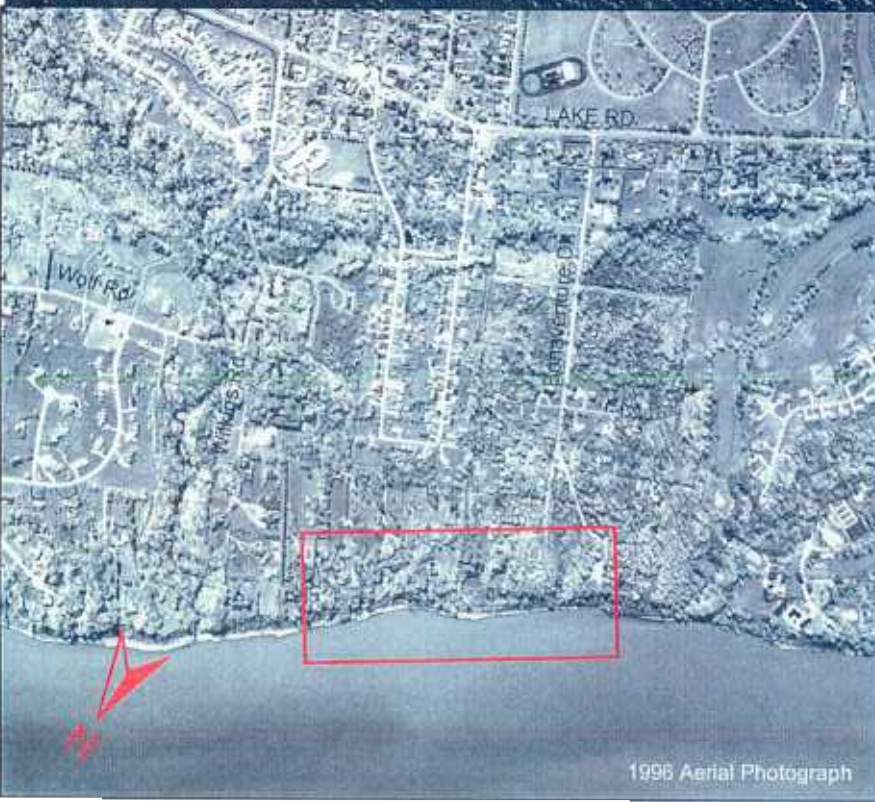
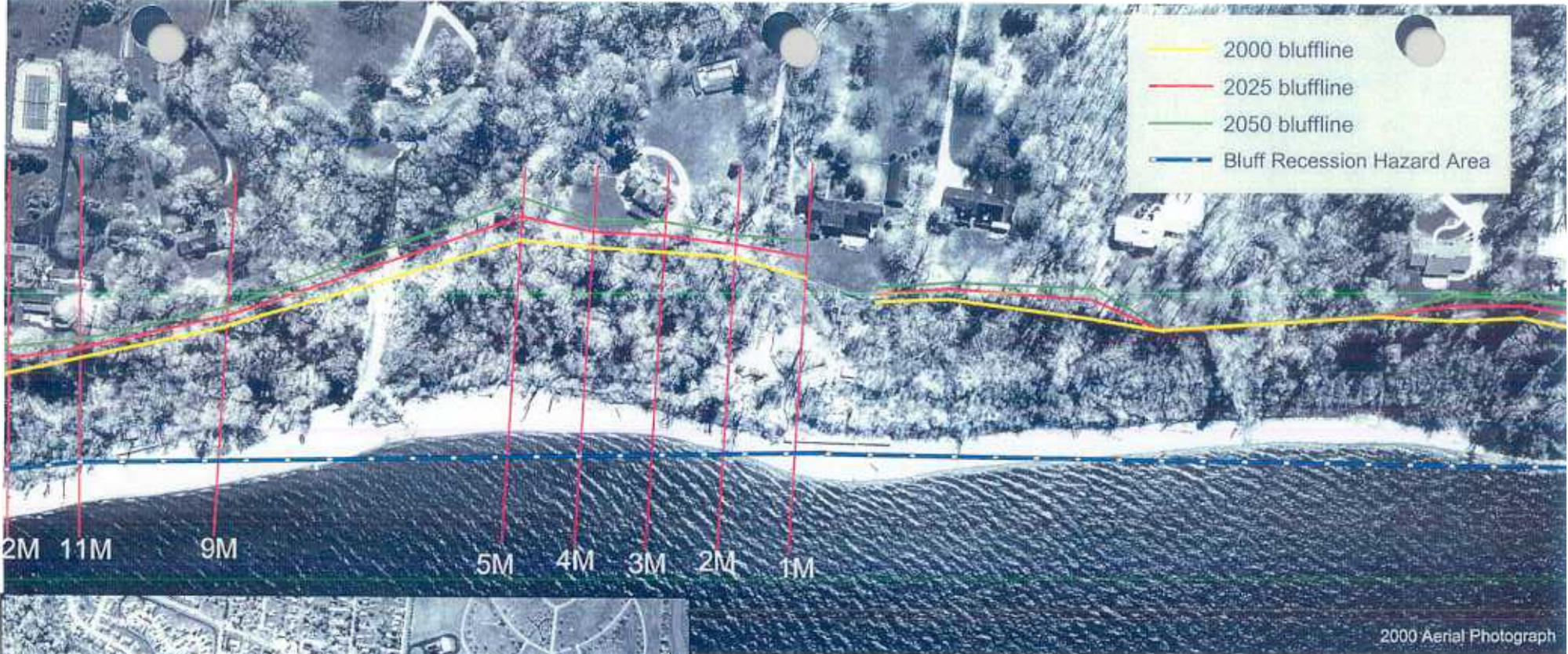


