APPENDICES

Appendix 1. Salt pond depth and salinity by survey.

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
A1	Alviso	USGS		2002	11	26		boat	0.57	0.00	0.01
A1	Alviso	USGS		2003	3	21		boat	0.74	0.00	0.01
A1	Alviso	USGS		2003	5	25		boat	0.52	0.00	0.01
A1	Alviso	USGS		2003	7	28		boat	0.60	0.00	0.01
A1	Alviso	USGS		2003	8	31		boat	0.66	0.00	0.01
A1	Alviso	USGS		2003	9	28		boat	0.70	0.00	0.01
A1	Alviso	USGS		2003	11	25		boat	0.72	0.00	0.01
A1	Alviso	USGS		2003	12	22		boat	0.79	0.00	0.01
A1	Alviso	USGS		2004	1	19		boat	0.96	0.00	0.19
A11	Alviso	PRBO	9/29/2000	2000	9	71	9/26/2000	boat	1.04	0.00	0.45
A11	Alviso	PRBO	11/11/2000	2000	11	62	11/10/2000	boat	1.25	0.00	0.87
A11	Alviso	PRBO	3/19/2001	2001	3	51	3/12/2001	boat	1.40	0.00	0.97
A11	Alviso	PRBO	4/2/2001	2001	4	51	4/2/2001	boat	1.44	0.00	0.97
A11	Alviso	USGS		2002	12	72		boat	1.28	0.00	0.91
A11	Alviso	USGS		2003	3	69		boat	1.60	0.00	0.98
A11	Alviso	USGS		2003	4	71		boat	1.34	0.00	0.95
A11	Alviso	USGS		2003	5	72		boat	1.25	0.00	0.87
A11	Alviso	USGS		2003	7	57		boat	1.19	0.00	0.76
A11	Alviso	USGS		2003	8	50		boat	1.25	0.00	0.87
A11	Alviso	USGS		2003	11	52		boat	1.16	0.00	0.69
A11	Alviso	USGS		2003	12	58		boat	1.19	0.00	0.76
A11	Alviso	USGS		2004	1	59		boat	1.31	0.00	0.93
A13	Alviso	USGS		2002	11	59		boat	1.50	0.00	0.95
A13	Alviso	USGS		2002	12	76		boat	1.48	0.00	0.94
A13	Alviso	USGS		2003	1	70		boat	2.16	0.00	1.00
A13	Alviso	USGS		2003	2	71		boat	1.76	0.00	0.98
A13	Alviso	USGS		2003	3	71		boat	2.00	0.00	1.00
A13	Alviso	USGS		2003	4	78		boat	1.70	0.00	0.98
A13	Alviso	USGS		2003	5	75		boat	1.53	0.00	0.96
A13	Alviso	USGS		2003	7	79		boat	1.33	0.00	0.85
A13	Alviso	USGS		2003	8	74		boat	1.39	0.00	0.89
A13	Alviso	USGS		2003	11	73		boat	1.33	0.00	0.85
A13	Alviso	USGS		2003	12	71		boat	1.39	0.00	0.89
A13	Alviso	USGS		2004	1	80		boat	2.00	0.00	0.99
A14	Alviso	PRBO	9/13/2000	2000	9	100	9/12/2000	boat	0.78	0.00	0.17
A14	Alviso	PRBO	9/29/2000	2000	9	100	9/26/2000	boat	0.81	0.00	0.18
A14	Alviso	PRBO	10/12/2000	2000	10	86	10/9/2000	boat	0.82	0.00	0.18
A14	Alviso	PRBO	11/8/2000	2000	11	84	11/7/2000	boat	0.73	0.00	0.15
A14	Alviso	PRBO	11/20/2000	2000	11	84	11/10/2000	boat	0.87	0.00	0.20
A14	Alviso	PRBO	12/6/2000	2000	12	81	12/5/2000	boat	1.06	0.00	0.41
A14	Alviso	PRBO	12/19/2000	2000	12	81	12/19/2000	boat	1.02	0.00	0.35
A14	Alviso	PRBO	1/4/2001	2001	1	78	1/4/2001	boat	0.96	0.00	0.27
A14	Alviso	PRBO	1/17/2001	2001	1	78	1/16/2001	boat	0.97	0.00	0.27
A14	Alviso	PRBO	2/2/2001	2001	2	71	2/1/2001	boat	1.02	0.00	0.35
A14	Alviso	PRBO	2/16/2001	2001	2	71	2/15/2001	boat	1.11	0.00	0.55
A14	Alviso	PRBO	3/14/2001	2001	3	67	3/12/2001	boat	1.23	0.00	0.80
A14	Alviso	PRBO	3/19/2001	2001	3	67	3/12/2001	boat	1.23	0.00	0.80
A14	Alviso	PRBO	4/2/2001	2001	4	68	4/2/2001	boat	1.30	0.00	0.87
A14	Alviso	PRBO	4/11/2001	2001	4	68	4/11/2001	boat	1.26	0.00	0.84
A14	Alviso	USGS		2002	12	107		boat	1.14	0.00	0.62
A14	Alviso	USGS		2003	2	97		boat	1.36	0.00	0.92
A14	Alviso	USGS		2003	4	80		boat	1.27	0.00	0.84
A14	Alviso	USGS		2003	5	79		boat	1.11	0.00	0.55
A14	Alviso	USGS		2003	7	97		boat	0.90	0.00	0.22
A14	Alviso	USGS		2003	8	99		boat	0.98	0.00	0.29
A14	Alviso	USGS		2003	11	82		boat	0.90	0.00	0.22
A14	Alviso	USGS		2003	12	73		boat	1.02	0.00	0.35
A15	Alviso	USGS		2002	11	81		boat	1.79	0.00	0.99
A15	Alviso	USGS		2002	12	80		boat	1.84	0.00	1.00

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
A15	Alviso	USGS		2003	1	80		boat	1.86	0.00	1.00
A15	Alviso	USGS		2003	2	82		boat	1.85	0.00	1.00
A15	Alviso	USGS		2003	3	79		boat	1.85	0.00	1.00
A15	Alviso	USGS		2003	4	82		boat	1.88	0.00	1.00
A15	Alviso	USGS		2003	5	80		boat	1.85	0.00	1.00
A15	Alviso	USGS		2003	7	94		boat	1.76	0.00	0.98
A15	Alviso	USGS		2003	8	93		boat	1.63	0.00	0.89
A15	Alviso	USGS		2003	9	91		boat	1.57	0.00	0.85
A15	Alviso	USGS		2003	11	81		boat	1.87	0.00	1.00
A15	Alviso	USGS		2003	12	80		boat	1.68	0.00	0.93
A15	Alviso	USGS		2004	1	76		boat	1.71	0.00	0.95
A16	Alviso	PRBO	9/14/2000	2000	9	81	9/12/2000	boat	1.43	0.00	0.71
A16	Alviso	PRBO	9/28/2000	2000	9	81	9/26/2000	boat	1.40	0.00	0.67
A16	Alviso	PRBO	10/12/2000	2000	10	76	10/9/2000	boat	1.34	0.00	0.61
A16	Alviso	PRBO	10/23/2000	2000	10	76	10/23/2000	boat	1.31	0.00	0.58
A16	Alviso	PRBO	11/9/2000	2000	11	73	11/7/2000	boat	1.56	0.00	0.84
A16	Alviso	PRBO	11/21/2000	2000	11	73	11/10/2000	boat	1.56	0.00	0.83
A16	Alviso	PRBO	12/7/2000	2000	12	67	12/5/2000	boat	1.71	0.00	0.91
A16	Alviso	PRBO	12/20/2000	2000	12	67	12/19/2000	boat	1.62	0.00	0.87
A16	Alviso	PRBO	1/5/2001	2001	1	66	1/4/2001	boat	1.62	0.00	0.87
A16	Alviso	PRBO	1/16/2001	2001	1	66	1/16/2001	boat	1.74	0.00	0.92
A16	Alviso	PRBO	2/1/2001	2001	2	65	2/1/2001	boat	1.74	0.00	0.92
A16	Alviso	PRBO	2/28/2001	2001	2	65	2/28/2001	boat	1.74	0.00	0.92
A16	Alviso	PRBO	3/15/2001	2001	3	63	3/12/2001	boat	1.77	0.00	0.93
A16	Alviso	PRBO	3/22/2001	2001	3	63	3/12/2001	boat	1.77	0.00	0.93
A16	Alviso	PRBO	4/5/2001	2001	4	65	4/2/2001	boat	1.71	0.00	0.91
A16	Alviso	PRBO	4/12/2001	2001	4	65	4/11/2001	boat	1.71	0.00	0.91
A16	Alviso	USGS		2002	12	95		boat	1.74	0.00	0.92
A16	Alviso	USGS		2003	1	92		boat	1.86	0.00	0.98
A16	Alviso	USGS		2003	2	95		boat	1.86	0.00	0.98
A16	Alviso	USGS		2003	3	93		boat	1.83	0.00	0.96
A16	Alviso	USGS		2003	4	92		boat	1.75	0.00	0.93
A16	Alviso	USGS		2003	5	90		boat	1.86	0.00	0.98
A16	Alviso	USGS		2003	7	101		boat	1.60	0.00	0.86
A16	Alviso	USGS		2003	8	104		boat	1.63	0.00	0.88
A16	Alviso	USGS		2003	9	106		boat	1.56	0.00	0.83
A16	Alviso	USGS		2003	11	90		boat	1.71	0.00	0.91
A16	Alviso	USGS		2003	12	95		boat	1.68	0.00	0.90
A16	Alviso	USGS		2004	1	89		boat	1.69	0.00	0.91
A17	Alviso	USGS		2002	11	108		boat	2.25	0.00	1.00
A17	Alviso	USGS		2002	12	109		boat	2.27	0.00	1.00
A17	Alviso	USGS		2003	1	94		boat	3.01	0.00	1.00
A17	Alviso	USGS		2003	2	92		boat	2.40	0.00	1.00
A17	Alviso	USGS		2003	3	92		boat	2.39	0.00	1.00
A17	Alviso	USGS		2003	4	88		boat	2.36	0.00	1.00
A17	Alviso	USGS		2003	5	92		boat	2.37	0.00	1.00
A17	Alviso	USGS		2003	7	106		boat	2.15	0.00	1.00
A17	Alviso	USGS		2003	8	104		boat	2.15	0.00	1.00
A17	Alviso	USGS		2003	9	107		boat	2.10	0.00	1.00
A17	Alviso	USGS		2003	11	95		boat	2.25	0.00	1.00
A17	Alviso	USGS		2003	12	95		boat	2.22	0.00	1.00
A17	Alviso	USGS		2004	1	88		boat	2.25	0.00	1.00
A19	Alviso	USGS		2003	9	207		boat	0.80	0.00	0.28
A19	Alviso	USGS		2003	12	164		boat	0.94	0.00	0.31
A19	Alviso	USGS		2004	1	158		boat	0.05	0.03	0.08
A20	Alviso	USGS		2002	12	217		boat	0.83	0.00	0.33
A20	Alviso	USGS		2003	2	195		boat	0.83	0.00	0.33
A20	Alviso	USGS		2003	3	224		boat	0.85	0.00	0.33
A20	Alviso	USGS		2003	4	173		boat	0.99	0.00	0.37

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A20	Alviso	USGS		2003	8	198		boat	1.08	0.00	0.41
A20	Alviso	USGS		2003	9	211		boat	0.86	0.00	0.34
A20	Alviso	USGS		2003	12	372		boat	1.06	0.00	0.40
A20	Alviso	USGS		2004	1	150		boat	0.74	0.05	0.30
A21	Alviso	USGS		2003	1	74		boat	0.53	0.04	0.16
A21	Alviso	USGS		2003	2	210		boat	0.55	0.03	0.16
A21	Alviso	USGS		2003	3	182		boat	0.56	0.02	0.16
A21	Alviso	USGS		2003	4	200		boat	0.56	0.02	0.16
A21	Alviso	USGS		2003	5	184		boat	0.85	0.00	0.22
A21	Alviso	USGS		2003	7	208		boat	0.67	0.00	0.18
A21	Alviso	USGS		2003	8	215		boat	0.69	0.00	0.19
A21	Alviso	USGS		2003	9	231		boat	0.56	0.02	0.16
A21	Alviso	USGS		2003	11	96		boat	0.56	0.02	0.16
A21	Alviso	USGS		2003	12	188		boat	0.66	0.00	0.18
A21	Alviso	USGS		2004	1	160		boat	0.69	0.00	0.19
A22	Alviso	USGS		2002	12	286		LiDAR	0.92	0.01	0.42
A22	Alviso	USGS		2003	1	126		LiDAR	0.16	0.21	0.00
A22	Alviso	USGS		2003	2	144		LiDAR	-0.16	0.19	0.00
A22	Alviso	USGS		2003	3	146		LiDAR	-0.15	0.20	0.00
A22	Alviso	USGS		2003	4	202		LiDAR	-0.18	0.18	0.00
A22	Alviso	USGS		2003	5	178		LiDAR	-0.18	0.18	0.00
A22	Alviso	USGS		2003	12	220		LiDAR	-0.02	0.28	0.00
A22	Alviso	USGS		2004	1	86		LiDAR	0.10	0.24	0.00
A22	Alviso	USGS		2004	2	77		LiDAR	0.05	0.27	0.00
A23	Alviso	USGS		2003	1	224		LiDAR	0.15	0.20	0.00
A23	Alviso	USGS		2003	3	256		LiDAR	0.15	0.20	0.00
A23	Alviso	USGS		2003	4	282		LiDAR	0.06	0.31	0.00
A23	Alviso	USGS		2003	5	282		LiDAR	0.09	0.27	0.00
A23	Alviso	USGS		2004	1	215		LiDAR	0.06	0.31	0.00
A23	Alviso	USGS		2004	2	222		LiDAR	0.12	0.23	0.00
A5	Alviso	USGS		2002	10	54		LiDAR	-0.06	0.49	0.00
A5	Alviso	USGS		2002	11	53		LiDAR	-0.03	0.59	0.00
A5	Alviso	USGS		2002	12	58		LiDAR	-0.07	0.45	0.00
A5	Alviso	USGS		2003	1	53		LiDAR	0.05	0.50	0.00
A5	Alviso	USGS		2003	2	50		LiDAR	0.18	0.04	0.00
A5	Alviso	USGS		2003	3	49		LiDAR	-0.11	0.28	0.00
A5	Alviso	USGS		2003	4	46		LiDAR	-0.04	0.56	0.00
A5	Alviso	USGS		2003	5	49		LiDAR	-0.07	0.45	0.00
A5	Alviso	USGS		2003	7	49		LiDAR	-0.07	0.45	0.00
A5	Alviso	USGS		2003	8	55		LiDAR	-0.10	0.32	0.00
A5	Alviso	USGS		2003	9	54		LiDAR	-0.08	0.41	0.00
A5	Alviso	USGS		2003	11	44		LiDAR	-0.04	0.56	0.00
A5	Alviso	USGS		2003	12	46		LiDAR	0.01	0.61	0.00
A5	Alviso	USGS		2004	1	35		LiDAR	-0.01	0.62	0.00
A5	Alviso	USGS		2004	2	41		LiDAR	0.05	0.50	0.00
AB1	Alviso	USGS		2002	11	21		boat	0.50	0.01	0.04
AB2	Alviso	USGS		2003	9	39		boat	0.25	0.17	0.00
AB2	Alviso	USGS		2003	11	30		boat	0.44	0.00	0.00
AB2	Alviso	USGS		2003	12	27		boat	0.80	0.00	0.02
B1	EdenLanding	USGS		2002	11	35		boat	0.90	0.00	0.14
B1	EdenLanding	USGS		2003	1	29		boat	1.00	0.00	0.55
B10	EdenLanding	PRBO	9/26/2000	2000	9	36	9/26/2000	boat	0.57	0.00	0.01
B10	EdenLanding	PRBO	10/12/2000	2000	10	37	10/9/2000	boat	0.45	0.01	0.00
B10	EdenLanding	PRBO	11/7/2000	2000	11	31	11/7/2000	boat	0.44	0.01	0.00
B10	EdenLanding	PRBO	12/7/2000	2000	12	28	12/5/2000	boat	0.50	0.00	0.00
B10	EdenLanding	PRBO	1/18/2001	2001	1	27	1/16/2001	boat	0.26	0.15	0.00
B10	EdenLanding	USGS		2002	11	41		boat	0.98	0.00	0.35
B10	EdenLanding	USGS		2002	12	34		boat	0.56	0.00	0.01
B10	EdenLanding	USGS		2003	1	25		boat	0.81	0.00	0.07

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
B10	EdenLanding	USGS		2003	2	26		boat	0.81	0.00	0.07
B10	EdenLanding	USGS		2003	3	29		boat	0.72	0.00	0.03
B10	EdenLanding	USGS		2003	5	38		boat	0.54	0.00	0.00
B10	EdenLanding	USGS		2003	7	35		boat	0.36	0.05	0.00
B10	EdenLanding	USGS		2003	9	41		boat	0.54	0.00	0.00
B10	EdenLanding	USGS		2003	11	35		boat	0.45	0.01	0.00
B10	EdenLanding	USGS		2003	12	26		boat	0.42	0.02	0.00
B10	EdenLanding	USGS		2004	1	23		boat	0.78	0.00	0.05
B11	EdenLanding	PRBO	9/14/2000	2000	9	53	9/12/2000	boat	0.21	0.32	0.00
B11	EdenLanding	PRBO	10/11/2000	2000	10	49	10/9/2000	boat	0.21	0.33	0.00
B11	EdenLanding	PRBO	10/24/2000	2000	10	49	10/23/2000	boat	0.21	0.32	0.00
B11	EdenLanding	PRBO	11/7/2000	2000	11	40	11/7/2000	boat	0.15	0.61	0.00
B11	EdenLanding	PRBO	11/19/2000	2000	11	40	11/10/2000	boat	0.27	0.04	0.00
B11	EdenLanding	PRBO	12/5/2000	2000	12	34	12/5/2000	boat	0.21	0.33	0.00
B11	EdenLanding	PRBO	12/19/2000	2000	12	34	12/19/2000	boat	0.15	0.62	0.00
B11	EdenLanding	PRBO	1/4/2001	2001	1	36	1/4/2001	boat	0.21	0.32	0.00
B11	EdenLanding	PRBO	1/16/2001	2001	1	36	1/16/2001	boat	0.00	0.89	0.00
B11	EdenLanding	PRBO	2/15/2001	2001	2	25	2/15/2001	boat	0.12	0.75	0.00
B11	EdenLanding	PRBO	3/1/2001	2001	3	28	2/28/2001	boat	0.12	0.75	0.00
B11	EdenLanding	PRBO	3/19/2001	2001	3	28	3/12/2001	boat	0.09	0.82	0.00
B11	EdenLanding	USGS		2002	11	58		boat	0.44	0.00	0.00
B11	EdenLanding	USGS		2002	12	53		boat	0.39	0.00	0.00
B11	EdenLanding	USGS		2003	1	38		boat	0.51	0.00	0.00
B11	EdenLanding	USGS		2003	2	39		boat	0.49	0.00	0.00
B11	EdenLanding	USGS		2003	3	40		boat	0.49	0.00	0.00
B11	EdenLanding	USGS		2003	5	50		boat	0.35	0.00	0.00
B11	EdenLanding	USGS		2003	7	46		boat	0.12	0.71	0.00
B11	EdenLanding	USGS		2003	11	46		boat	0.20	0.39	0.00
B11	EdenLanding	USGS		2003	12	22		boat	0.18	0.46	0.00
B11	EdenLanding	USGS		2004	1	22		boat	0.55	0.00	0.00
B12	EdenLanding	USGS		2003	3	129		LiDAR	-0.24	0.00	0.00
B12/13	EdenLanding	PRBO	9/2/2000	2000	9	55	9/1/2000	LiDAR	-0.44	0.00	0.00
B12/13	EdenLanding	PRBO	9/14/2000	2000	9	55	9/12/2000	LiDAR	-0.41	0.00	0.00
B12/13	EdenLanding	PRBO	10/24/2000	2000	10	55	10/23/2000	LiDAR	-0.50	0.00	0.00
B12/13	EdenLanding	PRBO	11/7/2000	2000	11	49	11/7/2000	LiDAR	-0.38	0.01	0.00
B12/13	EdenLanding	PRBO	11/19/2000	2000	11	49	11/10/2000	LiDAR	-0.38	0.01	0.00
B12/13	EdenLanding	PRBO	12/5/2000	2000	12	38	12/5/2000	LiDAR	-0.38	0.01	0.00
B12/13	EdenLanding	PRBO	12/19/2000	2000	12	38	12/19/2000	LiDAR	-0.38	0.01	0.00
B12/13	EdenLanding	PRBO	1/4/2001	2001	1	40	1/4/2001	LiDAR	-0.41	0.00	0.00
B12/13	EdenLanding	PRBO	1/16/2001	2001	1	40	1/16/2001	LiDAR	-0.41	0.00	0.00
B12/13	EdenLanding	PRBO	2/1/2001	2001	2	44	2/1/2001	LiDAR	-0.38	0.01	0.00
B12/13	EdenLanding	PRBO	2/15/2001	2001	2	44	2/15/2001	LiDAR	-0.35	0.01	0.00
B12/13	EdenLanding	PRBO	3/1/2001	2001	3	51	2/28/2001	LiDAR	-0.32	0.01	0.00
B12/13	EdenLanding	PRBO	3/19/2001	2001	3	51	3/12/2001	LiDAR	-0.32	0.01	0.00
B12/13	EdenLanding	PRBO	4/3/2001	2001	4	60	4/2/2001	LiDAR	-0.41	0.00	0.00
B12/13	EdenLanding	PRBO	4/23/2001	2001	4	60	4/11/2001	LiDAR	-0.44	0.00	0.00
B13	EdenLanding	USGS		2003	3	129		LiDAR	-0.18	0.09	0.00
B14	EdenLanding	PRBO	9/26/2000	2000	9	80	9/26/2000	boat	0.46	0.00	0.00
B14	EdenLanding	PRBO	10/17/2000	2000	10	72	10/9/2000	boat	0.40	0.00	0.00
B14	EdenLanding	PRBO	11/7/2000	2000	11	66	11/7/2000	boat	0.55	0.00	0.01
B14	EdenLanding	PRBO	12/5/2000	2000	12	61	12/5/2000	boat	0.52	0.00	0.01
B14	EdenLanding	PRBO	1/18/2001	2001	1	48	1/16/2001	boat	0.52	0.00	0.01
B14	EdenLanding	PRBO	2/3/2001	2001	2	51	2/1/2001	boat	0.52	0.00	0.01
B14	EdenLanding	PRBO	3/12/2001	2001	3	64	3/12/2001	boat	0.61	0.00	0.01
B14	EdenLanding	PRBO	4/26/2001	2001	4	78	4/11/2001	boat	0.46	0.00	0.00
B14	EdenLanding	USGS		2002	11	260		boat	0.25	0.17	0.00
B14	EdenLanding	USGS		2002	12	57		boat	0.35	0.00	0.00
B14	EdenLanding	USGS		2003	2	111		boat	0.61	0.00	0.01
B14	EdenLanding	USGS		2003	3	110		boat	0.70	0.00	0.05

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
B14	EdenLanding	USGS		2003	5	131		boat	0.46	0.00	0.00
B14	EdenLanding	USGS		2003	11	177		boat	0.17	0.58	0.00
B14	EdenLanding	USGS		2003	12	94		boat	0.93	0.00	0.22
B14	EdenLanding	USGS		2004	1	90		boat	0.52	0.00	0.01
B1C	EdenLanding	USGS		2003	3	32		boat	0.51	0.00	0.00
B1C	EdenLanding	USGS		2003	8	74		boat	0.23	0.02	0.00
B1C	EdenLanding	USGS		2003	9	44		boat	0.32	0.00	0.00
B1C	EdenLanding	USGS		2003	11	33		boat	0.20	0.20	0.00
B1C	EdenLanding	USGS		2003	12	54		boat	0.26	0.00	0.00
B1C	EdenLanding	USGS		2004	1	97		boat	0.34	0.00	0.00
B2	EdenLanding	USGS		2002	11	40		boat	0.88	0.00	0.01
B2	EdenLanding	USGS		2003	8	49		boat	0.76	0.00	0.00
B2C	EdenLanding	USGS		2002	11	50		boat	0.46	0.00	0.00
B2C	EdenLanding	USGS		2002	12	50		boat	0.28	0.00	0.00
B2C	EdenLanding	USGS		2003	1	31		boat	0.68	0.00	0.00
B2C	EdenLanding	USGS		2003	8	264		boat	0.25	0.00	0.00
B2C	EdenLanding	USGS		2003	9	119		boat	0.25	0.00	0.00
B2C	EdenLanding	USGS		2003	11	59		boat	0.22	0.06	0.00
B2C	EdenLanding	USGS		2003	12	56		boat	0.46	0.00	0.00
B4	EdenLanding	USGS		2002	11	46		boat	0.63	0.00	0.00
B4	EdenLanding	USGS		2002	12	40		boat	0.59	0.00	0.00
B4	EdenLanding	USGS		2003	1	35		boat	0.74	0.00	0.00
B4	EdenLanding	USGS		2003	2	35		boat	0.67	0.00	0.00
B4	EdenLanding	USGS		2003	3	33		boat	0.68	0.00	0.00
B4	EdenLanding	USGS		2003	4	38		boat	0.64	0.00	0.00
B4	EdenLanding	USGS		2003	8	55		boat	0.65	0.00	0.00
B4	EdenLanding	USGS		2003	9	105		boat	0.70	0.00	0.00
B4	EdenLanding	USGS		2003	11	50		boat	0.64	0.00	0.00
B4	EdenLanding	USGS		2003	12	48		boat	0.65	0.00	0.00
B4	EdenLanding	USGS		2004	1	41		boat	0.82	0.00	0.00
B5	EdenLanding	USGS		2002	11	50		boat	0.68	0.00	0.00
B5	EdenLanding	USGS		2002	12	48		boat	0.67	0.00	0.00
B5	EdenLanding	USGS		2003	2	35		boat	0.76	0.00	0.01
B5	EdenLanding	USGS		2003	3	35		boat	0.76	0.00	0.01
B5	EdenLanding	USGS		2003	5	106		boat	0.56	0.00	0.00
B5	EdenLanding	USGS		2003	8	109		boat	0.48	0.01	0.00
B5	EdenLanding	USGS		2003	9	66		boat	0.79	0.00	0.02
B5	EdenLanding	USGS		2003	11	71		boat	0.41	0.02	0.00
B5	EdenLanding	USGS		2003	12	78		boat	0.65	0.00	0.00
B5	EdenLanding	USGS		2004	1	111		boat	0.72	0.00	0.01
B5C	EdenLanding	USGS		2002	12	50		boat	0.33	0.00	0.00
B5C	EdenLanding	USGS		2003	1	30		boat	0.45	0.00	0.00
B5C	EdenLanding	USGS		2003	2	38		boat	0.54	0.00	0.00
B5C	EdenLanding	USGS		2003	3	33		boat	0.57	0.00	0.00
B5C	EdenLanding	USGS		2003	4	52		boat	0.32	0.00	0.00
B5C	EdenLanding	USGS		2003	5	106		boat	0.37	0.00	0.00
B5C	EdenLanding	USGS		2003	9	75		boat	0.35	0.00	0.00
B5C	EdenLanding	USGS		2003	11	40		boat	0.26	0.04	0.00
B5C	EdenLanding	USGS		2003	12	56		boat	0.33	0.00	0.00
B5C	EdenLanding	USGS		2004	1	95		boat	0.39	0.00	0.00
B6A	EdenLanding	PRBO	9/14/2000	2000	9	71	9/12/2000	LiDAR	0.41	0.06	0.00
B6A	EdenLanding	PRBO	11/8/2000	2000	11	62	11/7/2000	LiDAR	0.38	0.07	0.00
B6A	EdenLanding	PRBO	12/7/2000	2000	12	67	12/5/2000	LiDAR	0.38	0.07	0.00
B6A	EdenLanding	PRBO	1/18/2001	2001	1	63	1/16/2001	LiDAR	0.41	0.06	0.00
B6A	EdenLanding	PRBO	2/3/2001	2001	2	64	2/1/2001	LiDAR	0.41	0.06	0.00
B6A	EdenLanding	PRBO	3/12/2001	2001	3	70	3/12/2001	LiDAR	0.50	0.04	0.03
B6A	EdenLanding	PRBO	4/26/2001	2001	4	77	4/11/2001	LiDAR	0.41	0.06	0.00
B6A	EdenLanding	USGS		2002	12	52		LiDAR	0.33	0.08	0.00
B6A	EdenLanding	USGS		2003	1	45		LiDAR	0.52	0.03	0.05

