East Riding of Yorkshire Cliff Erosion Monitoring
Table 1: Cliff Erosion Results

EAST RIDING OF YORKSHIRE COUNCIL

Notes:
1 Table shows cliff lost in metres between surveys
2 RS Refers to when Records Started at that location
3 / Used when no record taken
4 / Values highlighted in red show erosion 4.00m and above and blue above 10m.

Profile Number	1	2	3 to 7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Survey Date																																					
1852 to 54 OS Map			Bridlington frontage	RS	RS	RS	RS			RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
1888 to 91 OS Map				53.50	32.90	26.60	17.20			0.00	23.20	45.40	17.60	49.90	49.70	52.10	36.70	53.30	61.50	60.50	60.70	76.00	42.40	38.80	0.00	10.50	10.90	24.30	36.70	34.80	29.90	27.70	43.10	24.60	45.90	38.30	45.00
1905 to 09 OS Map				45.00	27.60	19.10	8.70	RS	RS	0.00	9.30	0.00	14.50	26.20	19.40	9.80	20.00	41.00	36.60	52.40	55.70	49.80	60.80	62.50	56.50	29.30	21.00	14.40	18.10	30.10	29.50	27.50	39.60	33.40	20.80	34.50	/
1925 to 29 OS Map				14.30	5.40	/	0.00	5.40	0.00	0.00	13.90	12.20	9.20	15.00	20.30	14.20	32.30	32.00	37.40	16.10	20.40	25.90	23.20	28.60	22.70	39.50	20.90	29.90	32.70	29.30	20.10	17.80	6.20	18.40	20.50	4.60	19.70
1952 to 56 OS Map				0.00	0.00	14.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.90	31.00	37.20	48.30	53.40	54.60	46.10	24.70	12.20	24.30	21.30	47.20	37.10	26.80	28.90	24.00	32.80	32.30	12.80	/	0.00	/
1969 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	12.70	/	/
1974 to 76 OS Map				3.20	0.00	3.50	11.80	10.40	33.90	46.20	36.80	31.60	51.70	66.70	76.80	71.40	87.50	59.60	48.60	26.40	24.00	19.00	22.80	20.50	30.80	31.80	39.20	26.50	23.90	31.60	38.40	22.20	18.30	12.00	/	0.00	/
1977 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1989 OS Map				/	/	/	/	7.20	6.10	19.20	30.60	40.30	47.40	14.10	27.50	26.40	16.60	14.80	0.00	3.90	0.00	6.30	3.40	5.50	0.00	5.10	0.00	9.40	0.00	1.90	0.00	0.00	10.80	13.30	9.90	2.70	/
1992 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1994 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1995 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1996 OS Map				2.20	0.00	4.40	1.20	2.00	6.40	6.50	15.20	15.60	6.20	6.90	15.50	6.10	12.30	7.30	5.30	0.00	2.80	2.20	1.50	0.00	0.00	0.00	3.20	0.00	7.50	2.70	8.50	0.00	0.00	0.00	2.20	/	1.40
1997 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1998 OS Map				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1999 Spring GPS Data				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1999 Autumn GPS Data				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2000 Spring GPS Data				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2000 Autumn GPS Data				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	1.60	1.90
2001 Spring GPS Data				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	2.31	0.00	0.00
2001 Autumn GPS Data				/	/	/	/	/	/	/	/	/	/	/	17.70	12.90	7.60	13.30	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	0.00	0.00	0.00
2002 February GPS Data				/	/	/	/	/	/	/	/	/	/	/	1.40	0.00	1.11	1.70	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	0.00	0.00	0.00
2002 August GPS Data				/	/	/	/	/	/	/	/	/	/	8.70	0.00	0.00	0.00	0.00	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	0.00	0.00	0.00
2003 Spring GPS Data	-	-		0.00	0.00	2.30	2.20	5.50	8.10	19.10	7.20	4.70	4.20	0.00	0.00	0.00	1.90	0.00	11.10	8.80	3.80	3.70	3.50	7.50	9.60	10.70	17.40	18.20	9.70	11.10	17.90	10.20	11.80	9.40	0.30	0.00	0.00