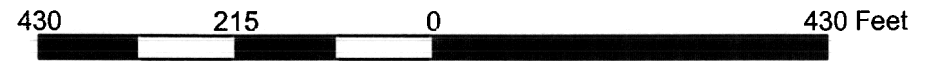
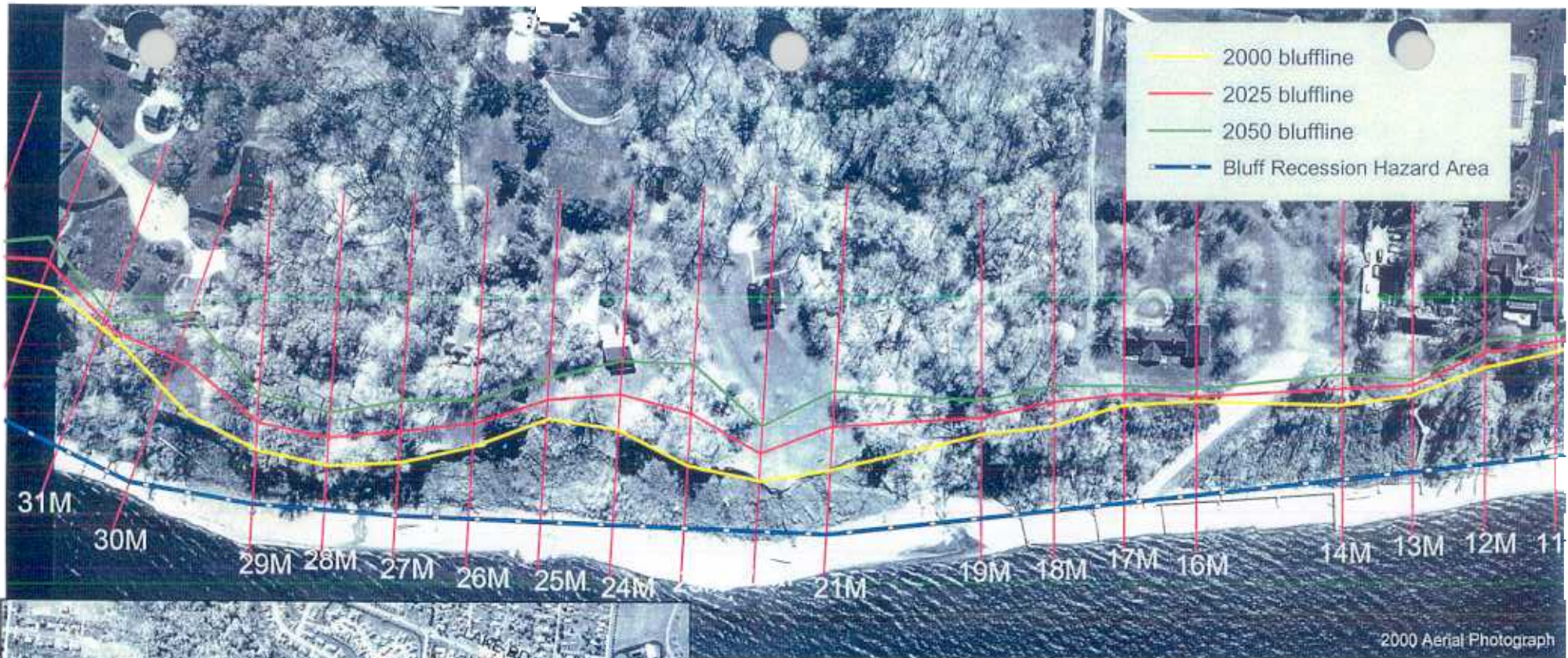
Millcreek Township, PA

