-1580 (-13.94%)	-1234 (-10.89%)	-8315 (-73.38%)	-6352 (-56.05%)	-5291 (-46.69%)	-1234 (-10.89%)	-8315 (-73.38%)	-6352 (-56.05%)	-8315 (-73.38%)	-6352 (-56.05%)	-5291 (-46.69%)
448	1157 (44.38%)	2187 (83.89%)	1384 (53.09%)	-1389 (-53.28%)	-1038 (-39.82%)	-2600 (-29.44%)	-1447 (-16.38%)	-161 (-1.82%)	-979 (-11.08%)	-6253 (-70.79%)	-4252 (-47.91%)	-3580 (-40.53%)	-979 (-11.08%)	-6253 (-70.79%)	-4252 (-47.91%)	-6253 (-70.79%)	-4252 (-47.91%)	-3580 (-40.53%)
450	-1082 (-50.68%)	-739 (-34.61%)	-655 (-30.68%)	-1391 (-65.15%)	-1113 (-52.13%)	-1259 (-22.03%)	254 (4.44%)	897 (15.69%)	1180 (20.64%)	-3262 (-57.07%)	-2390 (-41.81%)	-1764 (-30.86%)	1180 (20.64%)	-3262 (-57.07%)	-2390 (-41.81%)	-3262 (-57.07%)	-2390 (-41.81%)	-1764 (-30.86%)

Page	2050		2050		2050		2050		2050		2080		2080		2080		2080	
	full dispersal	BAMBU	full dispersal	SEDG	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	BAMBU	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG
452	-840 (-42.45%)	-879 (-44.42%)	-760 (-38.4%)	3014 (144.14%)	-1367 (-69.08%)	-488 (-23.34%)	-1198 (-60.54%)	-1028 (-39.43%)	1649 (63.25%)	1506 (57.77%)	876 (33.6%)	-2435 (-93.4%)	-2254 (-86.46%)	-1769 (-67.86%)				
454	2759 (131.95%)	1346 (64.37%)	3014 (144.14%)	322 (3.23%)	-488 (-23.34%)	-589 (-28.17%)	-1086 (-50.87%)	-1086 (-50.87%)	-121 (-5.67%)	-458 (-21.45%)	74 (3.47%)	-1763 (-82.58%)	-1520 (-71.19%)	-1285 (-60.19%)				
456	-633 (-6.36%)	1144 (11.49%)	322 (3.23%)	322 (3.23%)	-3412 (-34.26%)	-2085 (-20.94%)	-1174 (-59.32%)	-1174 (-59.32%)	-1012 (-51.14%)	-1121 (-56.64%)	-795 (-40.17%)	-1918 (-96.92%)	-1737 (-87.77%)	-1504 (-76%)				
458	-2504 (-28.51%)	-1063 (-12.1%)	-1777 (-20.23%)	-1777 (-20.23%)	-4708 (-53.6%)	-3547 (-40.38%)	-141 (-6.74%)	-141 (-6.74%)	787 (37.64%)	212 (10.14%)	1951 (93.3%)	-1885 (-90.15%)	-1703 (-81.44%)	-880 (-42.09%)				
460	207 (17.28%)	177 (14.77%)	257 (21.45%)	257 (21.45%)	-523 (-43.66%)	-438 (-36.56%)	-2420 (-24.3%)	-2420 (-24.3%)	-37 (-0.37%)	526 (5.28%)	1042 (10.46%)	-7270 (-73.01%)	-5548 (-55.71%)	-4137 (-41.54%)				
462	-845 (-3.69%)	-359 (-1.57%)	111 (0.49%)	111 (0.49%)	-2662 (-11.63%)	-2025 (-8.85%)	-3899 (-44.39%)	-3899 (-44.39%)	-3732 (-42.49%)	-2969 (-33.8%)	-2825 (-32.16%)	-8007 (-91.15%)	-6641 (-75.6%)	-5511 (-62.74%)				
464	-2133 (-12.99%)	-2401 (-14.53%)	-590 (-3.57%)	-590 (-3.57%)	-4415 (-26.71%)	-4201 (-25.42%)	-459 (-38.31%)	-459 (-38.31%)	491 (40.98%)	62 (5.18%)	644 (53.76%)	-882 (-73.62%)	-726 (-60.6%)	-587 (-49%)				
466	-3135 (-34.24%)	-3026 (-33.05%)	-2647 (-28.91%)	-2647 (-28.91%)	-3656 (-39.93%)	-3477 (-37.98%)	-1693 (-7.4%)	-1693 (-7.4%)	-3117 (-13.62%)	-2115 (-9.24%)	-686 (-3%)	-8080 (-35.31%)	-5993 (-26.19%)	-3718 (-16.25%)				
468	-1564 (-10.65%)	-485 (-3.3%)	-126 (-0.86%)	-126 (-0.86%)	-3521 (-23.98%)	-2663 (-18.14%)	-3165 (-19.15%)	-3165 (-19.15%)	-7558 (-45.73%)	-6087 (-36.83%)	-3806 (-23.03%)	-9777 (-59.15%)	-8167 (-49.41%)	-5677 (-34.33%)				
470	-282 (-4.22%)	2968 (44.42%)	-645 (-9.66%)	-645 (-9.66%)	-2207 (-33.04%)	-893 (-13.37%)	-3215 (-35.11%)	-3215 (-35.11%)	-4594 (-50.17%)	-3879 (-42.37%)	-2440 (-26.65%)	-5721 (-62.48%)	-4711 (-51.45%)	-3621 (-39.55%)				
472	-3802 (-29.11%)	-3047 (-23.33%)	-3534 (-27.06%)	-3534 (-27.06%)	-5109 (-39.11%)	-4287 (-32.82%)	-2562 (-17.45%)	-2562 (-17.45%)	-1106 (-7.53%)	-1019 (-6.94%)	780 (5.31%)	-7698 (-52.42%)	-6194 (-42.18%)	-4420 (-30.1%)				
474	168 (15.92%)	1170 (110.9%)	-5 (-0.47%)	-5 (-0.47%)	-331 (-31.37%)	-109 (-10.33%)	-2182 (-32.66%)	-2182 (-32.66%)	3726 (55.78%)	4790 (71.71%)	3110 (46.56%)	-3777 (-56.54%)	-2501 (-37.44%)	-2392 (-35.81%)				
476	197 (25.96%)	125 (16.47%)	332 (43.74%)	332 (43.74%)	-603 (-79.45%)	-592 (-78%)	-4743 (-36.31%)	-4743 (-36.31%)	-6014 (-46.04%)	-4915 (-37.63%)	-4213 (-32.25%)	-8747 (-66.97%)	-7441 (-56.97%)	-6226 (-47.66%)				
478	-1501 (-11.08%)	-1104 (-8.15%)	-389 (-2.87%)	-389 (-2.87%)	-3774 (-27.86%)	-3319 (-24.51%)	-269 (-25.5%)	-269 (-25.5%)	2236 (211.94%)	2128 (201.71%)	732 (69.38%)	-713 (-67.58%)	-481 (-45.59%)	-387 (-36.68%)				

