

## **APPENDIX C**

### **INDEX COMPOSITION ALTERNATIVES**

#### Forenotes to Tables

- 1 Index alternatives were numbered sequentially. Numbers in the column indicate that the associated metric was included in the index alternative.
- 2 Discrimination efficiency is the percentage of stressed sites that have index values below the 25<sup>th</sup> percentile of reference index values.
- 3 CV is the coefficient of variation of reference sites scores and equals the standard deviation of reference sites MMI scores divided by the reference site mean MMI score.

## Appendix C. Index Composition Alternatives

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Appendix C-1. Results of alternative index combinations for the Mountains region (72 reference sites, 48 stressed sites). Index in bold was recommended.

Metric	Ind.1 <sup>3</sup>	Ind.2	Ind.3	Ind.4	Ind.5
Percent Oligochaete	1	2	3	4	5
Percent Climber	1	2	3		
Percent Sprawler				4	5
Chironomid Taxa	1				5
Diptera Taxa		2		4	
Total Taxa			3		
HBI					5
Percent Trichoptera which are Hydropsychidae	1	2	3	4	
25th percentile ref	84	82	86	61	65
DE <sup>2</sup>	0.84	0.80	0.85	0.55	0.36
ref-deg difference	19	18	17	8	2
mean ref	87	86	88	67	68
mean deg	69	68	71	59	66
Inter-quartile range ref	10	10	7	11	7
CV <sup>3</sup>	0.10	0.11	0.09	0.16	0.14

## Appendix C. Index Composition Alternatives

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Appendix C-2. Results of alternative index combinations for the Plains region (6 reference sites, 3 stressed sites). Index in bold was recommended.

Metric	Ind.1 <sup>3</sup>	Ind.2	Ind.3	Ind.4	Ind.5
Percent Chironomidae	1		3		5
Percent Ephemeroptera		2		4	
Percent Predator	1	2	3	4	5
Percent Burrower	1		3		5
Clinger Taxa		2		4	
Ephemeroptera Taxa		2		4	
EPT Taxa	1		3		5
HBI	1			4	
Percent Tolerant		2			5
Tolerant Taxa			3		
25th percentile ref	47	35	51	34	43
DE <sup>2</sup>	1.00	1.00	1.00	1.00	1.00
ref-deg difference	33	35	28	35	33
mean ref	56	49	56	49	56
mean deg	24	13	28	14	23
Inter-quartile range ref	16	31	10	34	22
CV <sup>3</sup>	0.30	0.48	0.21	0.46	0.27

## Appendix C. Index Composition Alternatives

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Appendix C-3. Results of alternative index combinations for the Xeric region (5 reference sites, 18 stressed sites). Index in bold was recommended.

Metric	Ind.1 <sup>3</sup>	Ind.2	Ind.3	Ind.4	Ind.5
Percent Coleoptera	1		3		5
Percent Plecoptera		2		4	
Percent Predator		2		4	
Predator Taxa	1		3		5
Percent Climber	1	2	3	4	5
Chironomid Taxa				4	
Diptera Taxa	1	2			
Total Taxa			3		
HBI			3	4	
Percent Dominant	1	2			5
25th percentile ref	71	58	66	57	70
DE <sup>4</sup>	0.89	0.78	0.78	0.72	0.83
ref-deg difference	20	17	17	16	21
mean ref	73	66	71	65	73
mean deg	53	49	54	49	52
Inter-quartile range ref	3	17	10	17	5
CV	0.08	0.20	0.14	0.27	0.08