2003 Autumn GPS Data	0.55	0.00		0.00	0.50	0.00	3.20	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004 Spring GPS Data	0.34	0.00		0.00	0.00	0.00	0.00	0.00	2.00	3.40	2.70	3.80	1.00	0.00	0.50	0.00	2.70	3.30	0.00	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.40	0.00	0.00	**4.00**	0.00	0.00	0.00	0.00	0.00
2004 Autumn GPS Data	0.00	0.00		0.00	0.20	0.60	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	1.90	1.70	2.10	1.90	0.00	0.00	0.00	2.10	0.00	0.00	0.00
2005 Spring GPS Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	1.00	3.40	0.60	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	0.00	0.20	0.00	0.00	0.00	0.00
2005 Autumn GPS Data	0.45	0.00		0.00	0.00	0.00	0.00	0.00	0.60	1.30	0.90	0.40	0.00	0.30	1.50	0.00	**4.20**	1.50	0.70	1.20	1.00	0.00	0.00	0.00	1.20	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.50	0.60	0.00	0.00	0.00
2006 Spring GPS Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.63	0.74	**4.10**	1.99	**6.86**	0.00	0.79	0.00	0.00	1.54	0.00	**6.08**	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	**5.54**	0.00	0.00	0.00	0.00	0.00
2006 Autumn GPS Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.73	0.55	0.00	0.00	0.31	1.28	0.00	0.67	0.83	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.39	0.82	0.00	2.20	0.39	0.71	1.23	0.00
2007 Spring GPS Data	0.00	0.29		0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	**5.07**	1.26	0.00	1.70	0.73	0.00	0.00	1.14	0.00	1.16	0.83	0.00	2.96	0.00	0.00	0.00	0.00
2007 Autumn GPS Data	0.00	0.00		0.00	0.00	0.00	0.00	1.27	0.28	1.22	1.71	2.16	1.31	3.04	1.52	1.49	**4.82**	3.12	2.36	0.45	0.00	0.38	0.00	1.54	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.48	0.62	0.00	0.00
2008 Spring GPS Data	0.00	0.00		0.00	0.00	0.00	2.06	0.00	2.29	0.00	2.11	**4.38**	0.00	1.44	2.25	1.15	**4.76**	3.65	0.31	2.98	3.87	**4.20**	0.00	0.00	1.59	0.74	0.00	0.89	0.81	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00
2008 Autumn GPS Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.42	0.26	0.00	0.00	0.00	0.00	0.00	1.43	0.00	0.00	2.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.00	3.97	1.12	0.00
2009 Spring LIDAR Data	0.14	0.21		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.95	0.00	1.03	0.00	0.53	0.00	0.00	0.00	1.09	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00
2009 Autumn LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00	0.00	0.00	0.00	0.00
2010 Spring LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	0.00	0.00	2.95	1.80	0.00	1.78	2.87	**6.31**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**5.06**	0.00	0.00	2.50	0.00	0.00
2010 Autumn LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	2.40	0.33	1.10	0.00	0.36	1.24	0.93	0.51	1.73	1.45	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.09	0.00	0.00
2011 Spring LIDAR Data	0.00	0.00		0.00	0.00	0.00	2.62	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	1.61	3.94	0.00	**5.00**	**6.05**	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.45	0.00	0.00	0.00	0.00
2011 Autumn LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012 Spring LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	3.07	0.00	0.00	0.00	0.87	0.60	0.00	0.49	0.00	1.72	0.00	1.37	0.00	2.35	0.00	1.93	3.34	0.69	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00
2012 Autumn LIDAR Data	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0	1.35	0	0.00	1.34	0.00	0	2.6	**4.94**	1.26	0	0.83	0.00	**4.45**	0.00	0.00	0.91	0	0.00	0.00	0.00
2013 Spring LIDAR Data	0.78	0.00		0.00	0.00	0.00	1.51	0.00	0.00	0.00	0.00	1.79	0.00	0.00	3.63	0.00	0	0.00	0	0.54	2.93	1.40	1.95	**4.45**	**6.11**	2.25	0	0.00	1.54	0.00	1.23	2.14	1.60	1.48	0.00	0.57	0.00

