



Appendix C

ABCA Recession Rate Data

Appendix C – ABCA Recession Data

1.0 Recession data used to map shoreline policy zones

In total 527 transects were used to complete the mapping. Transects that intersected gullies were removed.

In the following tables the headings represent:

- **ID_N_to_S** – unique numeric transect identifier running north to south to allow sorting and other operations.
- **Subdivision** – the name of the subdivision or settlement area
- **ReachID** – the Reach ID established and described in the original Shoreline Management Plan
- **Recession Rate** – the Average Annual Recession Rate in metres/year used to map the shoreline policy zones.
- **PolicyNote** – notes/metadata on why specific rates were used
- **Recession Base** – only 2 values. 1988 means the recession rates from 1935 to 1988 were used (from original SMP). 2007 means the rates calculated by the ABCA comparing the top of the bank in 1973 and in 2007 on unprotected shorelines.

Table 1.1 – Transects 1 to 61 Recession Rates – LaVrange to Birchcliffe

ID_N_to_S	Subdivison	ReachID	Recession Rate	PolicyNote	Recession Base
1	La Vrange	1	0.079	No protection, less than 88 rate	2007
2	La Vrange	1	0.102	No protection, less than 88 rate	2007
3	La Vrange	1	0.113	No protection, less than 88 rate	2007
4	La Vrange	1	0.133	No protection, less than 88 rate	2007
5	La Vrange	1	0.133	No protection, less than 88 rate	2007
6	La Vrange	1	0.141	No protection, less than 88 rate	2007
8	Pope's Beach	1	0.137	No protection, less than 88 rate	2007
9	Pope's Beach	1	0.129	Protection visible - 2007 rates the same	1988
10	Pope's Beach	1	0.137	Protection visible - 2007 rates the same	1988
11	Pope's Beach	1	0.161	Protection visible - 2007 rates the same	1988
12	Elliott's Grove	1	0.202	No protection visible - H-95 rate is 0	2007
13	Elliott's Grove	1	0.215	No protection visible - H-95 rate is 0	2007
14	Elliott's Grove	1	0.196	No protection visible - H-95 rate is 0	2007
15	Elliott's Grove	1	0.153	No protection visible - H-95 rate is 0	2007
16	Elliott's Grove	1	0.105	No protection visible - H-95 rate is 0	2007
17	Elliott's Grove	1	0.048	No protection visible - H-95 rate is 0	2007
18	Coventry Heights	1	0.000	H-95 rate is 0	2007
19	Coventry Heights	1	0.326	Protection visible - 2007 rates similar	1988
20	Coventry Heights	1	0.289	Protection visible - 2007 rates similar	1988
21	Coventry Heights	1	0.252	Protection visible - 2007 rates similar	1988
22	Coventry Heights	1	0.298	Protection visible - 2007 rates similar	1988
23	Coventry Heights	1	0.267	Protection visible - 2007 rates similar	1988
24	Coventry Heights	1	0.254	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
25	Coventry Heights	1	0.242	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
26	Coventry Heights	1	0.276	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
27	Coventry Heights	1	0.273	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
28	Coventry Heights	1	0.192	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
29	Coventry Heights	1	0.306	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
30	Sunset Lane	1	0.223	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
31	Sunset Lane	1	0.164	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
32	Sunset Lane	1	0.202	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
33	Sunset Lane	1	0.198	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
34	Sunset Lane	1	0.211	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
36	Sunset Lane	1	0.083	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
37	Sunset Lane	1	0.158	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
38	Sunset Lane	1	0.252	Protection visible - 2007 rates 1/2 to 1/3 less R-25 rate = 0.30	1988
39	Lane O Pines	2	0.273	Protection visible - 2007 rates 1/2 to 1/3 less	1988
40	Lane O Pines	2	0.290	Protection visible - 2007 rates 1/2 to 1/3 less	1988
41	Lane O Pines	2	0.335	Protection visible - 2007 rates 1/2 to 1/3 less	1988
42	Lane O Pines	2	0.320	Protection visible - 2007 rates 1/2 to 1/3 less	1988
43	Lane O Pines	2	0.216	Protection visible - 2007 rates 1/2 to 1/3 less	1988
44	Lane O Pines	2	0.362	Protection visible - 2007 rates 1/2 to 1/3 less	1988
45	Lane O Pines	2	0.327	Protection visible - 2007 rates 1/2 to 1/3 less	1988
46	Lane O Pines	2	0.308	Protection visible - 2007 rates 1/2 to 1/3 less	1988
47	Lane O Pines	2	0.349	Protection visible - 2007 rates 1/2 to 1/3 less	1988
49	Salvation Army Camp	2	0.366	Protection visible	1988
50	Salvation Army Camp	2	0.411	Protection visible	1988
51	Salvation Army Camp	2	0.487	Protection visible	1988
53	Birchcliffe	2	0.466	Protection visible	1988
54	Birchcliffe	2	0.511	Protection visible	1988
55	Birchcliffe	2	0.528	Protection visible	1988
56	Birchcliffe	2	0.481	Protection visible	1988
57	Birchcliffe	2	0.649	Protection visible	1988
58	Birchcliffe	2	0.646	Protection visible	1988
59	Birchcliffe	2	0.725	Protection visible	1988
60	Birchcliffe	2	0.853	Protection visible	1988
61	Birchcliffe	2	0.725	Protection visible	1988

Table 1.2 – Transects 63 to 111 Recession Rates. – Melena Heights to Jowett’s Grove

ID_N_to_S	Subdivison	ReachID	Recession Rate	PolicyNote	Recession Base
63	Melena Heights	2	0.520	Protection visible	1988
64	Melena Heights	2	0.443	Protection visible	1988
65	Melena Heights	2	0.413	Protection visible	1988
67	Melena Heights	2	0.487	Protection visible	1988
68	Melena Heights	2	0.574	Protection visible	1988
69	Melena Heights	2	0.618	Protection visible	1988
70	Melena Heights	2	0.494	Protection visible	1988
71	Melena Heights	2	0.741	Protection visible	1988
72	Melena Heights	2	0.612	Protection visible	1988
74	Melena Heights	2	0.487	Protection visible - H-98 rate is 0.45 to 0.6	1988
75	Melena Heights	2	0.449	Protection visible - H-98 rate is 0.45 to 0.6	1988
77	Camp Canbay	2	0.479	Protection visible - H-98 rate is 0.45 to 0.6	1988
78	End of Bayfield Rd	2	0.178	No protection visible - no erosion 1988	2007
79	End of Bayfield Rd	2	0.168	No protection visible - no erosion 1988	2007
81	Camp Canbay	2	0.075	No protection visible - no erosion 1988	2007
82	Camp Canbay	2	0.025	No protection visible - no erosion 1988	2007
83	Camp Canbay	2	0.030	No protection visible - no erosion 1988	2007
84	Camp Canbay	2	0.008	No protection visible - no erosion 1988	2007
85	Camp Canbay	2	0.000	Protection visible - no erosion in 88, wide beach	1988
86	Bayfield Highlands	3	0.000	Protection visible - no erosion in 88, wide beach	1988
87	Bayfield Highlands	3	0.000	Protection visible - no erosion in 88, wide beach	1988
88	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
89	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
90	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
91	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
92	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
93	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
94	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
95	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
96	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
97	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
98	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
99	Bayfield Highlands	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
100	Deer Park Lodge	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
101	Deer Park Lodge	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
102	Deer Park Lodge	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
103	Deer Park Lodge	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
104	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
105	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
106	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
107	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
108	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
109	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
110	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007
111	Jowett’s Grove	3	0.000	Filet beach LS Area 2 based on 30 m from stable slope	2007