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	full dispersal	full dispersal	full dispersal	no dispersal	no dispersal	no dispersal	no dispersal	full dispersal	full dispersal	full dispersal	no dispersal	no dispersal	no dispersal	no dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
480	90 (0.7%)	-174 (-1.36%)	735 (5.73%)	-2849 (-22.2%)	-2688 (-20.94%)	-514 (-67.72%)	322 (42.42%)	432 (56.92%)	351 (46.25%)	-737 (-97.1%)	-705 (-92.89%)	-606 (-79.84%)	-737 (-97.1%)	-705 (-92.89%)	-606 (-79.84%)	-737 (-97.1%)	-705 (-92.89%)	-606 (-79.84%)
482	-207 (-22%)	-97 (-10.31%)	-167 (-17.75%)	-354 (-37.62%)	-279 (-29.65%)	-2771 (-20.46%)	-4819 (-35.58%)	-3556 (-26.26%)	-2377 (-17.55%)	-9350 (-69.03%)	-7474 (-55.18%)	-5692 (-42.03%)	-9350 (-69.03%)	-7474 (-55.18%)	-5692 (-42.03%)	-9350 (-69.03%)	-7474 (-55.18%)	-5692 (-42.03%)
484	-856 (-30.78%)	-1152 (-41.42%)	-508 (-18.27%)	-2128 (-7.632%)	-1907 (-68.57%)	-2415 (-18.82%)	-1143 (-8.91%)	609 (4.74%)	2334 (18.18%)	-7723 (-60.17%)	-5395 (-42.03%)	-3666 (-28.56%)	-7723 (-60.17%)	-5395 (-42.03%)	-3666 (-28.56%)	-7723 (-60.17%)	-5395 (-42.03%)	-3666 (-28.56%)
486	-517 (-14.59%)	941 (26.56%)	-1416 (-39.97%)	-1545 (-43.61%)	-845 (-23.85%)	-312 (-33.16%)	-466 (-49.52%)	-213 (-22.64%)	-405 (-43.04%)	-662 (-70.35%)	-475 (-50.48%)	-570 (-60.57%)	-662 (-70.35%)	-475 (-50.48%)	-570 (-60.57%)	-662 (-70.35%)	-475 (-50.48%)	-570 (-60.57%)
488	-46 (-5.56%)	-399 (-48.25%)	225 (27.21%)	-571 (-69.04%)	-597 (-72.19%)	-1864 (-67.03%)	-877 (-31.54%)	-1232 (-44.3%)	-927 (-33.33%)	-2689 (-96.69%)	-2501 (-89.93%)	-2297 (-82.6%)	-2689 (-96.69%)	-2501 (-89.93%)	-2297 (-82.6%)	-2689 (-96.69%)	-2501 (-89.93%)	-2297 (-82.6%)
490	-2920 (-13.09%)	-2727 (-12.22%)	-1709 (-7.66%)	-4439 (-19.9%)	-3878 (-17.38%)	-1929 (-54.45%)	-2024 (-57.13%)	-882 (-24.89%)	-1761 (-49.7%)	-3301 (-93.17%)	-2331 (-65.79%)	-2493 (-70.36%)	-3301 (-93.17%)	-2331 (-65.79%)	-2493 (-70.36%)	-3301 (-93.17%)	-2331 (-65.79%)	-2493 (-70.36%)
492	-511 (-7.97%)	-48 (-0.75%)	-385 (-6.01%)	-1691 (-26.38%)	-1437 (-22.41%)	-425 (-51.39%)	-571 (-69.04%)	-574 (-69.41%)	-168 (-20.31%)	-798 (-96.49%)	-746 (-90.21%)	-546 (-66.02%)	-798 (-96.49%)	-746 (-90.21%)	-546 (-66.02%)	-798 (-96.49%)	-746 (-90.21%)	-546 (-66.02%)