Bluff Recession Hazard Area Maps



Transect	1	2	3	4	5	6	7
predicted recession by 2025	28.2	17.6	22.8	21.1	32.8		
predicted recession by 2050	51.3	31.5	41.0	36.0	58.6		
recession rate (ft/yr)	0.9	0.6	0.7	0.6	1.0	discard	discard

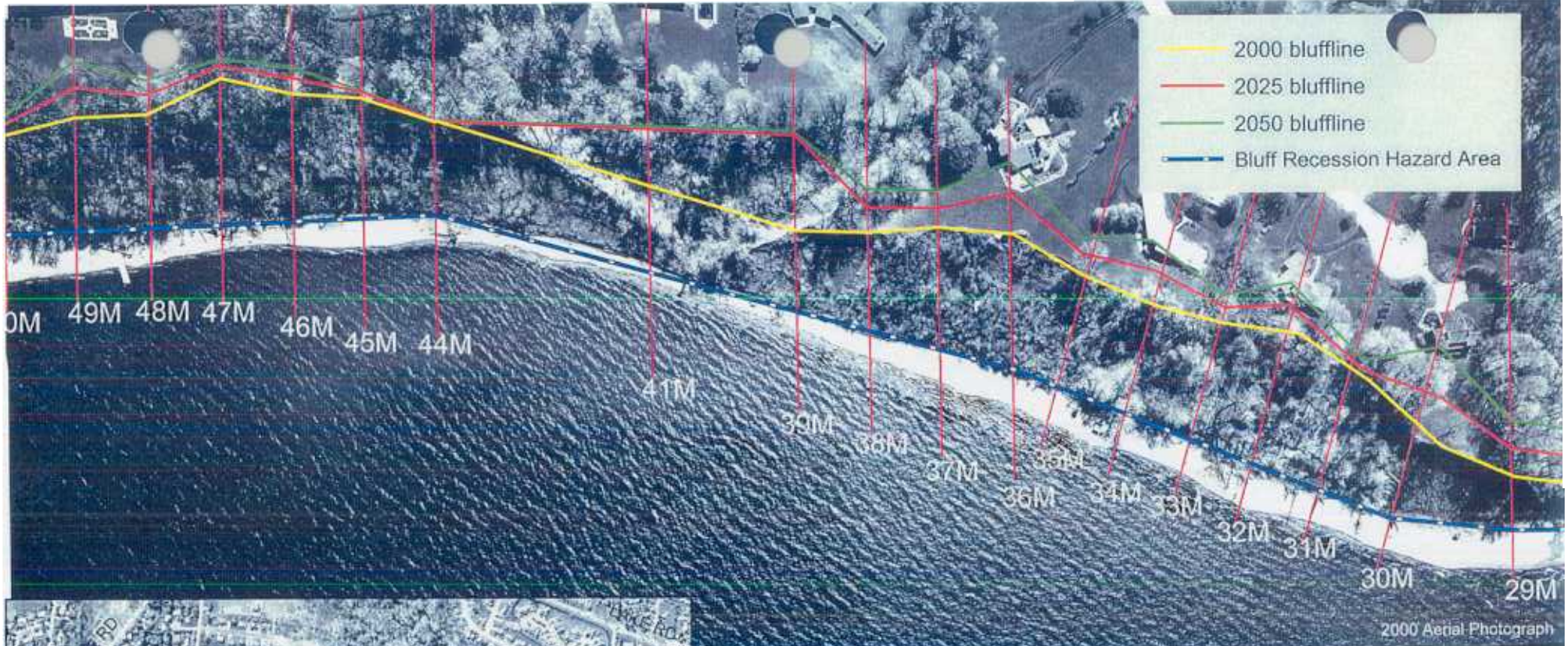
Transect	8	9	10	11
predicted recession by 2025		15.0		14.8
predicted recession by 2050		27.2		24.2
recession rate (ft/yr)	discard	0.5	discard	0.4



Transect	12	13	14	15	16	17	18
predicted recession by 2025	21.7	14.7	21.3		3.7	14.9	32.3
predicted recession by 2050	38.5	24.0	40.1		15.3	27.7	55.7
recession rate (ft/yr)	0.7	0.4	0.8	discard	0.5	0.5	0.9

Transect	19	20	21	22	23	24	25
predicted recession by 2025	24.3		57.7	38.6	72.1	48.3	25.6
predicted recession by 2050	47.7		109.5	75.2	141.9	95.3	56.0
recession rate (ft/yr)	0.9	discard	2.1	1.5	2.8	1.9	1.2