Profile Number | 1 | 2 | 3 to 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41

East Riding of Yorkshire Cliff Erosion Monitoring
Table 1: Cliff Erosion Results

EAST RIDING OF YORKSHIRE COUNCIL

Notes:
1 Table shows cliff lost in metres between surveys
2 RS Refers to when Records Started at that location
3 / Used when no record taken

Profile Number	42 to 44	45	46	47	48	49	50	51		52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
Survey Date																																								
1852 to 54 OS Map	Hornsea Frontage	RS	RS	RS	RS	RS	RS	RS		RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
1888 to 91 OS Map		40.00	61.50	44.40	28.50	32.30	17.40	24.50		31.30	30.21	35.40	57.40	40.10	57.10	42.20	38.90	30.20	18.90	10.60	9.00	23.20	16.00	8.70	15.70	16.10	11.90	0.00	37.10	46.20	27.70	34.10	14.30	16.50	13.20	24.10	17.50	17.80	2.50	5.80
1905 to 09 OS Map		22.40	10.20	10.00	25.80	25.20	18.80	22.10		20.70	23.59	7.90	0.00	0.00	20.40	16.40	18.60	20.40	20.00	19.00	30.00	18.70	20.30	10.90	12.30	15.80	21.90	40.90	18.20	14.30	31.20	16.60	30.90	17.70	27.70	26.80	15.30	20.30	21.90	27.80
1925 to 29 OS Map		43.00	34.50	39.10	40.40	38.40	45.90	23.40		20.50	26.90	30.80	45.20	35.90	16.50	19.00	24.60	22.50	27.50	13.70	23.70	18.30	15.90	20.00	12.70	22.70	23.50	17.70	13.70	6.20	25.30	13.20	19.90	24.40	22.00	10.60	18.00	6.00	13.10	5.20
1952 to 56 OS Map		56.10	72.20	51.80	57.40	58.00	55.70	48.60		48.60	44.50	45.50	22.00	48.30	49.90	57.40	32.20	42.40	38.30	33.90	10.30	7.90	12.40	3.10	29.50	20.00	7.70	0.00	51.70	17.30	1.80	25.50	6.50	8.40	11.60	12.30	20.10	33.80	11.40	14.00
1969 OS Map		26.90	16.10	33.10	27.60	33.40	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1974 to 76 OS Map		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1977 OS Map		/	/	/	/	/	47.90	57.20		47.40	57.40	63.40	60.00	64.00	53.20	40.50	50.40	54.60	43.70	24.00	31.50	43.00	59.30	64.00	43.30	28.40	31.90	37.30	8.10	39.30	34.30	13.50	32.60	25.90	20.70	27.10	20.30	6.50	15.70	5.60
1989 OS Map		51.80	62.20	52.70	60.70	46.50	27.40	40.10		38.70	30.10	15.80	26.50	11.00	18.90	22.70	16.50	18.90	13.00	33.30	47.30	40.20	23.70	23.70	23.80	24.90	38.30	28.00	25.80	24.40	30.20	34.30	25.60	26.10	28.30	20.60	21.60	20.90	25.30	21.10
1992 OS Map		/	7.00	11.30	13.60	21.70	5.80	5.90	Mappleton Frontage after 1991	10.20	12.40	7.30	5.70	1.50	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1994 OS Map		/	5.60	6.00	10.30	10.70	4.50	0.00		2.90	**14.90**	4.80	9.00	**12.20**	14.90	10.60	12.80	10.90	19.40	12.00	4.60	15.20	13.70	14.60	11.40	6.50	9.10	16.00	19.00	7.60	2.60	4.90	10.00	19.90	8.10	14.30	4.60	1.00	5.60	12.30