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
B6A	EdenLanding	USGS		2003	2	47		LiDAR	0.54	0.03	0.05
B6A	EdenLanding	USGS		2003	3	40		LiDAR	0.49	0.04	0.03
B6A	EdenLanding	USGS		2003	5	64		LiDAR	-0.06	0.19	0.00
B6A	EdenLanding	USGS		2003	7	141		LiDAR	-0.35	0.14	0.00
B6A	EdenLanding	USGS		2004	1	47		LiDAR	0.01	0.16	0.00
B6A	EdenLanding	USGS		2004	2	49		LiDAR	0.01	0.16	0.00
B6B	EdenLanding	USGS		2003	1	49		LiDAR	0.54	0.01	0.00
B6B	EdenLanding	USGS		2003	2	55		LiDAR	0.53	0.01	0.00
B6B	EdenLanding	USGS		2003	12	127		LiDAR	0.13	0.28	0.00
B6B	EdenLanding	USGS		2004	1	47		LiDAR	0.16	0.24	0.00
B6C	EdenLanding	USGS		2002	11	48		boat	0.47	0.00	0.02
B6C	EdenLanding	USGS		2002	12	42		boat	-0.08	0.12	0.00
B6C	EdenLanding	USGS		2003	1	38		boat	0.59	0.00	0.03
B6C	EdenLanding	USGS		2003	2	38		boat	0.65	0.00	0.04
B6C	EdenLanding	USGS		2003	3	38		boat	0.71	0.00	0.06
B6C	EdenLanding	USGS		2003	5	110		boat	0.50	0.00	0.02
B6C	EdenLanding	USGS		2003	8	127		boat	0.49	0.00	0.02
B6C	EdenLanding	USGS		2003	9	47		boat	0.64	0.00	0.04
B6C	EdenLanding	USGS		2003	11	73		boat	0.67	0.00	0.04
B6C	EdenLanding	USGS		2003	12	75		boat	0.49	0.00	0.02
B6C	EdenLanding	USGS		2004	1	103		boat	0.70	0.00	0.05
B7	EdenLanding	USGS		2002	11	46		boat	0.88	0.00	0.12
B7	EdenLanding	USGS		2002	12	42		boat	0.88	0.00	0.13
B7	EdenLanding	USGS		2003	3	38		boat	0.92	0.00	0.22
B7	EdenLanding	USGS		2003	4	39		boat	0.80	0.00	0.05
B7	EdenLanding	USGS		2003	8	57		boat	0.86	0.00	0.11
B7	EdenLanding	USGS		2003	9	52		boat	0.99	0.00	0.48
B7	EdenLanding	USGS		2003	11	54		boat	0.85	0.00	0.09
B7	EdenLanding	USGS		2004	1	45		boat	0.98	0.00	0.39
B8A	EdenLanding	PRBO	9/12/2000	2000	9	185	9/12/2000	LiDAR	0.37	0.04	0.07
B8A	EdenLanding	PRBO	9/26/2000	2000	9	185	9/26/2000	LiDAR	0.37	0.10	0.06
B8A	EdenLanding	PRBO	10/24/2000	2000	10	156	10/23/2000	LiDAR	0.28	0.14	0.06
B8A	EdenLanding	PRBO	11/8/2000	2000	11	145	11/7/2000	LiDAR	0.43	0.02	0.08
B8A	EdenLanding	PRBO	11/20/2000	2000	11	145	11/10/2000	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	12/5/2000	2000	12	121	12/5/2000	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	12/19/2000	2000	12	121	12/19/2000	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	1/4/2001	2001	1	111	1/4/2001	LiDAR	0.37	0.04	0.07
B8A	EdenLanding	PRBO	1/16/2001	2001	1	111	1/16/2001	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	2/1/2001	2001	2	101	2/1/2001	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	2/15/2001	2001	2	101	2/15/2001	LiDAR	0.43	0.02	0.08
B8A	EdenLanding	PRBO	3/1/2001	2001	3	93	2/28/2001	LiDAR	0.49	0.01	0.10
B8A	EdenLanding	PRBO	3/19/2001	2001	3	93	3/12/2001	LiDAR	0.46	0.02	0.09
B8A	EdenLanding	PRBO	4/3/2001	2001	4	103	4/2/2001	LiDAR	0.40	0.03	0.08
B8A	EdenLanding	PRBO	4/23/2001	2001	4	103	4/11/2001	LiDAR	0.37	0.04	0.07
B8A	EdenLanding	USGS		2002	10	277		LiDAR	0.09	0.27	0.05
B8A	EdenLanding	USGS		2002	11	138		LiDAR	0.16	0.31	0.06
B8A	EdenLanding	USGS		2003	1	164		LiDAR	0.49	0.01	0.10
B8A	EdenLanding	USGS		2003	3	162		LiDAR	0.58	0.01	0.12
B8A	EdenLanding	USGS		2003	5	161		LiDAR	0.31	0.10	0.06
B8A	EdenLanding	USGS		2003	7	136		LiDAR	0.19	0.28	0.06
B8A	EdenLanding	USGS		2003	8	129		LiDAR	0.12	0.30	0.05
B8A	EdenLanding	USGS		2003	9	177		LiDAR	0.83	0.01	0.31
B8A	EdenLanding	USGS		2003	11	196		LiDAR	0.25	0.19	0.06
B8A	EdenLanding	USGS		2003	12	119		LiDAR	0.25	0.19	0.06
B8A	EdenLanding	USGS		2004	1	72		LiDAR	0.23	0.22	0.06
B8A	EdenLanding	USGS		2004	2	78		LiDAR	0.20	0.27	0.06
B9	EdenLanding	PRBO	9/12/2000	2000	9	139	9/12/2000	boat	0.62	0.00	0.01
B9	EdenLanding	PRBO	9/26/2000	2000	9	139	9/26/2000	boat	0.59	0.00	0.01
B9	EdenLanding	PRBO	10/27/2000	2000	10	116	10/23/2000	boat	0.53	0.00	0.00

Pond ID	Complex	Surveyor	Avian Survey Date	Year	Month	Salinity (ppt)	Bathymetry Date	Bathymetry Source	Mean Depth (m)	Shallow (< 15 cm) Proportion	Deep (> 1 m) Proportion
B9	EdenLanding	PRBO	11/20/2000	2000	11	114	11/10/2000	boat	0.65	0.00	0.01
B9	EdenLanding	PRBO	12/19/2000	2000	12	101	12/19/2000	boat	0.68	0.00	0.02
B9	EdenLanding	PRBO	1/4/2001	2001	1	92	1/4/2001	boat	0.65	0.00	0.01
B9	EdenLanding	PRBO	2/1/2001	2001	2	82	2/1/2001	boat	0.68	0.00	0.02
B9	EdenLanding	PRBO	2/15/2001	2001	2	82	2/15/2001	boat	0.71	0.00	0.03
B9	EdenLanding	PRBO	3/1/2001	2001	3	77	2/28/2001	boat	0.74	0.00	0.04
B9	EdenLanding	PRBO	3/19/2001	2001	3	77	3/12/2001	boat	0.74	0.00	0.04
B9	EdenLanding	PRBO	4/3/2001	2001	4	86	4/2/2001	boat	0.65	0.00	0.01
B9	EdenLanding	PRBO	4/23/2001	2001	4	86	4/11/2001	boat	0.62	0.00	0.01
B9	EdenLanding	USGS		2003	1	101		boat	0.95	0.00	0.34
B9	EdenLanding	USGS		2003	2	114		boat	0.76	0.00	0.05
B9	EdenLanding	USGS		2003	3	114		boat	0.69	0.00	0.02
B9	EdenLanding	USGS		2003	5	135		boat	0.56	0.00	0.00
B9	EdenLanding	USGS		2003	7	53		boat	0.53	0.00	0.00
B9	EdenLanding	USGS		2003	8	79		boat	0.37	0.01	0.00
B9	EdenLanding	USGS		2003	9	70		boat	0.51	0.00	0.00
B9	EdenLanding	USGS		2003	11	104		boat	0.59	0.00	0.01
B9	EdenLanding	USGS		2003	12	60		boat	0.72	0.00	0.03
B9	EdenLanding	USGS		2004	1	69		boat	0.59	0.00	0.01
R2	Ravenswood	PRBO	11/4/1999	1999	11	263	11/3/1999	LiDAR	0.49	0.00	0.00
R2	Ravenswood	PRBO	11/20/1999	1999	11	263	11/20/1999	LiDAR	-0.15	0.16	0.00
R2	Ravenswood	PRBO	12/4/1999	1999	12	262	12/2/1999	LiDAR	-0.12	0.23	0.00
R2	Ravenswood	PRBO	1/17/2000	2000	1	201	1/15/2000	LiDAR	-0.15	0.16	0.00
R2	Ravenswood	PRBO	1/30/2000	2000	1	201	1/29/2000	LiDAR	-0.03	0.60	0.60
R2	Ravenswood	PRBO	2/13/2000	2000	2	176	2/13/2000	LiDAR	-0.03	0.60	0.00
R2	Ravenswood	USGS		2004	1	53		LiDAR	-0.36	0.00	0.00
R2	Ravenswood	USGS		2004	2	74		LiDAR	-0.27	0.00	0.00
R3	Ravenswood	USGS		2004	2	132		LiDAR	-0.45	0.00	0.01
R5	Ravenswood	USGS		2003	1	121		LiDAR	-0.26	0.07	0.00
R5	Ravenswood	USGS		2003	2	136		LiDAR	-0.18	0.19	0.00
R5	Ravenswood	USGS		2003	3	140		LiDAR	-0.20	0.16	0.00
R5	Ravenswood	USGS		2003	4	179		LiDAR	-0.56	0.00	0.00
R5	Ravenswood	USGS		2003	5	235		LiDAR	-0.62	0.00	0.00
R5	Ravenswood	USGS		2004	1	65		LiDAR	-0.65	0.00	0.00
R5	Ravenswood	USGS		2004	2	86		LiDAR	-0.62	0.00	0.00
RSF2	Ravenswood	PRBO	11/4/1999	1999	11	222	11/3/1999	LiDAR	0.43	0.00	0.00
RSF2	Ravenswood	PRBO	11/22/1999	1999	11	222	11/20/1999	LiDAR	0.29	0.04	0.00
RSF2	Ravenswood	PRBO	12/17/1999	1999	12	205	12/17/1999	LiDAR	0.29	0.04	0.00
RSF2	Ravenswood	PRBO	1/18/2000	2000	1	188	1/15/2000	LiDAR	0.29	0.04	0.00
RSF2	Ravenswood	PRBO	1/31/2000	2000	1	188	1/29/2000	LiDAR	0.38	0.01	0.01
RSF2	Ravenswood	PRBO	2/13/2000	2000	2	156	2/13/2000	LiDAR	0.38	0.01	0.00
RSF2	Ravenswood	PRBO	9/1/2000	2000	9	258	9/1/2000	LiDAR	0.26	0.08	0.08
RSF2	Ravenswood	PRBO	10/25/2000	2000	10	264	10/23/2000	LiDAR	0.13	0.44	0.00
RSF2	Ravenswood	PRBO	11/10/2000	2000	11	263	11/10/2000	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	11/21/2000	2000	11	263	11/10/2000	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	12/7/2000	2000	12	263	12/5/2000	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	12/20/2000	2000	12	263	12/19/2000	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	1/5/2001	2001	1	261	1/4/2001	LiDAR	0.13	0.44	0.00
RSF2	Ravenswood	PRBO	1/17/2001	2001	1	261	1/16/2001	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	2/2/2001	2001	2	234	2/1/2001	LiDAR	0.20	0.24	0.00
RSF2	Ravenswood	PRBO	2/17/2001	2001	2	234	2/15/2001	LiDAR	0.23	0.15	0.00
RSF2	Ravenswood	PRBO	3/2/2001	2001	3	221	2/28/2001	LiDAR	0.26	0.08	0.00
RSF2	Ravenswood	PRBO	3/20/2001	2001	3	221	3/12/2001	LiDAR	0.23	0.15	0.00
RSF2	Ravenswood	PRBO	4/4/2001	2001	4	262	4/2/2001	LiDAR	0.16	0.36	0.00
RSF2	Ravenswood	PRBO	4/25/2001	2001	4	262	4/11/2001	LiDAR	0.13	0.44	0.00
RSF2	Ravenswood	USGS		2003	4	107		LiDAR	0.11	0.48	0.00
RSF2	Ravenswood	USGS		2003	5	191		LiDAR	0.02	0.44	0.00
RSF2	Ravenswood	USGS		2004	1	52		LiDAR	0.05	0.47	0.00
RSF2	Ravenswood	USGS		2004	2	58		LiDAR	0.06	0.48	0.00

Appendix 2. Snowy Plover summary.

Depending on the year, 5-13% of the federally threatened U.S. Snowy Plover (*Charadrius alexandrinus*) Pacific Coast population breeds at San Francisco Bay, mainly in the South Bay salt ponds (Page *et al.* 1991, Strong et al. 2004a). During a Snowy Plover survey of the South Bay during the 2004 breeding season, Strong et al. (2004a) counted 113 adult plovers in the South Bay, or 5.9% of the total Snowy Plovers (n = 1904 plovers) counted along the California coast in 2004 [compared to 5.0% (72/1444) in 2003, and 12.8% (176/1371) in 1991 (PRBO, unpubl. data)]. Snowy Plover occur year-round in San Francisco Bay, and they also have a long breeding period in the Bay stretching from early March into August (see annual San Francisco Bay NWR Snowy Plover breeding season reports).

A major question that remains to be resolved for South Bay restoration planning is how much salt pond habitat will need to be maintained for Snowy Plover. The Western Snowy Plover Pacific Coast population draft recovery plan (USFWS 2001) recommends that San Francisco Bay be managed for 500 breeding Snowy Plovers, an area they estimate to be 809 ha of managed salt ponds. They recommend that most of this habitat be located in the South Bay with a limited (amount unspecified) amount in the North Bay where low numbers of plovers currently breed. The plan suggests that management should include maintenance of desired water levels, removal of excessive vegetation, and predator control.

More recently, Strong et al. (2004a) recommend that special consideration should be given to Snowy Plover habitat requirements during the South Bay Salt Pond Restoration Plan, including: 1) ensuring the availability of drying salt ponds with adjacent high salinity forage areas; 2) spreading plover habitat out; and, 3) allowing plover habitat to vary in location from year to year in order to minimize predation levels.

For breeding Snowy Plover, based on observations of marked birds, Feeney (1991) estimated that the average home range of Snowy Plover in the Baumberg and Oliver Brothers salt ponds was about 1.6 ha. Using nest distance from levees as a proxy for the plover's preference for openness and good visibility, Feeney (1991) found that about four times as many plover nests were greater than 20 m from the closest levee.

Many Snowy Plover breeding studies do not report breeding densities, and those reported are further complicated by the fact that some report maximum single day nest densities and others report maximum nest densities at a site for a season. These latter estimates are more difficult to interpret since the distinction between re-nests of the same pairs of plovers vs. new nests by different pairs of plovers is usually not reported. In San Francisco Bay, Snowy Plover nest densities vary from 0.01 nests/ha to 0.58 nests/ha, and these densities are within the range of other reported Snowy Plover nest densities (Table 1).

Table 1 – Snowy Plover nest densities in western United States.

Location	Pond/habitat	Nests/ha	Year	Data Source
San Francisco Bay, CA				
	Oliver North	0.49[1]	1991	Feeney 1991
	Oliver South	0.32[1]	1991	
	Baumberg B1	0.58[1]	1991	
	Baumberg PP	0.17[1]	1991	
San Francisco Bay, CA				
	B12	0.03[2]	2004	Strong unpubl. data
	RSF2	0.05[2]	2004	
	A22	0.05[2]	2004	
	B6B	0.22[2]	2004	
	B8	0.06[2]	2004	
	B9	0.01[2]	2004	
	B14	0.02[2]	2004	
	R2	0.02[2]	2004	
Moss Landing, CA				
	Salt ponds	0.43[1]	1996	PRBO unpubl. data
Mono Lake, CA				
	Alkali lake	0.17[1]	1978	Page et al. 1983
Great Salt Lake, UT				
	Howard Slough	0.05[1]	1990	Payton and Edwards 1996
		0.13[1]	1991	
		0.28[1]	1992	
		0.14[1]	1993	
	West Layton Marsh	0.49[1]	1990	
		0.11[1]	1991	
		0.15[1]	1992	
		0.08[1]	1993	

[1]highest single day count of nests in an area; [2]total number of nests seen in an area in a season

One exception is a high nest density of 3.33 nests/ha reported for a single pond in Monterey Bay (Page et al. 1983). However, G. Page (pers. comm.) says this estimate is based on a very small area and a few nests and is probably not a good estimate to use to represent Snowy Plover nest densities.

Based on numerous hours of observation around the Baumberg salt ponds, Feeney (1991) suggested that Snowy Plover were mainly eating brine flies. Plovers were also seen eating moths (*Perizoma custodiata*), some type of beetle (perhaps *Cicindela hiricollis* – Tiger Beetle), and unidentified green caterpillars. Prey items in the stomach of a Snowy Plover chick from Alameda salt ponds included 11 beetles of which 9 were *Tanarthrus occidentalis* (flower beetles) and 2 *Bembidion* spp. (Feeney 1991). Feeney (1991) also suggested that adult midges and their larvae and Digger Wasps (*Ammophila* spp.) may be important prey items to Snowy Plover in salt ponds. Adult Snowy Plover (Kentish Plover) watched in salt ponds in Spain are also known to feed on brine flies while their chicks were seen feeding on small pelagic beetles (Castro and Pérez-Hurtado 1996, Castro 2001).

In the Baumberg and Oliver salt ponds (now the Eden Landing area), Feeney documented significant numbers of Snowy Plover breeding on abandoned salt ponds with salt encrusted surfaces. While this study and others (eg. Duke et al. 1996) have found that Snowy Plover generally nest in areas with no or little vegetation, Feeney (1991) did observe plovers occasionally using vegetation to nest near, hide chicks, and to feed in. Feeney also found that Snowy Plover in the Bay generally nest on substrates that match the coloration of the backs of these birds. At the Baumberg tract, Snowy Plover nests are usually located on alkali flats (unvegetated abandoned salt ponds) (87%, n = 21 nests, Duke et al. 1996)

while within the refuge, 80% of nests were found on salt pond levees (Duke et al. 1996). Duke et al. (1996) attribute this difference to the lack of abandoned salt ponds in the refuge. Within the South Bay salt ponds of the refuge, Drever and Harding-Smith (1993) found that highest densities of Snowy Plover nests were found on levees that had low public use, were flat and low lying, had little vegetation, and a grey, clay-like material as the breeding substrate.

Various studies have looked at the breeding success of the Snowy Plover in San Francisco Bay. In a 1989 study of Snowy Plover at the Baumberg/Oliver Brothers salt ponds around Hayward, Feeney (1991) found that of 80 nests monitored, the percent of eggs that were laid (n = 152) and also hatched was 49-51%, the percent of chicks that hatched (n = 74-77) and also fledged (n = 21) was 27-28%, and the percent of eggs that were laid, hatched and also fledged was 14%. From 13 years of data on nesting Snowy Plover at Monterey Bay, fledging rates averaged 24%, while from 1992 to 1997 along the coast in Oregon, Snowy Plover fledging rates of chicks averaged 38% (USFWS 2001). Results of a Population Viability Analysis (PVA) developed for the Pacific Coast population of the Western Snowy Plover (Nur et al. 2001) showed that a productivity of 1.2 or more chicks fledged per breeding male should increase population size at a moderate pace. The Western Snowy Plover population was shown to be sensitive to small changes in adult survival. In general, adult survival has been shown to be the most important limiting factor across shorebird taxa (Sandercock 2003).

In 2004, Snowy Plover nests were monitored in salt ponds and other managed wetlands at the Don Edwards National Wildlife Refuge (Ravenswood and Warm Springs), at sites owned by Hayward Area parks and Recreation Department (Franks Dump West and Oliver Brothers North Ponds), at all Eden Landing (Baumberg) ponds (Strong et al. 2004a). Of 59 nests monitored 48 hatched (81% hatch rate), 3 were depredated, 1 was abandoned, and 7 had unknown fates.

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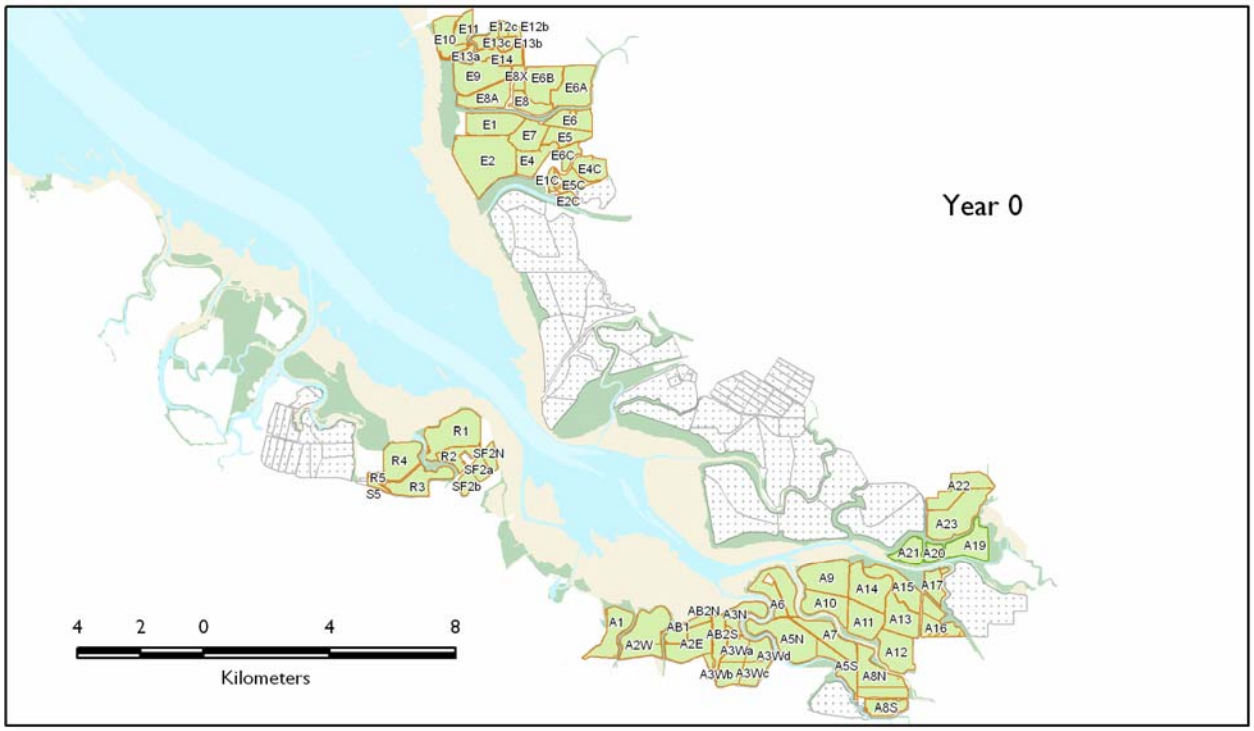
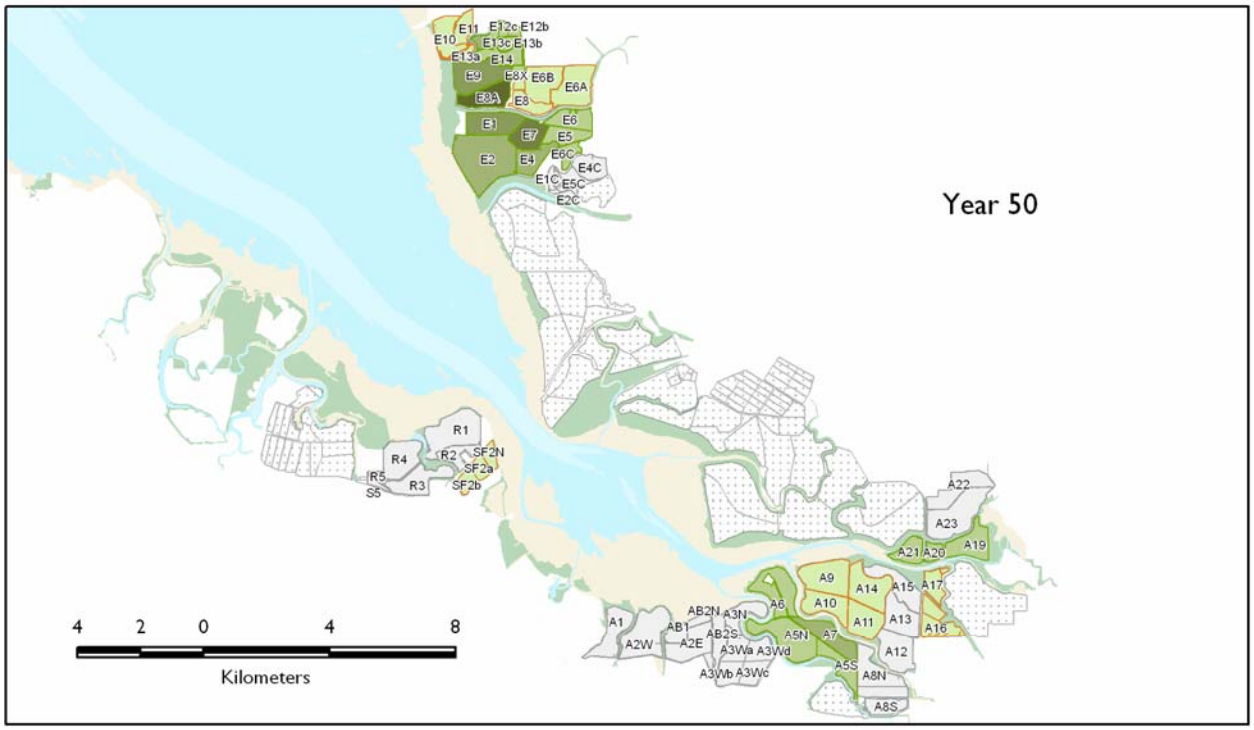
Appendix 3. Pond-level density predictions for selected species and seasons by alternative.