Table 1.3 – Transects 112 to 170 Recession Rates – Bayfield to Wildwood North

ID_N_to_S	Subdivison	ReachID	Recession Rate	PolicyNote	Recession Base
112	Bayfield	4	0.255	Protection visible	1988
113	Bayfield	4	0.357	Protection visible	1988
114	Bayfield	4	0.482	Protection visible	1988
115	Bayfield	4	0.608	Protection visible	1988
116	Bayfield	4	0.355	Protection visible	1988
117	Bayfield	4	0.172	Protection visible	1988
118	Bayfield	4	0.023	Protection visible	1988
119	Bayfield	4	0.040	No protection visible	2007
120	Bayfield	4	0.036	No protection visible	2007
121	Bayfield	4	0.032	Protection visible - scattered groynes and other	1988
122	Bayfield	4	0.040	Protection visible - scattered groynes and other	1988
123	Bayfield	4	0.020	Protection visible - scattered groynes and other	1988
124	Bayfield	4	0.032	Protection visible - scattered groynes and other	1988
125	Bayfield	4	0.022	Protection visible - scattered groynes and other	1988
126	Bayfield	4	0.012	Protection visible - scattered groynes and other	1988
127	Bayfield	4	0.056	Protection visible - scattered groynes and other	1988
128	Bayfield	4	0.064	Protection visible - scattered groynes and other	1988
129	Bayfield	4	0.092	Protection visible - scattered groynes and other	1988
130	Bayfield	4	0.096	Protection visible - scattered groynes and other	1988
131	Bayfield	4	0.234	Protection visible - scattered groynes and other	1988
132	Bayfield	4	0.239	Protection visible - scattered groynes and other	1988
133	Bayfield	4	0.151	Protection visible - scattered groynes and other	1988
135	Bayfield	4	0.112	Protection visible - scattered groynes and other	1988
136	Bayfield	4	0.129	Protection visible - scattered groynes and other	1988
137	Bayfield	4	0.080	Protection visible - scattered groynes and other	1988
138	Bayfield	4	0.140	Protection visible - scattered groynes and other	1988
139	Bayfield	4	0.104	Protection visible - scattered groynes and other	1988
140	Bayfield	4	0.205	Protection visible - scattered groynes and other	1988
141	Bayfield	4	0.210	Protection visible - scattered groynes and other	1988
142	Bayfield	4	0.209	Protection visible - scattered groynes and other	1988
143	Bayfield	4	0.114	Protection visible - scattered groynes and other	1988
144	Bayfield	4	0.263	Protection visible - scattered groynes and other	1988
145	Bayfield	4	0.154	Protection visible - scattered groynes and other	1988
146	Bayfield	4	0.293	Protection visible - scattered groynes and other	1988
147	Bayfield	4	0.306	Protection visible - scattered groynes and other	1988
148	Bayfield	4	0.180	Protection visible - scattered groynes and other	1988
149	Paul Bunyan Camp	4	0.180	Protection visible - scattered groynes and other	1988
150	Paul Bunyan Camp	4	0.135	Protection visible - scattered groynes and other	1988
152	Paul Bunyan Camp	4	0.143	Protection visible - R-28 = 0.5 m	1988
153	Paul Bunyan Camp	4	0.137	Protection visible - R-28 = 0.5 m	1988
155	Crystal Springs	5	0.304	Protection visible - R-28 = 0.5 m	1988
156	Crystal Springs	5	0.214	Protection visible - R-28 = 0.5 m	1988
157	Crystal Springs	5	0.165	Protection visible - R-28 = 0.5 m	1988
158	Crystal Springs	5	0.057	Protection visible	1988
159	Crystal Springs	5	0.111	Protection visible	1988
160	Crystal Springs	5	0.130	Protection visible	1988
161	Crystal Springs	5	0.158	Protection visible	1988
162	Wildwood North	5	0.344	Protection visible	1988
163	Wildwood North	5	0.289	Protection visible	1988
164	Wildwood North	5	0.302	Protection visible	1988
165	Wildwood North	5	0.277	Protection visible	1988
166	Wildwood North	5	0.252	Protection visible	1988
167	Wildwood North	5	0.256	Protection visible	1988
168	Wildwood North	5	0.145	Protection visible - groynes mapped in 88	1988
169	Wildwood North	5	0.153	Protection visible - groynes mapped in 88	1988
170	Wildwood North	5	0.082	Protection visible - groynes mapped in 88	2007

Table 1.4 – Transects 172 to 220 Recession Rates – Glitter Bay to Houston Heights South.