Transect	26	27	28	29	30
predicted recession by 2025	31.8	43.7	37.4	38.4	67.7
predicted recession by 2050	64.1	84.9	73.6	79.3	136.6
recession rate (ft/yr)	1.3	1.7	1.4	1.6	2.8

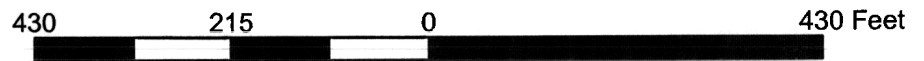
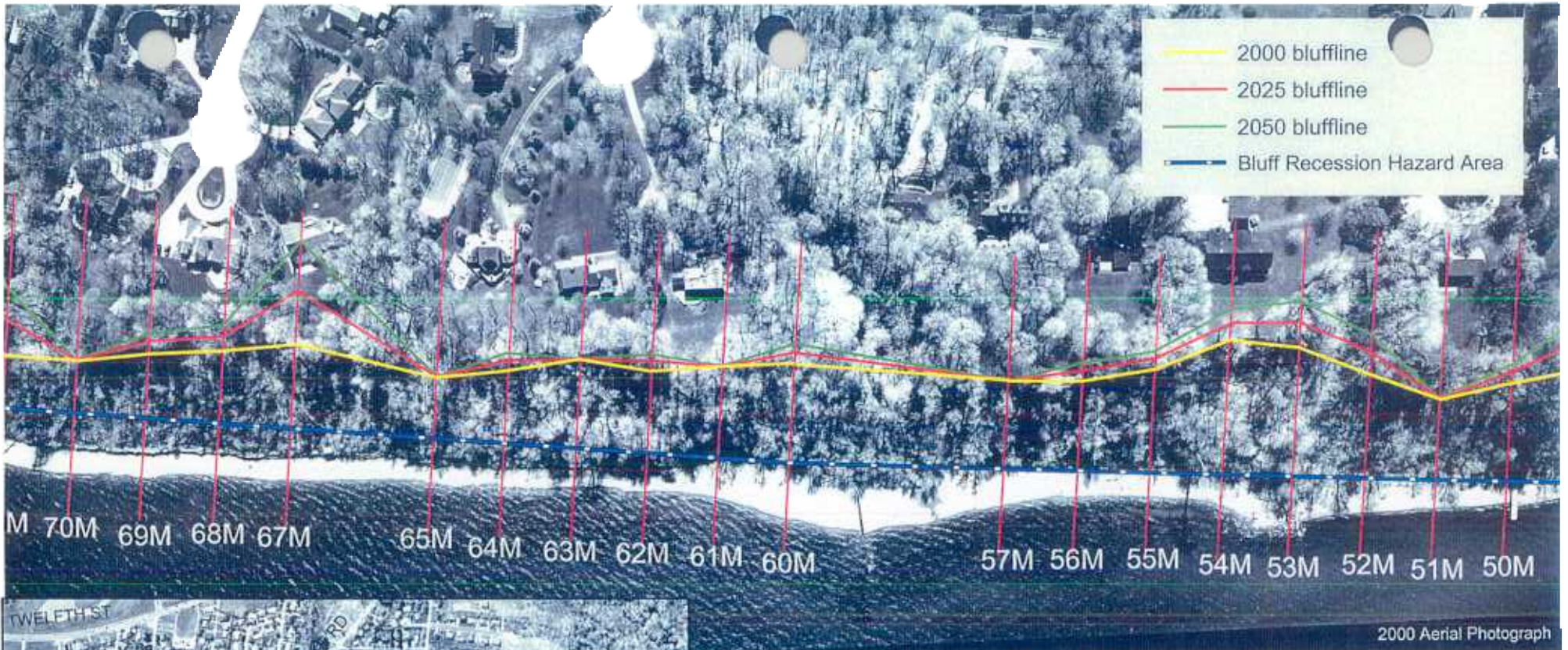


Transect	31	32	33	34	35	36	37
predicted recession by 2025	16.8	40.1	22.3	49.8	29.2	55.1	27.0
predicted recession by 2050	28.9	73.1	39.5	90.8	52.0	99.3	50.5
recession rate (ft/yr)	0.5	1.3	0.7	1.6	0.9	1.8	0.9

Transect	38	39	40	41	42	43	44
predicted recession by 2025	35.3	14.4		18.3			0.0
predicted recession by 2050	61.7	22.8		31.9			0.0
recession rate (ft/yr)	1.1	0.3	discard	0.5	discard	discard	0.0

Transect	45	46	47	48	49
predicted recession by 2025	8.3	21.2	16.1	27.3	41.4
predicted recession by 2050	11.3	36.3	26.3	47.8	75.0
recession rate (ft/yr)	0.1	0.6	0.4	0.8	1.3