494	-939 (-39.96%)	-925 (-39.36%)	-794 (-33.79%)	-1613 (-68.64%)	-1406 (-59.83%)	-3476 (-15.58%)	-6105 (-27.36%)	-4197 (-18.81%)	-1994 (-46.94%)	-10438 (-46.79%)	-7614 (-34.13%)	-5095 (-22.84%)	-10438 (-46.79%)	-7614 (-34.13%)	-5095 (-22.84%)	-10438 (-46.79%)	-7614 (-34.13%)	-5095 (-22.84%)
496	-1151 (-33.26%)	-1440 (-41.61%)	-696 (-20.11%)	-2282 (-65.93%)	-2070 (-59.81%)	-1451 (-22.63%)	-2622 (-40.9%)	-1165 (-18.17%)	-898 (-14.01%)	-3899 (-60.82%)	-2649 (-41.32%)	-2029 (-31.65%)	-3899 (-60.82%)	-2649 (-41.32%)	-2029 (-31.65%)	-3899 (-60.82%)	-2649 (-41.32%)	-2029 (-31.65%)
498	-2340 (-14.04%)	-1875 (-11.25%)	-1583 (-9.49%)	-4840 (-29.03%)	-4274 (-25.64%)	-1382 (-58.81%)	-1037 (-44.13%)	-1206 (-51.32%)	-891 (-37.91%)	-2280 (-97.02%)	-2042 (-86.89%)	-1781 (-75.79%)	-2280 (-97.02%)	-2042 (-86.89%)	-1781 (-75.79%)	-2280 (-97.02%)	-2042 (-86.89%)	-1781 (-75.79%)
500	-2986 (-13.68%)	-2884 (-13.22%)	-1330 (-6.1%)	-4489 (-20.57%)	-4188 (-19.19%)	-1954 (-56.46%)	-2079 (-60.07%)	-2178 (-62.93%)	-1610 (-46.52%)	-3404 (-98.35%)	-3150 (-91.01%)	-2673 (-77.23%)	-3404 (-98.35%)	-3150 (-91.01%)	-2673 (-77.23%)	-3404 (-98.35%)	-3150 (-91.01%)	-2673 (-77.23%)
502	-2698 (-39.19%)	-3974 (-57.73%)	-805 (-11.69%)	-3454 (-50.17%)	-4245 (-61.66%)	-3790 (-22.73%)	-7118 (-42.69%)	-5021 (-30.12%)	-3828 (-22.96%)	-12005 (-72.01%)	-9337 (-56%)	-7230 (-43.37%)	-12005 (-72.01%)	-9337 (-56%)	-7230 (-43.37%)	-12005 (-72.01%)	-9337 (-56%)	-7230 (-43.37%)
504	-981 (-34.68%)	-1228 (-43.41%)	-389 (-13.75%)	-1690 (-59.74%)	-1547 (-54.68%)	-3022 (-13.85%)	-9317 (-42.7%)	-6627 (-30.37%)	-4349 (-19.93%)	-11852 (-54.32%)	-9090 (-41.66%)	-6262 (-28.7%)	-11852 (-54.32%)	-9090 (-41.66%)	-6262 (-28.7%)	-11852 (-54.32%)	-9090 (-41.66%)	-6262 (-28.7%)
506	-4075 (-32.7%)	-2415 (-19.38%)	-2958 (-23.74%)	-4737 (-38.01%)	-3187 (-25.57%)	-2069 (-30.06%)	-5461 (-79.33%)	-5739 (-83.37%)	-3582 (-52.03%)	-6406 (-93.06%)	-6138 (-89.16%)	-4792 (-69.61%)	-6406 (-93.06%)	-6138 (-89.16%)	-4792 (-69.61%)	-6406 (-93.06%)	-6138 (-89.16%)	-4792 (-69.61%)

