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Appendix 3 – Pay-off table for all harvest levels

The pay-off table highlights the best and worst Pareto efficient results for each indicator possible. The approach used to develop the pay-off table is similar to option suggested by Miettinen (1999). For each individual indicator, the optimal solution possible is found. For this case, the model used to evaluate the optimal solution is the same as Model 2 in the main text, with the only exception that for the indicator optimized, the weight assigned is dramatically larger than the other indicators (in this case, we used a weight of 1,000,000).

		Maximize			
		HSI	Deadwood	Bilberry	Carbon Storage
100% Income	Income	1296	1296	1296	1296
	HSI	0.51	0.51	0.51	0.51
	Deadwood	3.07	3.07	3.07	3.07
	Bilberry	4.59	4.59	4.59	<u>4.58</u>
	Carbon	174931	174931	<u>174928</u>	174951
97.5% Income	Income	1263	1263	1263	1263
	HSI	0.59	<u>0.51</u>	0.53	0.55
	Deadwood	3.24	4.92	<u>3.11</u>	3.16
	Bilberry	5.13	4.41	6.21	<u>4.32</u>
	Carbon	178052	174389	<u>174025</u>	183965
95% Income	Income	1231	1231	1231	1231
	HSI	0.62	<u>0.51</u>	0.54	0.56
	Deadwood	3.33	5.68	<u>3.18</u>	3.21
	Bilberry	5.27	4.38	6.81	<u>4.06</u>
	Carbon	179498	174427	<u>172997</u>	189058
90% Income	Income	1166	1166	1166	1166
	HSI	0.65	<u>0.52</u>	0.53	0.58
	Deadwood	3.51	6.83	3.52	<u>3.34</u>
	Bilberry	5.27	4.48	7.40	<u>3.72</u>
	Carbon	183113	176340	<u>172622</u>	197249
85% Income	Income	1101	1101	1102	1101
	HSI	0.68	0.53	<u>0.53</u>	0.60
	Deadwood	4.13	7.81	3.96	<u>3.48</u>
	Bilberry	5.22	4.53	7.67	<u>3.55</u>
	Carbon	186999	178906	<u>173980</u>	203965

80% Income	Income	1036	1036	1039	1036
	HSI	0.70	0.55	<u>0.54</u>	0.61
	Deadwood	4.86	8.69	4.37	<u>3.65</u>
	Bilberry	5.17	4.60	7.78	<u>3.42</u>
	Carbon	190603	181892	<u>176009</u>	209792
75% Income	Income	972	972	979	976
	HSI	0.71	0.56	<u>0.55</u>	0.62
	Deadwood	5.59	9.49	4.85	<u>3.90</u>
	Bilberry	5.12	4.62	7.81	<u>3.31</u>
	Carbon	194359	185169	<u>178596</u>	214948
70% Income	Income	907	907	979	916
	HSI	0.73	0.58	<u>0.55</u>	0.63
	Deadwood	6.33	10.23	4.85	<u>4.21</u>
	Bilberry	5.07	4.65	7.81	<u>3.22</u>
	Carbon	198421	188700	<u>178596</u>	219550
65% Income	Income	842	842	979	856
	HSI	0.75	0.59	<u>0.55</u>	0.64
	Deadwood	7.06	10.92	4.85	<u>4.60</u>
	Bilberry	5.01	4.66	7.81	<u>3.17</u>
	Carbon	202390	192376	<u>178596</u>	223694
60% Income	Income	777	777	979	793
	HSI	0.76	0.61	<u>0.55</u>	0.66
	Deadwood	7.76	11.56	<u>4.85</u>	5.13
	Bilberry	4.95	4.67	7.81	<u>3.15</u>
	Carbon	206224	196121	<u>178596</u>	227465

*columns represent different optimizations, the bold face represents the largest values, and the underlined values represent the minimum values. The priority of each optimization is set by allocating a large weight to one of the four indicators.

Table S2. Pay-off table for each harvest level and for each indicator considered in the optimization. Each columns represent different optimizations, the bold face represents the largest values, and the underlined values represent the minimum values. The priority of each optimization is set by allocating a large weight to one of the four indicators. All values are per hectare.

References

Miettinen K (1999) Nonlinear Multiobjective Optimization. Kluwer. 298 p.