ID_N_to_S	Subdivison	ReachID	Recession Rate	PolicyNote	Recession Base
172	Glitter Bay	5	0.118	Protection visible - groynes mapped in 88	2007
173	Glitter Bay	5	0.111	Protection visible - groynes mapped in 88	2007
174	Glitter Bay	5	0.123	Protection visible - groynes mapped in 88	2007
175	Glitter Bay	5	0.119	Protection visible - groynes mapped in 88	2007
176	Glitter Bay	5	0.153	Protection visible - groynes mapped in 88	2007
177	Glitter Bay	5	0.169	Protection visible - groynes mapped in 88	2007
178	Glitter Bay	5	0.189	Protection visible - groynes mapped in 88	2007
179	Glitter Bay	5	0.166	Protection visible - groynes mapped in 88	2007
180	Glitter Bay	5	0.138	Protection visible - groynes mapped in 88	2007
181	Glitter Bay	5	0.107	Protection visible - groynes mapped in 88	2007
182	Glitter Bay	5	0.107	Protection visible - groynes mapped in 88	2007
183	Glitter Bay	5	0.122	Protection visible - groynes mapped in 88	2007
184	Glitter Bay	5	0.119	Protection visible - groynes mapped in 88	2007
185	Glitter Bay	5	0.070	No protection visible, wide beach	2007
186	Glitter Bay	5	0.010	No protection visible, wide beach	2007
187	Glitter Bay	5	0.189	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
188	Glitter Bay	5	0.124	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
189	Lakewood Beach	5	0.136	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
190	Lakewood Beach	5	0.066	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
191	Lakewood Beach	5	0.067	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
192	Lakewood Beach	5	0.111	Protection visible - groynes mapped in 88 H-102 rate is 0.4	1988
195	Lakewood Beach	5	0.229	Protection visible	1988
196	Lakewood Beach	5	0.224	Protection visible	1988
197	Elmslie Drive	5	0.192	Protection visible	1988
198	Elmslie Drive	5	0.216	Protection visible	1988
199	Elmslie Drive	5	0.201	Protection visible	1988
200	Elmslie Drive	5	0.227	Protection visible	1988
201	Elmslie Drive	5	0.262	Protection visible	1988
202	Elmslie Drive	5	0.264	Protection visible	1988
203	Huron Church Camp	5	0.231	No protection visible - hard to see top in 1973, treed bluff	1988
204	Huron Church Camp	5	0.336	No protection visible - hard to see top in 1973, treed bluff	1988
205	Huron Church Camp	5	0.239	Protection visible - 2007 rate aprox. 1/2	1988
206	Houston Heights North	6	0.179	Protection visible - 2007 rate aprox. 1/2	1988
207	Houston Heights North	6	0.176	Protection visible - 2007 rate aprox. 1/2	1988
208	Houston Heights North	6	0.172	Protection visible - 2007 rate aprox. 1/2	1988
209	Houston Heights North	6	0.027	Protection visible - 2007 rate aprox. 1/2	1988
210	Houston Heights South	6	0.016	Protection visible - 2007 rates comparable - minimal erosion	1988
211	Houston Heights South	6	0.022	Protection visible - 2007 rates comparable - minimal erosion	1988
212	Houston Heights South	6	0.027	Protection visible - 2007 rates comparable - minimal erosion	1988
213	Houston Heights South	6	0.033	Protection visible - 2007 rates comparable - minimal erosion	1988
214	Houston Heights South	6	0.049	Protection visible - 2007 rates comparable - minimal erosion	1988
215	Houston Heights South	6	0.046	Protection visible - 2007 rates comparable - minimal erosion	1988
216	Houston Heights South	6	0.010	Protection visible - 2007 rates comparable - minimal erosion	1988
217	Houston Heights South	6	0.122	Protection visible - 2007 rates comparable - minimal erosion	1988
218	Houston Heights South	6	0.013	No protection visible - wide beach	2007
219	Houston Heights South	6	0.010	No protection visible - wide beach	2007
220	Houston Heights South	6	0.009	No protection visible - wide beach	2007

Table 1.5 – Transects 221 to 283 Recession Rates – Egerton Beach to Rocky Point

ID_N_to_S	Subdivision	ReachID	Recession Rate	PolicyNote	Recession Base
221	Egerton Beach	6	0.038	Protection visible - 2007 rates similar, no or minimal erosion	1988
222	Egerton Beach	6	0.009	Protection visible - 2007 rates similar, no or minimal erosion	1988
223	Egerton Beach	6	0.018	Protection visible - 2007 rates similar, no or minimal erosion	1988
224	Westdell Beach	6	0.027	Protection visible - 2007 rates similar, no or minimal erosion	1988
226	Westdell Beach	6	0.015	Protection visible - 2007 rates similar, no or minimal erosion	1988
227	Westdell Beach	6	0.022	Protection visible - 2007 rates similar, no or minimal erosion	1988
228	Westdell Beach	6	0.011	Protection visible - 2007 rates similar, no or minimal erosion	1988
229	Westdell Beach	6	0.007	Protection visible - 2007 rates similar, no or minimal erosion	1988
231	Westdell Beach	6	0.019	Protection visible - 2007 rates similar, no or minimal erosion	1988
232	Westdell Beach	6	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
233	Westdell Beach	6	0.006	Protection visible - 2007 rates similar, no or minimal erosion	1988
234	Westdell Beach	6	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
235	Snowden Acres	6	0.140	Protection visible - 2007 rates similar, no or minimal erosion	1988
236	Snowden Acres	6	0.030	Protection visible - 2007 rates similar, no or minimal erosion	1988
237	Snowden Acres	6	0.009	Protection visible - 2007 rates similar, no or minimal erosion	1988
238	Snowden Acres	6	0.105	Protection visible - 2007 rates similar, no or minimal erosion	1988
239	Snowden Acres	6	0.279	Protection visible - 2007 rates similar, low	1988
240	Snowden Acres	6	0.386	Protection visible - 2007 rates 10 to 20 cm less	1988
241	Snowden Acres	6	0.448	Protection visible - 2007 rates 10 to 20 cm less	1988
242	Snowden Acres	6	0.253	Protection visible - 2007 rates 10 to 20 cm less	1988
243	Homestead Heights	6	0.116	Protection visible - 2007 rates similar, no or minimal erosion	1988
244	Homestead Heights	6	0.082	Protection visible - 2007 rates similar, no or minimal erosion	1988
245	Homestead Heights	6	0.075	Protection visible - 2007 rates similar, no or minimal erosion	1988
246	Homestead Heights	6	0.178	Protection visible - 2007 rates similar, no or minimal erosion	1988
247	Homestead Heights	6	0.090	Protection visible - 2007 rates similar, no or minimal erosion	1988
248	Homestead Heights	6	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
249	Homestead Heights	6	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
250	Homestead Heights	6	0.022	Protection visible - 2007 rates similar, no or minimal erosion	1988
251	Homestead Heights	6	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
252	Homestead Heights	6	0.019	Protection visible - 2007 rates similar, no or minimal erosion	1988
253	Homestead Heights	6	0.094	Protection visible - 2007 rates similar, no or minimal erosion	1988
254	Homestead Heights	6	0.092	Protection visible - 2007 rates similar, no or minimal erosion	1988
255	Homestead Heights	6	0.087	Protection visible - 2007 rates similar, no or minimal erosion	1988
256	Homestead Heights	6	0.121	Protection visible - 2007 rates similar, no or minimal erosion	1988
257	Homestead Heights	6	0.117	Protection visible - 2007 rates similar, no or minimal erosion	1988
258	Homestead Heights	6	0.047	Protection visible - 2007 rates similar, no or minimal erosion	1988
259	Homestead Heights	6	0.016	Protection visible - 2007 rates similar, no or minimal erosion	1988
260	Homestead Heights	6	0.004	Protection visible - 2007 rates similar, no or minimal erosion	1988
261	Homestead Heights	6	0.037	Protection visible - 2007 rates similar, no or minimal erosion	1988
262	Homestead Heights	6	0.022	Protection visible - 2007 rates similar, no or minimal erosion	1988
263	Homestead Heights	6	0.005	Protection visible - 2007 rates similar, no or minimal erosion	1988
264	Bluehaven	6	0.008	Protection visible - 2007 rates similar, no or minimal erosion	1988
265	Bluehaven	6	0.027	Protection visible - 2007 rates similar, no or minimal erosion	1988
266	Bluehaven	6	0.015	Protection visible - 2007 rates similar, no or minimal erosion	1988
267	Bluehaven	6	0.006	Protection visible - 2007 rates similar, no or minimal erosion	1988
268	Bluehaven	6	0.030	Protection visible - 2007 rates similar, no or minimal erosion	1988
269	Bluehaven	6	0.025	Protection visible - 2007 rates similar, no or minimal erosion	1988
270	Vodden-Bedard	6	0.025	Protection visible - 2007 rates similar, no or minimal erosion	1988
271	Vodden-Bedard	6	0.030	Protection visible - 2007 rates similar, no or minimal erosion	1988
272	Vodden-Bedard	6	0.038	Protection visible - 2007 rates similar, no or minimal erosion	1988
273	Vodden-Bedard	6	0.030	Protection visible - 2007 rates similar, no or minimal erosion	1988
274	Vodden-Bedard	6	0.012	Protection visible - 2007 rates similar, no or minimal erosion	1988
275	Durand Rocky Point	7	0.007	Protection visible - 2007 rates similar, no or minimal erosion	1988
276	Durand Rocky Point	7	0.038	Protection visible - 2007 rates similar, no or minimal erosion	1988
277	Durand Rocky Point	7	0.026	Protection visible - 2007 rates similar, no or minimal erosion	1988
278	Durand Rocky Point	7	0.000	Protection visible - 2007 rates similar, no or minimal erosion	1988
279	Rocky Point	7	0.020	Protection visible - 2007 rates similar, no or minimal erosion	1988
280	Rocky Point	7	0.031	Protection visible - 2007 rates similar, no or minimal erosion	1988
281	Rocky Point	7	0.028	Protection visible - 2007 rates similar, no or minimal erosion	1988
282	Rocky Point	7	0.044	No protection visible - 88 rate similar (low)	2007
283	Rocky Point	7	0.050	No protection visible - 88 rate similar (low)	2007