Yellow No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area

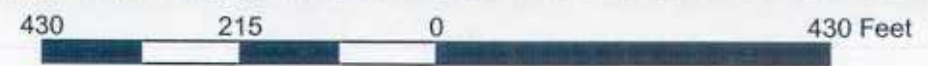
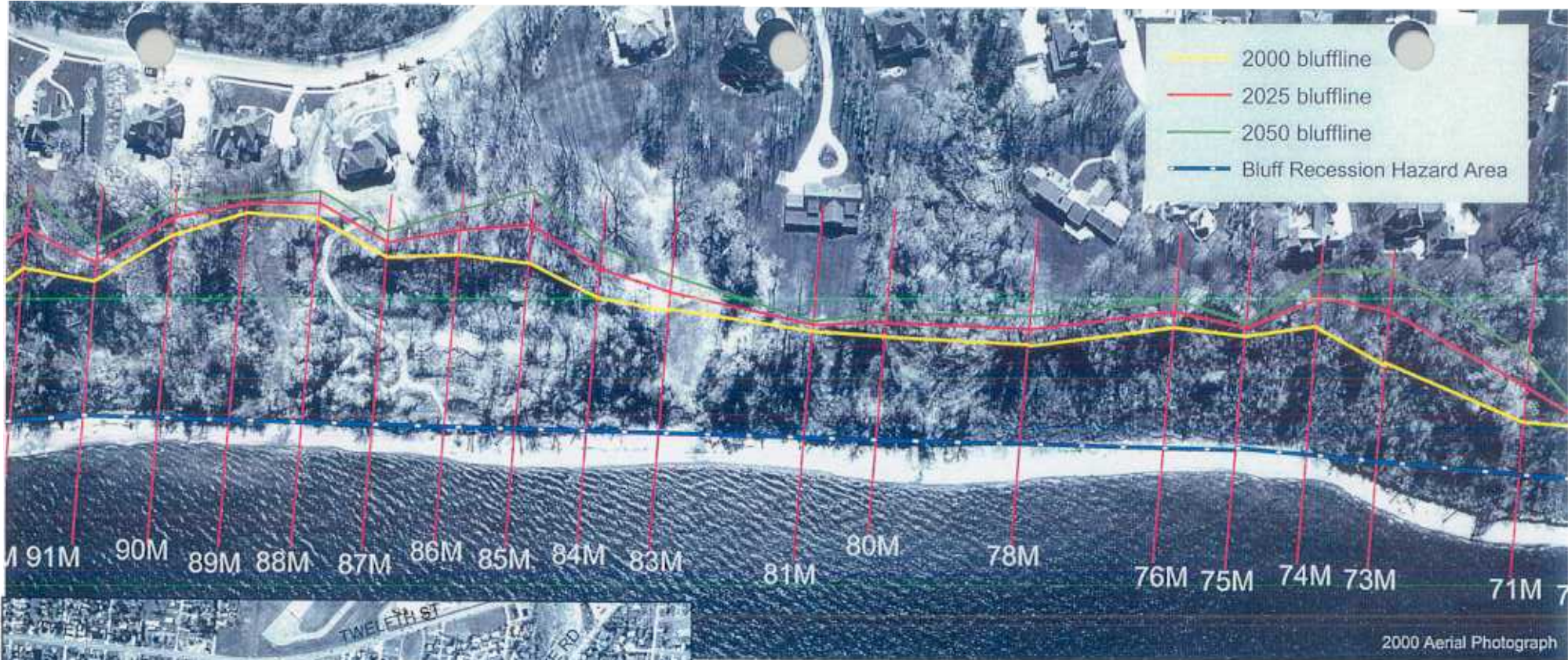


Transect	50	51	52	53	54	55	56
predicted recession by 2025	15.9	0.0	30.3	35.6	24.9	19.8	14.9
predicted recession by 2050	27.4	0.0	56.0	63.5	42.9	29.7	25.9
recession rate (ft/yr)	0.5	0.0	1.0	1.1	0.7	0.4	0.4

Transect	57	58	59	60	61	62	63
predicted recession by 2025	0.0			15.5	0.0	14.4	0.0
predicted recession by 2050	0.0			26.4	0.0	24.0	0.0
recession rate (ft/yr)	0.0	discard	discard	0.4	0.0	0.4	0.0

Transect	64	65	66	67	68	69	70
predicted recession by 2025	14.0	0.0		75.0	20.0	17.3	0.0
predicted recession by 2050	24.7	0.0		142.2	35.9	28.0	0.0
recession rate (ft/yr)	0.4	0.0	discard	2.7	0.6	0.4	0.0

