

**Appendix C** Matrix model of binary topological relationships of order 86x5 obtained by the integration of 4-intersection<sup>42</sup> and winding number<sup>44</sup> methods. The dashed line indicates the matrix break, to fit page format. The ID field indicates the conservation unit, and the numbers 0 and 1 correspond to the appropriate value of empty( $\emptyset$ ) = 0 and non-empty ( $\neg\emptyset$ ) = 1, according to diagrams in Figure 2.

$$\mathfrak{J}_{86,5} =$$

ID	M_2	M_3	M_4	M_5	ID	M_2	M_3	M_4	M_5
4	1	1	1	1	191	1	1	1	1
5	1	1	1	1	193	1	1	1	1
7	1	1	1	1	199	0	1	0	1
18	0	1	0	1	201	0	1	0	1
21	0	1	0	0	210	0	1	0	0
22	1	1	1	1	227	1	1	1	1
23	1	1	1	1	228	1	1	1	1
37	1	1	1	1	236	0	1	0	1
38	1	1	1	1	238	0	1	0	0
49	1	1	1	1	239	0	1	0	0
59	0	1	0	1	240	0	1	0	1
61	1	1	1	1	241	0	1	0	1
69	0	1	0	0	243	0	1	0	0
70	0	1	0	0	249	1	1	1	1
71	0	1	0	1	250	0	1	0	1
72	0	1	0	1	251	1	1	1	1
73	0	1	0	0	257	0	1	0	1
74	0	1	0	1	258	0	1	0	1
77	0	1	0	1	261	0	1	0	0
81	1	1	1	1	262	0	1	0	1
88	1	1	1	1	263	0	1	0	0
91	0	1	0	0	269	0	1	0	1
98	1	1	1	1	273	0	1	0	1
99	0	1	0	1	281	0	1	0	1
100	0	1	0	0	295	1	1	1	1
101	0	1	0	1	298	1	1	1	1
102	0	1	0	1	307	1	1	1	1
103	0	1	0	1	308	0	1	0	0
108	0	1	0	1	309	0	1	0	1
115	0	1	0	0	310	0	1	0	0
126	1	1	1	1	311	0	1	0	1
127	0	1	0	1	313	0	0	0	0
129	1	1	1	1	314	0	0	0	0
150	1	1	1	1	315	0	0	0	0
163	0	1	0	1	316	0	0	0	0
164	1	1	1	1	317	0	1	0	1
168	0	1	0	1	320	0	1	0	1
170	0	1	0	1	321	0	1	0	0
171	1	1	1	1	323	1	1	1	1
180	0	1	0	1	331	1	1	1	1
182	0	1	0	0	332	1	1	1	1
184	0	1	0	0	333	0	1	0	1
190	0	1	0	0	334	0	1	0	1