Breeding Song Sparrow, Alternative A





Legend

Bay
Other Pond
Tidal Marsh
Tidal Flat

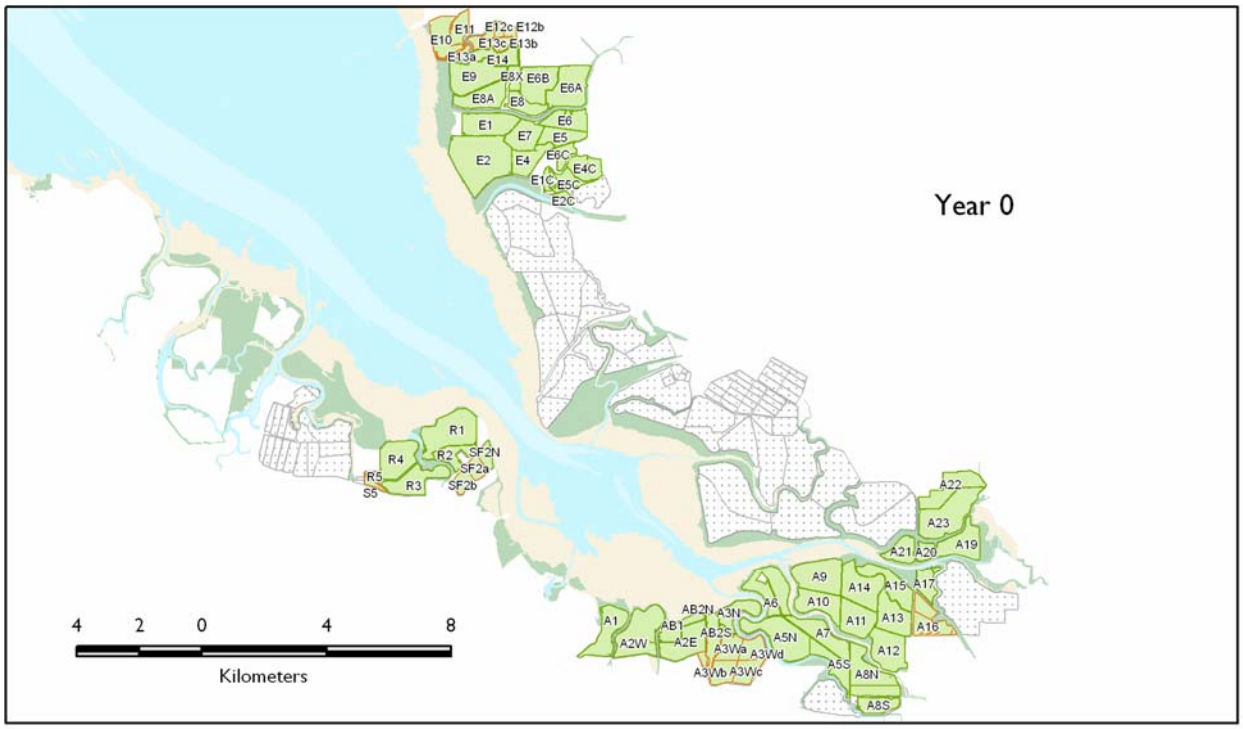
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

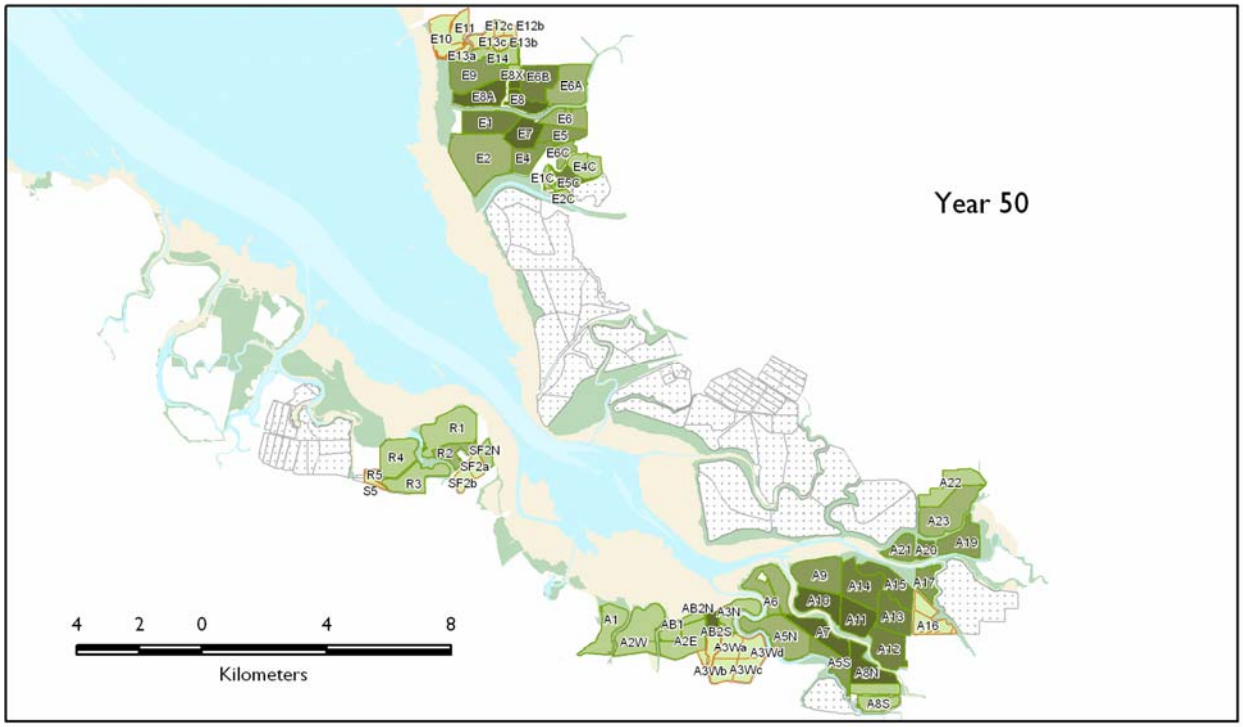
Predicted Density (birds/ha)
0
2.61 - 5.77
5.78 - 6.17
6.18 - 6.42
6.43 - 6.99
7.00 - 9.54

N

Breeding Song Sparrow, Alternative B

Breeding Song Sparrow, Alternative C





Legend

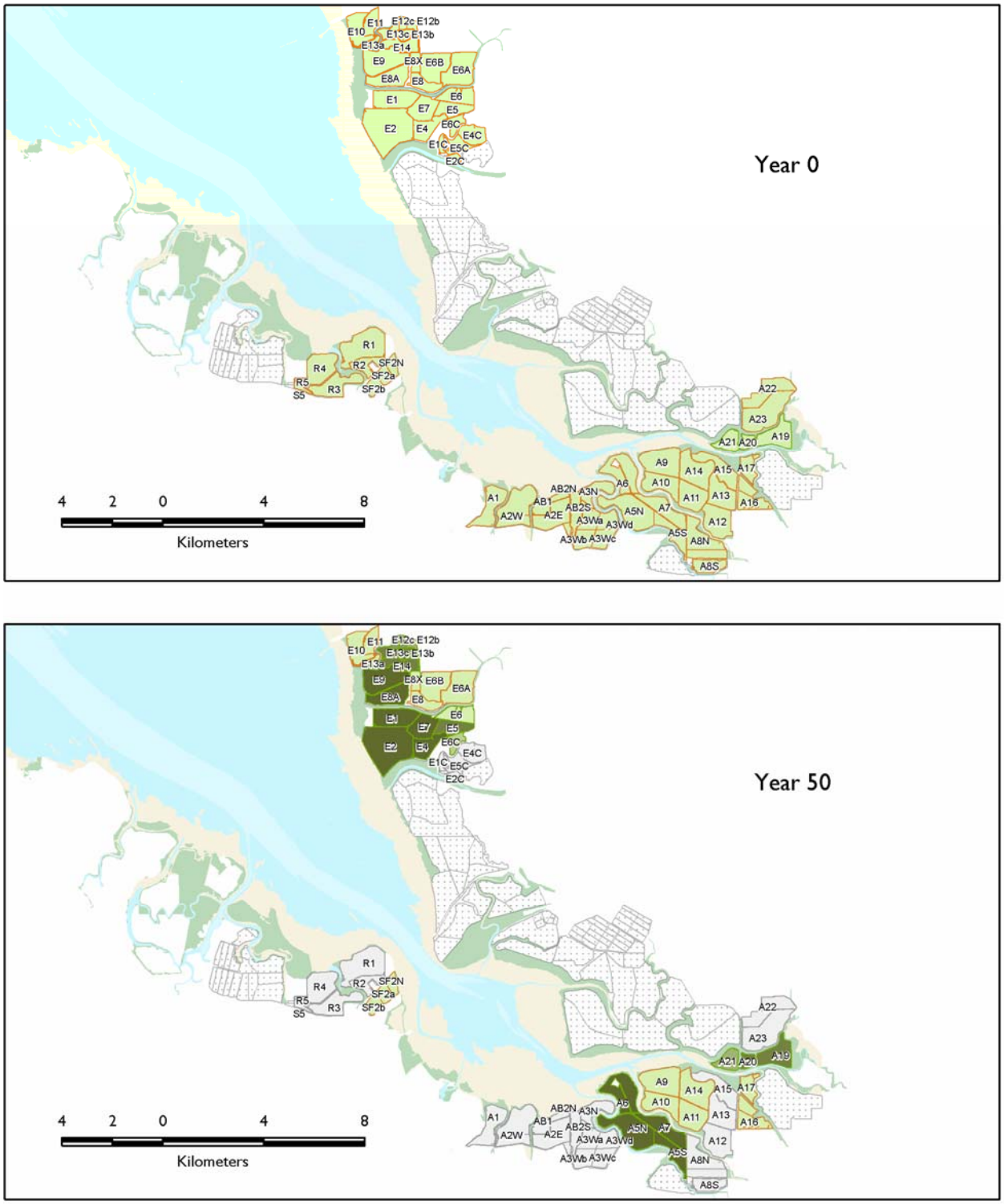
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

Predicted Density (birds/ha)
0
2.61 - 5.77
5.78 - 6.17
6.18 - 6.42
6.43 - 6.99
7.00 - 9.54

N

Breeding Common Yellowthroat, Alternative A



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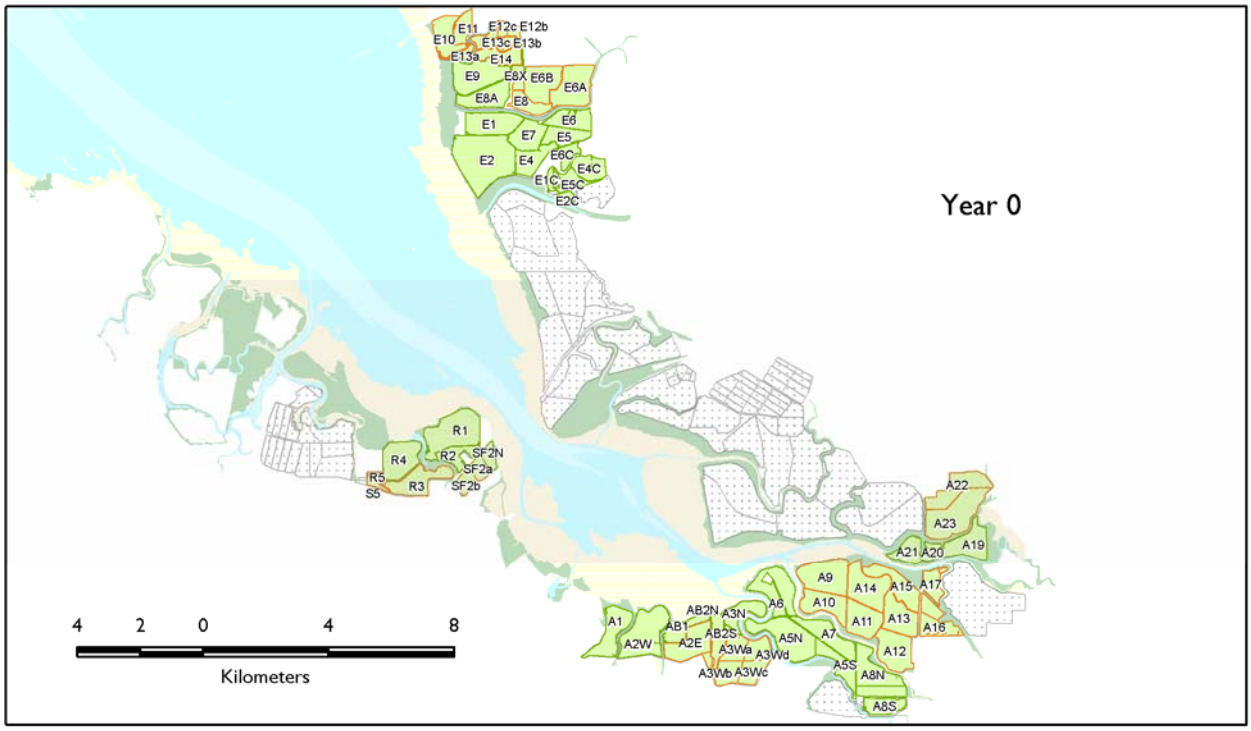
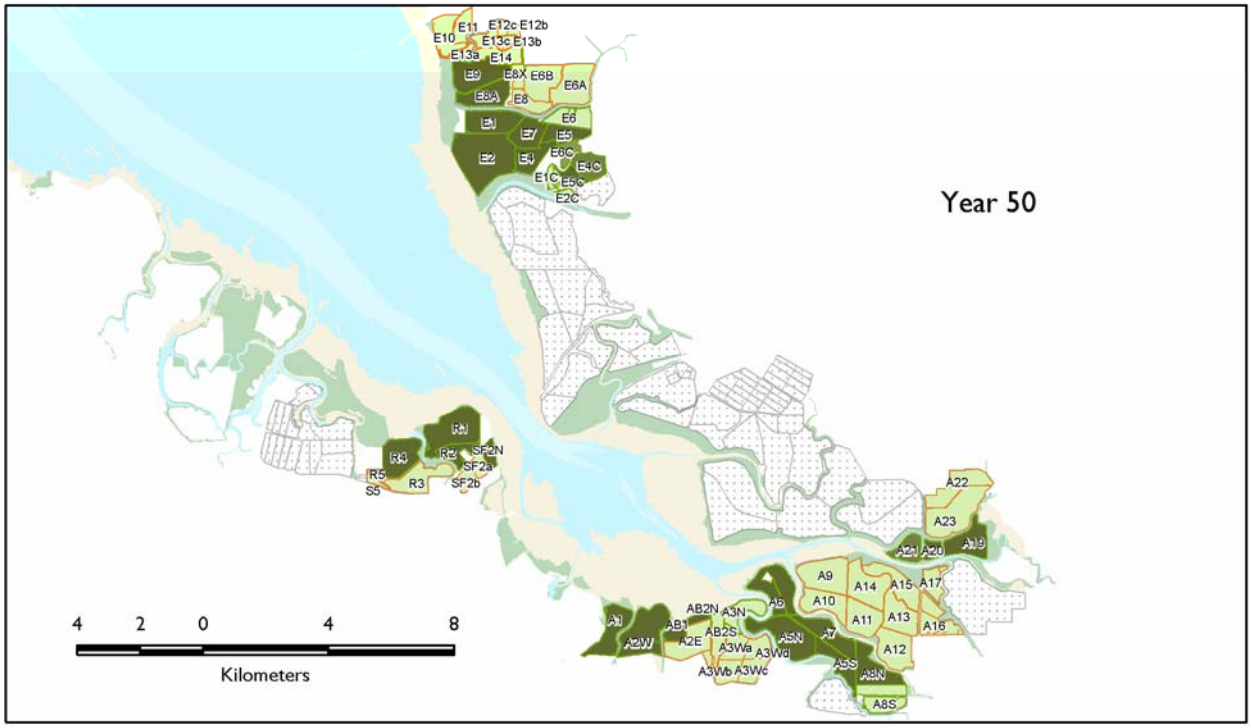
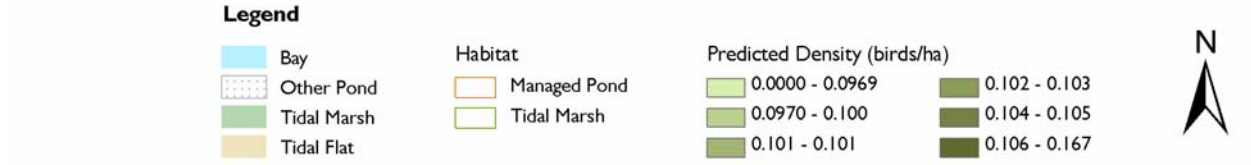
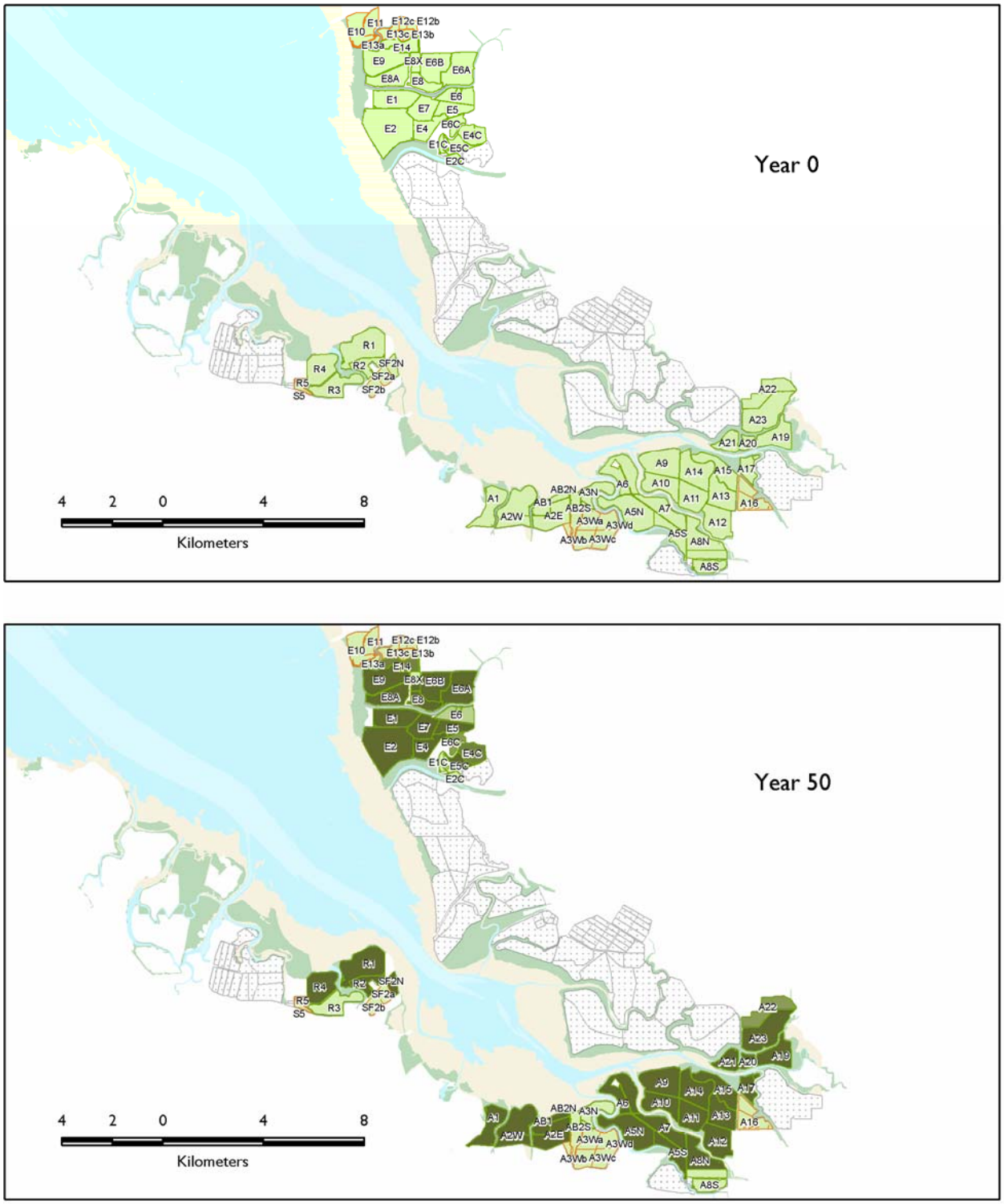


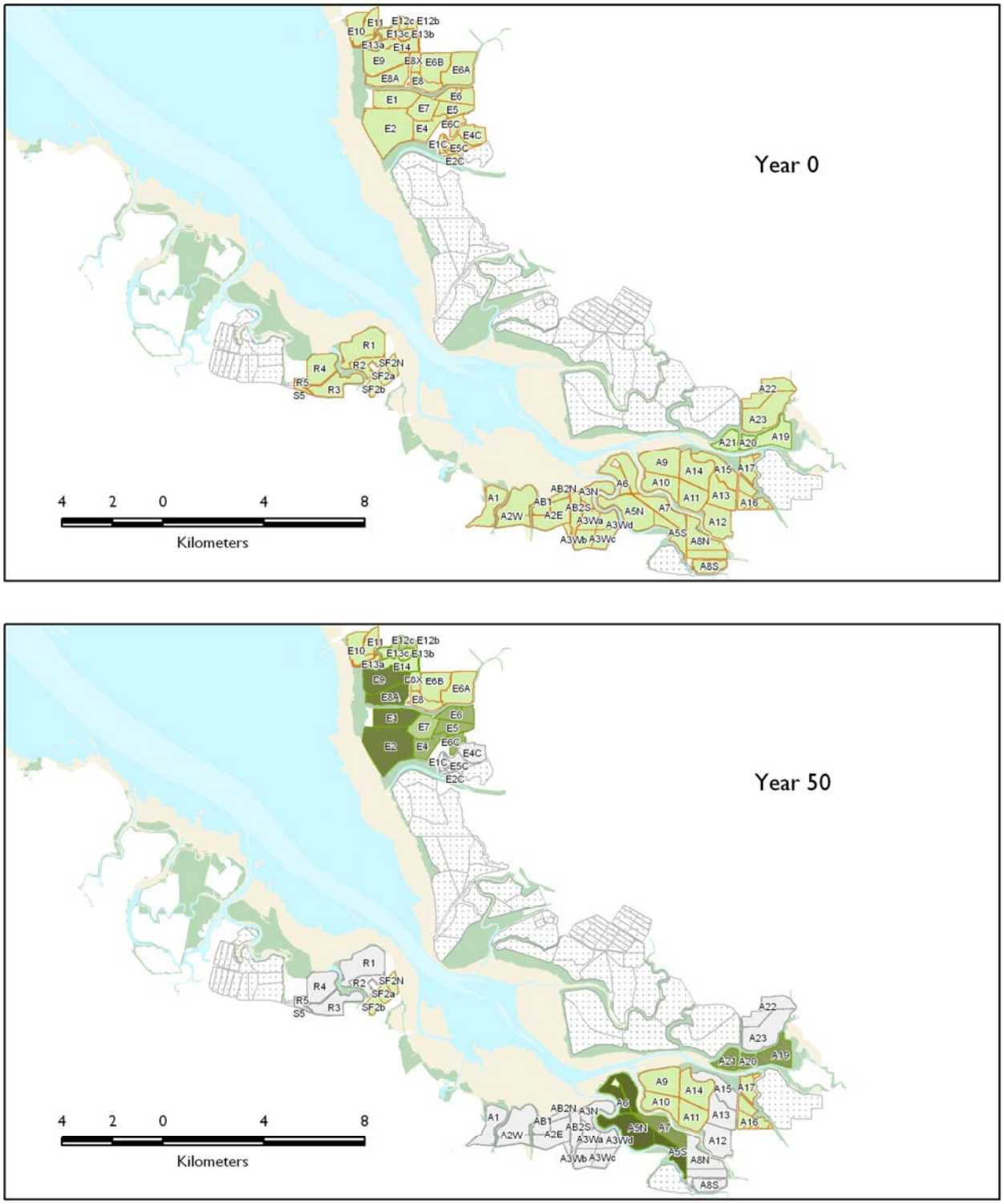




Breeding Common Yellowthroat, Alternative C



Breeding Marsh Wren, Alternative A



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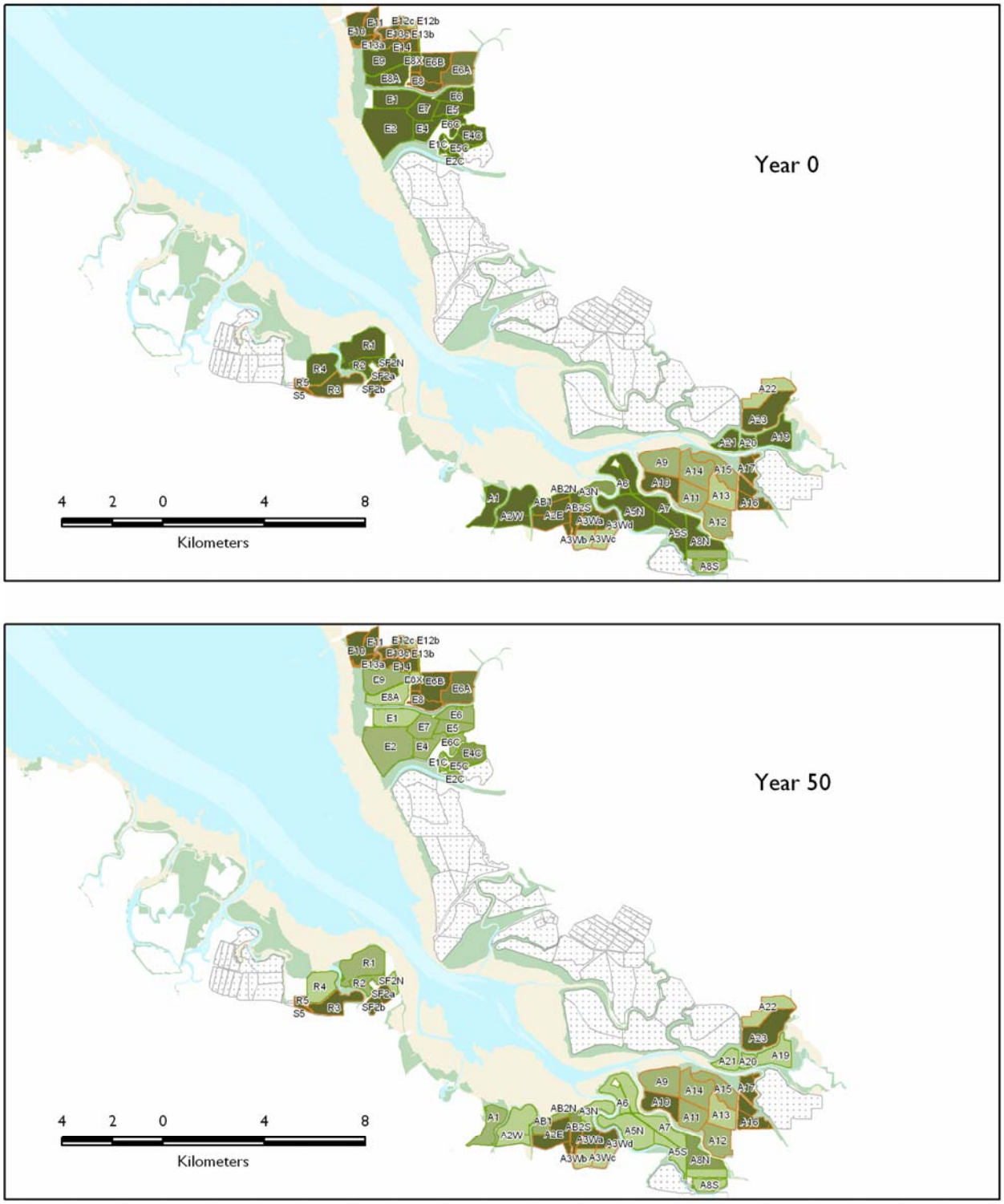
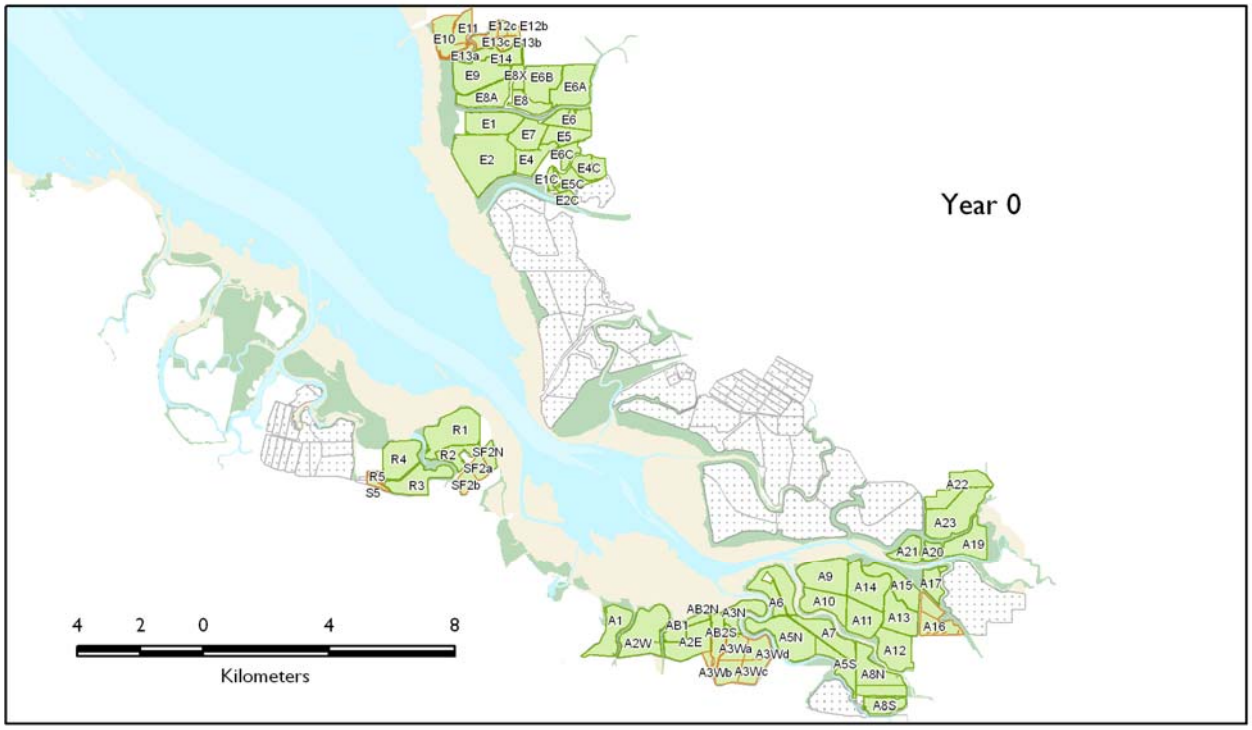
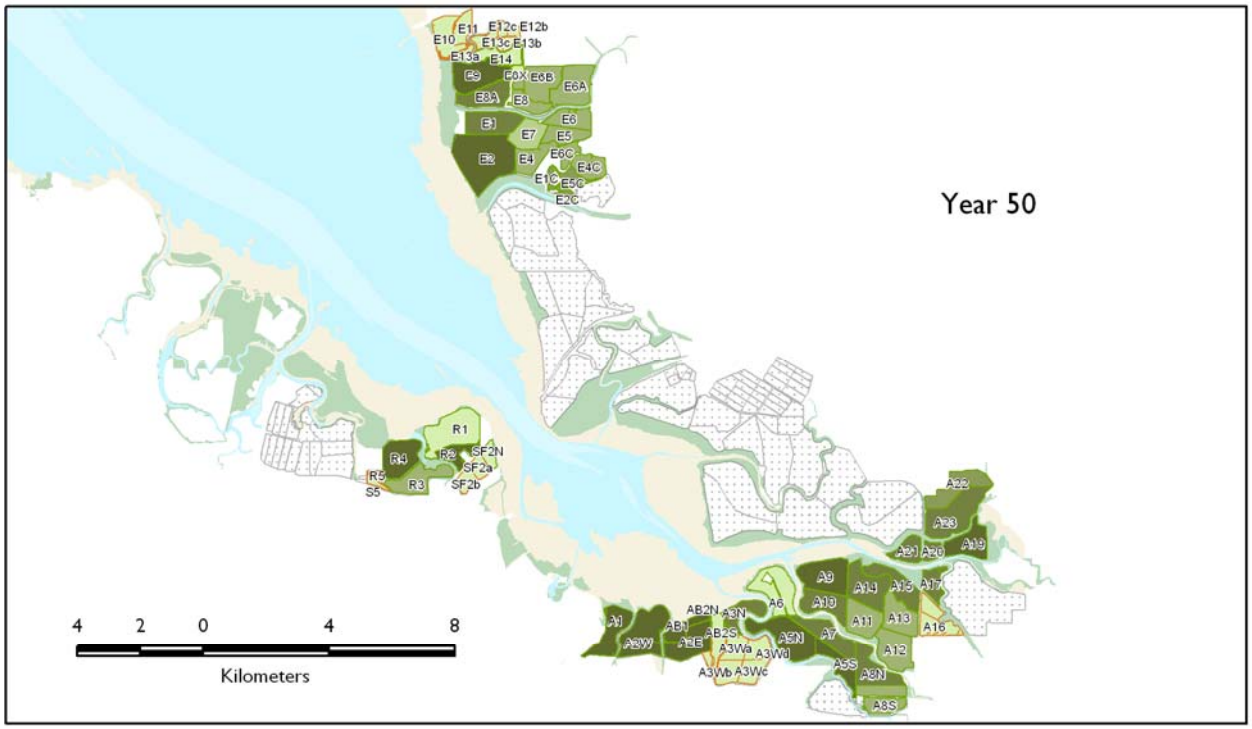