Page		2050		2050		2050		2050		2080		2080		2080		2080	
		full dispersal	BAMBU	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	full dispersal	SEDG
508	<i>Hyperophlebe lupina</i> (Costa, 1836)	-791 (-37.81%)	-435 (-20.79%)	-524 (-25.05%)	-1100 (-52.58%)	-769 (-36.76%)	-1308 (-46.24%)	-2354 (-83.21%)	-2198 (-77.7%)	-1383 (-48.89%)	-2720 (-96.15%)	-2482 (-87.73%)	-1845 (-65.22%)				
510	<i>Erebia ligea</i> (Linnaeus, 1758)	-99 (-25.71%)	-33 (-8.57%)	-57 (-14.81%)	-172 (-44.68%)	-141 (-36.62%)	-3875 (-31.09%)	-5485 (-44.01%)	-4435 (-35.59%)	-2798 (-22.45%)	-6418 (-51.5%)	-5388 (43.24%)	-3895 (-31.26%)				
512	<i>Erebia enoryx</i> (Esper, 1805)	-357 (-26.39%)	-165 (-12.2%)	-258 (-19.07%)	-548 (-40.5%)	-394 (-29.12%)	-825 (-39.44%)	-500 (-23.9%)	-275 (-13.15%)	-326 (-15.58%)	-1541 (-73.66%)	-1218 (-58.22%)	-1147 (-54.83%)				
514	<i>Erebia eriphyle</i> (Freyer, 1836)	-980 (-30.22%)	-761 (-23.47%)	-747 (-23.03%)	-1321 (-40.73%)	-1057 (-32.59%)	-144 (-37.4%)	-121 (-31.43%)	-76 (-19.74%)	-168 (-43.64%)	-304 (-78.96%)	-251 (-65.19%)	-250 (-64.94%)				
516	<i>Erebia manto</i> ([Schiffmüller], 1775)	-337 (-24.85%)	-212 (-15.63%)	-284 (-20.94%)	-542 (-39.97%)	-429 (-31.64%)	-466 (-34.44%)	-402 (-29.71%)	-228 (-16.85%)	-368 (-27.2%)	-850 (-62.82%)	-661 (-48.85%)	-668 (-49.37%)				
518	<i>Erebia ephron</i> (Knoch, 1783)	-413 (-29.06%)	-244 (-17.17%)	-333 (-23.43%)	-520 (-36.59%)	-389 (-27.38%)	-1068 (-32.93%)	-679 (-20.94%)	-717 (-22.11%)	-524 (-16.16%)	-1837 (-56.65%)	-1526 (-47.06%)	-1317 (-40.61%)				
520	<i>Erebia pharte</i> (Hübner, 1804)	-1395 (-30.84%)	-519 (-11.47%)	-968 (-21.4%)	-2226 (-49.22%)	-1542 (-34.09%)	-487 (-35.91%)	-426 (-31.42%)	-269 (-19.84%)	-428 (-31.56%)	-832 (-61.36%)	-666 (-49.12%)	-679 (-50.07%)				
522	<i>Erebia melampus</i> (Fuessli, 1775)	-66 (-5.65%)	7 (0.6%)	70 (5.99%)	-690 (-59.02%)	-608 (-52.01%)	-444 (-31.25%)	-588 (-41.38%)	-379 (-26.67%)	-499 (-35.12%)	-917 (-64.53%)	-686 (-48.28%)	-740 (-52.08%)				
524	<i>Erebia aethiops</i> (Esper, 1777)	-806 (-21.19%)	-782 (-20.56%)	-835 (-21.95%)	-1207 (-31.73%)	-1145 (-30.1%)	-1883 (-41.63%)	548 (12.12%)	316 (6.99%)	491 (10.86%)	-2876 (-63.59%)	-2318 (-51.25%)	-1899 (-41.99%)				
526	<i>Erebia triaria</i> (Prunner, 1798)	-1025 (-69.49%)	-956 (-64.81%)	-1068 (-72.41%)	-1249 (-84.68%)	-1166 (-79.05%)	-590 (-50.47%)	-285 (-24.38%)	-236 (-20.19%)	-255 (-21.81%)	-943 (-80.67%)	-847 (-72.46%)	-877 (-75.02%)				
528	<i>Erebia embla</i> (Becklin, 1791)	-1416 (-34.34%)	-151 (-3.66%)	-943 (-22.87%)	-2279 (-55.26%)	-1635 (-39.65%)	-1141 (-29.99%)	-2238 (-58.83%)	-1605 (-42.19%)	-1583 (-41.61%)	-2592 (-68.14%)	-2010 (-52.84%)	-1864 (-49%)				
530	<i>Erebia disa</i> (Becklin, 1791)	-244 (-23.8%)	-95 (-9.27%)	-208 (-20.29%)	-352 (-34.34%)	-258 (-25.17%)	-1242 (-84.2%)	-1405 (-95.25%)	-1347 (-91.32%)	-1285 (-87.12%)	-1472 (-99.8%)	-1470 (-99.66%)	-1446 (-98.03%)				
532	<i>Erebia medusa</i> (Fabricius, 1787)	-239 (-27.07%)	-145 (-16.42%)	-189 (-21.4%)	-353 (-39.98%)	-274 (-31.03%)	-1907 (-46.24%)	-111 (-2.69%)	106 (2.57%)	304 (7.37%)	-3288 (-79.73%)	-2660 (-64.5%)	-2199 (-53.32%)				
534	<i>Erebia alberganus</i> (Prunder, 1798)	-602 (-35.29%)	-375 (-21.98%)	-452 (-26.49%)	-717 (-42.03%)	-538 (-31.54%)	-328 (-32%)	-513 (-50.05%)	-276 (-26.93%)	-427 (-41.66%)	-685 (-66.83%)	-483 (-47.12%)	-585 (-57.07%)				