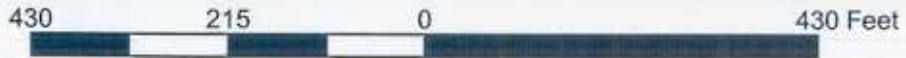
No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



Transect	71	72	73	74	75	76	77
predicted recession by 2025	49.2		72.7	41.5	12.3	21.6	
predicted recession by 2050	91.7		131.7	76.3	19.0	38.8	
recession rate (ft/yr)	1.7	discard	2.4	1.4	0.3	0.7	discard

Transect	78	79	80	81	82	83	84
predicted recession by 2025	22.4		19.4	8.7		24.8	36.5
predicted recession by 2050	39.8		32.9	12.6		47.6	68.1
recession rate (ft/yr)	0.7	discard	0.5	0.2	discard	0.9	1.3

Transect	85	86	87	88	89	90	91
predicted recession by 2025	53.4	33.3	19.7	20.5	13.3	25.0	25.7
predicted recession by 2050	100.5	61.7	36.8	37.7	22.4	49.1	51.1
recession rate (ft/yr)	1.9	1.1	0.7	0.7	0.4	1.0	1.0

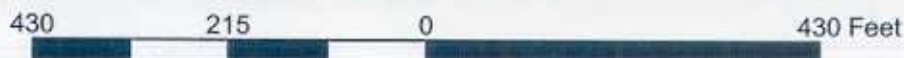


Transect	92	93	94	95	96	97	98
predicted recession by 2025	51.2	43.7	21.3	39.1			28.8
predicted recession by 2050	101.6	82.9	39.8	84.4			51.9
recession rate (ft/yr)	2.0	1.6	0.7	1.8	discard	discard	0.9

Transect	99	100	101	102	103	104	105
predicted recession by 2025	28.0	19.9	0.0		25.2	42.3	62.4
predicted recession by 2050	52.3	34.2	0.0		44.0	76.6	113.9
recession rate (ft/yr)	1.0	0.6	0.0	discard	0.8	1.4	2.1

Transect	106	107	108	109	110	111	112
predicted recession by 2025	66.6	56.9		0.0	16.2	19.8	22.7
predicted recession by 2050	127.2	110.2		0.0	28.2	34.0	42.6
recession rate (ft/yr)	2.4	2.1	discard	0.0	0.5	0.6	0.8

101 No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



Transect	113	114	115	116	117	118	119
predicted recession by 2025	0.0	34.8		20.0	14.6	27.9	25.2
predicted recession by 2050	0.0	65.5		34.5	23.6	49.5	45.4
recession rate (ft/yr)	0.0	1.2	discard	0.6	0.4	0.9	0.8

Transect	120	121	122	123	124	125	126
predicted recession by 2025	0.0			0.0	25.4	16.2	17.9
predicted recession by 2050	0.0			0.0	50.2	26.4	30.1
recession rate (ft/yr)	0.0	discard	discard	0.0	1.0	0.4	0.5

Transect	127	128	129	130	131	132	133
predicted recession by 2025	36.2	11.2	53.0	26.1			35.0
predicted recession by 2050	63.0	19.5	100.6	50.4			75.8
recession rate (ft/yr)	1.1	0.3	1.9	1.0	discard	discard	1.6