Breeding Marsh Wren, Alternative C





Legend

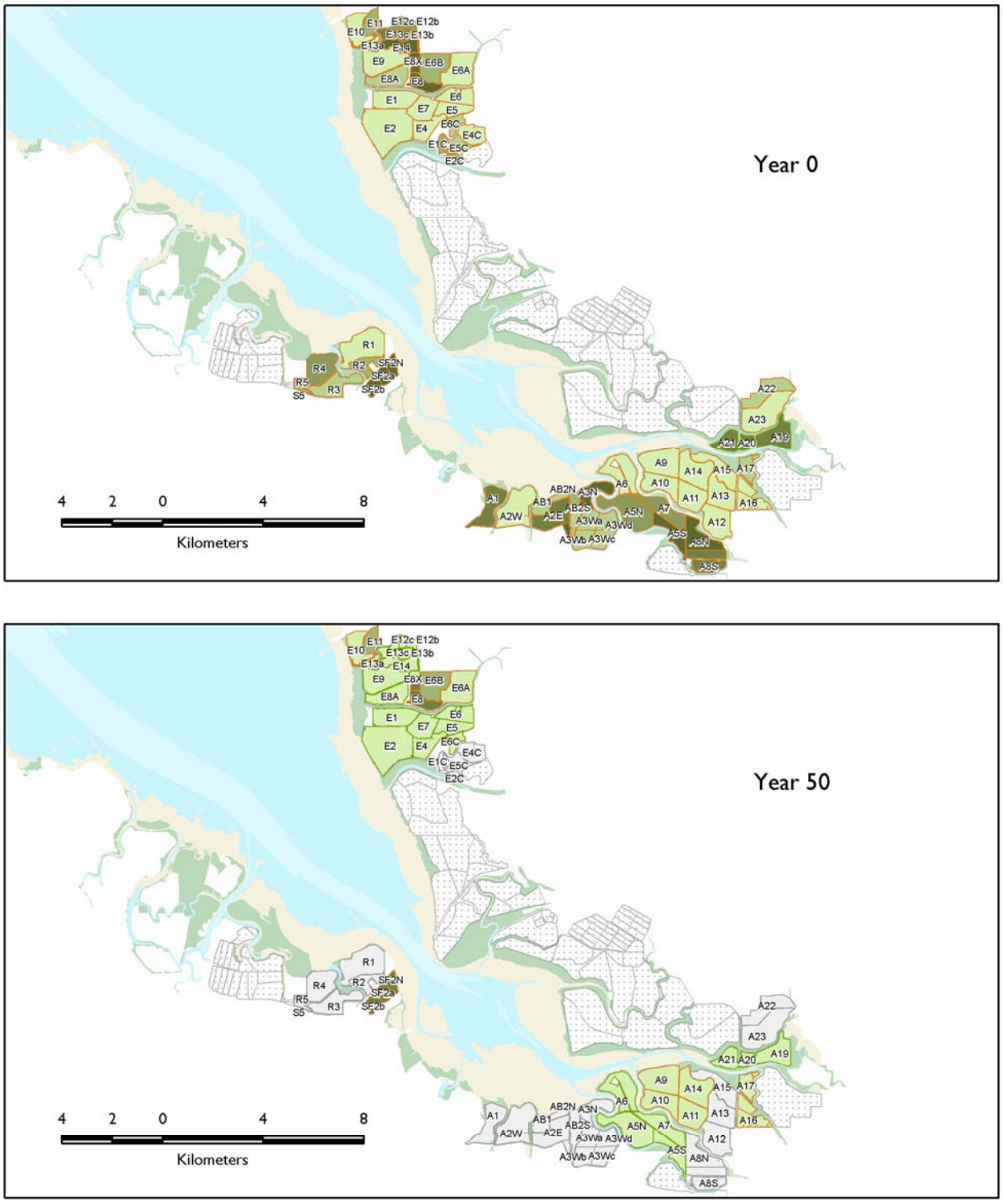
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

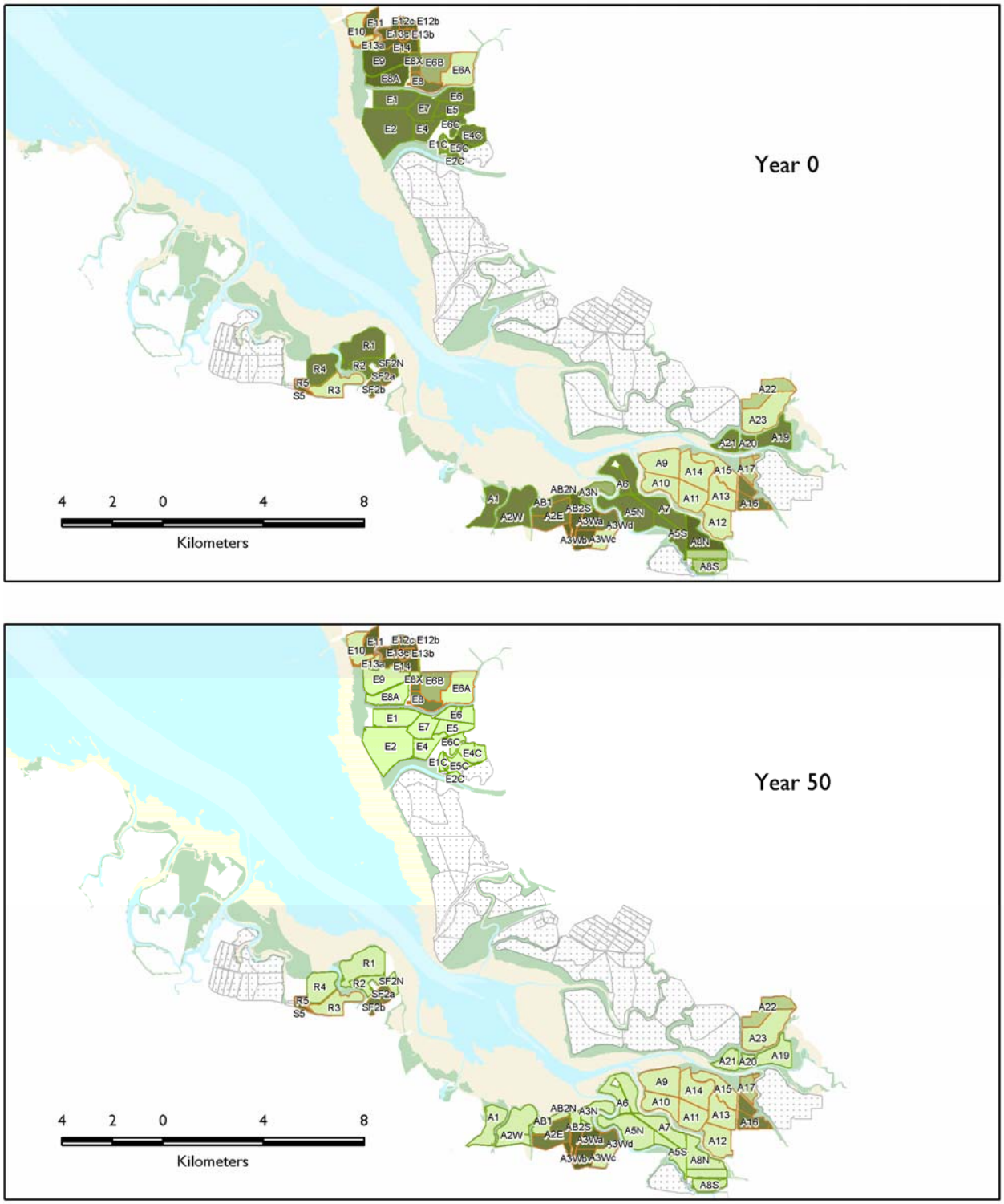
Predicted Density (birds/ha)
0
0.00100 - 0.0713
0.0714 - 0.351
0.352 - 0.500
0.501 - 0.983
0.984 - 1.46

N

Winter Dunlin, Alternative A



Winter Dunlin, Atlernative B



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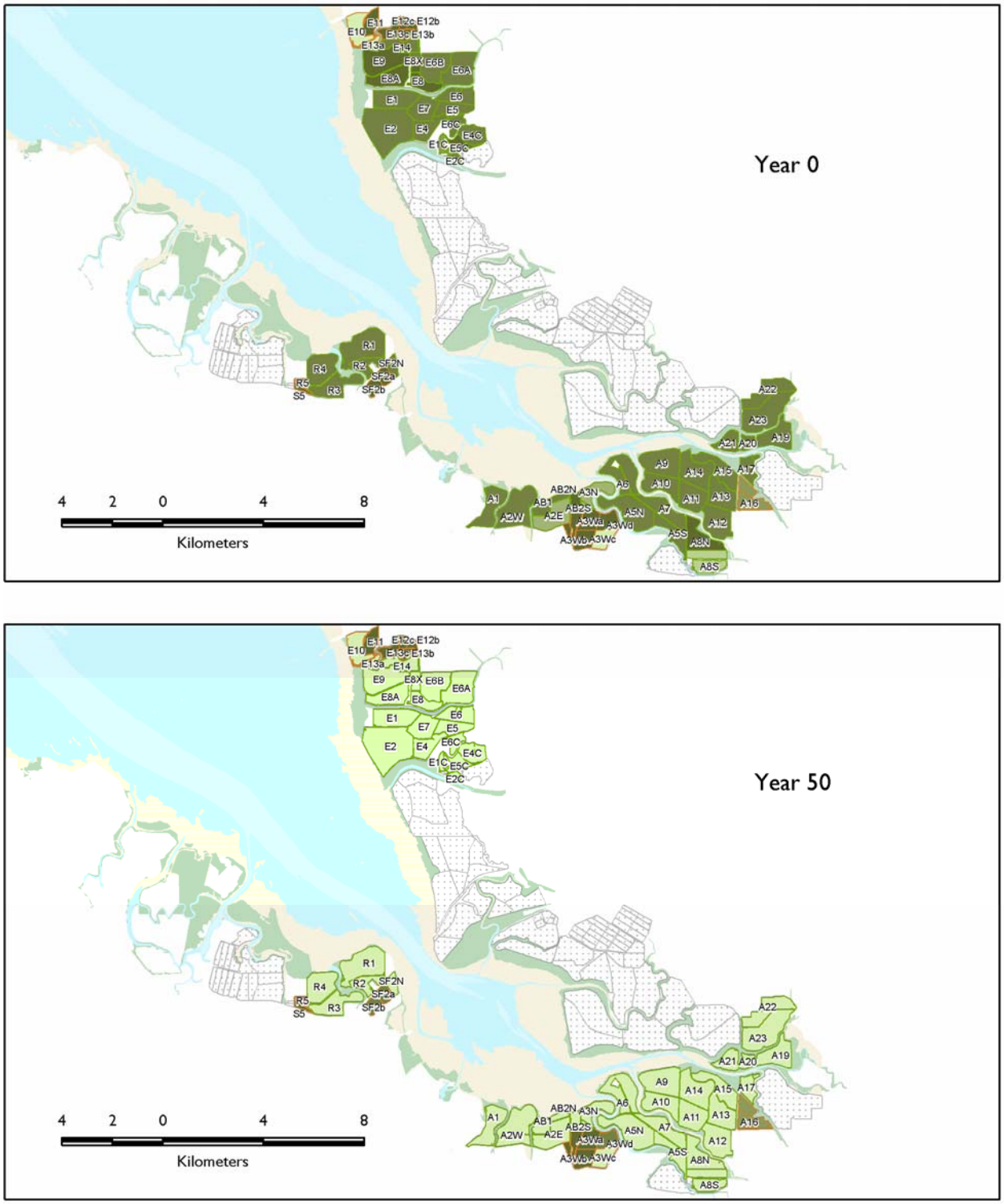
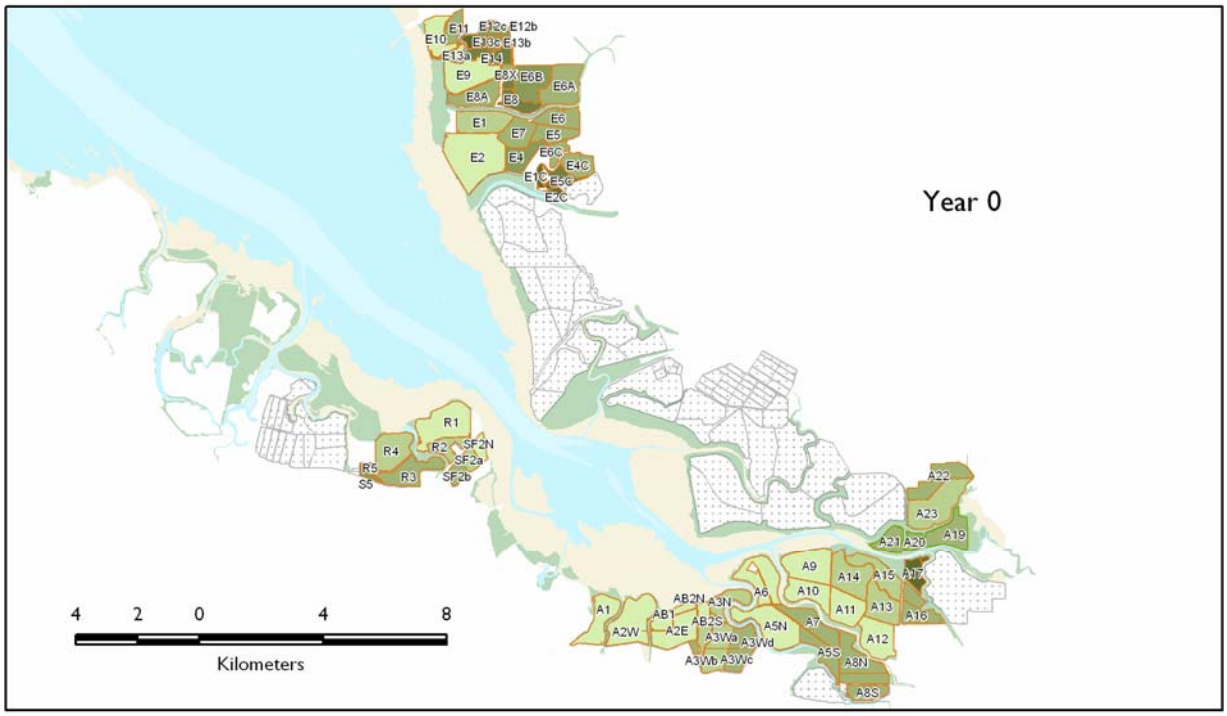
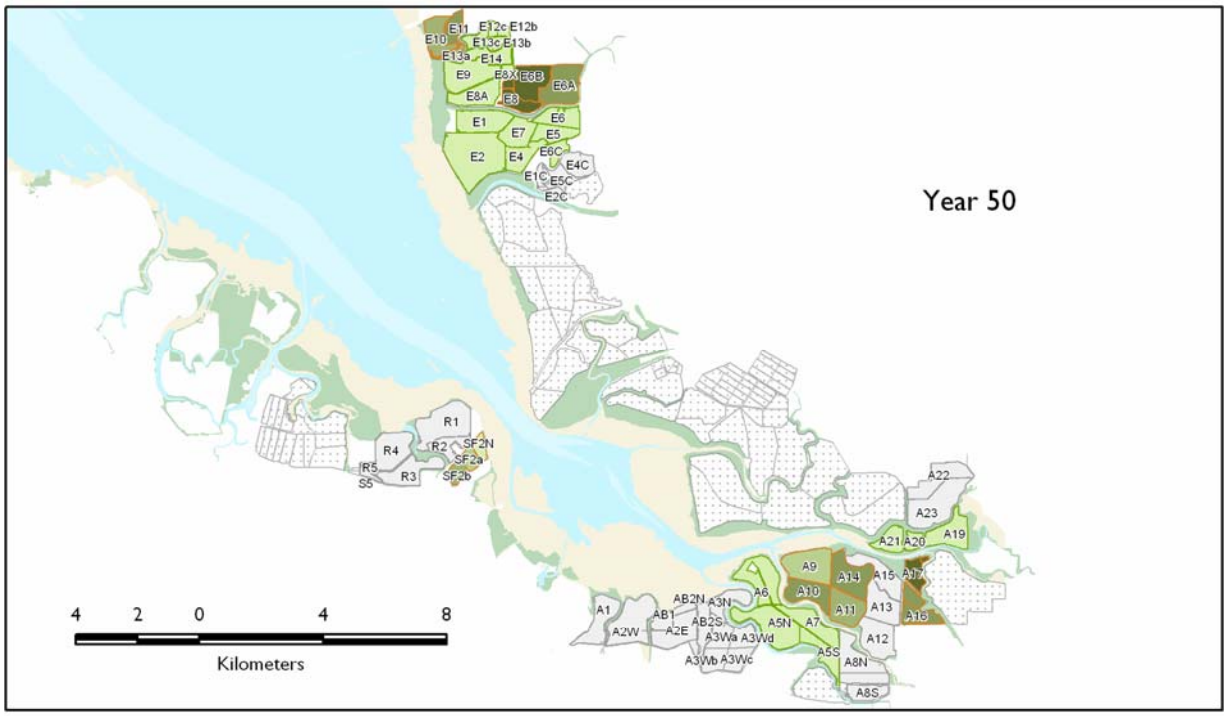


Winter Least Sandpiper, Alternative A





Legend

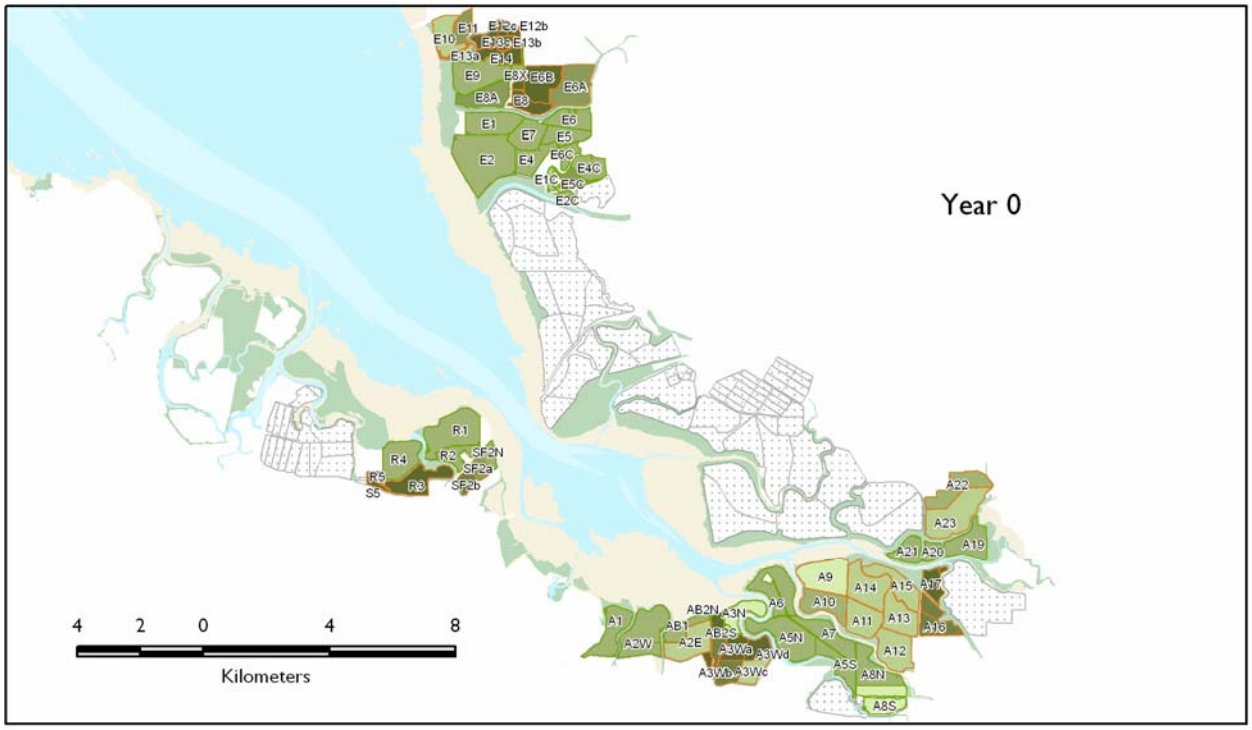
Bay
Other Pond
Tidal Marsh
Tidal Flat

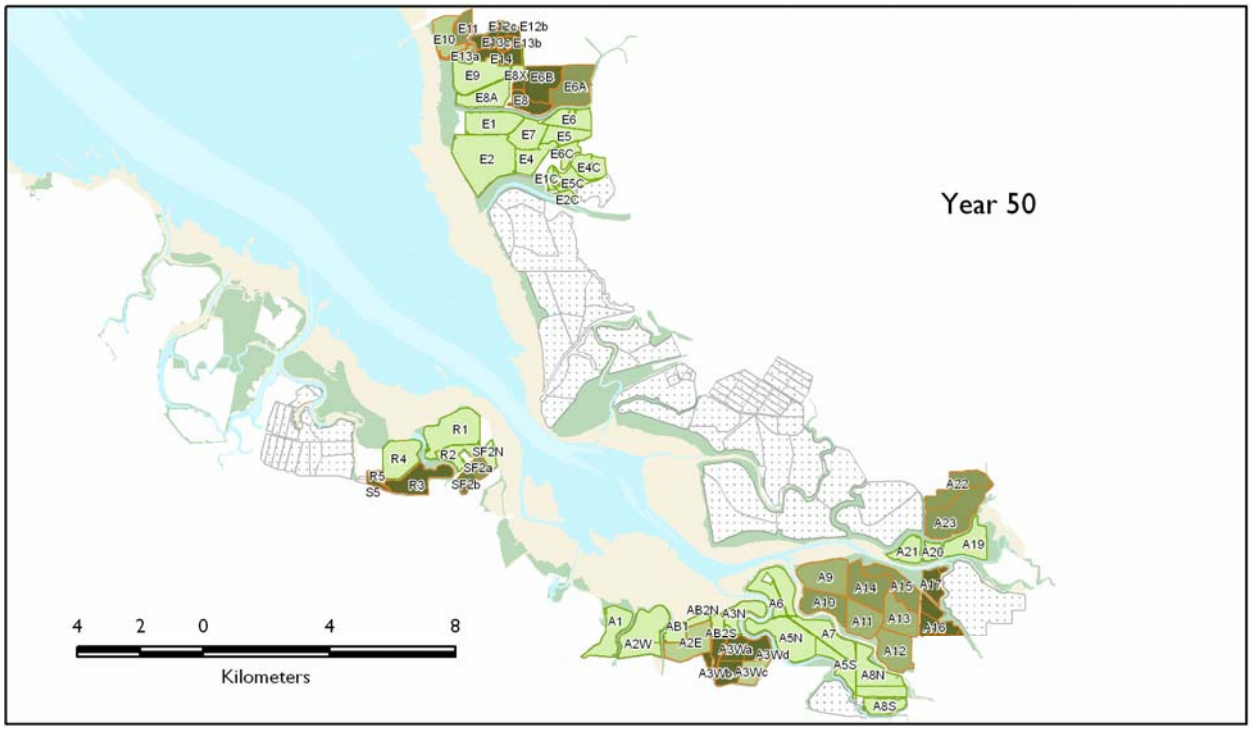
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

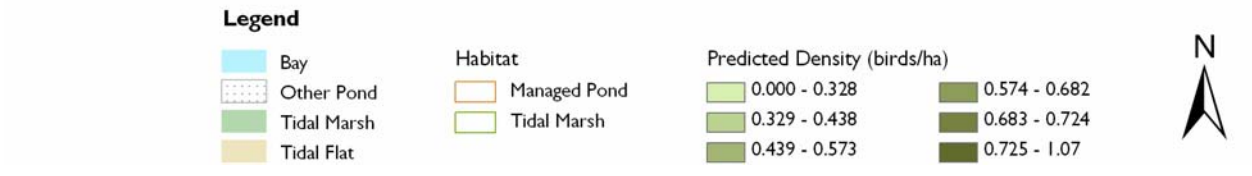
Predicted Density (birds/ha)
0.000 - 0.328
0.329 - 0.438
0.439 - 0.573
0.574 - 0.682
0.683 - 0.724
0.725 - 1.07