1995 OS Map		16.90	0.00	3.70	0.00	0.00	**5.70**	0.00		**6.30**	**11.40**	**12.80**	**10.70**	3.30	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1996 OS Map		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1997 OS Map		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1998 OS Map		0.00	0.00	0.00	3.00	0.00	4.10	0.00		4.60	6.60	14.90	10.90	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1999 Spring GPS Data		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1999 Autumn GPS Data		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2000 Spring GPS Data		/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2000 Autumn GPS Data		/	/	/	/	2.10	2.09	0.00		7.76	**10.65**	**16.68**	**24.46**	33.84	30.65	26.96	/	/	/	28.53	26.96	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2001 Spring GPS Data		/	/	/	/	0.00	1.36	0.00		0.36	1.09	1.23	3.21	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2001 Autumn GPS Data		10.60	30.74	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	15.75
2002 February GPS Data		0.00	0.00	15.05	10.26	1.45	0.00	0.00		0.00	0.00	0.00	0.00	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	2.95
2002 August GPS Data		0.00	0.00	2.17	0.39	0.00	0.35	/		0.00	0.00	0.00	0.62	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	0.00
2003 Spring GPS Data		0.00	2.56	0.28	1.25	1.55	0.30	0.00		0.00	0.16	0.00	**4.51**	11.26	6.75	10.54	31.10	19.70	22.90	6.17	4.24	28.20	15.30	24.00	11.70	18.10	29.20	27.00	14.50	13.00	15.50	24.50	21.00	15.80	8.30	1.40	6.30	4.30	15.10	2.20
2003 Autumn GPS Data		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.30	3.20	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.40
2004 Spring GPS Data		0.00	0.00	0.80	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.00	**5.60**	**5.60**	1.70	0.00	0.00	0.00	2.30	3.80	0.00	1.50	3.80	2.50	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00
2004 Autumn GPS Data		**5.50**	1.00	0.60	3.40	0.50	0.00	0.00		0.00	0.00	0.00	1.70	0.30	1.60	0.60	0.00	0.00	**5.40**	0.00	0.00	0.30	**9.80**	0.80	0.90	0.30	0.00	0.90	1.90	0.50	0.80	0.30	0.90	0.60	0.00	0.50	**5.40**	2.20	0.00	0.00
2005 Spring GPS Data		0.80	3.10	**5.30**	1.30	1.90	0.00	0.00		0.00	0.00	0.00	0.00	0.00	**7.60**	**4.40**	2.80	2.50	2.20	**6.70**	0.90	0.00	0.40	**6.10**	**4.20**	0.00	0.50	0.00	2.30	0.00	0.00	0.00	1.10	1.60	0.00	0.00	**8.80**	3.50	0.00	0.00
2005 Autumn GPS Data		0.00	0.00	0.00	0.00	0.90	0.00	0.00		0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.40	0.00	0.00	3.20	0.90	0.00	1.30	0.70	0.00	0.00	0.60	0.00	0.70	0.00	0.00	0.00	1.60	1.80	0.00	0.00
2006 Spring GPS Data		0.00	1.82	2.12	3.92	0.40	0.63	0.00		0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.00	**5.62**	0.00	0.00	3.88	**6.12**	0.00	0.00	0.99	**9.56**	**6.20**	0.00	1.96	**9.48**	0.00	0.00	0.00	0.00	0.00	0.00	2.77	**5.10**	**6.62**	0.00
2006 Autumn GPS Data		**4.33**	2.83	1.01	1.53	1.17	0.00	0.00		2.83	3.23	0.00	0.00	1.80	1.39	1.72	0.00	1.31	0.00	3.76	**6.25**	1.26	0.00	0.00	0.00	0.00	**7.20**	0.00	1.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	**4.40**	**4.74**