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



2000 Aerial Photograph



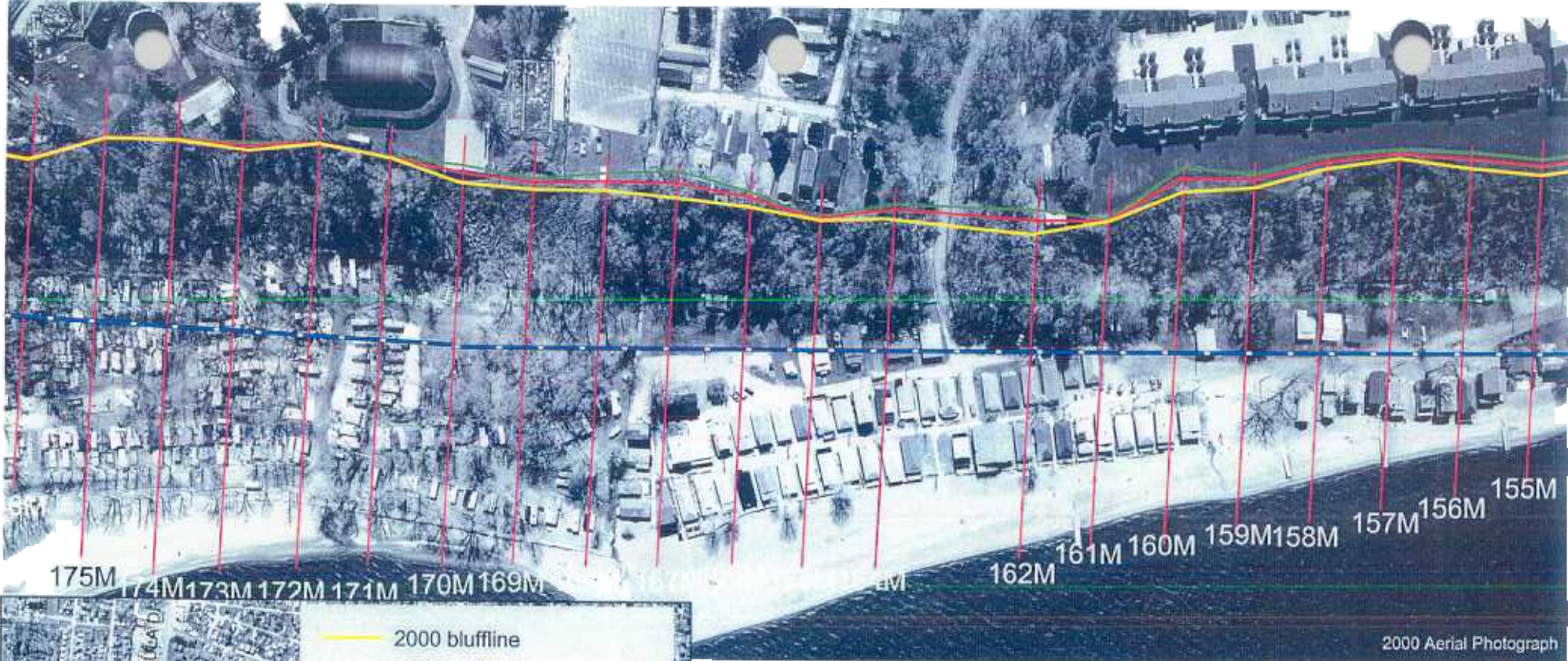
1996 Aerial Photograph

Transect	134	135	136	137	138	139	140
predicted recession by 2025	56.8	24.5	27.5	39.6	33.7	32.0	23.1
predicted recession by 2050	107.9	41.4	50.9	70.3	67.0	59.0	40.6
recession rate (ft/yr)	2.0	0.7	0.9	1.2	1.3	1.1	0.7

Transect	141	142	143	144	145	146	147
predicted recession by 2025	0.0				21.8	21.5	26.6
predicted recession by 2050	0.0				33.6	40.0	41.4
recession rate (ft/yr)	0.0	discard	discard	discard	0.5	0.7	0.6

Transect	148	149	150	151	152	153	154
predicted recession by 2025	24.4	15.6	23.9	17.4			13.6
predicted recession by 2050	47.2	30.5	44.0	29.1			23.1
recession rate (ft/yr)	0.9	0.6	0.8	0.5	discard	discard	0.4

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area

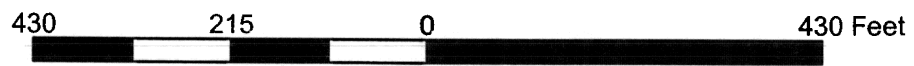


2000 Aerial Photograph



1996 Aerial Photograph

- 2000 bluffline
- 2025 bluffline
- 2050 bluffline
- Bluff Recession Hazard Area



Transect	155	156	157	158	159	160	161
predicted recession by 2025	13.6	13.6	7.7	10.0	10.5	19.9	0.0
predicted recession by 2050	21.5	21.5	12.1	18.6	17.2	34.2	0.0
recession rate (ft/yr)	0.3	0.3	0.2	0.3	0.3	0.6	0.0

Transect	162	163	164	165	166	167	168
predicted recession by 2025	18.9		11.6	0.0	13.6	20.3	12.6
predicted recession by 2050	33.6		19.2	0.0	22.9	35.1	22.2
recession rate (ft/yr)	0.6	discard	0.9	0.0	0.4	0.6	0.4

Transect	169	170	171	172	173	174	175
predicted recession by 2025	10.0	14.0	0.0	0.0	7.1	0.0	0.0
predicted recession by 2050	14.3	23.3	0.0	0.0	9.8	0.0	0.0
recession rate (ft/yr)	0.2	0.4	0.0	0.0	0.1	0.0	0.0

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



- 2000 bluffline
- 2025 bluffline
- 2050 bluffline
- - - Bluff Recession Hazard Area