Page	2050			2050			2050			2080			2080			2080		
	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal	full dispersal	full dispersal	no dispersal
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
536	75 (26.79%)	160 (57.14%)	72 (25.71%)	-108 (-38.57%)	-68 (-24.29%)	-306 (-34.65%)	-468 (-53%)	-285 (-32.28%)	-437 (-49.49%)	-648 (-73.39%)	-467 (-52.89%)	-597 (-67.61%)	-648 (-73.39%)	-467 (-52.89%)	-597 (-67.61%)	-648 (-73.39%)	-467 (-52.89%)	-597 (-67.61%)
538	-165 (-95.93%)	-165 (-95.93%)	-137 (-79.65%)	-170 (-98.84%)	-167 (-97.09%)	-578 (-33.88%)	-721 (-42.26%)	-534 (-31.3%)	-587 (-34.41%)	-1128 (-66.12%)	-900 (-52.75%)	-884 (-51.82%)	-1128 (-66.12%)	-900 (-52.75%)	-884 (-51.82%)	-1128 (-66.12%)	-900 (-52.75%)	-884 (-51.82%)
540	-95 (-15.06%)	-144 (-22.82%)	-69 (-10.94%)	-304 (-48.18%)	-297 (-47.07%)	-119 (-42.5%)	-185 (-66.07%)	-69 (-24.64%)	-169 (-60.36%)	-241 (-86.07%)	-173 (-61.79%)	-216 (-77.14%)	-241 (-86.07%)	-173 (-61.79%)	-216 (-77.14%)	-241 (-86.07%)	-173 (-61.79%)	-216 (-77.14%)
542	-11 (-2.53%)	51 (11.72%)	-24 (-5.52%)	-204 (-46.9%)	-160 (-36.78%)	-162 (-94.19%)	-172 (-100%)	-172 (-100%)	-166 (-96.51%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)	-172 (-100%)
544	-398 (-33.84%)	-320 (-27.21%)	-337 (-28.66%)	-457 (-38.86%)	-378 (-32.14%)	-240 (-38.03%)	-118 (-18.7%)	-158 (-25.04%)	193 (30.59%)	-476 (-75.44%)	-431 (-68.3%)	-212 (-33.6%)	-476 (-75.44%)	-431 (-68.3%)	-212 (-33.6%)	-476 (-75.44%)	-431 (-68.3%)	-212 (-33.6%)
546	-586 (-34.88%)	-326 (-19.4%)	-407 (-24.23%)	-692 (-41.19%)	-472 (-28.1%)	-205 (-47.13%)	-200 (-45.98%)	-80 (-18.39%)	-251 (-57.7%)	-339 (-77.93%)	-272 (-62.53%)	-357 (-82.07%)	-339 (-77.93%)	-272 (-62.53%)	-357 (-82.07%)	-339 (-77.93%)	-272 (-62.53%)	-357 (-82.07%)
548	-255 (-59.44%)	-186 (-43.36%)	-200 (-46.62%)	-264 (-61.54%)	-206 (-48.02%)	-404 (-34.35%)	-647 (-55.02%)	-525 (-44.64%)	-656 (-55.78%)	-747 (-63.52%)	-630 (-53.57%)	-746 (-63.44%)	-747 (-63.52%)	-630 (-53.57%)	-746 (-63.44%)	-747 (-63.52%)	-630 (-53.57%)	-746 (-63.44%)
550	-112 (-17.64%)	25 (3.94%)	-77 (-12.13%)	-303 (-47.72%)	-224 (-35.28%)	-570 (-33.93%)	-466 (-27.74%)	-319 (-18.99%)	-315 (-18.75%)	-1011 (-60.18%)	-774 (-46.07%)	-721 (-42.92%)	-1011 (-60.18%)	-774 (-46.07%)	-721 (-42.92%)	-1011 (-60.18%)	-774 (-46.07%)	-721 (-42.92%)
552	18 (2.66%)	-1 (-0.15%)	-10 (-1.48%)	-521 (-76.96%)	-488 (-72.08%)	-227 (-52.91%)	-287 (-66.9%)	-242 (-56.41%)	-247 (-57.58%)	-361 (-84.15%)	-280 (-65.27%)	-282 (-65.73%)	-361 (-84.15%)	-280 (-65.27%)	-282 (-65.73%)	-361 (-84.15%)	-280 (-65.27%)	-282 (-65.73%)
554	121 (18.62%)	40 (6.15%)	179 (27.54%)	-231 (-35.54%)	-239 (-36.77%)	-282 (-44.41%)	-332 (-52.28%)	-186 (-29.29%)	-349 (-54.96%)	-512 (-80.63%)	-409 (-64.41%)	-530 (-83.46%)	-512 (-80.63%)	-409 (-64.41%)	-530 (-83.46%)	-512 (-80.63%)	-409 (-64.41%)	-530 (-83.46%)
556	-298 (-27.21%)	-32 (-2.92%)	-195 (-17.81%)	-427 (-39%)	-276 (-25.21%)	-473 (-69.87%)	-265 (-39.14%)	-162 (-23.93%)	219 (32.35%)	-605 (-89.36%)	-591 (-87.3%)	-560 (-82.72%)	-605 (-89.36%)	-591 (-87.3%)	-560 (-82.72%)	-605 (-89.36%)	-591 (-87.3%)	-560 (-82.72%)
558	-342 (-12.4%)	-153 (-5.55%)	-89 (-3.23%)	-1389 (-50.36%)	-1103 (-39.99%)	-158 (-24.31%)	40 (6.15%)	-35 (-5.38%)	416 (64%)	-496 (-76.31%)	-434 (-66.77%)	-167 (-25.69%)	-496 (-76.31%)	-434 (-66.77%)	-167 (-25.69%)	-496 (-76.31%)	-434 (-66.77%)	-167 (-25.69%)
560	-1212 (-26.98%)	-779 (-17.34%)	-950 (-21.14%)	-1215 (-27.04%)	-830 (-18.47%)	-357 (-32.6%)	-413 (-37.72%)	-155 (-14.16%)	-260 (-23.74%)	-732 (-66.85%)	-523 (-47.6%)	-538 (-49.13%)	-732 (-66.85%)	-523 (-47.6%)	-538 (-49.13%)	-732 (-66.85%)	-523 (-47.6%)	-538 (-49.13%)
562	-982 (-64.82%)	-988 (-65.21%)	-781 (-51.55%)	-1275 (-84.16%)	-1169 (-77.16%)	-1130 (-40.97%)	-1145 (-41.52%)	-644 (-23.35%)	-360 (-13.05%)	-2198 (-79.7%)	-1813 (-65.74%)	-1687 (-61.17%)	-2198 (-79.7%)	-1813 (-65.74%)	-1687 (-61.17%)	-2198 (-79.7%)	-1813 (-65.74%)	-1687 (-61.17%)