N

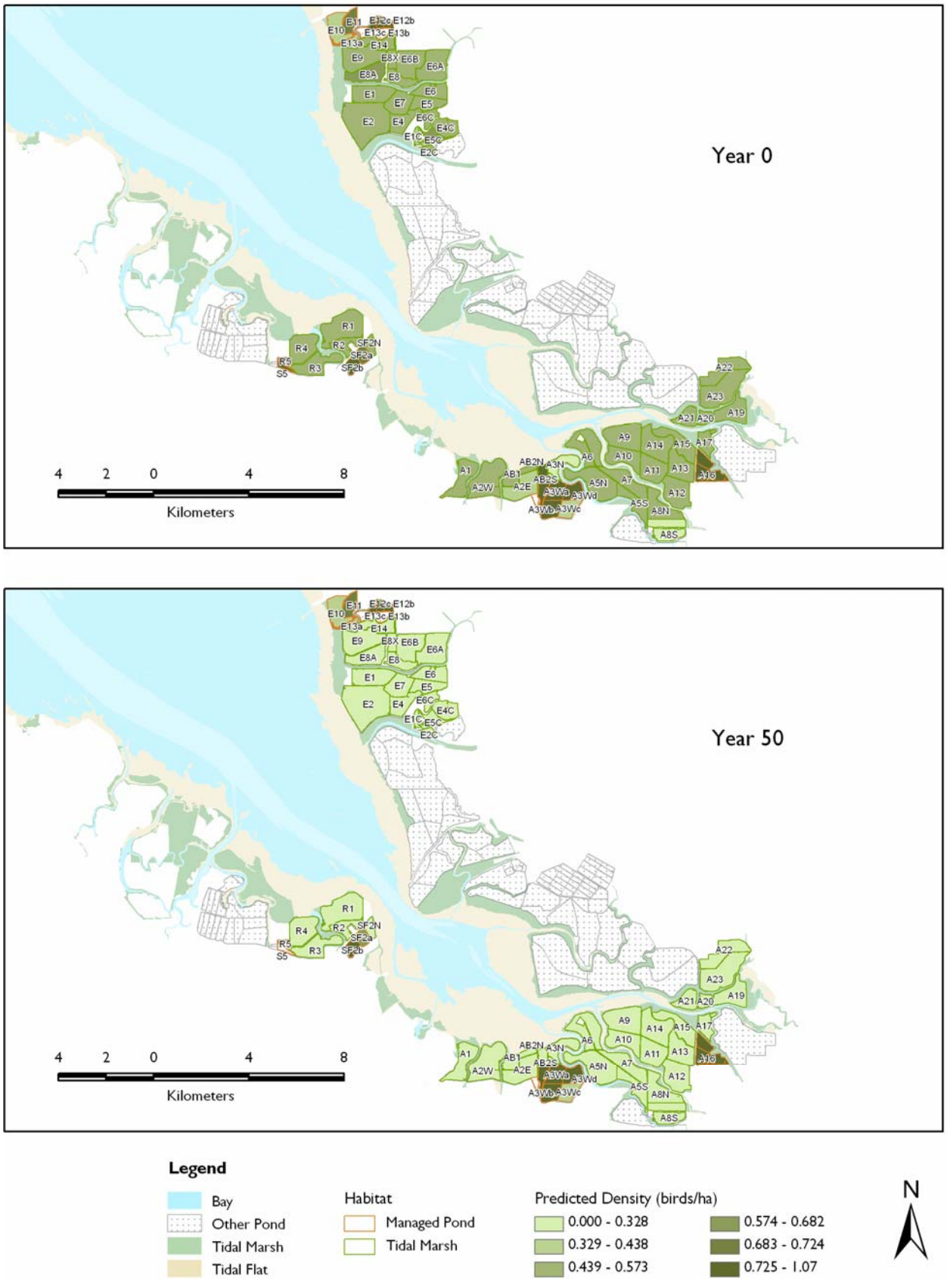
Winter Least Sandpiper, Alternative B



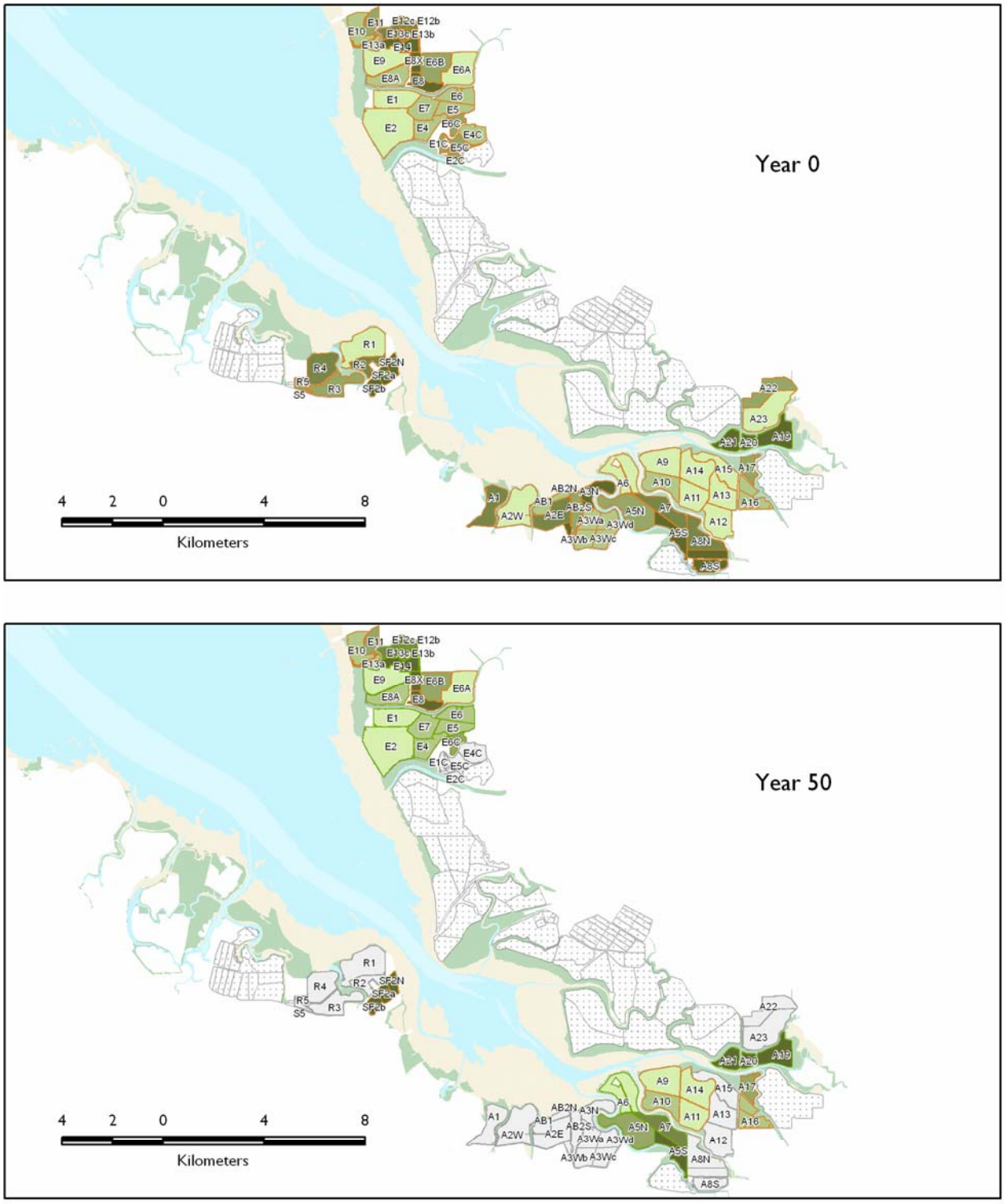




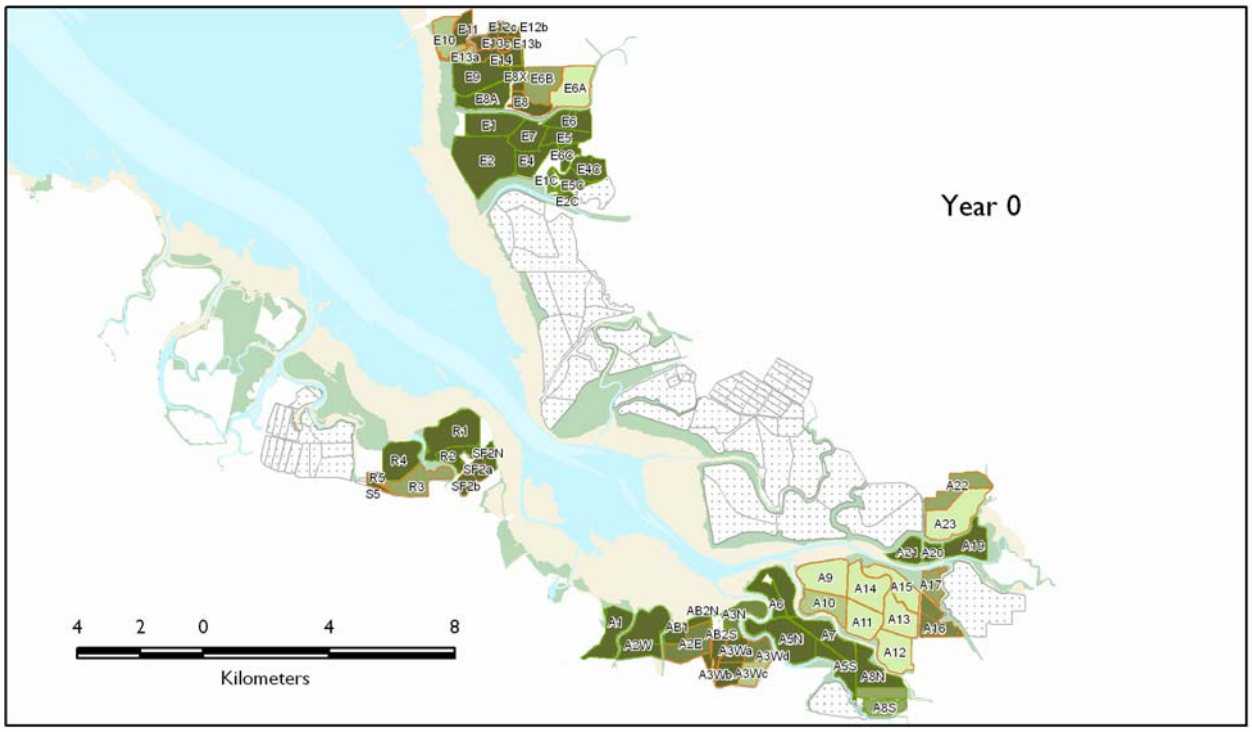
Winter Least Sandpiper, Alternative C

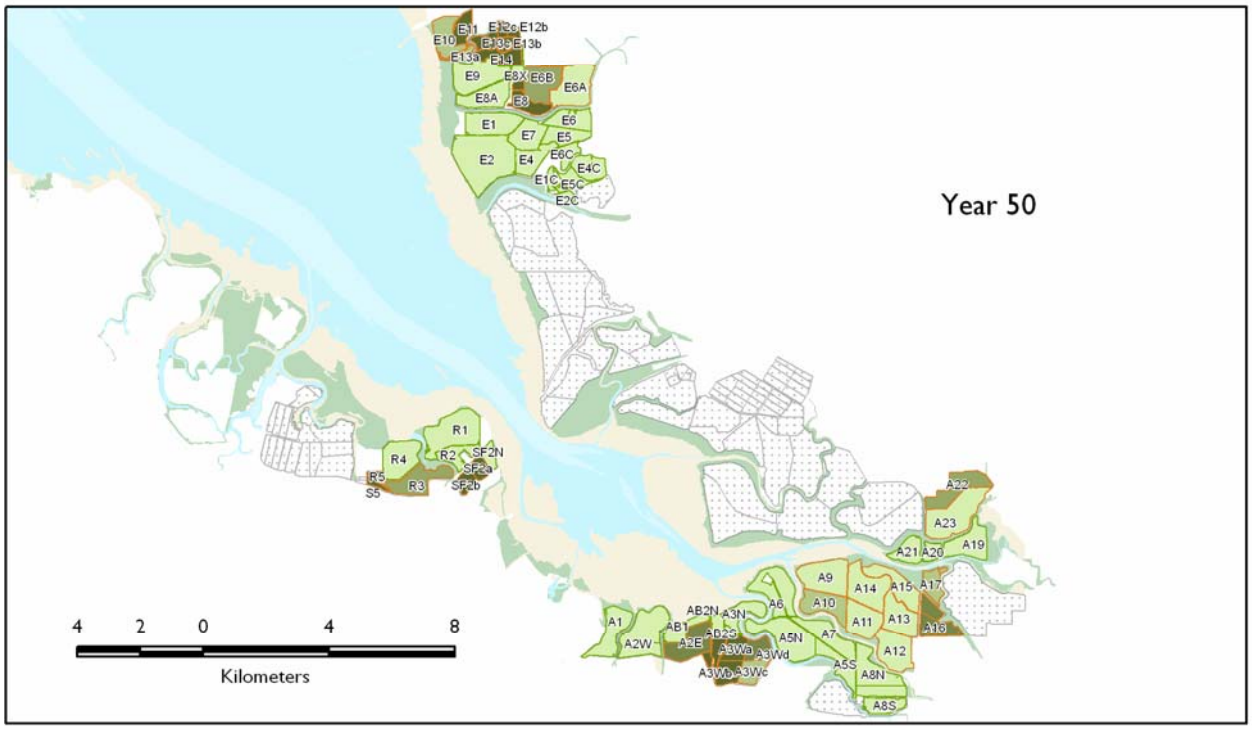


Winter Western Sandpiper, Alternative A



Winter Western Sandpiper, Alternative B





Legend

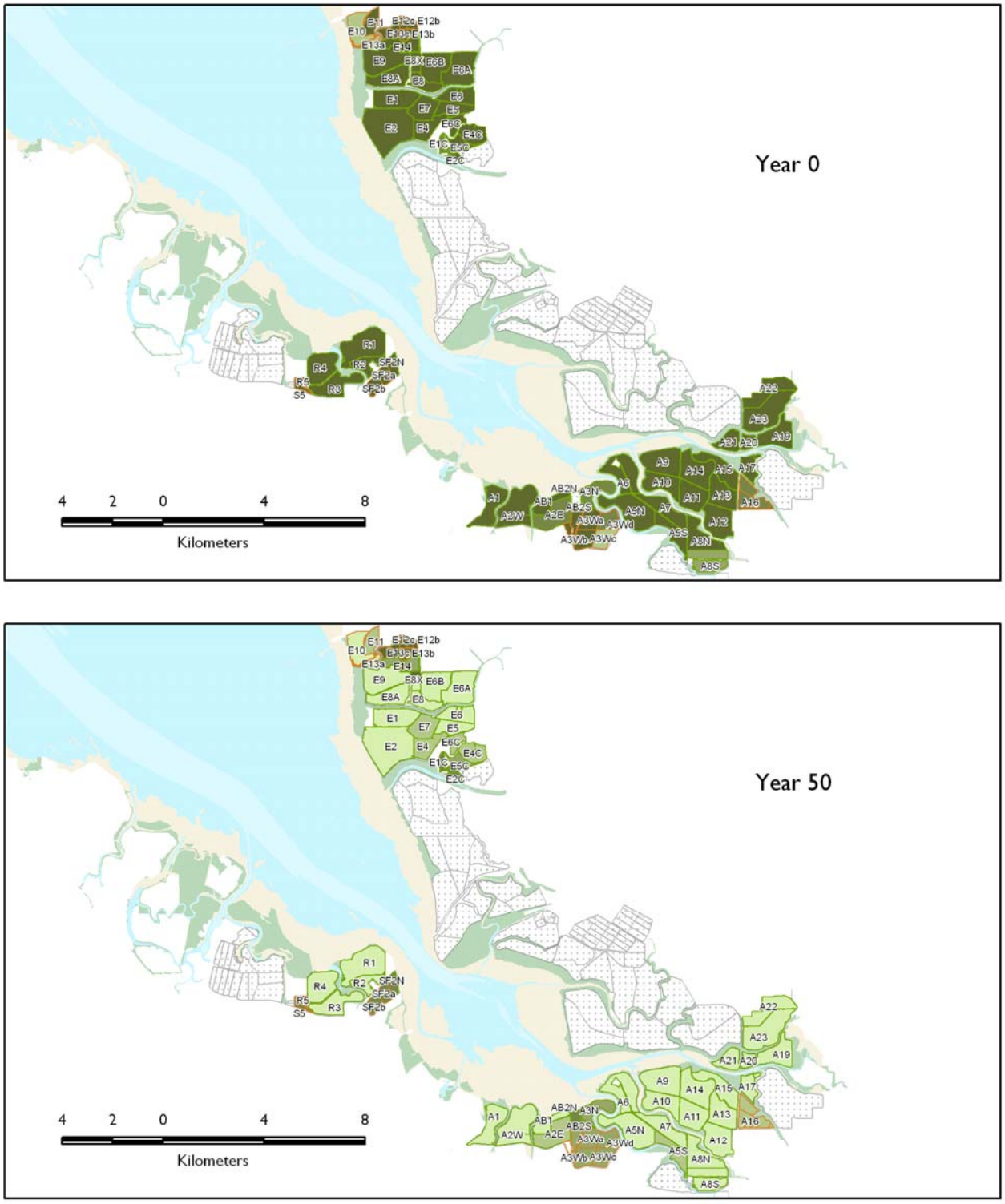
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

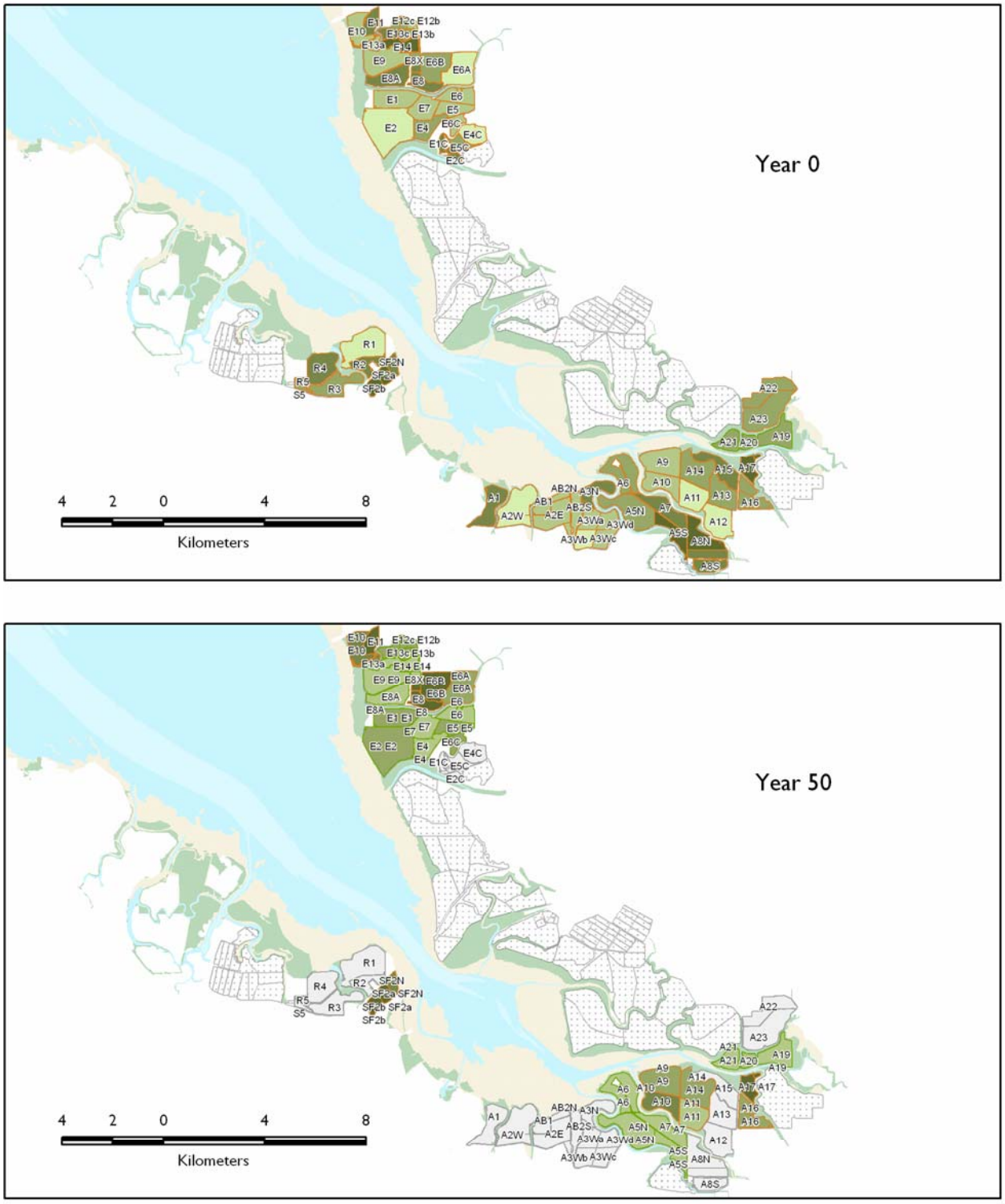
Predicted Density (birds/ha)
0.000 - 0.549
0.550 - 1.03
1.04 - 1.58
1.59 - 2.53
2.54 - 4.51

N

Winter Western Sandpiper, Alternative C



Fall Least Sandpiper, Alternative A



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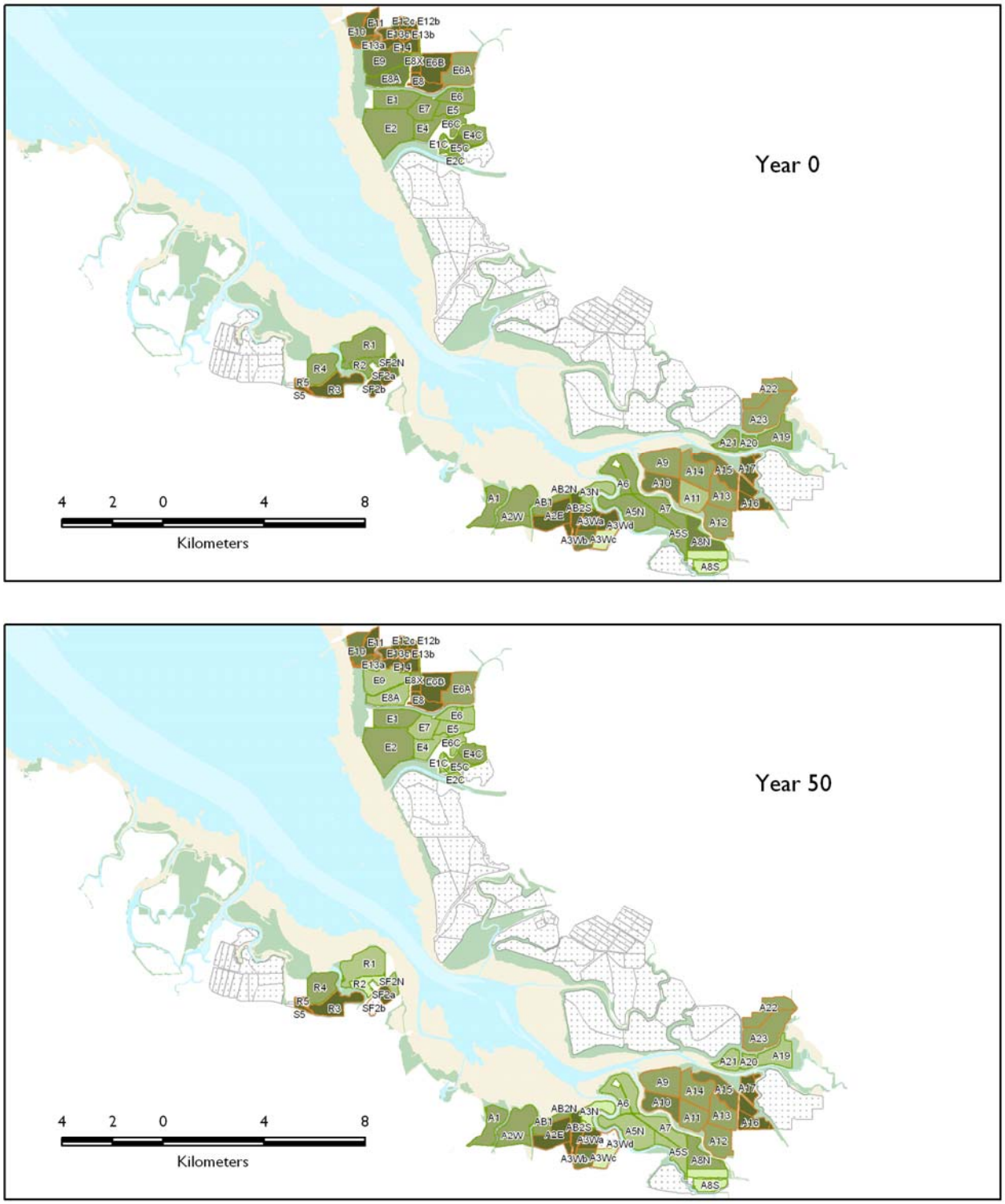
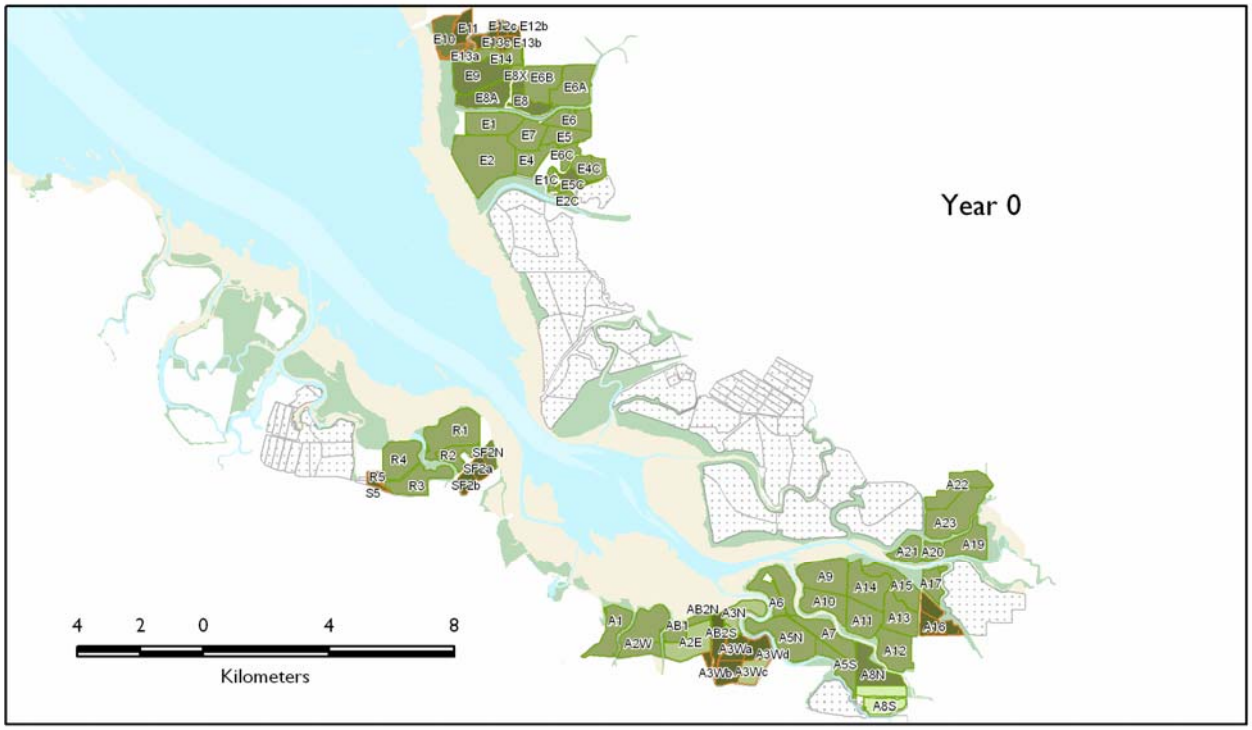
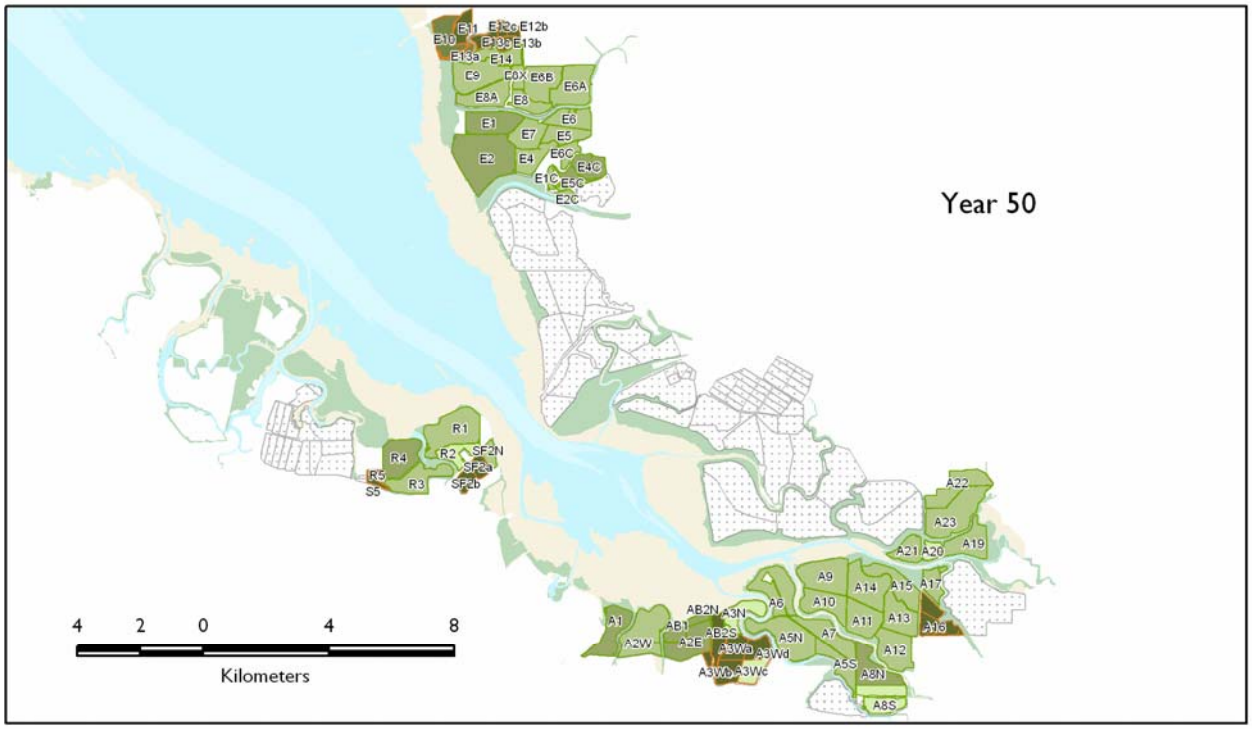