Table 1.5 – Transects 284 to 350 Recession Rates – Durand Huronview to Greystone Heights

ID_N_to_S	Subdivision	ReachID	Recession Rate	PolicyNote	Recession Base
284	Durand-Huronview	7	0.191	Protection visible - H-106 rate = 0.2	1988
285	Durand-Huronview	7	0.221	Protection visible - H-106 rate = 0.2	1988
286	Durand-Huronview	7	0.293	Protection visible - H-106 rate = 0.2	1988
287	Durand-Huronview	7	0.154	Protection visible - H-106 rate = 0.2	1988
288	Durand-Huronview	7	0.188	Protection visible - H-106 rate = 0.2	1988
289	Durand-Huronview	7	0.191	Protection visible - H-106 rate = 0.2	1988
290	Durand-Huronview	7	0.295	Protection visible - H-106 rate = 0.2	1988
291	Durand-Huronview	7	0.300	Protection visible - 2007 rates approx. 1/2 88 rate	1988
292	Durand-Huronview	7	0.290	Protection visible - 2007 rates approx. 1/2 88 rate	1988
293	Durand-Huronview	7	0.239	Protection visible - 2007 rates approx. 1/2 88 rate	1988
294	Crest Beach	7	0.510	No protection visible - 88 rate within 6 cm	2007
295	Crest Beach	7	0.489	No protection visible - 88 rate within 6 cm	2007
296	Crest Beach	7	0.432	No protection visible - 88 rate within 6 cm	2007
297	Denomme Subdivision N	7	0.357	Protection present	1988
298	Denomme Subdivision N	7	0.320	Protection present	1988
299	Denomme Subdivision N	7	0.317	Protection present	1988
300	Denomme Subdivision N	7	0.071	No protection visible H-107 rate is 0	2007
301	Denomme Subdivision N	7	0.067	No protection visible H-107 rate is 0	2007
302	Denomme Subdivision N	7	0.077	No protection visible H-107 rate is 0	2007
303	Shangrila	7	0.112	No protection visible - 88 rate low	2007
305	Shangrila	7	0.124	No protection visible - 88 rate low	2007
306	Shangrila	7	0.098	No protection visible - 88 rate low	2007
307	Laporte Beach	7	0.034	No protection visible - 88 rate near 0	2007
308	Laporte Beach	7	0.017	No protection visible - 88 rate near 0	2007
310	Laporte Beach	7	0.020	No protection visible - 88 rate near 0	2007
311		7	0.000	Structures at the bottom of slope, with protection	1988
312		7	0.000	Structures at the bottom of slope, with protection	1988
313	Drysdale Beach	7	0.082	No protection visible - rates similar to 88 - very low	2007
314	Drysdale Beach	7	0.068	No protection visible - rates similar to 88 - very low	2007
315	Drysdale Beach	7	0.054	No protection visible - rates similar to 88 - very low	2007
316	Drysdale Beach	7	0.053	No protection visible - rates similar to 88 - very low	2007
317	Drysdale Beach	7	0.052	No protection visible - rates similar to 88 - very low	2007
318	Drysdale Beach	7	0.057	No protection visible - rates similar to 88 - very low	2007
319	Drysdale Beach	7	0.073	No protection visible - rates similar to 88 - very low	2007
320	Drysdale Beach	7	0.024	Protection for structure at the bottom of the slope	1988
322	Sunset Cove	7	0.028	Protection for structure at the bottom of the slope	1988
324	Sunset Cove	7	0.000	No protection - 88 rates same - close to 0	2007
325	Sunset Cove	7	0.000	No protection - 88 rates same - close to 0	2007
326	Sunset Cove	7	0.004	No protection - 88 rates same - close to 0	2007
327	Sunset Cove	7	0.013	No protection - 88 rates same - close to 0	2007
328	Sunset Cove	7	0.018	Protection visible, protectng structures at the bottom - 2007 rates s	1988
329	Sunset Cove	7	0.017	Protection visible, protectng structures at the bottom - 2007 rates s	1988
330	Sunset Cove	7	0.045	Protection visible, protectng structures at the bottom - 2007 rates s	1988
331	Harvey Denomme Lane	7	0.070	Protection visible - 2007 rates a few cm larger, wide beach	1988
332	Harvey Denomme Lane	7	0.024	Protection visible - 2007 rates a few cm larger, wide beach	1988
333	Harvey Denomme Lane	7	0.034	Protection visible - 2007 rates a few cm larger, wide beach	1988
334	Harvey Denomme Lane	7	0.189	No protection visible - 2007 rates a few cm larger, wide beach	2007
335	Harvey Denomme Lane	7	0.166	No protection visible - structures at bottom of slope	2007
336	Harvey Denomme Lane	7	0.072	No toe protection visible - structures at bottom of slope protected	2007
337	Harvey Denomme Lane	7	0.032	No toe protection visible - structures at bottom of slope protected	2007
338	Harvey Denomme Lane	7	0.039	No toe protection visible - structures at bottom of slope protected	2007
339	Green Acres	7	0.022	No toe protection visible - structures at bottom of slope protected	2007
340	Green Acres	7	0.022	No toe protection visible - structures at bottom of slope protected	2007
341	Green Acres	7	0.027	Buildings at bottom of slope	2007
342	Green Acres	7	0.057	Buildings at bottom of slope	2007
343	Green Acres	7	0.060	Buildings at bottom of slope	2007
344	Green Acres	7	0.062	Buildings at bottom of slope	2007
345	Greystone Heights	7	0.040	No protection visible	2007
346	Greystone Heights	7	0.033	No protection visible	2007
347	Greystone Heights	7	0.015	No protection visible	2007
348	Greystone Heights	7	0.094	Protection visible	1988
349	Greystone Heights	7	0.139	Protection visible	1988
350	Greystone Heights	7	0.059	Protection visible	1988

