

Appendix 5

Objective weights provided by landowners. Twenty owners of large, forested properties (at least 20 ha in total area with at least 4 ha of forest) in Macon County, North Carolina, participated in a structured decision making (SDM) process consisting of two series of workshops (a = Series 1, b = Series 2) with ten landowners each. In each series, landowners evaluated what they can do to their forest to maximize the achievement of their land use objectives. Landowners identified first-order objectives and second-order objectives, which described components of a first-order objective, and assigned weights to the objectives that reflected their relative importance to the landowner. Each landowner completed a weight elicitation worksheet, and the number of objective weight combinations in a series depended on the number of worksheets with logically-consistent responses. A combination was made for each logically-consistent worksheet. Otherwise, logically-consistent responses were averaged across worksheets to create a mean combination.

Table A5.1

a)

First-order objectives	Mean	Second-order objectives	Mean
Maximize forest health	0.33	Minimize exotic species abundance	0.30
		Maximize water quality	0.40
		Maximize native species diversity	0.30
Maximize safety	0.25	Maximize human safety	0.49
		Minimize property damage	0.51
Maximize heritage preservation	0.26	Minimize future development	0.23
		Maximize percent of property in the family	0.27
		Maximize percent of income from the property	0.21
		Maximize rural landscape	0.29
Maximize net income	0.16		

b)

First-order objectives	Combinations			
	Mean	1	2	3
Maximize forest health	0.27	0.00	0.20	0.29
Maximize safety	0.33	0.00	0.20	0.14
Maximize heritage preservation	0.13	0.67	0.20	0.14
Maximize net income	0.07	0.00	0.20	0.14
Maximize aesthetics	0.20	0.33	0.20	0.29

First-order objectives	Second-order objectives	Combinations			
		Mean	1	2	3
Maximize forest health	Minimize exotic species abundance	0.23	0.25	0.00	0.11
	Maximize water quality	0.31	0.50	0.50	0.44
	Maximize native species diversity	0.46	0.25	0.50	0.44
Maximize safety	Maximize human safety	0.72	1.00	1.00	0.67
	Minimize property damage	0.28	0.00	0.00	0.33
Maximize heritage preservation	Minimize future development	0.28	0.20	0.20	0.14
	Maximize percent of property in the family	0.35	0.20	0.33	0.14
	Maximize percent of income from the property	0.15	0.20	0.13	0.14
	Maximize rural landscape	0.23	0.40	0.33	0.57