Page	2050		2050		2050		2050		2050		2080		2080		2080		2080	
	full dispersal	GRAS	full dispersal	BAMBU	full dispersal	SEDG	no dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG	full dispersal	GRAS	no dispersal	BAMBU	no dispersal	SEDG
564	-12 (-0.09%)	912 (6.53%)	884 (6.33%)	-3015 (-21.6%)	-1006 (-22.39%)	-1444 (-32.14%)	-1128 (-25.11%)	-1546 (-34.41%)	-1265 (-28.15%)	-883 (-19.65%)	-1106 (-24.62%)	-1106 (-24.62%)	-1106 (-24.62%)	-1546 (-34.41%)	-1265 (-28.15%)	-883 (-19.65%)	-1106 (-24.62%)	-1106 (-24.62%)
566	-1045 (-74.96%)	-1054 (-75.61%)	-863 (-61.91%)	-1131 (-81.13%)	-1158 (-76.44%)	-752 (-49.64%)	-1026 (-67.72%)	-1504 (-99.27%)	-1441 (-95.12%)	-752 (-49.64%)	-1352 (-89.24%)	-1352 (-89.24%)	-1352 (-89.24%)	-1504 (-99.27%)	-1441 (-95.12%)	-752 (-49.64%)	-1026 (-67.72%)	-1158 (-76.44%)
568	24 (2.14%)	-25 (-2.23%)	127 (11.33%)	-534 (-47.64%)	-2681 (-19.21%)	-609 (-4.36%)	-22 (-0.16%)	-8654 (-62.2%)	-6633 (-47.52%)	483 (3.46%)	-4811 (-34.47%)	-4811 (-34.47%)	-4811 (-34.47%)	-8654 (-62.2%)	-6633 (-47.52%)	483 (3.46%)	-22 (-0.16%)	-2681 (-19.21%)
570	719 (116.53%)	497 (80.55%)	488 (79.09%)	-291 (-47.16%)	-1047 (-75.11%)	-910 (-65.28%)	-1129 (-80.99%)	-1055 (-75.68%)	-1374 (-98.57%)	-1055 (-75.68%)	-1324 (-94.98%)	-1324 (-94.98%)	-1324 (-94.98%)	-1055 (-75.68%)	-1055 (-75.68%)	-1129 (-80.99%)	-1129 (-80.99%)	-1047 (-75.11%)
572	-1141 (-81.21%)	-1081 (-76.94%)	-958 (-68.19%)	-1137 (-80.93%)	-497 (-44.34%)	-249 (-22.21%)	-410 (-36.57%)	-1008 (-89.92%)	-873 (-77.88%)	-246 (21.94%)	-586 (-52.27%)	-586 (-52.27%)	-586 (-52.27%)	-1008 (-89.92%)	-873 (-77.88%)	-246 (21.94%)	-410 (-36.57%)	-497 (-44.34%)
574	-657 (-59.3%)	-648 (-58.48%)	-460 (-41.52%)	-659 (-59.48%)	-281 (-45.54%)	655 (106.16%)	767 (124.31%)	-447 (-72.45%)	-409 (-66.29%)	776 (125.77%)	-331 (-53.65%)	-331 (-53.65%)	-331 (-53.65%)	-447 (-72.45%)	-409 (-66.29%)	776 (125.77%)	767 (124.31%)	-281 (-45.54%)
576	-941 (-42.71%)	-741 (-33.64%)	-703 (-31.91%)	-1333 (-60.51%)	-1076 (-76.58%)	-1014 (-72.17%)	-1196 (-85.12%)	-1081 (-76.94%)	-1402 (-99.79%)	-1081 (-76.94%)	-1345 (-95.73%)	-1345 (-95.73%)	-1345 (-95.73%)	-1081 (-76.94%)	-1081 (-76.94%)	-1196 (-85.12%)	-1196 (-85.12%)	-1076 (-76.58%)
578	-669 (-41.35%)	-1060 (-65.51%)	-200 (-12.36%)	-1373 (-84.86%)	-547 (-49.37%)	-1073 (-96.84%)	-1019 (-91.97%)	-794 (-71.66%)	-1019 (-91.97%)	-833 (-75.18%)	-833 (-75.18%)	-833 (-75.18%)	-833 (-75.18%)	-1073 (-96.84%)	-1019 (-91.97%)	-794 (-71.66%)	-1019 (-91.97%)	-547 (-49.37%)
580	2375 (56.01%)	3822 (90.14%)	2262 (53.35%)	-1934 (-45.61%)	-1206 (-54.74%)	-631 (-28.64%)	-601 (-27.28%)	-378 (-17.16%)	-1846 (-83.79%)	-1706 (-77.44%)	-1706 (-77.44%)	-1706 (-77.44%)	-1706 (-77.44%)	-631 (-28.64%)	-601 (-27.28%)	-378 (-17.16%)	-601 (-27.28%)	-1206 (-54.74%)
582	830 (12.7%)	2258 (34.54%)	1516 (23.19%)	-1710 (-26.16%)	-1171 (-70.37%)	-1015 (-62.73%)	-1016 (-62.79%)	-749 (-46.29%)	-1579 (-97.59%)	-1522 (-94.07%)	-1522 (-94.07%)	-1522 (-94.07%)	-1522 (-94.07%)	-1015 (-62.73%)	-1015 (-62.73%)	-749 (-46.29%)	-1016 (-62.79%)	-1171 (-70.37%)
584	-1329 (-40.16%)	-1810 (-54.7%)	14 (0.42%)	-2266 (-68.48%)	-1957 (-46.16%)	4305 (101.53%)	3810 (89.86%)	3230 (76.18%)	-3066 (-72.31%)	-2611 (-61.58%)	-2611 (-61.58%)	-2611 (-61.58%)	-2611 (-61.58%)	4305 (101.53%)	3810 (89.86%)	3230 (76.18%)	3230 (76.18%)	-1957 (-46.16%)
586	534 (27.83%)	481 (25.07%)	774 (40.33%)	-646 (-33.66%)	-1565 (-23.94%)	1334 (20.41%)	1747 (26.72%)	2059 (31.5%)	-4425 (-53.2%)	-2487 (-38.04%)	-2487 (-38.04%)	-2487 (-38.04%)	-2487 (-38.04%)	1334 (20.41%)	1747 (26.72%)	2059 (31.5%)	2059 (31.5%)	-1565 (-23.94%)
588	-3564 (-25.76%)	-3269 (-23.63%)	-2284 (-16.51%)	-4031 (-29.14%)	-1651 (-49.89%)	-2086 (-63.04%)	-2091 (-63.19%)	-906 (-27.38%)	-2968 (-89.69%)	-2535 (-76.61%)	-2535 (-76.61%)	-2535 (-76.61%)	-2535 (-76.61%)	-2086 (-63.04%)	-2091 (-63.19%)	-906 (-27.38%)	-2091 (-63.19%)	-1651 (-49.89%)
590	155 (15.8%)	-96 (-9.79%)	426 (43.43%)	-549 (-55.96%)	-595 (-31.01%)	445 (23.19%)	-201 (-10.47%)	652 (33.98%)	-1432 (-64.15%)	-893 (-46.53%)	-893 (-46.53%)	-893 (-46.53%)	-893 (-46.53%)	445 (23.19%)	-201 (-10.47%)	652 (33.98%)	652 (33.98%)	-595 (-31.01%)