2007 Spring GPS Data		0.27	1.80	0.92	0.00	3.00	0.00	0.00		3.28	0.63	0.00	0.00	0.00	1.10	1.21	**5.01**	0.93	**5.44**	2.27	0.85	1.50	0.00	1.96	0.58	**4.05**	3.15	**6.04**	1.71	0.00	**4.93**	1.57	1.80	0.00	0.00	0.00	2.01	0.00	1.71	**4.21**
2007 Autumn GPS Data		3.76	1.58	0.40	2.03	0.31	0.82	0.98		2.76	2.17	0.00	0.00	0.59	0.61	2.50	2.99	0.84	1.07	0.00	0.00	0.36	**8.25**	0.41	0.00	0.00	2.74	0.00	3.12	0.31	0.44	1.18	**5.72**	2.92	0.00	0.00	1.46	0.00	0.00	**4.14**
2008 Spring GPS Data		3.26	1.72	2.25	3.48	**4.67**	0.00	0.00		0.00	**4.21**	**7.75**	2.51	0.00	2.98	1.68	2.77	0.58	2.93	0.32	0.00	2.00	2.04	**5.02**	3.22	0.00	1.51	**6.68**	**8.15**	1.10	**6.38**	0.00	0.00	2.75	**9.01**	**9.95**	0.00	2.29	0.00	1.84
2008 Autumn GPS Data		**4.72**	2.87	1.16	0.00	0.00	0.00	0.00		0.00	0.66	2.53	2.85	0.39	0.00	0.00	0.00	0.79	0.00	0.55	0.00	0.00	0.00	1.11	0.71	0.59	0.00	0.00	0.00	0.00	1.30	0.00	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.67
2009 Spring LIDAR Data		0.00	2.72	0.62	0.00	0.00	0.00	0.00		0.00	0.86	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.58	4.89	0.00	3.62	5.07	6.23	4.15	0.00	0.00	0.00	9.06	3.21	2.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009 Autumn LIDAR Data		1.39	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	2.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.53	0.00	1.64	0.00	0.00	0.00	0.00	0.00	0.51	0.00	1.42	2.35	0.00	0.00	0.00	0.00	0.00
2010 Spring LIDAR Data		**4.94**	**4.06**	**4.60**	**6.24**	0.00	0.00	0.00		3.66	0.00	0.00	1.60	0.00	**7.56**	0.81	0.00	0.00	1.17	3.66	0.00	0.00	0.00	0.00	**4.61**	**7.20**	0.00	0.29	3.61	0.00	0.00	**6.38**	0.00	0.00	2.42	2.97	2.50	1.47	0.00	0.00
2010 Autumn LIDAR Data		0.00	1.04	0.00	0.00	0.00	0.00	0.00		0.00	1.11	0.00	0.91	2.72	0.00	0.33	0.00	**12.30**	0.71	0.94	0.00	2.32	2.27	1.88	0.00	0.00	0.00	0.00	0.00	0.00	1.81	0.00	1.39	1.28	0.00	0.00	0.00	1.64	0.00	0.00
2011 Spring LIDAR Data		3.82	**4.72**	3.87	1.44	**4.71**	0.00	0.00		0.00	0.95	0.00	0.00	0.89	0.82	3.50	0.00	0.00	**4.28**	**5.04**	2.52	0.00	0.84	1.09	1.62	0.00	3.48	0.00	0.00	0.00	0.86	0.00	2.60	0.00	0.59	**4.77**	2.87	0.00	0.68	0.72
2011 Autumn LIDAR Data		0.00	0.00	**5.20**	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.47	0.00	4.80	0.00	0.00	1.51	0.00	0.00	0.00	0.00	0.00
2012 Spring LIDAR Data		0.19	0.00	0.00	2.28	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	1.04	0.00	0.00	0.00	0.00	0.00	0.00
2012 Autumn LIDAR Data		0.13	1.07	0.00	1.62	1.23	0.00	0.00		0.00	**4.18**	1.08	0.00	0.00	0.00	**5.71**	0.54	1.20	0.00	0.00	**8.04**	0.00	0.00	0.00	0.00	3.30	0.00	**6.96**	0.00	0.00	1.07	1.31	3.77	2.23	0.81	3.72	0.00	0.00	1.22	0.00
2013 Spring LIDAR Data		0.56	0.00	**7.44**	2.3	0.00	2.64	0.00		0.57	2.02	3.66	**4.95**	0.00	0.00	1.60	1.33	0.75	0.41	**4.88**	2.78	2.83	2.81	0.00	0.00	0.00	0.00	2.37	0.89	0.00	1.94	0.00	0	2.68	**5.60**	**7.75**	**4.81**	3.54	2.43	1.19