Fall Least Sandpiper, Alternative C





Legend

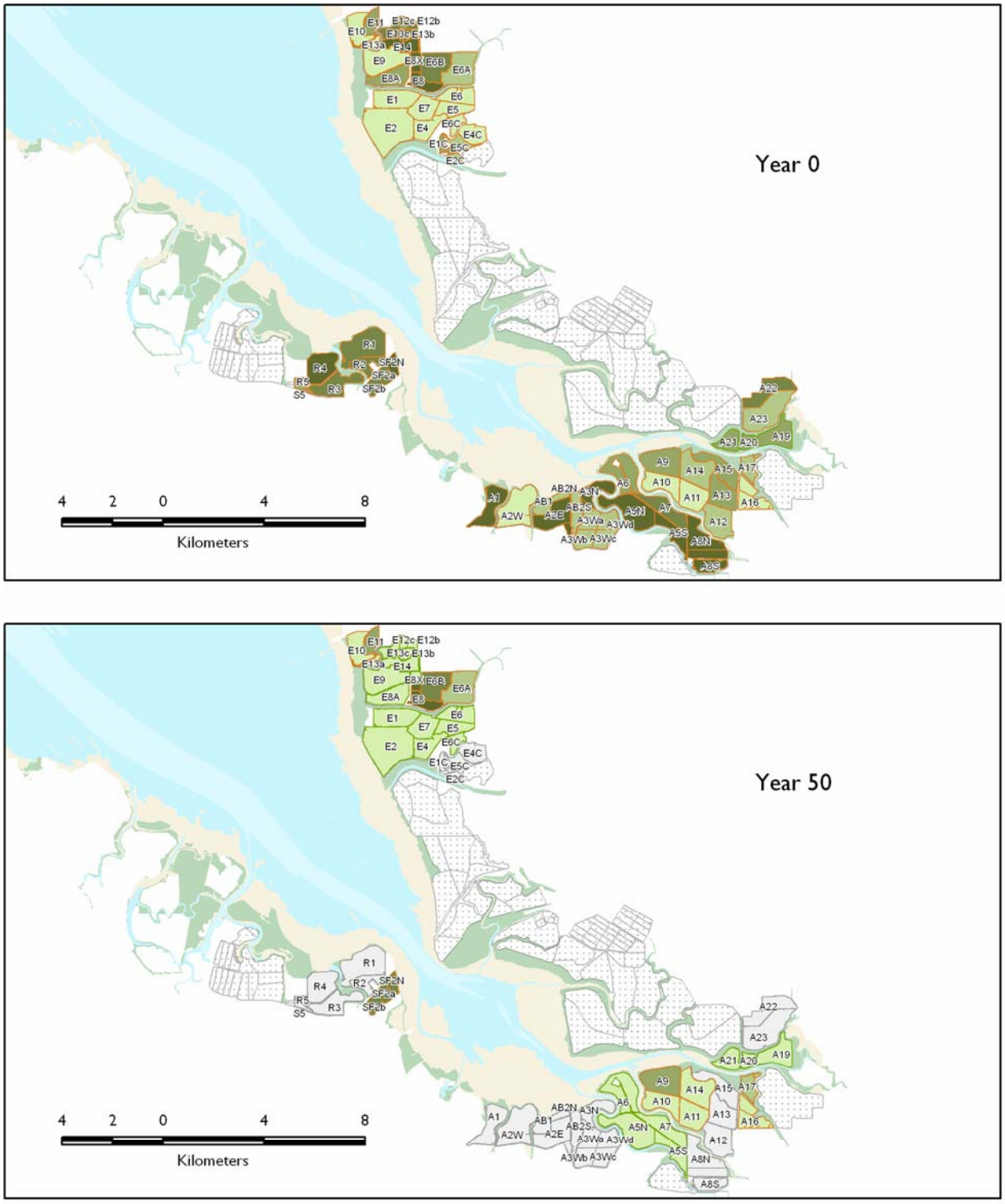
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

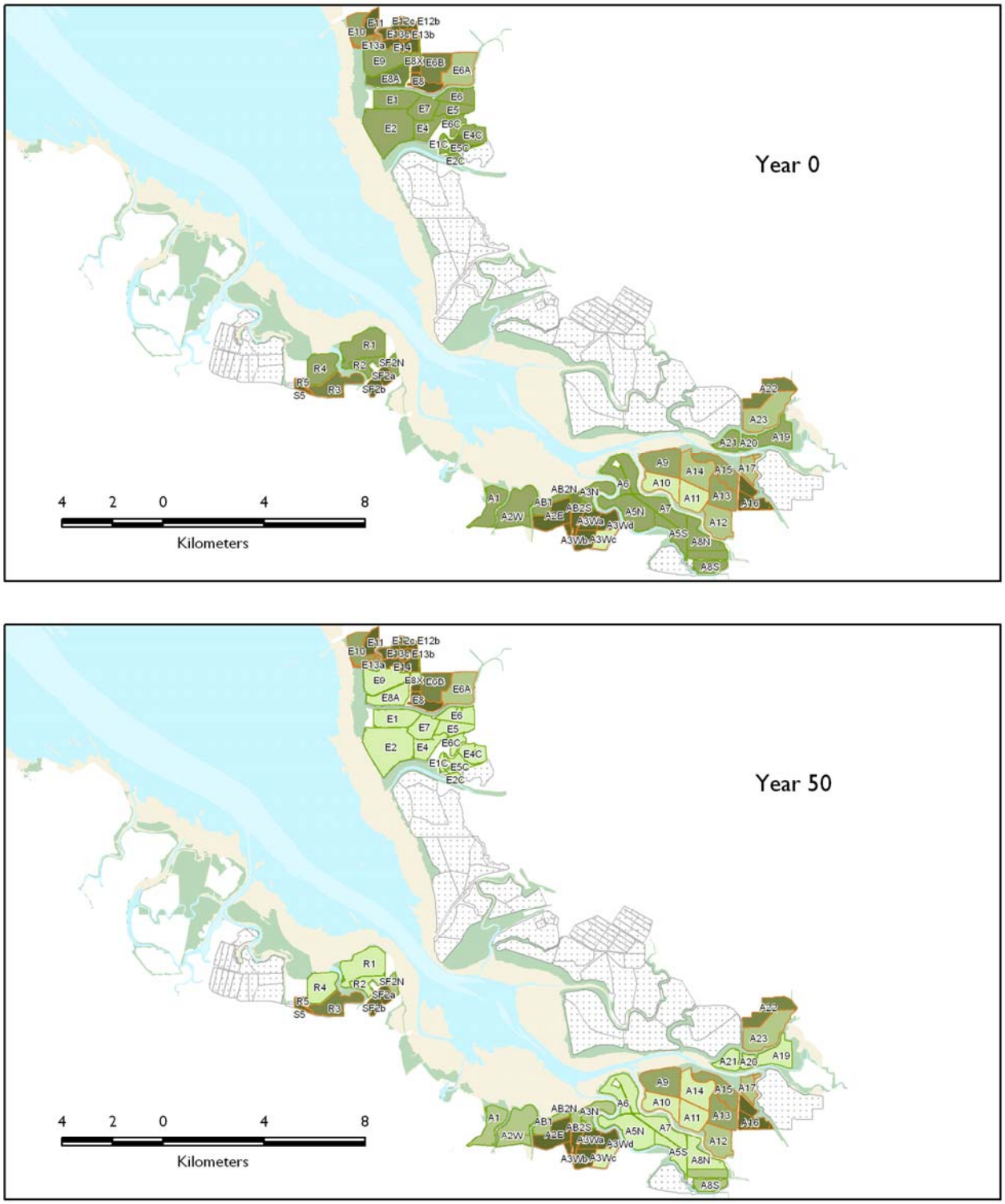
Predicted Density (birds/ha)
0.000 - 0.174
0.175 - 0.303
0.304 - 0.442
0.443 - 0.574
0.575 - 1.32

N

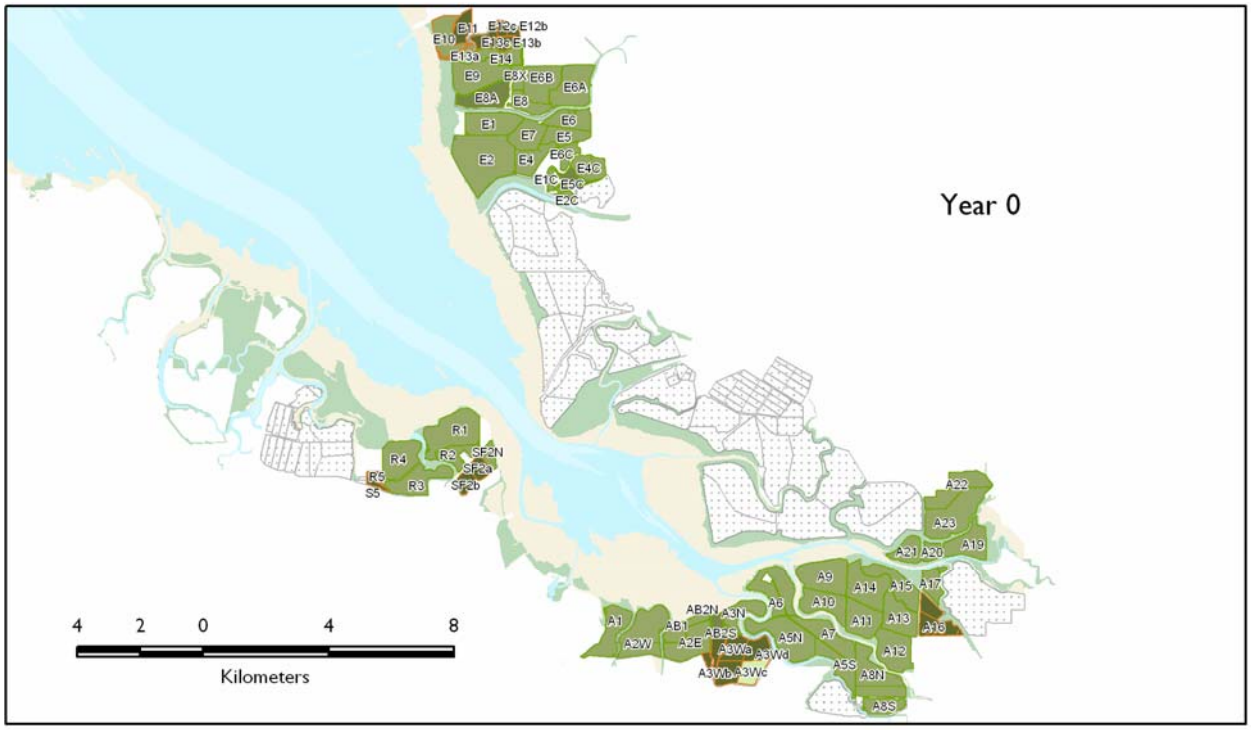
Fall Western Sandpiper, Alternative A

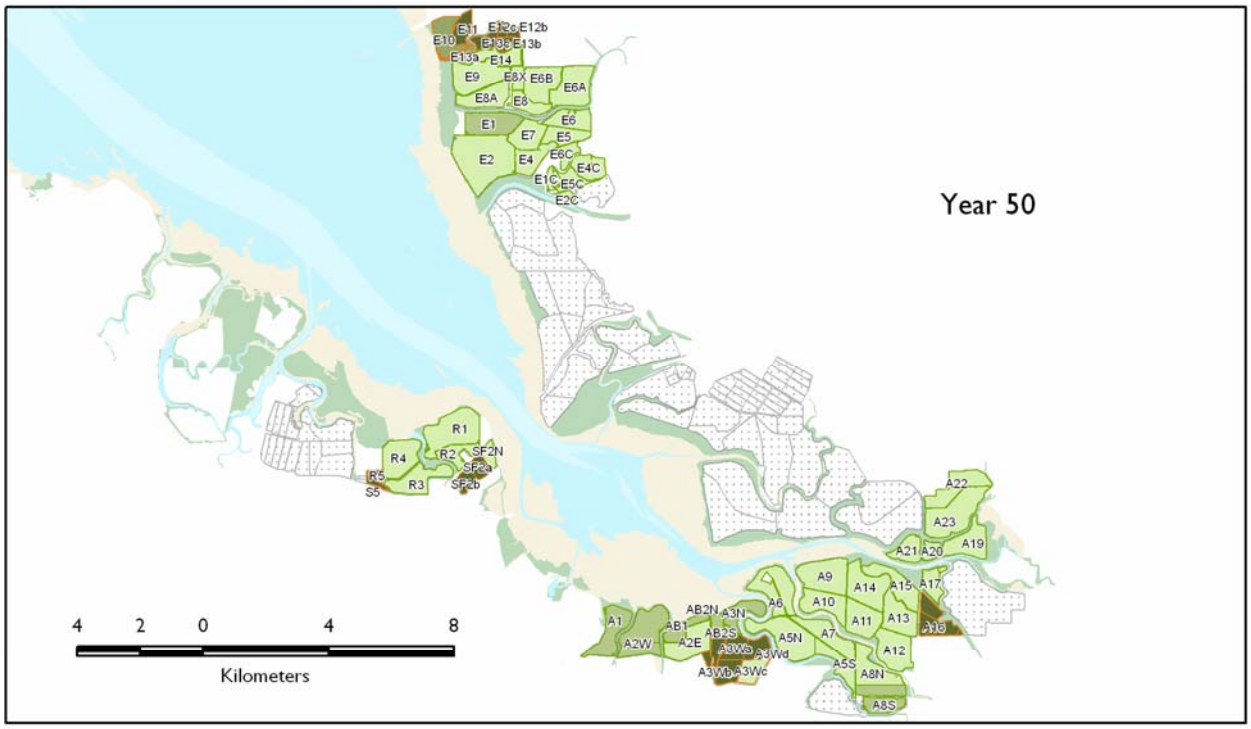


Fall Western Sandpiper, Alternative B



Fall Western Sandpiper, Alternative C





Legend

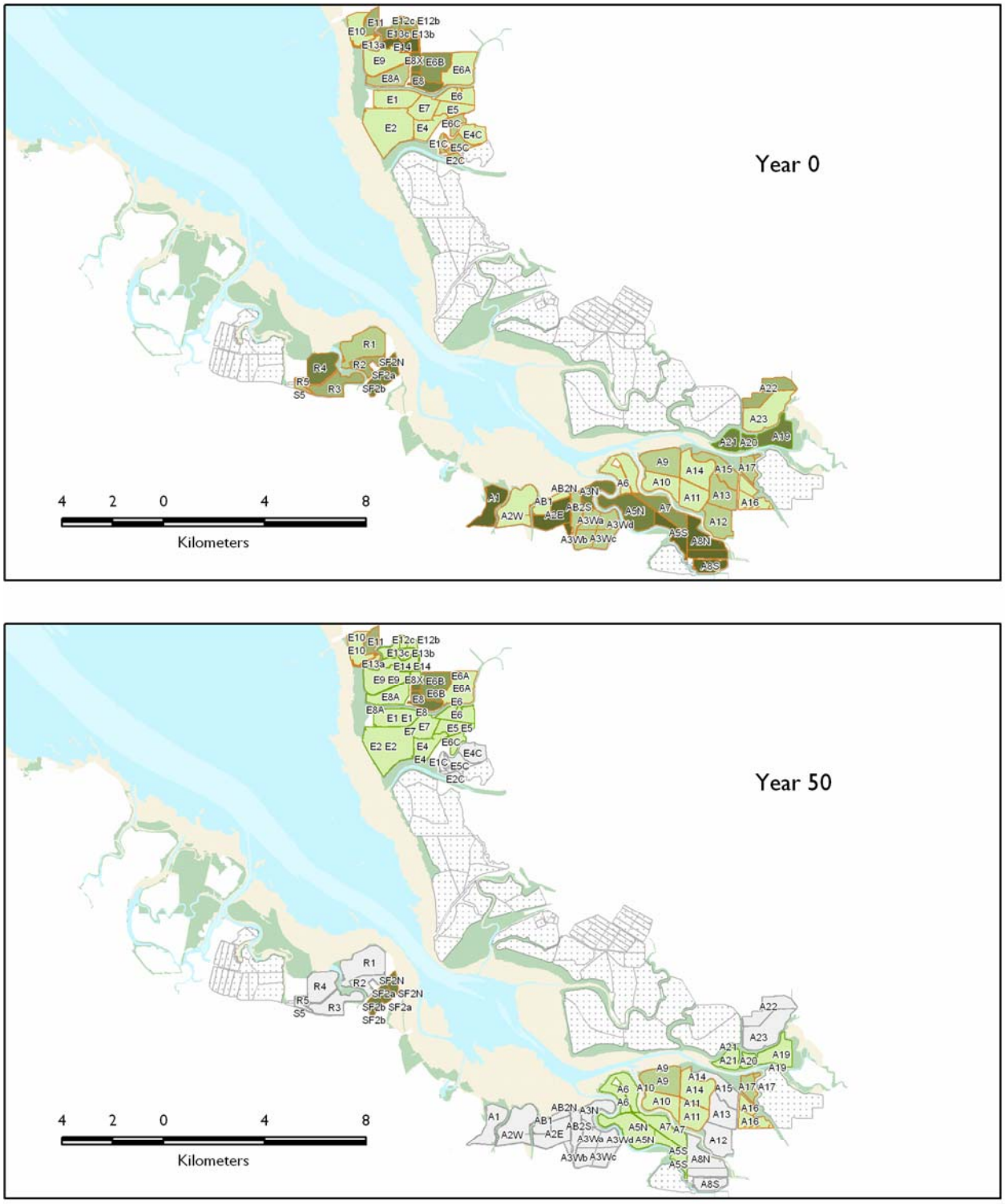
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

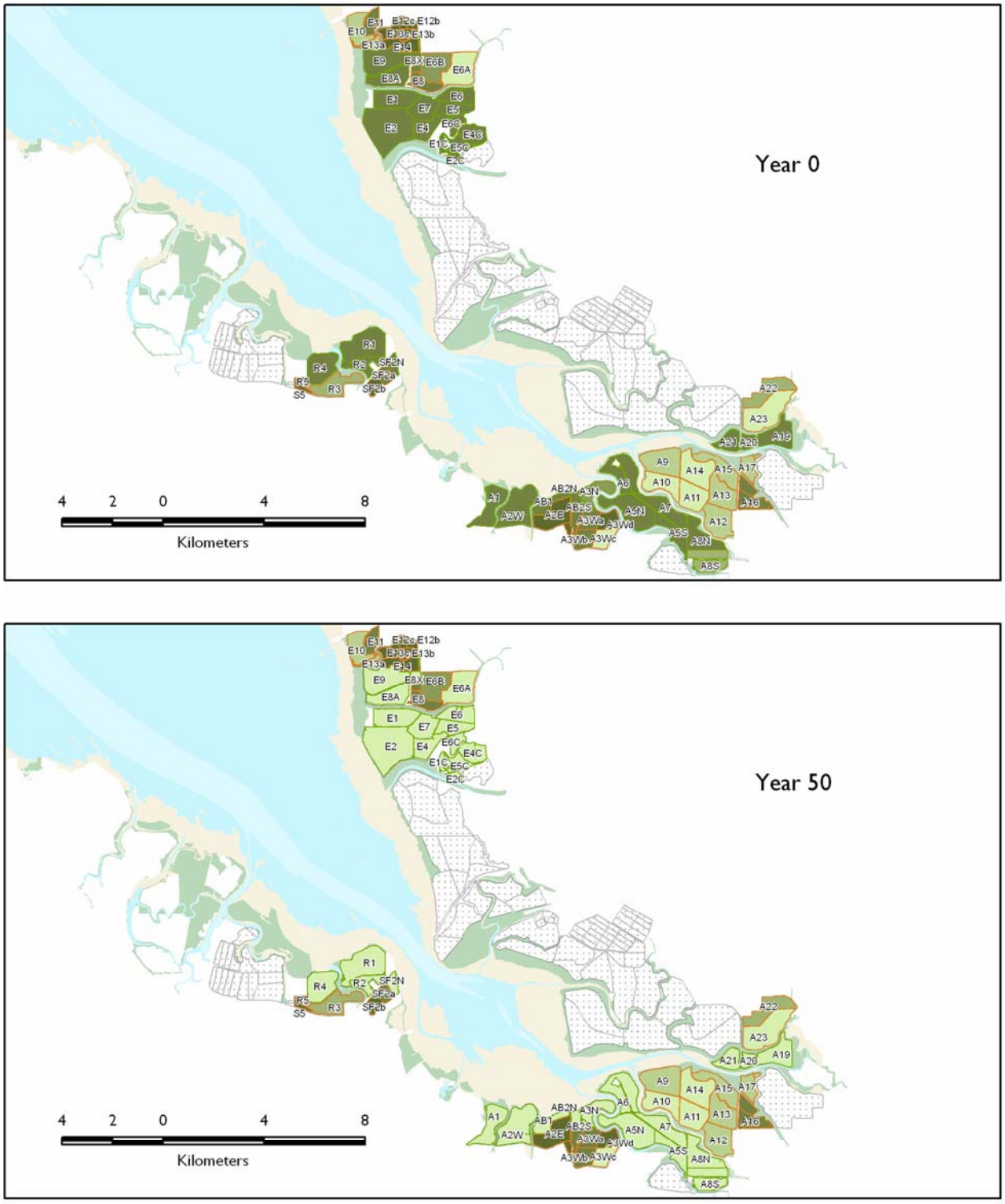
Predicted Density (birds/ha)
0.000 - 0.0807
0.0808 - 0.198
0.199 - 0.610
0.611 - 2.76
2.77 - 6.10