Page	2050		2050		2050		2050		2080		2080		2080		2080			
	full dispersal	full dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal	full dispersal	no dispersal		
	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG	GRAS	BAMBU	SEDG
592	506 (8.27%)	-56 (-0.92%)	1004 (16.41%)	-2640 (-43.16%)	-2416 (-39.5%)	-3095 (-22.37%)	-8424 (-60.9%)	-6634 (-47.96%)	-5233 (-37.83%)	-9748 (-70.47%)	-6634 (-47.96%)	-5233 (-37.83%)	-9748 (-70.47%)	-7748 (-56.01%)	-6024 (-43.55%)	-9748 (-70.47%)	-7748 (-56.01%)	-6024 (-43.55%)
594	-92 (-8.98%)	-46 (-4.49%)	-89 (-8.69%)	-513 (-50.1%)	-439 (-42.87%)	-382 (-38.94%)	-467 (-47.6%)	-432 (-44.04%)	152 (15.49%)	-856 (-87.26%)	-467 (-47.6%)	152 (15.49%)	-856 (-87.26%)	-735 (-74.92%)	-465 (-47.4%)	-856 (-87.26%)	-735 (-74.92%)	-465 (-47.4%)
596	-1040 (-47.45%)	-1294 (-59.03%)	-731 (-33.5%)	-1875 (-85.54%)	-1644 (-75%)	-1947 (-31.83%)	-1068 (-17.46%)	-506 (-8.27%)	-99 (-1.62%)	-5188 (-84.81%)	-1068 (-17.46%)	-99 (-1.62%)	-5188 (-84.81%)	-4017 (-65.67%)	-3063 (-50.07%)	-5188 (-84.81%)	-4017 (-65.67%)	-3063 (-50.07%)
598	-85 (-10.12%)	-2 (-0.24%)	-62 (-7.38%)	-386 (-45.95%)	-293 (-34.88%)	-482 (-47.07%)	-426 (-41.6%)	-245 (-23.93%)	235 (22.95%)	-827 (-80.76%)	-426 (-41.6%)	235 (22.95%)	-827 (-80.76%)	-693 (-67.68%)	-527 (-51.46%)	-827 (-80.76%)	-693 (-67.68%)	-527 (-51.46%)
600	487 (8.66%)	-64 (-1.14%)	1068 (19%)	-2938 (-52.27%)	-2666 (-47.43%)	-1623 (-74.04%)	-1463 (-66.74%)	-1518 (-69.25%)	-1112 (-50.73%)	-2180 (-99.45%)	-1518 (-69.25%)	-1112 (-50.73%)	-2180 (-99.45%)	-2110 (-96.26%)	-1959 (-89.37%)	-2180 (-99.45%)	-2110 (-96.26%)	-1959 (-89.37%)
602	-42 (-0.56%)	-443 (-5.88%)	1057 (14.02%)	-3143 (-41.69%)	-2864 (-37.99%)	-350 (-41.67%)	-444 (-52.86%)	-280 (-33.33%)	207 (24.64%)	-767 (-91.31%)	-444 (-52.86%)	207 (24.64%)	-767 (-91.31%)	-631 (-75.12%)	-421 (-50.12%)	-767 (-91.31%)	-631 (-75.12%)	-421 (-50.12%)
604	-349 (-4.79%)	-27 (-0.37%)	645 (8.85%)	-2727 (-37.4%)	-2256 (-30.94%)	-2313 (-41.15%)	-2335 (-41.54%)	-1332 (-23.7%)	-616 (-10.96%)	-5381 (-95.73%)	-2335 (-41.54%)	-616 (-10.96%)	-5381 (-95.73%)	-4595 (-81.75%)	-3665 (-65.2%)	-5381 (-95.73%)	-4595 (-81.75%)	-3665 (-65.2%)
606	-181 (-22.13%)	-134 (-16.38%)	-175 (-21.39%)	-385 (-47.07%)	-332 (-40.59%)	-2308 (-30.61%)	-1518 (-20.14%)	-961 (-12.75%)	185 (2.45%)	-6183 (-82.01%)	-1518 (-20.14%)	185 (2.45%)	-6183 (-82.01%)	-5018 (-66.56%)	-3680 (-48.81%)	-6183 (-82.01%)	-5018 (-66.56%)	-3680 (-48.81%)
608	-1729 (-83.25%)	-1680 (-80.89%)	-1683 (-81.03%)	-1737 (-83.63%)	-1687 (-81.22%)	-1902 (-26.08%)	-2263 (-31.03%)	-1170 (-16.04%)	-402 (-5.51%)	-5429 (-74.45%)	-2263 (-31.03%)	-402 (-5.51%)	-5429 (-74.45%)	-4231 (-58.02%)	-3226 (-44.24%)	-5429 (-74.45%)	-4231 (-58.02%)	-3226 (-44.24%)
610	-247 (-26.56%)	-114 (-12.26%)	-192 (-20.65%)	-400 (-43.01%)	-323 (-34.73%)	-360 (-44.01%)	-322 (-39.36%)	-231 (-28.24%)	193 (23.59%)	-623 (-76.16%)	-322 (-39.36%)	193 (23.59%)	-623 (-76.16%)	-481 (-58.8%)	-379 (-46.33%)	-623 (-76.16%)	-481 (-58.8%)	-379 (-46.33%)
612	-1446 (-24.14%)	-1434 (-23.94%)	-1165 (-19.45%)	-2091 (-34.9%)	-2057 (-34.33%)	-1691 (-81.42%)	-2065 (-99.42%)	-2026 (-97.54%)	-1899 (-91.43%)	-2030 (-99.42%)	-2065 (-99.42%)	-1899 (-91.43%)	-2030 (-99.42%)	-2030 (-97.74%)	-1909 (-91.91%)	-2030 (-99.42%)	-2030 (-97.74%)	-1909 (-91.91%)
614	-209 (-50.73%)	-171 (-41.5%)	-204 (-49.51%)	-304 (-73.79%)	-262 (-63.59%)	-368 (-39.57%)	-480 (-51.61%)	-272 (-29.25%)	-430 (-46.24%)	-710 (-76.34%)	-480 (-51.61%)	-272 (-29.25%)	-430 (-46.24%)	-529 (-56.88%)	-637 (-68.49%)	-710 (-76.34%)	-529 (-56.88%)	-637 (-68.49%)
616	-1446 (-24.14%)	-1434 (-23.94%)	-1165 (-19.45%)	-2091 (-34.9%)	-2057 (-34.33%)	-1791 (-29.89%)	-2839 (-47.39%)	-2096 (-34.99%)	-1820 (-30.38%)	-3887 (-64.88%)	-2839 (-47.39%)	-2096 (-34.99%)	-1820 (-30.38%)	-3090 (-51.58%)	-2670 (-44.57%)	-3887 (-64.88%)	-3090 (-51.58%)	-2670 (-44.57%)
618	-209 (-50.73%)	-171 (-41.5%)	-204 (-49.51%)	-304 (-73.79%)	-262 (-63.59%)	-270 (-65.53%)	-203 (-49.27%)	-195 (-47.33%)	-74 (-17.96%)	-369 (-89.56%)	-203 (-49.27%)	-195 (-47.33%)	-74 (-17.96%)	-334 (-81.07%)	-273 (-66.26%)	-369 (-89.56%)	-334 (-81.07%)	-273 (-66.26%)