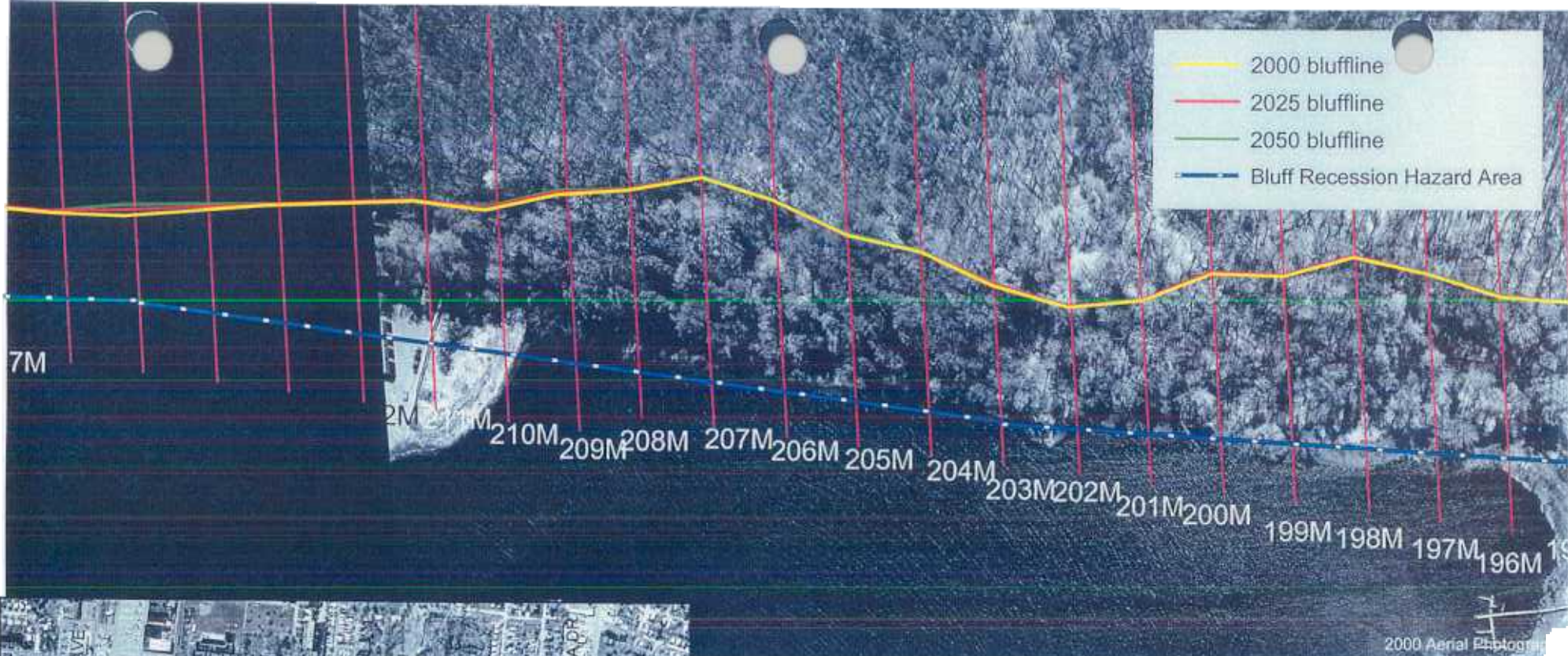


Transect	176	177	178	179	180	181	182
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	discard

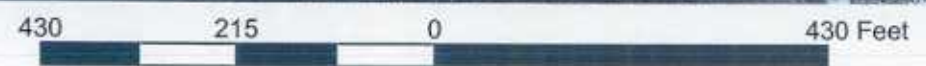
Transect	183	184	185	186	187	188	189
predicted recession by 2025			0.0	0.0	0.0	0.0	0.0
predicted recession by 2050			0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	discard	discard	0.0	0.0	0.0	0.0	0.0

Transect	190	191	192	193	194	195	196
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



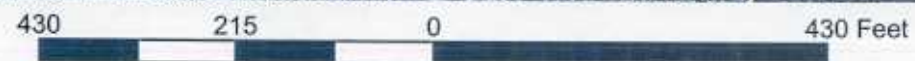
- 2000 bluffline
- 2025 bluffline
- 2050 bluffline
- - - Bluff Recession Hazard Area



Transect	197	198	199	200	201	202	203
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Transect	204	205	206	207	208	209	210
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area



Transect	211	212	213	214	215	216	217
predicted recession by 2025	0.0	0.0	0.0	0.0	8.1	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	12.9	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.2	0.0	0.0

Transect	218	219	220	221	222	223	224
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Transect	225	226	227	228	229	230	231
predicted recession by 2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0
predicted recession by 2050	0.0	0.0	0.0	0.0	0.0	0.0	0.0
recession rate (ft/yr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

No measurable change in bluff location, but instability and/or signs of bluff recession were observed near transect, therefore this transect is in a Bluff Recession Hazard Area