Profile Number | 42 to 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82

East Riding of Yorkshire Cliff Erosion Monitoring
Table 1: Cliff Erosion Results

EAST RIDING OF YORKSHIRE COUNCIL

Notes:
1 Table shows cliff lost in metres between surveys
2 RS Refers to when Records Started at that location
3 / Used when no record taken

Profile Number	83	84	85	86	87	88	89	90 to 93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123
Survey Date																																						
1852 to 54 OS Map	RS	RS	RS	RS	RS	RS	RS	Withernsea Frontage	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
1888 to 91 OS Map	6.50	30.70	25.10	37.70	28.50	30.60	59.90		125.20	96.10	69.90	58.10	64.20	65.80	70.80	77.50	74.20	83.10	83.70	82.40	68.20	77.80	67.60	77.20	103.30	82.80	70.40	69.90	83.10	137.90	132.40	127.20	/	/	/	/	/	/
1905 to 09 OS Map	12.40	27.90	28.40	23.90	27.40	22.80	3.80		15.60	27.40	25.60	13.70	6.20	17.40	16.60	23.40	24.10	44.50	44.60	21.00	31.90	28.10	29.40	32.80	31.20	46.50	80.30	55.80	58.00	72.30	85.70	92.10	258.00	201.80	154.40	189.80	92.80	76.80
1925 to 29 OS Map	10.30	12.60	28.00	30.80	3.00	13.80	11.50		31.10	13.50	1.70	7.10	8.10	6.70	0.00	13.10	25.00	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	30.90	34.00	63.70	7.60	37.30	15.40
1952 to 56 OS Map	0.00	0.00	11.50	0.00	17.80	15.00	0.00		52.90	52.80	41.80	43.20	43.60	53.90	57.50	29.00	20.80	50.60	48.70	67.70	69.60	81.60	75.40	68.20	56.70	47.80	42.90	55.30	55.80	62.30	78.80	65.90	23.80	7.00	6.50	4.20	9.20	7.10
1969 OS Map	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1974 to 76 OS Map	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1977 OS Map	3.20	15.40	13.00	27.20	23.70	9.10	/		61.40	40.20	45.80	13.10	8.80	22.10	23.60	34.90	21.00	13.80	2.80	9.80	20.10	23.90	23.30	11.30	25.80	30.80	18.30	25.60	11.20	0.00	57.40	60.00	26.20	20.30	8.30	21.80	24.10	12.20
1989 OS Map	31.80	7.60	0.00	5.70	2.70	3.00	/		11.10	13.30	2.40	14.60	36.20	42.10	44.00	29.40	30.10	18.10	23.70	33.90	33.10	23.20	24.40	7.40	22.50	28.00	18.50	25.20	16.90	37.20	14.60	31.50	54.30	41.90	39.70	86.10	82.50	35.30
1992 OS Map	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1994 OS Map	3.10	20.40	14.70	1.70	1.20	2.50	2.00		0.00	3.40	2.50	6.00	2.90	/	3.30	10.30	5.40	10.50	2.90	1.20	4.20	3.40	5.10	15.70	4.30	8.10	7.50	0.00	1.90	21.50	42.50	3.50	7.80	23.40	21.10	21.90	13.90	25.80
1995 OS Map	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				/	/	/	/	/	/
1996 OS Map	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				/	/	/	/	/	/
1997 OS Map	/	/	/	/	0.00	1.70	1.10		22.26	18.60	7.80	2.60	1.60	2.28	1.70	0.70	2.50	1.90	1.20	0.80	0.00	7.10	12.50	10.40	3.70	0.00	0.00	8.60	14.20				/	22.50	/	15.10	34.99	4.98