N

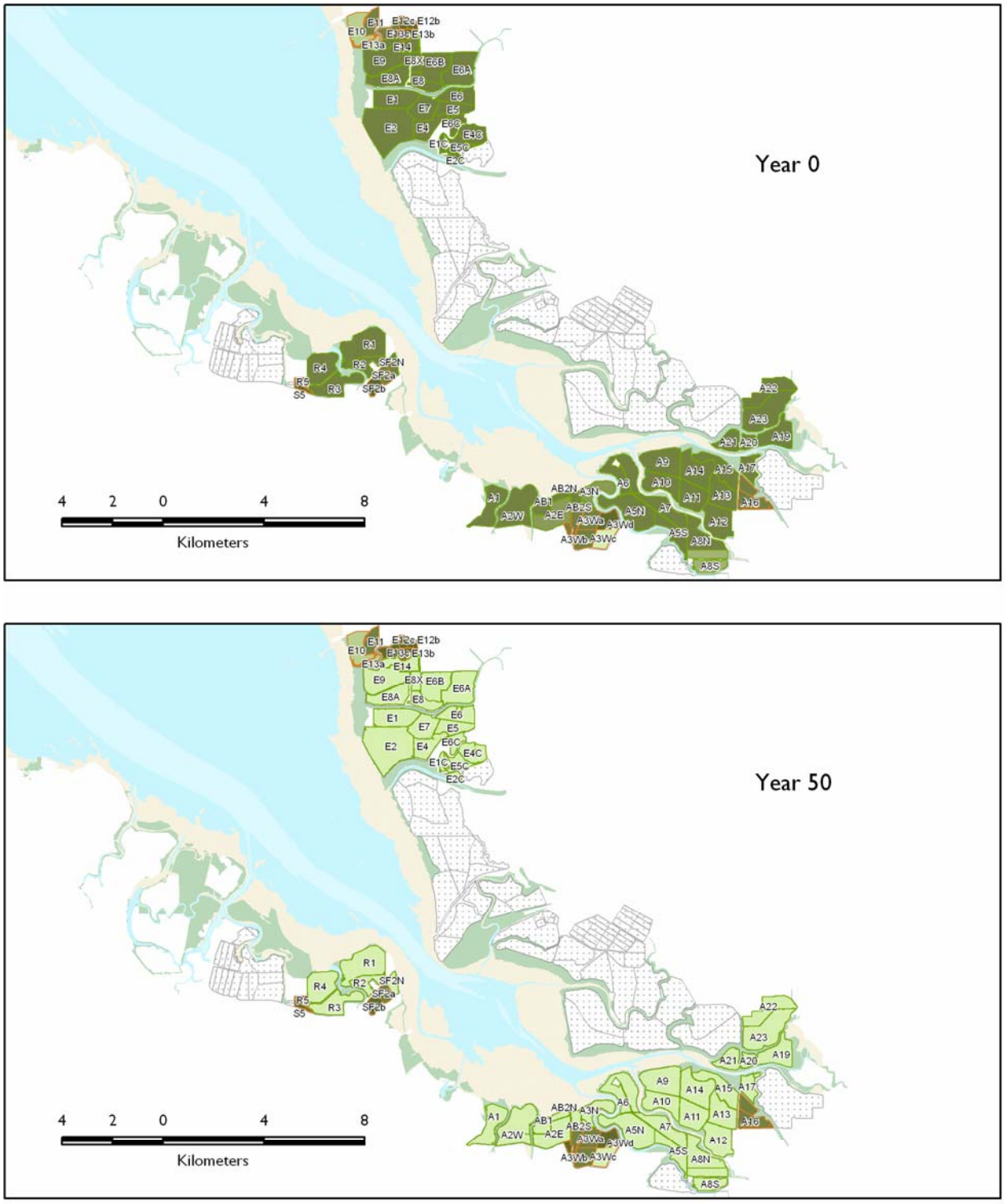
Spring Dunlin, Alternative A



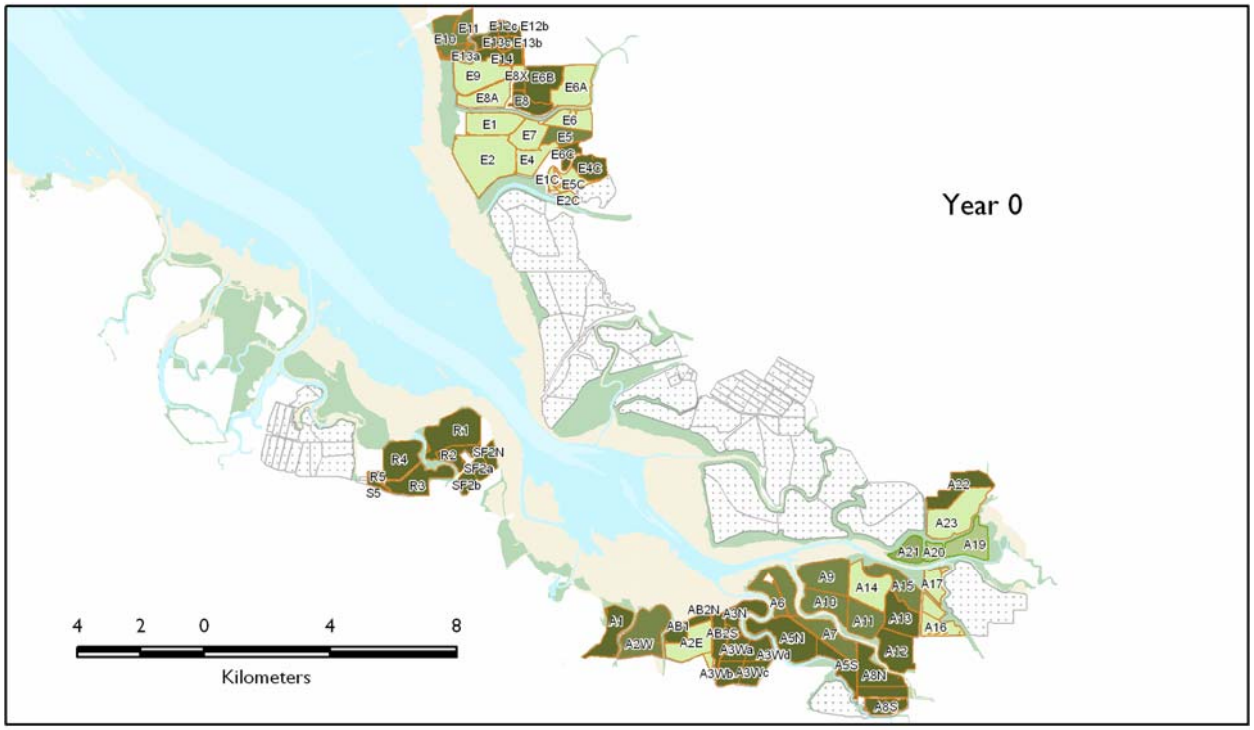
Spring Dunlin, Alternative B

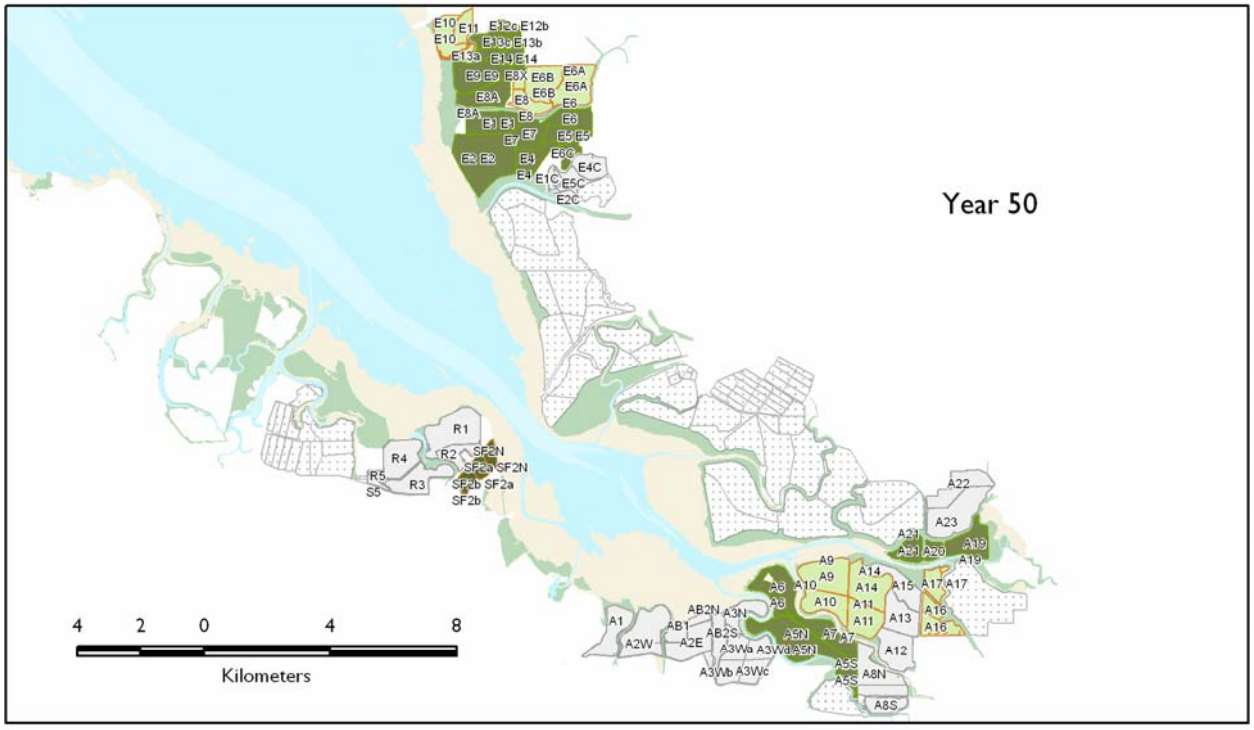


Spring Dunlin, Alternative C



Spring Least Sandpiper, Alternative A





Legend

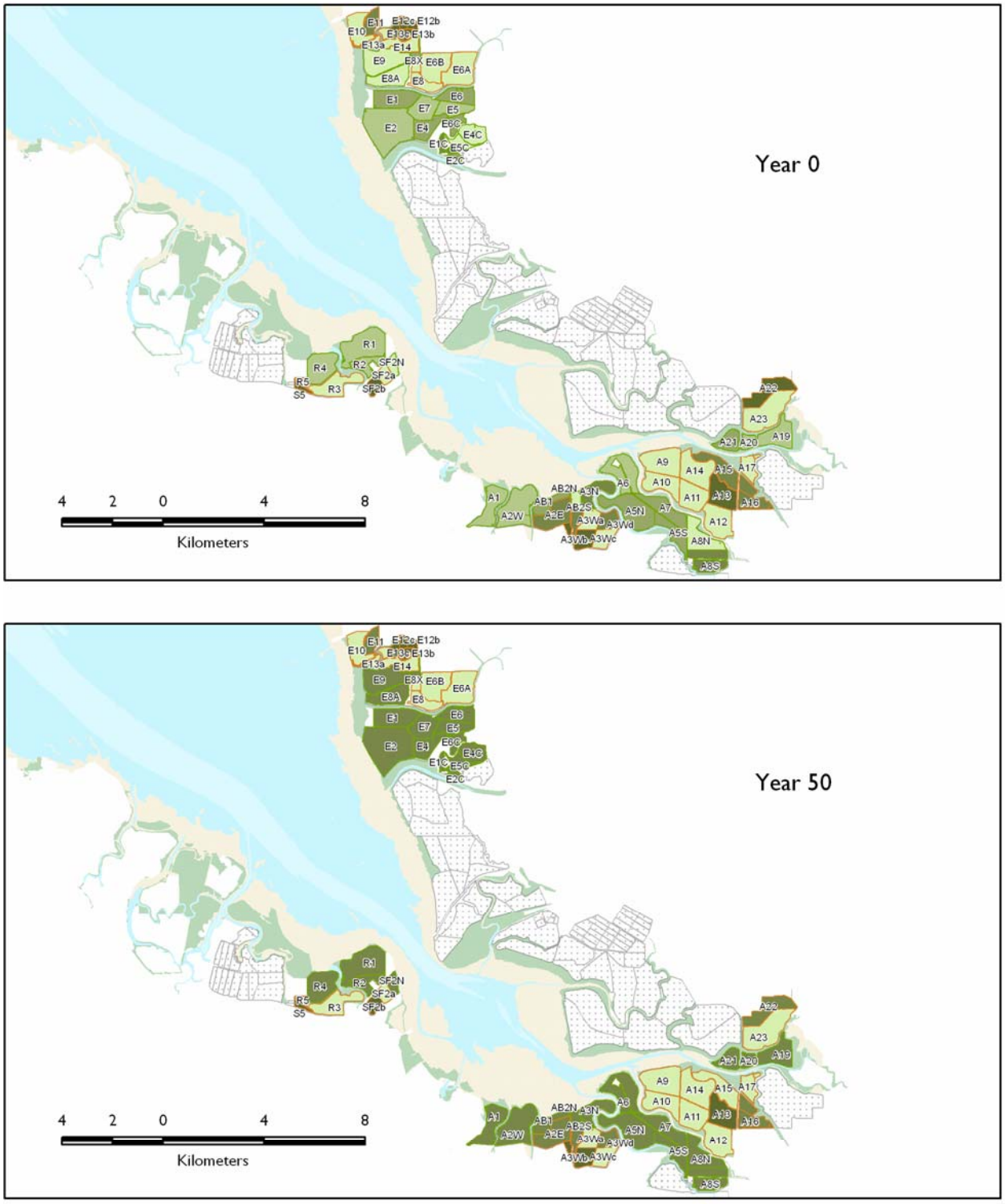
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

Predicted Density (birds/ha)
0.0000
0.00100 - 0.000339
0.000340 - 0.00128
0.00129 - 0.0743
0.0744 - 0.871