Table 1.6 – Transects 351 to 414 Recession Rates – Northridge to Bayview

ID_N_to_S	Subdivision	ReachID	Recession Rate	PolicyNote	Recession Base
351	Northridge	7	0.004	No protection visible, wide beach, treed slopes	2007
352	Northridge	7	0.002	No protection visible, wide beach, treed slopes	2007
353	Northridge	7	0.001	No protection visible, wide beach, treed slopes	2007
354	Northridge	7	0.000	No protection visible, wide beach, treed slopes	2007
355	Ducharme Beach	7	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
356	Ducharme Beach	7	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
358	Ducharme Beach	7	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
359	Ducharme Beach	7	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
360	Dewey Point	8	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
361	Dewey Point	8	0.000	2 protection walls for buildings at the bottom of the slope, unprote	2007
362	Dewey Point	8	0.165	Protection visible	1988
363	Dewey Point	8	0.330	Protection visible	1988
364	Vista Beach	8	0.330	No protection visible - 88 rates approx. 20 cm more	2007
365	Vista Beach	8	0.340	No protection visible - 88 rates approx. 4 cm more	2007
366	Vista Beach	8	0.325	No protection visible - 88 rates approx. 4 cm more	2007
368	Vista Beach	8	0.334	Failed protection (gabion baskets and large rocks) visible, 2007 rate	1988
369	Vista Beach	8	0.325	Failed protection (gabion baskets and large rocks) visible, 2007 rate	1988
370	Vista Beach	8	0.514	Failed protection (gabion baskets and large rocks) visible, 2007 rate	1988
371	Antoine Shores	8	0.278	No protection visible	2007
372	Antoine Shores	8	0.320	No protection visible	2007
373	Antoine Shores	8	0.220	No protection visible	2007
374	Antoine Shores	8	0.161	No protection visible	2007
375	Antoine Shores	8	0.236	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
376	Antoine Shores	8	0.061	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
377	Antoine Shores	8	0.028	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
378	Antoine Shores	8	0.042	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
379	Antoine Shores	8	0.053	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
380	Antoine Shores	8	0.155	Protection visible and mapped in 88 - H-111 rate is 0.3 m	1988
382	St. Joseph's	8	0.000	No protection visible - 88 rate same	2007
383	St. Joseph's	8	0.000	No protection visible - 88 rate same	2007
384	St. Joseph's	8	0.002	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
385	St. Joseph's	8	0.015	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
386	St. Joseph's	8	0.025	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
387	St. Joseph's	8	0.020	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
388	St. Joseph's	8	0.034	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
389	St. Joseph's	8	0.138	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
390	St. Joseph's	8	0.199	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
391	St. Joseph's	8	0.070	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
392	St. Joseph's	8	0.150	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
393	St. Joseph's	8	0.248	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
394	St. Joseph's	8	0.291	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
395	Bayview	9	0.195	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
396	Bayview	9	0.144	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
397	Bayview	9	0.135	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
398	Bayview	9	0.197	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
399	Bayview	9	0.231	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
400	Bayview	9	0.256	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
401	Bayview	9	0.248	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
402	Bayview	9	0.360	Protection mapped 88 and 2007 - H-112 rate is 0.3 tp 0.33	1988
403	Bayview	9	0.406	No protection visible - 88 rate approx. 20 cm more	2007
404	Bayview	9	0.342	No protection visible - 88 rate approx. 20 cm more	2007
405	Bayview	9	0.214	No protection visible - 88 rate approx. 20 cm more	2007
406	Bayview	9	0.185	No protection visible - 88 rate approx. 20 cm more	2007
407	Bayview	9	0.192	No protection visible - 88 rate approx. 7 cm more	2007
408	Bayview	9	0.209	No protection visible - 88 rate approx. 7 cm more	2007
409	Bayview	9	0.175	No protection visible - 88 rate approx. 7 cm more	2007
410	Bayview	9	0.179	No protection visible - 88 rate approx. 13 cm more	2007
411	Bayview	9	0.326	Protection visible	1988
412	Bayview	9	0.359	Protection visible	1988
413	Bayview	9	0.357	Protection visible	1988
414	Bayview	9	0.367	Protection visible	1988

Table 1.7 – Transects 415 to 487 Recession Rates – Lakewood Gardens North to Schadeview