1998 OS Map	/	/	/	/	/	/	/		4.89	4.14	3.33	6.22	1.02	/	/	/	/	/	/	/	/	0.00	0.00	2.22	0.00	2.43	0.00	0.00	0.00				/	0.00	/	0.00	0.00	3.34
1999 Spring GPS Data	/	/	/	/	/	/	/		6.27	8.06	11.07	16.65	23.84	5.20	/	/	0.00	/	/	/	0.88	0.00	3.02	0.68	3.82	0.00	0.00	0.40	0.00				/	0.00	16.85	1.62	0.00	/
1999 Autumn GPS Data	/	/	/	/	/	/	/		0.00	0.00	3.76	7.13	7.01	/	/	/	0.00	/	/	/	/	0.00	0.00	0.00	1.83			0.95	0.00				/	0.94	3.05	2.94	0.00	1.02
2000 Spring GPS Data	/	/	/	/	/	/	/		0.00	0.00	1.76	1.51	4.87	0.00	0.60	0.00	1.00	1.80	2.90	3.00	0.40	0.00	0.00	0.00	1.33			5.57	0.00				/	0.34	0.00	2.48	0.57	0.00
2000 Autumn GPS Data	/	/	/	/	/	1.62	3.02		3.09	1.44	3.25	1.99	4.06	0.68	/	/	/	/	/	/	0.26	0.11	0.66	0.00				0.71	0.00				/	0.37	/	1.04	0.00	0.00
2001 Spring GPS Data	/	/	/	/	/	/	0.00		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				/	/				/	/	/	/	/	/
2001 Autumn GPS Data	6.58	7.10	6.45	/	/	0.48	0.00		0.55	1.32	1.34	0.00	3.11	3.69	3.87	/	/	/	/	/	/	0.00	2.14	2.20				1.19	0.65				/	0.54	3.67	0.59	2.38	1.71
2002 February GPS Data	3.19	0.00	/	/	11.65	0.00	0.00		0.98	2.60	0.00	0.00	0.99	1.03	/	/	/	/	/	/	/	0.19	0.00	0.00				0.43	0.15				/	0.00	/	0.00	0.00	0.00
2002 August GPS Data	0.00	0.00	/	10.06	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	1.84	1.60	2.23	0.90	1.24	0.00	0.00	0.00				0.00	0.00				/	0.00	1.45	0.00	0.00	0.00
2003 Spring GPS Data	0.43	0.00	2.05	2.34	0.95	0.00	0.00		3.86	1.05	4.89	1.40	0.00	0.00	1.43	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.40	0.00				0.18	0.00				/	1.86	/	0.31	0.00	0.00
2003 Autumn GPS Data	0.90	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.70	2.70	0.00	0.90	0.40	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00				0.30	0.90				/	0.35	/	0.00	0.00	0.00
2004 Spring GPS Data	0.80	3.60	0.00	0.00	0.00	1.20	0.00		0.00	0.00	3.10	5.50	0.60	1.40	1.20	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.30	0.00				/	0.40	/	1.20	0.46	3.35
2004 Autumn GPS Data	0.20	2.20	2.60	0.00	0.50	1.20	0.00		0.80	0.00	1.10	0.40	2.50	0.20	0.80	4.80	2.30	0.20	0.10	0.00	0.00	0.50	0.00	0.00				0.20	0.00				32.30	0.40	/	0.00	0.00	0.00
2005 Spring GPS Data	0.40	0.00	6.60	3.40	6.20	1.30	0.00		3.60	0.50	0.00	3.20	9.30	0.70	1.50	0.90	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.20	0.00				/	2.20	6.78	0.40	0.00	2.30
2005 Autumn GPS Data	0.00	0.00	0.00	0.00	0.00	3.30	0.00		0.40	3.80	0.00	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.40	1.50				/	0.00	1.00	0.00	0.70	1.30
2006 Spring GPS Data	0.28	0.00	0.47	2.26	2.60	3.06	0.00		1.17	4.88	7.00	10.54	4.09	0.00	0.99	0.00	0.00	2.43	0.00	0.00	0.00	0.00	0.00	0.93				0.00	2.30				/	0.67	0.67	1.18	0.00	0.00