Appendix 3: Risk category statistics of European butterflies under different scenarios

Table App. 3.1: Number of European butterfly species in different risk categories under different scenarios

HHHR = extremely high risk (loss >95%; AUC > 0.75)

HHR = very high risk (loss >85%; AUC > 0.75)

HR = high risk (loss >70%; AUC > 0.75)

R = risk (loss >50%; AUC > 0.75)

LR = lower risk (loss < 51%; AUC > 0.75)

PR = potential risk (any loss or gain; AUC < 0.76)

LR with incr = lower risk with gain under full dispersal (AUC > 0.75)

		climate change risk categories						
		HHHR	HHR	HR	R	LR total	PR	LR with incr
2050 full dispersal (n species)	SEDG	1	0	7	9	227	50	81
	BAMBU	2	1	11	15	215	50	67
	GRAS	3	0	10	17	214	50	56
2050 no dispersal (n species)	SEDG	1	4	16	47	176	50	0
	BAMBU	2	4	26	44	168	50	0
	GRAS	3	10	26	58	147	50	0
2080 full dispersal (n species)	SEDG	4	6	7	26	201	50	74
	BAMBU	10	8	11	32	183	50	44
	GRAS (n)	14	4	15	55	156	50	43
2080 no dispersal (n species)	SEDG	8	24	35	73	104	50	0
	BAMBU	26	39	37	92	50	50	0
	GRAS	59	39	74	58	14	50	0

Table App. 3.2: Percentage of European butterfly species in different risk categories under different scenarios (excluding the PR-category)

HHHR = extremely high risk (loss >95%; AUC > 0.75)

HHR = very high risk (loss >85%; AUC > 0.75)

HR = high risk (loss >70%; AUC > 0.75)

R = risk (loss >50%; AUC > 0.75)

LR = lower risk (loss < 51%; AUC > 0.75)

LR with incr = lower risk with gain under full dispersal(AUC > 0.75)

		climate change risk categories					
		HHHR	HHR	HR	R	LR total	LR with incr
2050 full dispersal (% species)	SEDG %	0.4	0.0	2.9	3.7	93.0	33.2
	BAMBU %	0.8	0.4	4.5	6.1	88.1	27.5
	GRAS %	1.2	0.0	4.1	7.0	87.7	23.0
2050 no dispersal (% species)	SEDG %	0.4	1.6	6.6	19.3	72.1	0.0
	BAMBU %	0.8	1.6	10.7	18.0	68.9	0.0
	GRAS %	1.2	4.1	10.7	23.8	60.2	0.0
2080 full dispersal (% species)	SEDG %	1.6	2.5	2.9	10.7	82.4	30.3
	BAMBU %	4.1	3.3	4.5	13.1	75.0	18.0
	GRAS %	5.7	1.6	6.1	22.5	63.9	17.6
2080 no dispersal (% species)	SEDG %	3.3	9.8	14.3	29.9	42.6	0.0
	BAMBU %	10.7	16.0	15.2	37.7	20.5	0.0
	GRAS %	24.2	16.0	30.3	23.8	5.7	0.0

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