ID_N_to_S	Subdivision	ReachID	Recession Rate	PolicyNote	Recession Base
415	Lakewood Gardens North	9	0.068	No protection visible	2007
416	Lakewood Gardens North	9	0.088	No protection visible	2007
417	Lakewood Gardens North	9	0.098	No protection visible	2007
418	Lakewood Gardens North	9	0.128	No protection visible	2007
419	Lakewood Gardens North	9	0.149	No protection visible	2007
420	Lakewood Gardens North	9	0.170	No protection visible	2007
421	Lakewood Gardens North	9	0.177	No protection visible	2007
422	Lakewood Gardens North	9	0.324	Protection visible	1988
423	Lakewood Gardens North	9	0.325	Protection visible	1988
424	Lakewood Gardens North	9	0.516	Protection visible	1988
425	Lakewood Gardens North	9	0.657	Protection visible	1988
426	Lakewood Gardens North	9	0.718	Protection visible	1988
427	Lakewood Gardens North	9	0.875	Protection visible	1988
428	Lakewood Gardens North	9	0.889	Protection visible	1988
429	Lakewood Gardens South	9	1.019	Protection visible	1988
430	Lakewood Gardens South	9	0.972	Protection visible	1988
431	Lakewood Gardens South	9	0.943	Protection visible	1988
432	Lakewood Gardens South	9	0.848	Protection visible	1988
433	Lakewood Gardens South	9	0.764	Protection visible	1988
434	Lakewood Gardens South	9	0.760	Protection visible	1988
435	Lakewood Gardens South	9	0.754	Protection visible	1988
436	Lakewood Gardens South	9	0.789	Protection visible	1988
437	Lakewood Gardens South	9	0.735	Protection visible	1988
438	Lakewood Gardens South	9	0.768	Protection visible	1988
439	Lakewood Gardens South	9	0.836	Protection visible	1988
440	Lakewood Gardens South	9	0.861	Protection visible	1988
441	Lakewood Gardens South	9	0.819	Protection visible 2007 rate 9 cm less (smoothed)	1988
443	Sunnyridge	9	1.132	No protection	2007
444	Sunnyridge	9	1.067	No protection	2007
445	Sunnyridge	9	1.015	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
446	Sunnyridge	9	0.947	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
447	Sunnyridge	9	0.923	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
448	Sunnyridge	9	0.909	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
450	Poplar Beach	9	1.058	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
451	Poplar Beach	9	1.084	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
452	Poplar Beach	9	1.060	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
453	Poplar Beach	9	1.051	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
454	Poplar Beach	9	0.999	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
455	Poplar Beach	9	0.949	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
456	Poplar Beach	9	0.850	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
457	Poplar Beach	9	0.757	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
458	Poplar Beach	9	0.643	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
459	Poplar Beach	9	0.524	No protection - Ground survey H-9-40 = 0.59 m, R-37 = .9 m	2007
460	Poplar Beach	9	0.523	Ground survey H-9-40 = 0.59 m to north	2007
461	Poplar Beach	9	0.545	Steel sheeting failed - 2017 image , Ground survey H-9-40 = 0.59 m to north	1988
462	Poplar Beach	9	0.359	Steel sheeting failed - 2017 image Ground survey H-9-40 = 0.59 m to north	1988
463	Poplar Beach	9	0.074	Gabion baskets, other structures at toe	1988
464	Poplar Beach	9	0.030	Gabion baskets, other structures at toe	1988
465	Poplar Beach	9	0.060	Gabion baskets, other structures at toe	1988
466	Poplar Beach	9	0.065	Gabion baskets, other structures at toe	1988
467	Poplar Beach	9	0.053	Gabion baskets, other structures at toe	1988
468	Poplar Beach	9	0.075	Gabion baskets, other structures at toe	1988
469	Cedar Banks	10	0.139	Series of groynes mapped 1988	1988
471	Cedar Banks	10	0.258	Series of groynes mapped 1988	1988
472	Cedar Banks	10	0.179	Series of groynes mapped 1988	1988
473	Cedar Banks	10	0.153	Series of groynes mapped 1988	1988
474	Cedar Banks	10	0.159	Series of groynes mapped 1988	1988
475	Cedar Banks	10	0.231	Series of groynes mapped 1988	1988
476	Cedar Banks	10	0.215	Series of groynes mapped 1988	1988
477	Cedar Banks	10	0.177	Series of groynes mapped 1988	1988
478	Cedar Banks	10	0.192	Series of groynes mapped 1988	1988
479	Cedar Banks	10	0.142	Series of groynes mapped 1988	1988
480	Cedar Banks	10	0.177	Series of groynes mapped 1988	1988
481	Cedar Banks	10	0.236	Series of groynes mapped 1988	1988
482	Cedar Banks	10	0.264	Series of groynes mapped 1988	1988
483	Schadeview	10	0.253		1988
484	Schadeview	10	0.284		1988
485	Schadeview	10	0.254		1988
486	Schadeview	10	0.219		1988
487	Schadeview	10	0.303		1988

Table 1.8 – Transects 488 to 556 Recession Rates – Ridgeway to Port Blake South

ID_N_to_S	Subdivision	ReachID	Recession Rate	PolicyNote	Recession Base
488	Ridgeway	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
489	Ridgeway	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
490	Ridgeway	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
492	Norma Heights	10	0.023	No protection wide beach - 88 rates less than 3 cm	2007
493	Norma Heights	10	0.019	No protection wide beach - 88 rates less than 3 cm	2007
494	Norma Heights	10	0.022	No protection wide beach - 88 rates less than 3 cm	2007
495	Norma Heights	10	0.019	No protection wide beach - 88 rates less than 3 cm	2007
496	Norma Heights	10	0.019	No protection wide beach - 88 rates less than 3 cm	2007
497	Norma Heights	10	0.012	No protection wide beach - 88 rates less than 3 cm	2007
498	Norma Heights	10	0.006	No protection wide beach - 88 rates less than 3 cm	2007
499	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
500	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
501	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
502	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
503	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
504	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
505	Norma Heights	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
507	Windy Hill	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
508	Windy Hill	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
509	Windy Hill	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
510	Windy Hill	10	0.000	No protection wide beach - 88 rates less than 3 cm	2007
511	Windy Hill	10	0.028	Small proection structures visible	1988
512	Windy Hill	10	0.042	Small proection structures visible	1988
513	Windy Hill	10	0.040	Small proection structures visible	1988
514	Turnbull's Grove	10	0.110	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
515	Turnbull's Grove	10	0.147	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
516	Turnbull's Grove	10	0.186	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
517	Turnbull's Grove	10	0.161	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
518	Elmwood	10	0.136	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
519	Elmwood	10	0.132	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
520	Elmwood	10	0.154	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
521	Elmwood	10	0.182	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
522	Elmwood	10	0.225	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
523	Elmwood	10	0.163	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
524	Elmwood	10	0.231	Steel sheeting, concrete wall, rock at toe evident on oblique imagery	1988
525	Highlands 3	10	0.243	Steel sheeting, concrete wall evident on oblique imagery	1988
526	Highlands 3	10	0.215	Steel sheeting, concrete wall evident on oblique imagery	1988
527	Highlands 3	10	0.210	Steel sheeting, concrete wall evident on oblique imagery	1988
528	Highlands 3	10	0.196	Steel sheeting, concrete wall evident on oblique imagery	1988
529	Highlands 3	10	0.150	Stucture mapped in 1988	1988
530	Highlands 3	10	0.117	Stucture mapped in 1988	1988
531	Highlands 2	10	0.134	Stucture mapped in 1988	1988
532	Highlands 2	10	0.011	No Protection - wide beach	2007
533	Highlands 2	10	0.016	No Protection - wide beach	2007
534	Highlands 2	10	0.012	No Protection - wide beach	2007
535	Highlands 2	10	0.026	No Protection - wide beach	2007
536	Highlands 2	10	0.031	No Protection - wide beach	2007
537	Highlands 1	10	0.063	Checked H-118 -Rate is 0.15 m	2007
538	Highlands 1	10	0.098	Checked H-118 -Rate is 0.15 m	2007
539	Highlands 1	10	0.139	Checked H-118 -Rate is 0.15 m	2007
540	Highlands 1	10	0.157	Checked H-118 -Rate is 0.15 m	2007
541	Water supply	10	0.169	Checked H-118 -Rate is 0.15 m	2007
542	Water supply	10	0.138	Checked H-118 -Rate is 0.15 m	2007
543	Water supply	10	0.096	Checked H-118 -Rate is 0.15 m	2007
544	Water supply	10	0.052		2007
545	Port Blake	10	0.024		2007
546	Port Blake	10	0.016		2007
547	Port Blake	10	0.028		2007
548	Port Blake	10	0.045		2007
549		10	0.000	No Protection - wide beach, transition zone	2007
550		10	0.000	No Protection - wide beach, transition zone	2007
551		10	0.000	No Protection - wide beach, transition zone	2007
552		10	0.000	No Protection - wide beach, transition zone	2007
553		10	0.000	No Protection - wide beach, transition zone	2007
554		10	0.000	No Protection - wide beach, transition zone	2007
555		10	0.000	No Protection - wide beach, transition zone	2007
556		10	0.000	No Protection - wide beach, transition zone	2007

2.0 Other rates used to verify/check

2.1 Photogrammetric x-section locations

High lake levels and erosion and flooding in the early 1970s prompted Environment Canada and the Ontario Ministry of Natural Resources to complete the Canada – Ontario Great Lakes Shore Damage Survey and Atlas. The survey and mapping covered the shoreline from Georgian Bay to Lake Ontario (EC & OMNR, 1976). Historical recession/accession rates were based on land survey data from 1900 to 1973 and “where possible edge of bluff was used as the standard reference feature” (EC & OMNR, 1975). As well photogrammetric x- sections from 1955 were compared with 1973 photogrammetric x- sections.

