

Table 3.14 Ratings estimates for parameters in armourstone degradation model, for input to Equation 3.38 (after Latham, 1991)

Parameter	Rating estimates						Parameter influence X_{max}/X_{min}	Calibration Reliability*	
k_s	Rock fabric strength Use M_{DE} test value and relationship: $k_s = 4.12 \times 10^{-5} M_{DE}^{1.485}$ or AQD value and relationship: $k_s = 0.032 AQD^{-2.0}$						~500	Excellent	
X_1	Size Effect given by $0.5(M_{50})^{1/3}$ (M_{50} in tonnes)						~10	Good	
	M_{50}	15.0	8.0	1	0.1	0.01			
	Rating	1.23	1.00	0.50	0.23	0.11			
X_2	Grading width $(M_{85}/M_{15})^{1/3}$	1.1-1.4		1.5-2.4	2.5-4.0		~2.5	Fair	
	Rating	1.2		1.0	0.5				
X_3	Initial shape						~2	Fair	
		Angular/ irregular	Blocky/ equant	Semi- rounded	Rounded				
	Rating	1.00		1.1	1.50	2.00			
X_4	Incident wave or current energy (treat as independent of size of stone)						~10	Fair	
		Significant wave height, H_s (m)	> 8.0	4.0-8.0	< 4.0				
	Rating	If $I_{M50} > 15\%$		0.3	1.0	2.0			
		If $I_{M50} = 5.0-15.0\%$		0.5	1.3	2.3			
		If $I_{M50} = 2.0-5.0\%$		0.7	1.6	2.6			
		If $I_{M50} < 2\%$		1.0	2.0	3.0			
Rating	If using AQD method		0.7	1.6	2.6				
X_5	Zone of structure						~10	Good	
		Intertidal	Supra-tidal /hot	Supra-tidal /temperate	Always submerged				
	Rating	1.0		2.5	8	10			
X_6	Meteorological climate weathering intensity (Use MCWI index of Lienhart - see Table 3.15)						~7	Good	
	MCWI index		< 100	100-300	300-600	> 600			
	Rating	If WA > 2.0%		0.8	0.6	0.4			0.2
		If WA = 0.5-2.0%		1.0	0.8	0.6			0.4
		If WA < 0.5%		1.4	1.2	1.0			0.8
Rating	If using AQD method		1.0	0.8	0.6	0.4			
X_7	Waterborne attrition agents						~7.5	Poor	
	Sediment type	shingle	gravel	sand	silt	none			
	Rating	0.2	0.5	1.0	1.2	1.50			