2006 Autumn GPS Data	2.46	0.71	0.00	0.00	0.00	0.94	0.00		2.39	0.66	1.54	9.00	0.68	4.28	0.00	0.00	0.00	1.04	0.47	0.00	0.00	0.00	0.00	0.00				0.51	0.30				/	0.00	0.85	0.00	0.00	0.00
2007 Spring GPS Data	0.00	1.33	0.40	1.24	0.95	2.09	0.00		1.05	0.00	1.59	6.73	10.40	2.23	3.88	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43				3.66	0.00				0.54	0.00	0.68	0.25	0.00	6.00
2007 Autumn GPS Data	10.92	2.31	1.12	0.97	1.69	0.66	0.00		0.21	0.62	0.00	0.59	2.62	18.84	0.60	1.44	0.97	0.63	0.00	0.00	4.75	0.00	0.00	0.93				1.16	0.00				0.00	0.00	4.54	0.00	0.00	0.90
2008 Spring GPS Data	4.87	8.81	4.42	0.00	0.00	2.28	0.00		4.54	0.78	0.99	0.00	0.65	6.21	9.06	1.33	1.07	0.00	0.00	0.00	0.00	0.00	0.00	1.10				3.44	2.83				1.43	1.38	1.72	1.70	0.00	0.00
2008 Autumn GPS Data	0.00	0.91	2.26	0.00	0.00	0.00	0.00		0.00	0.95	0.68	0.00	0.00	0.00	0.00	1.52	3.97	0.21	0.25	0.97	0.58	0.36	0.90	0.24				0.90	0.66				2.20	0.00	0.00	1.26	0.00	1.94
2009 Spring LIDAR Data	0.00	0.00	9.21	4.83	0.00	0.00	0.00		1.78	6.43	6.96	2.08	0.00	0.00	0.97	2.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00				5.11	2.14	0.00	0.33	0.00	0.79
2009 Autumn LIDAR Data	0.00	0.00	0.00	0.00	0.00	1.51	0.00		0.00	0.00	1.26	2.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00				0.31	0.00	0.00	0.00	0.00	0.00
2010 Spring LIDAR Data	0.00	0.00	2.99	4.89	0.00	0.00	0.00		0.78	1.83	4.52	9.41	1.21	0.00	1.30	1.53	1.16	0.00	0.00	0.00	0.00	0.00	0.00	1.04				1.10	4.17				0.00	5.84	0.79	1.56	0.00	0.00
2010 Autumn LIDAR Data	1.39	0.00	0.00	3.57	7.23	0.00	0.00		4.61	0.00	0.87	2.04	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.61	0.00				2.29	0.00				0.00	0.00	1.99	1.66	0.00	0.00
2011 Spring LIDAR Data	0.00	0.62	0.00	2.51	3.36	0.00	0.00		4.13	6.93	1.73	0.76	0.00	1.44	0.95	0.00	0.00	0.00	1.22	0.00	0.00	0.00	2.13	0.54				3.18	0.97				0.00	0.00	0.00	0.00	0.00	0.00
2011 Spring LIDAR Data	0.00	0.00	1.34	0.00	0.00	0.00	0.00		0.00	5.95	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.00
2012 Spring LIDAR Data	0.00	0.00	0.00	0.51	2.30	0.00	0.00		0.00	4.37	6.84	0.62	0.00	0.00	0.00	1.03	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	1.07				0.00	0.00	0.00	1.53	0.00	0.00
2012 Autumn LIDAR Data	0.00	0.00	0.00	0.69	0.00	1.54	0.00		0.73	4.58	1.25	1.68	1.47	0.00	0.54	0	0	1.78	0.63	0.00	0.00	0.00	0.00	0.00				0.00	0				0.97	0.00	0.00	0	0.00	0.00
2013 Spring LIDAR Data	2.71	0.00	2.15	0.38	2.00	5.47	0.00		3.02	4.74	4.08	1.89	1.54	0.00	0.00	4.13	3.89	1.01	0.00	0.00	0.00	0.00	0.00	0.00				1.08	1.91				0.00	0.00	0.00	0	0.00	0.00

Cliff line lost within Kilnsea SSSI Lagoon/Dune

Cliff now protected by Easington defence works after 1999

Profile Number | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 to 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123