In 1989 F.J. Reinders and Associates completed the Lake Huron Shoreline Processes Study for four Conservation Authorities (CAs) including the Ausable Bayfield CA. This study used existing Environment Canada erosion monitoring stations from the Great Lake Shore Damage Survey (to 1973) adding the period of 1955-1988 from air photo analysis, as well as their own survey stations to establish erosion rates that were used in the processes study.

Within the ABCA cohesive bluff areas there are 25 Environment Canada stations starting with station H-95 in the north to station H-119 in the south. An additional five stations occur in the dynamic beach area of the watershed in Lambton County. These stations are represented as a line feature in the mapping system. Three Reinders and Associates stations were added to the line feature and are labeled as R-##. See Figure 2.1. and Tables 2.1 and 2.2.



Figure 2.1 Erosion Monitoring Stations – Photogrammetric x-sections

Table 2.1 – Photogrammetric x-section dataset description

FEATURE DATASET/CLASS AND TYPE			DATASET DESCRIPTION
Photogrammetric_xsections/ Photox_section_lines Line			Location of photogrammetric x-section locations established by EC/OMNR to complete the 1975 Shore Damage Survey and/or Reinders et al to complete the 'Lake Huron Shoreline Processes Study' 1989. The naming convention is H-### for the EC/OMNR stations starting with H-95 in the north and ending at H-125 in the south. Reinders stations are named R-##.
Field Name	Field Type	Size/Decimals	Values or Description
ER1	Double	2	Erosion rate – m/yr (to 1973)
ER1Range	Text	15	Date range ie 1955-1973
ER1Source	Text	150	EC/OMNR – edge of bank or high water mark or waters edge
Erate2	Double	2	Erosion rate – m/yr (to 1988)
ERate2Rang	Text	15	Date range is 1955-1988
ER2Source	Text	150	Reinders 'Lake Huron Shoreline Processes Study' 1989
Shape_Length	Double	6	Automatically created in file geodatabase – units are metres
Label	Text	10	ID or Name ie H-100 or R-26
ReinderRate	Double	2	The erosion rate used in the Reinders 'Lake Huron Shoreline Processes Study' 1989
Notes1	Text	150	Notes
Bluff	Text	1	Y (yes) or N (No) - located in the bluff area. If N it is located in the dynamic beach area

Table 2.2 – Photogrammetric x-section erosion rates

ER1	ER1Range	ER1Source	Erate2	ERate2Rang	ER2Source	Label	Reinder		Bluff
							Rat	Notes1	
0.06 1955-1973		Waters edge - EC/OMNR 1975	0.38 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-100	0.70	0.8 m 1973-1980 (Reinders, 1989)	Y
1.72 1955-1973		Edge of bank - EC/OMNR 1975	0.00 NoData		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-101	0.00	No value in Reinders study	Y
0.00 NoData		EC/OMNR 1975	0.53 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-102	0.53	0.4 m 1945-1972 (Reinders, 1989)	Y
0.00 1935-1967*		Edge of bank - EC/OMNR 1975	0.55 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-103	0.40	* From survey data 0.1 m 1935-1967 (Reinders, 1989)	Y
0.06 1955-1973		Edge of bank - EC/OMNR 1975	0.36 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-104	0.10		Y
1.97 1955-1973		Edge of bank - EC/OMNR 1975	0.54 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-105	0.50	ABCA check with 1955, 1973, 1988, 2007 - no erosion regrade 55 to 73,88	Y
0.89 1955-1973		Edge of bank - EC/OMNR 1975	0.17 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-106	0.20		Y
0.00 NoData		EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-107	0.00		Y
-0.54 1935-1957*		High water mark - EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-108	0.00		Y
0.00 1935-1957*		Edge of bank - EC/OMNR 1975	0.42 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-109	0.20		Y
-0.76 1935-1964*		High water mark - EC/OMNR 1975	0.27 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-110	0.20		Y
0.33 1955 - 1973		Edge of bank - EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-111	0.30	Other values - 1900-1965 0.15, 1951-1973 0.32 - Edge of bank - (EC/OMNR 1975)	Y
0.32 1951-1973*		Edge of bank - EC/OMNR 1975	0.33 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-112	0.30	* From survey data	Y
0.17 1955 - 1973		Edge of bank - EC/OMNR 1975	0.17 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-113	0.16		Y
0.55 1955 - 1973		Waters edge - EC/OMNR 1975	0.51 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-114	0.51		Y
1.63 1955 - 1973		Edge of bank - EC/OMNR 1975	1.30 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-115	0.00		Y
-1.58 1955 - 1973		Waters edge - EC/OMNR 1975	0.25 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-116	0.25		Y
0.17 1955 - 1973		Edge of bank - EC/OMNR 1975	0.00 NoData		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-117	0.00	No data from Reinders	Y
-0.38 1955 - 1973		Waters edge - EC/OMNR 1975	0.40 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-118	0.15		Y
0.17 1955 - 1973		Edge of bank - EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-119	0.00		Y
-0.70 1922-1974*		High water mark - EC/OMNR 1975	0.00			H-120	0.00	* From survey data	N
0.76 1950-1970*		Edge of bank - EC/OMNR 1975	0.00			H-121	0.00	* From survey data - Other 0.22 (Waters edge - EC/OMNR 1975)	N
0.13 1937-1969*		High water mark - EC/OMNR 1975	0.00			H-122	0.00	* From survey data	N
-0.17 1955-1973		Waters edge - EC/OMNR 1975	0.00			H-123	0.00	* From survey data	N
-0.17 1955-1973		Waters edge - EC/OMNR 1975	0.00			H-124	0.00		N
0.00 NoData		EC/OMNR 1975	0.00 NoData		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-96	0.00	No rates found in any study - x-sections do not look like they lined up in LHSEM	Y
0.00 1955 - 1973		Edge of bank - EC/OMNR 1975	0.20 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-97	0.20		Y
0.45 1955 - 1973		Waters edge - EC/OMNR 1975	1.18 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-98	0.60		Y
1.00 1955 - 1973		Waters edge - EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-99	0.00	Other - 0.1 m 1935-1954 (Reinders, 1989)	Y
0.00 NoData		EC/OMNR 1975	0.00 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	H-95	0.00		Y
0.00			0.92 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	R-25	0.30	Mapped from 1989 LHSP mapping - Reinders station	Y
0.00			0.45 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	R-28	0.50	Mapped from 1989 LHSP mapping - Reinders station	Y
0.00			0.90 1955-1988		Reinders 'Lake Huron Shoreline Processes Study' 1989	R-37	0.90	Mapped from 1989 LHSP mapping - Reinders station	Y

2.2 Ground survey stations

There are currently eight erosion monitoring stations within the ABCA jurisdiction, which have been ground surveyed. Five of these eight stations occur in the bluff areas. See Figure 2.2.

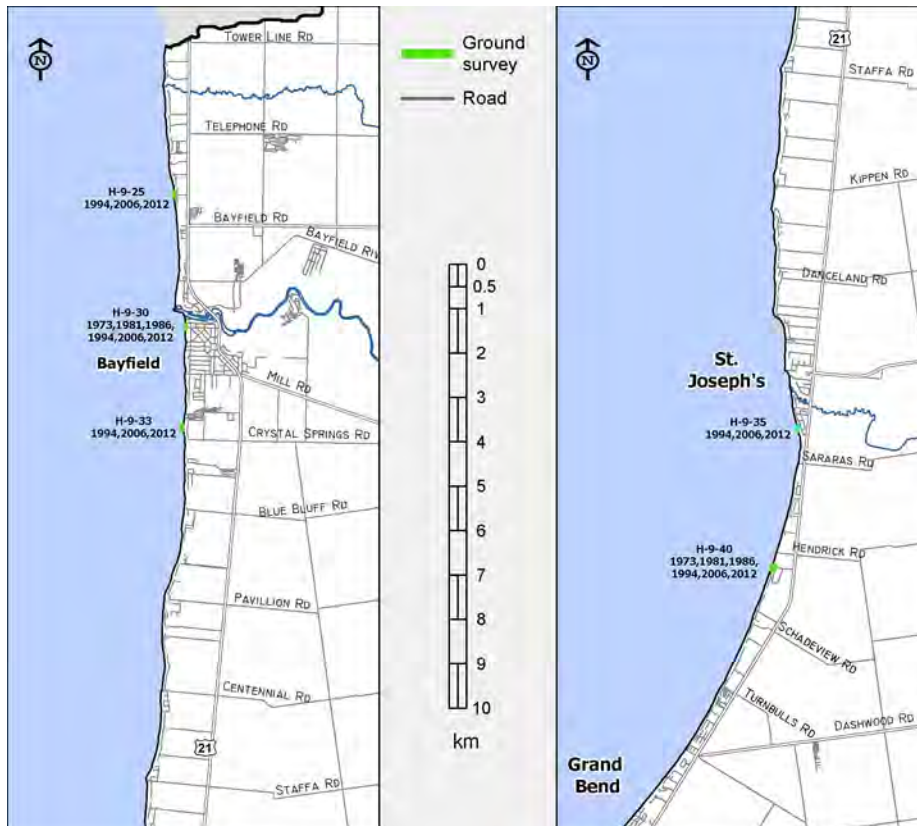


Figure 2.2 Erosion Monitoring Stations – Ground Survey with years surveyed.

These long-term shoreline monitoring ground survey locations are from the Lake Huron Shoreline Erosion Monitoring Program (LHSEM). Environment Canada (EC) and the Ontario Ministry of Natural Resources (OMNR) completed ground surveys in the 1970's and 1980's. The ABCA completed ground surveys in 1994, 2006, and 2012, at the original EC/OMNR stations adding 3 additional stations in the bluff areas of the lakeshore.

Table 2.3 Ground Survey Dataset Description

FEATURE DATASET/CLASS AND TYPE			DATASET DESCRIPTION
GroundSurveys/GroundSurveyBluffs Line			Long-term shoreline monitoring ground survey locations from the Lake Huron Shoreline Erosion Monitoring Program (LHSEM). Environment Canada (EC) and the Ontario Ministry of Natural Resources (OMNR) completed ground surveys in the 1970's and 1980's. The ABCA completed ground surveys in 1994, 2006, and 2012, at the original EC/OMNR stations adding 3 additional stations in the bluff areas of the lakeshore. Erosion rate information for four time periods (1994-2006, 1994-2012, 2006-2012, 1973-2012) are included with this dataset. All survey data was assembled in a single spreadsheet and erosion, deposition rates calculated. Additional time period rates are available for original ground survey stations.
Field Name	Field Type	Size/Decimals	Values or Description
Station	Text	10	The station ID from EC/MNRF – eg H-9-30. H is for Huron and the higher the last number the further south the station is located.
StationName	Text	30	Station name from ABCA eg. Pioneer Park.
YearSurvey	Text	40	List of the years ground surveys were completed.
Rate94_06	Double	2	The calculated erosion rate from 1994 to 2006. From ABCA LHSEM summarized data and graphs.xlsx.
Rate94_12	Double	2	The calculated erosion rate from 1994 to 2010. From ABCA LHSEM summarized data and graphs.xlsx.
Rate06_12	Double	2	The calculated erosion rate from 2006 to 2012. From ABCA LHSEM summarized data and graphs.xlsx.
Rate73_12	Double	2	The calculated erosion rate from 1973 to 2012. From ABCA LHSEM summarized data and graphs.xlsx.
Shape_Length	Double	6	Automatically created in file geodatabase – units are metres
Offshore_yrs	Text	25	List of the years offshore surveys were completed along with ground surveys.

Table 2.2 – Ground Survey erosion rates

Station			2012-2006		2012-1994		2006-1994		1994-1986		1986-1981		1981-1973		2006-1973		2012 -1973		
			distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	distance (m)	rate (m/yr)	
Melina Heights	H-9-25	top of bank	-0.30	-0.05	-1.36	-0.08	-1.06	-0.09											
		the off bank	0.00	0.00	-0.48	-0.03	-0.40	-0.04											
Pioneer Park	H-9-30	top of bank	-0.10	-0.02	0.10	0.01	0.20	0.02	-3.07	-0.38	-0.54	-0.11	-5.79	-0.72	-9.20	-0.28	-9.30	-0.24	
		the off bank	0.00	0.00	3.90	0.22	3.90	0.32	1.03	0.13	2.05	0.41	-12.00	-1.50	-5.02	-0.15	-5.02	-0.13	
Crystal Springs	H-9-33	top of bank	0.00	0.00	0.10	0.01	0.10	0.01											
		the off bank	0.22	0.04	-22.51	-1.25	-22.72	-1.89											
Bayview	H-9-36	top of bank	0.03	0.00	-0.15	-0.01	-0.18	-0.01											
		the off bank	-0.05	-0.01	0.07	0.00	0.13	0.01											
Poplar Beach	H-9-40	top of bank	-0.26	-0.04	-0.90	-0.05	-0.64	-0.05	-12.78	-1.60	-1.57	-0.31	-7.94	-0.99	-22.93	-0.69	-23.19	-0.59	
		the off bank	1.43	0.24	-0.33	-0.02	-1.77	-0.15	0.77	0.10	-10.45	-2.09	-3.72	-0.47	-15.16	-0.46	-13.73	-0.35	