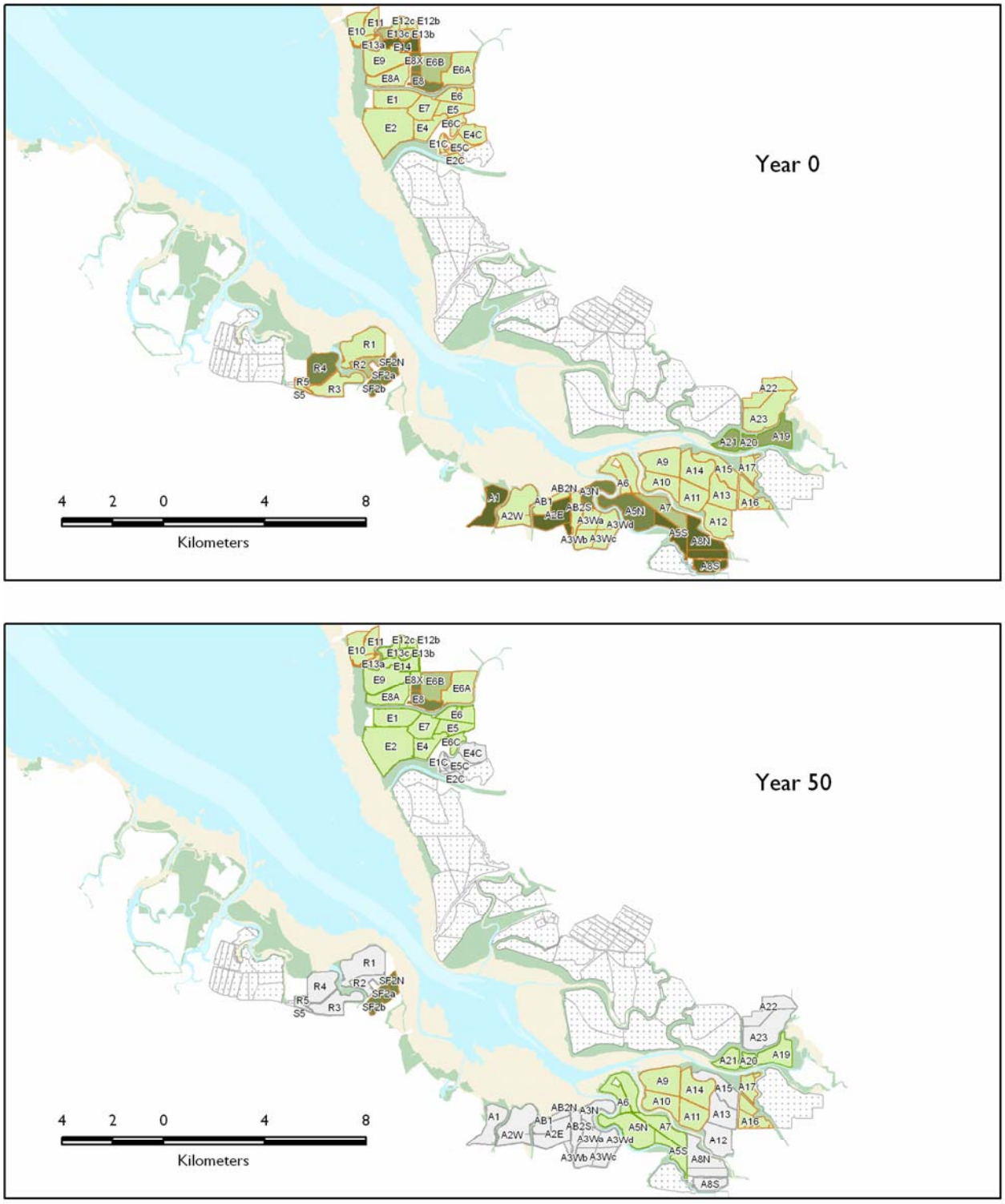
N

Spring Least Sandpiper, Alternative B

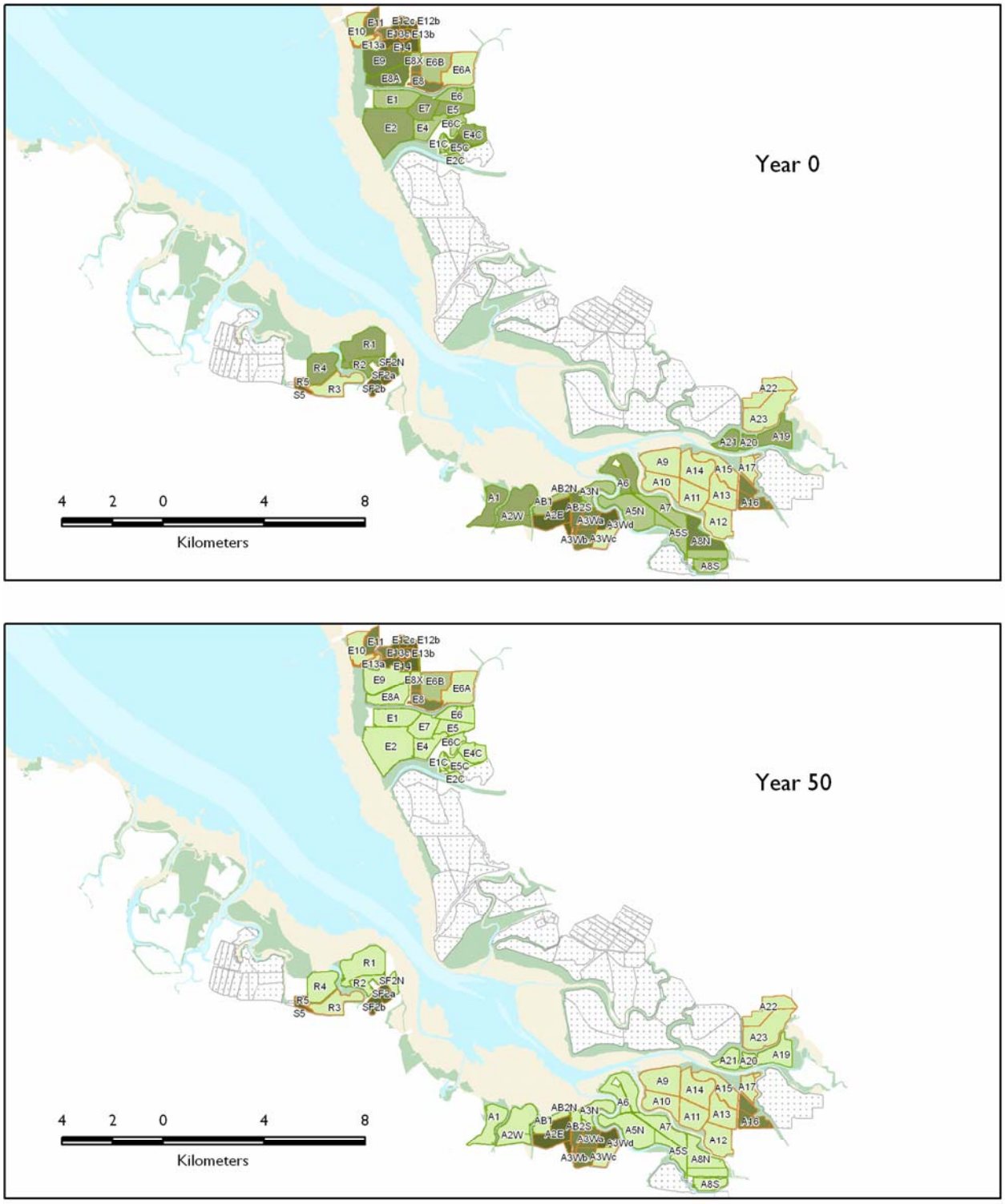


Spring Least Sandpiper, Alternative C

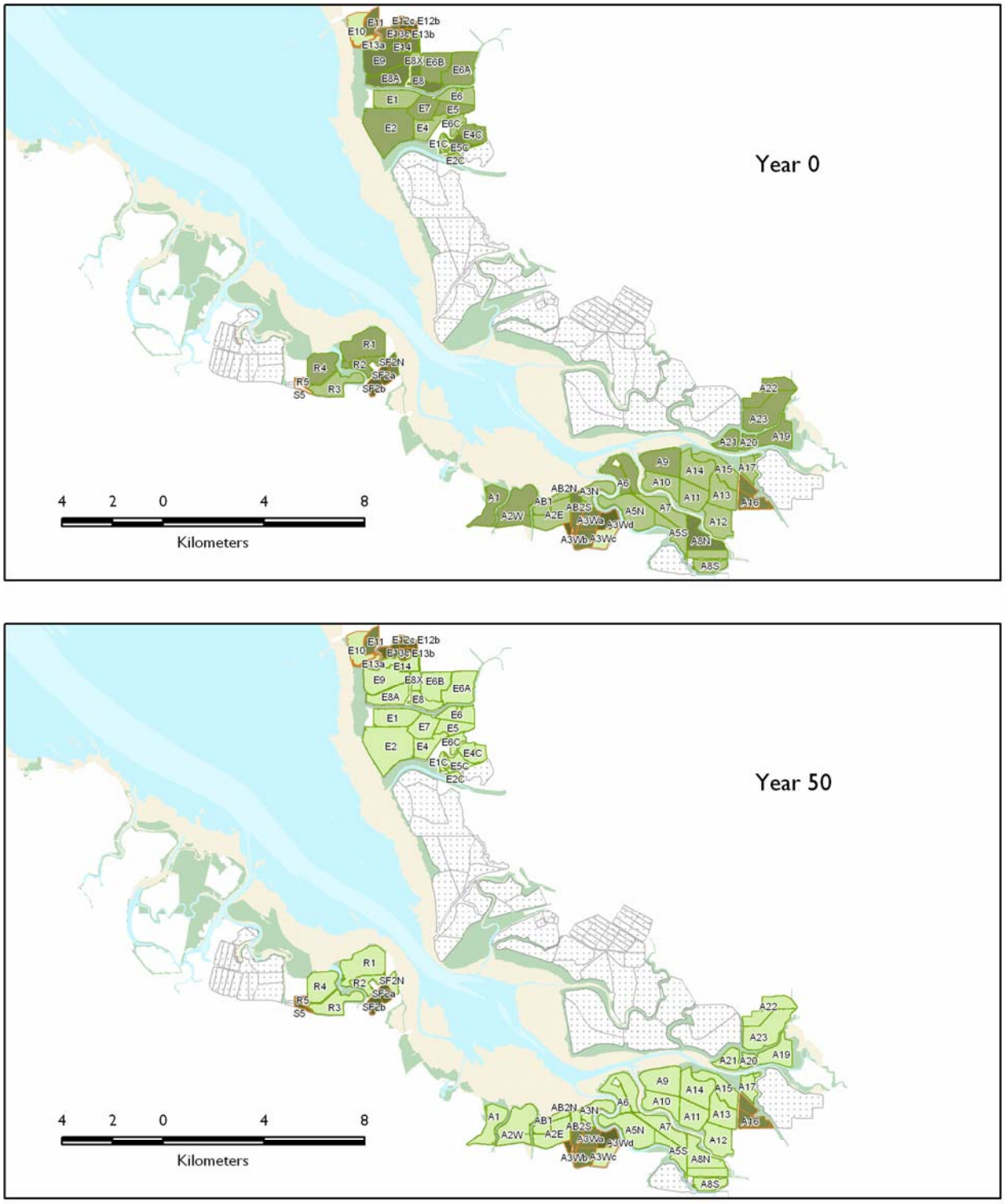
Spring Western Sandpiper, Alternative A



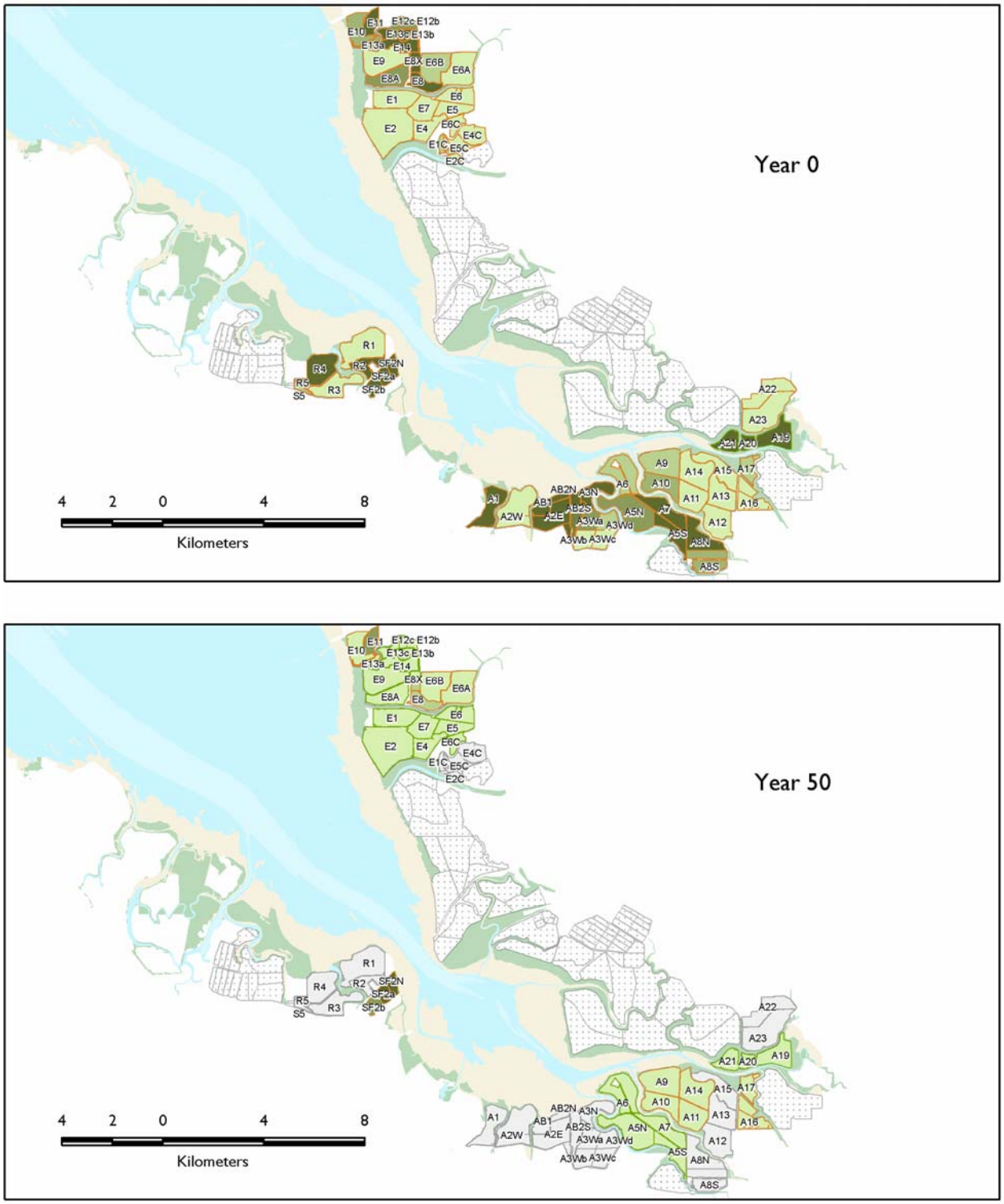
Spring Western Sandpiper, Alternative B



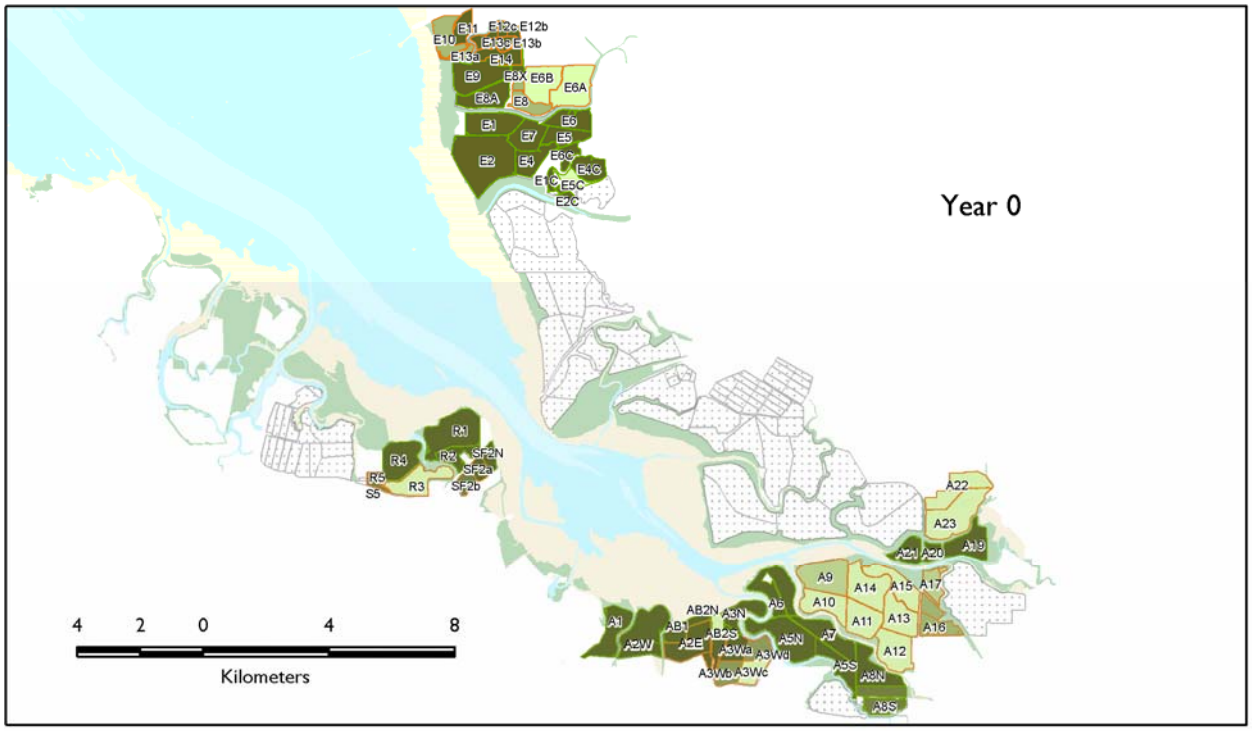
Spring Western Sandpiper, Alternative C

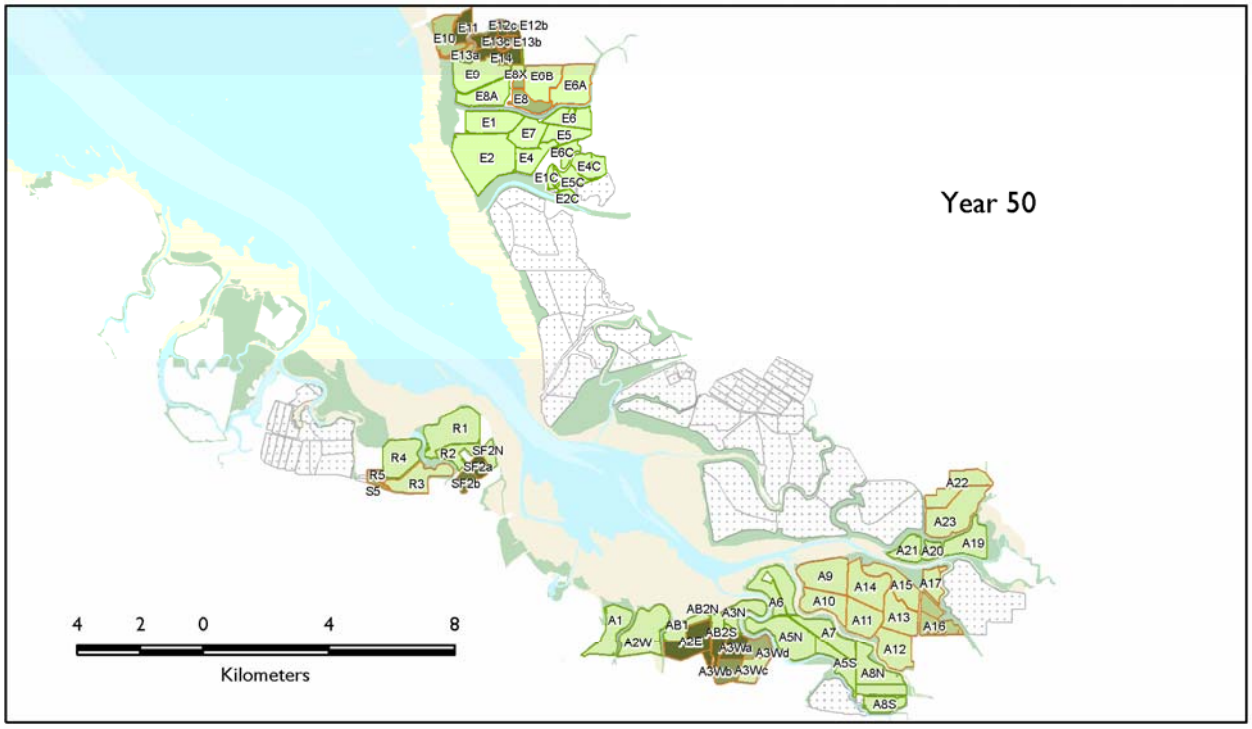


Winter American Avocet, Alternative A

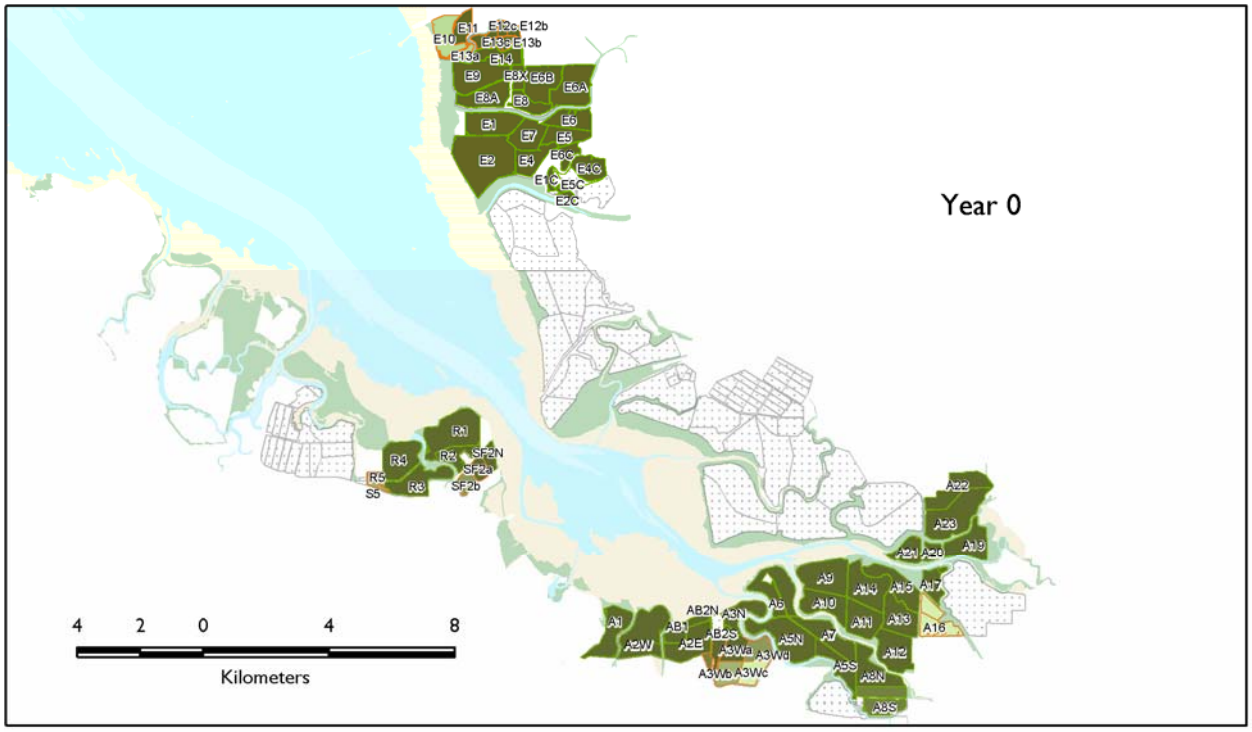


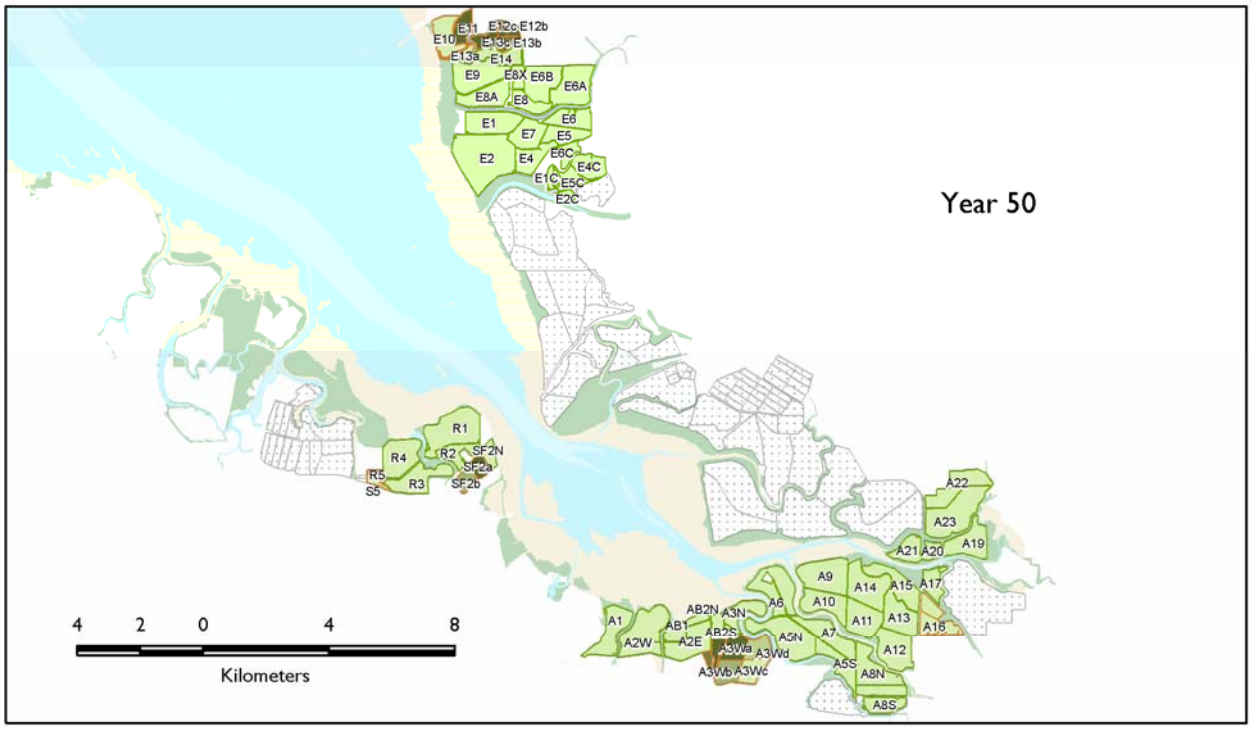
Winter American Avocet, Alternative B





Winter American Avocet, Alternative C





Legend

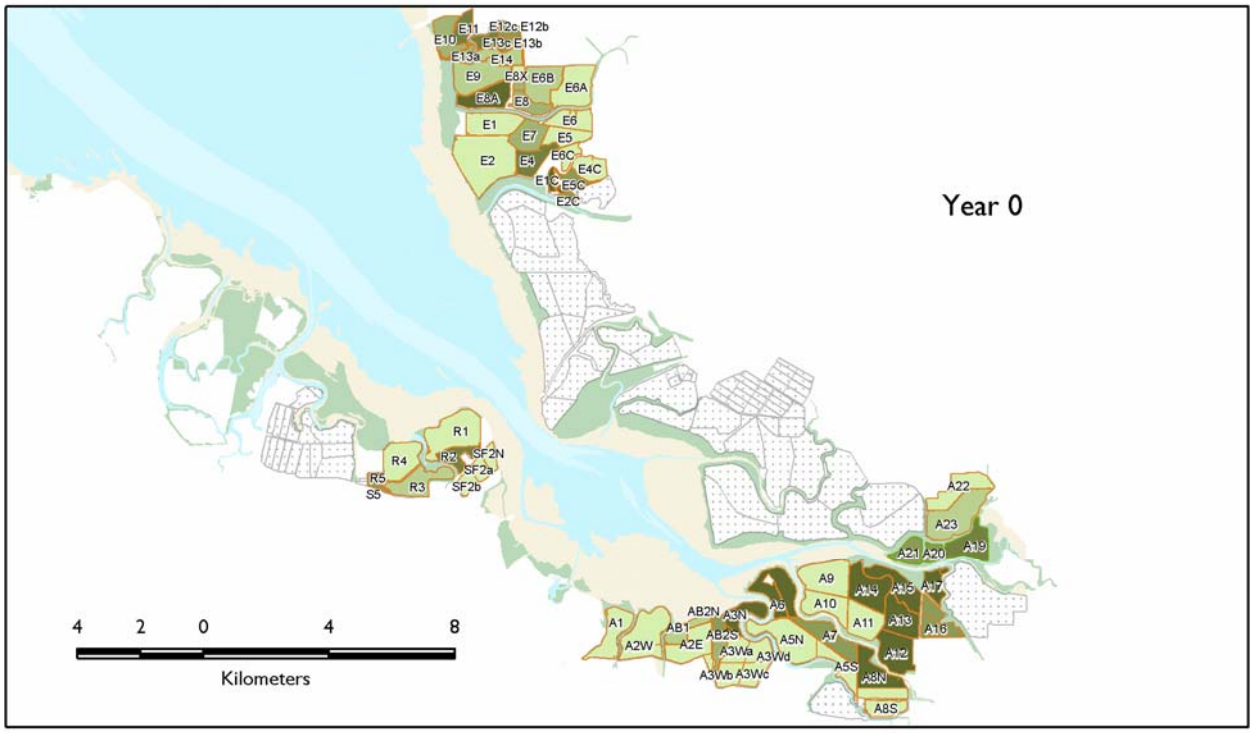
Bay
Other Pond
Tidal Marsh
Tidal Flat

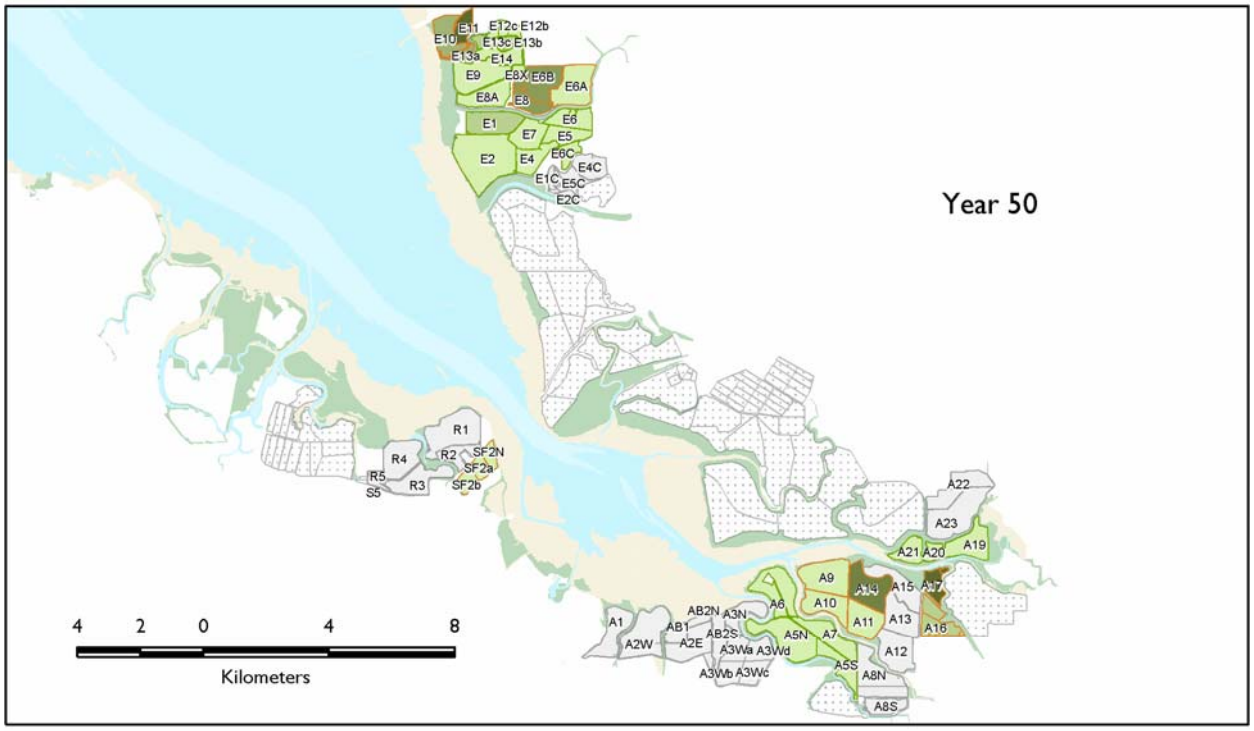
Habitat
Managed Pond
Tidal Marsh

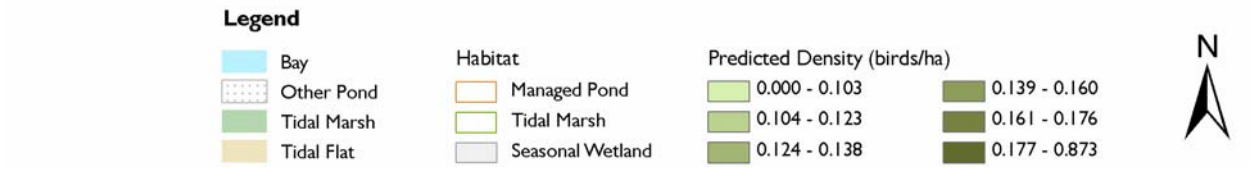
Predicted Density (birds/ha)
0.000 - 0.286
0.287 - 0.367
0.368 - 0.460
0.461 - 0.542
0.543 - 0.618
0.619 - 1.60

N

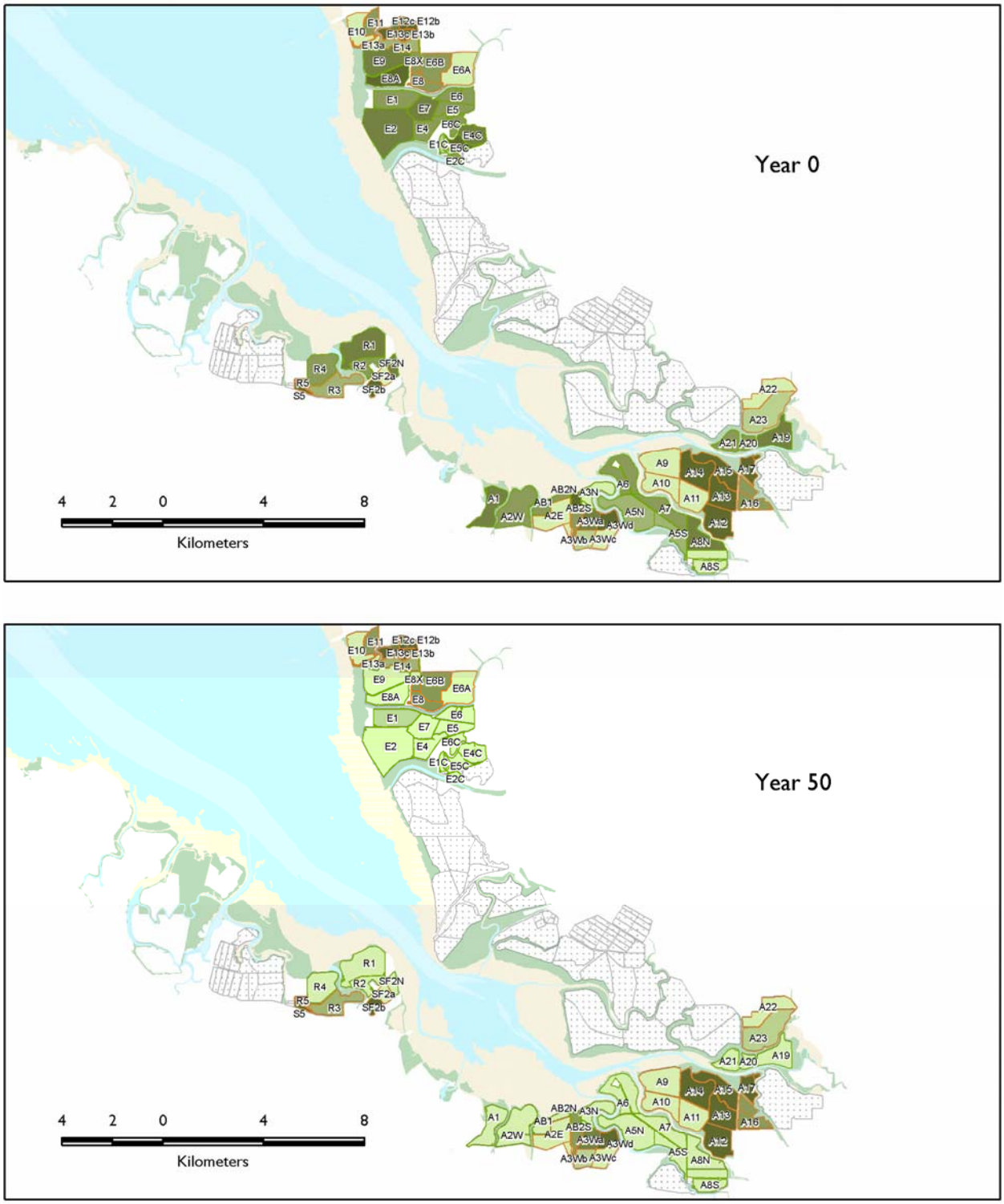
Winter Black-necked Stilt, Alternative A



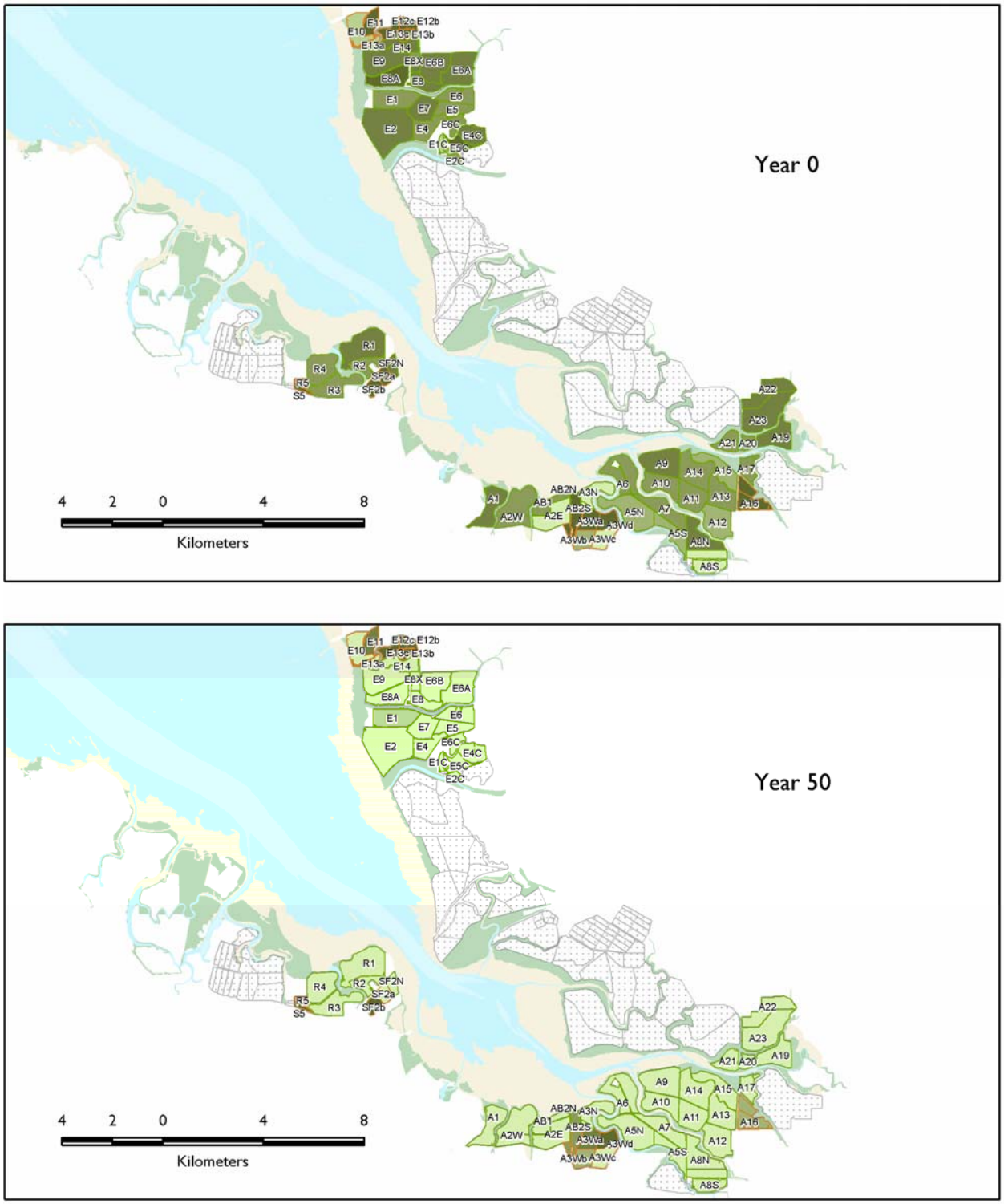




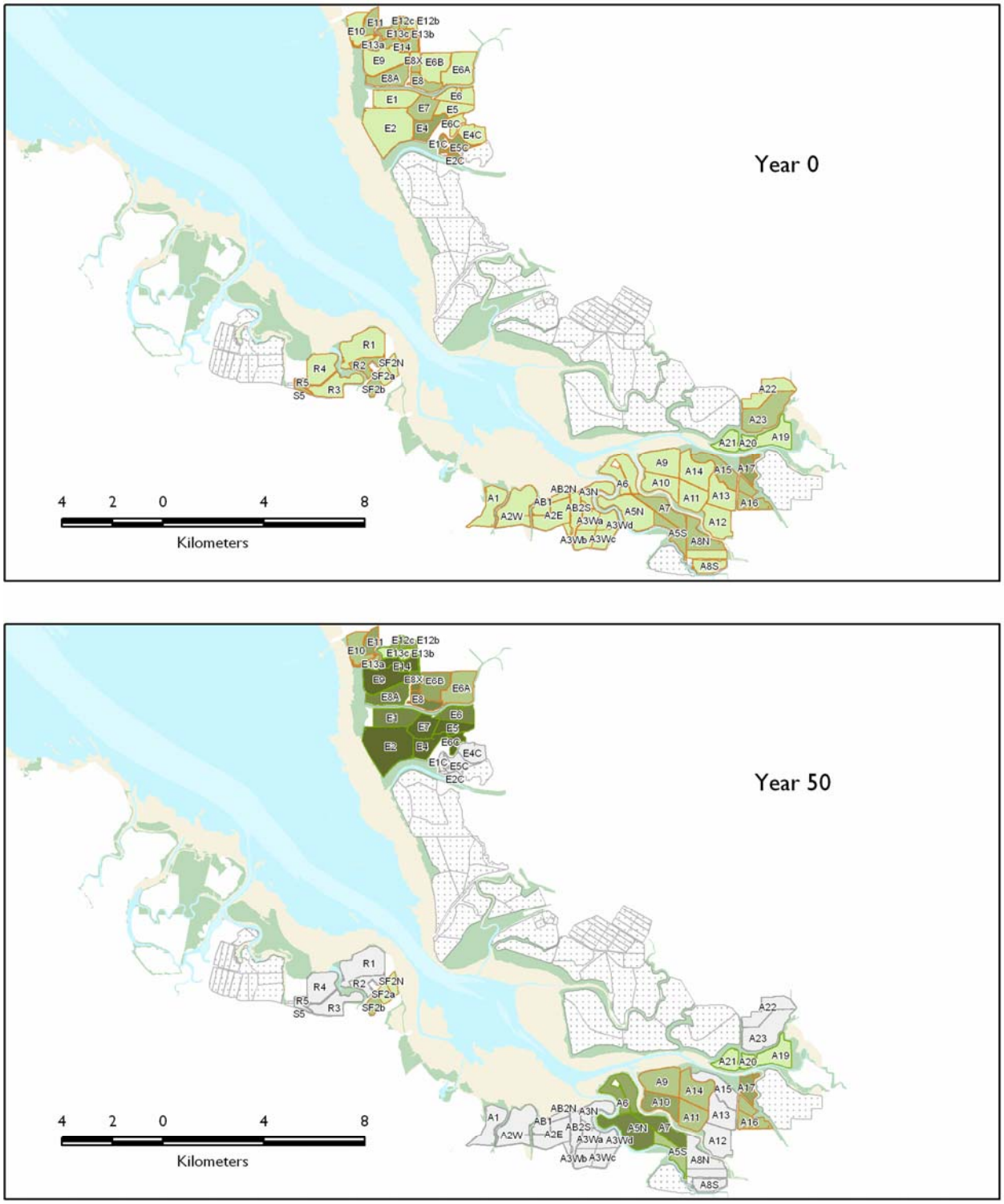
Winter Black-necked Stilt, Alternative B



Winter Black-necked Stilt, Alternative C



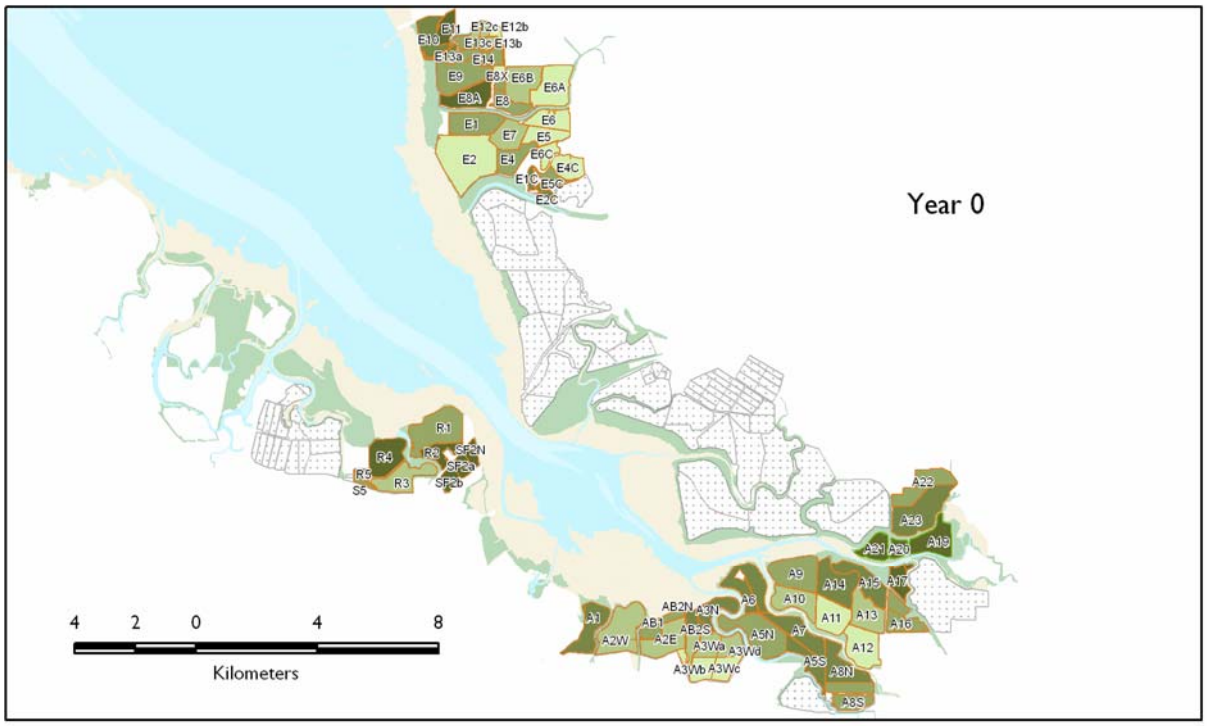
Winter Greater Yellowlegs, Alternative A

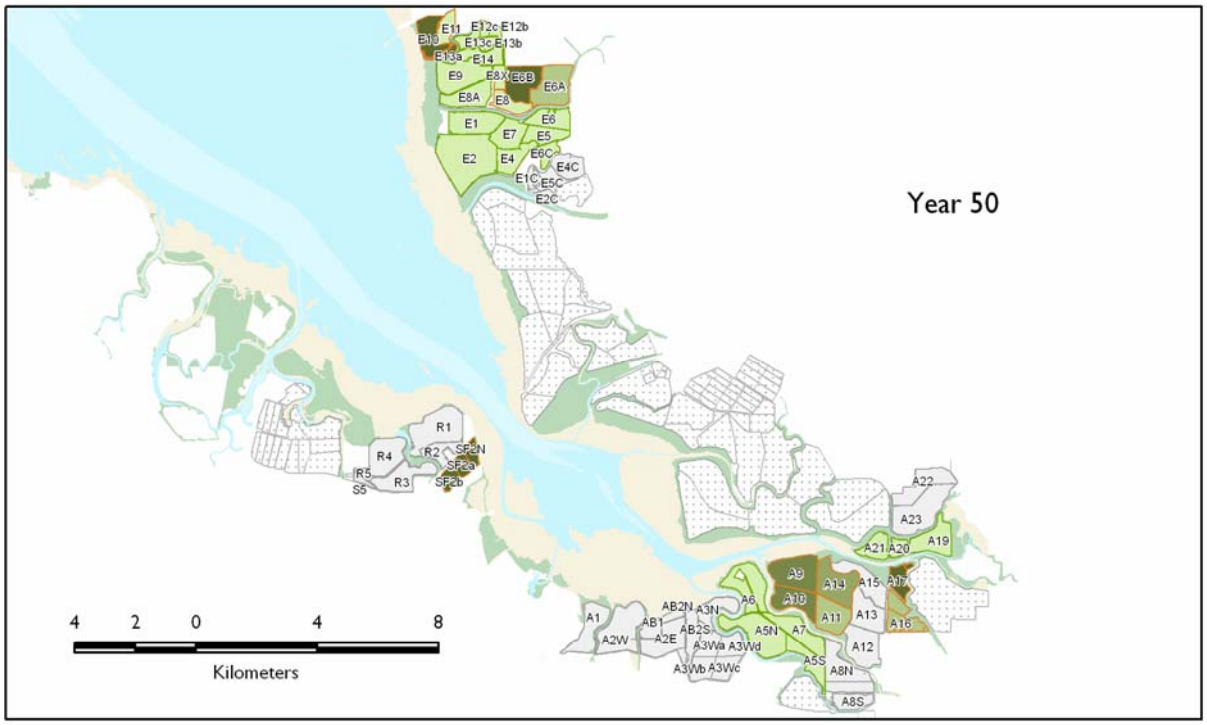


Winter Greater Yellowlegs, Alternative B

Winter Greater Yellowlegs, Alternative C

Winter Willet, Alternative A





Legend

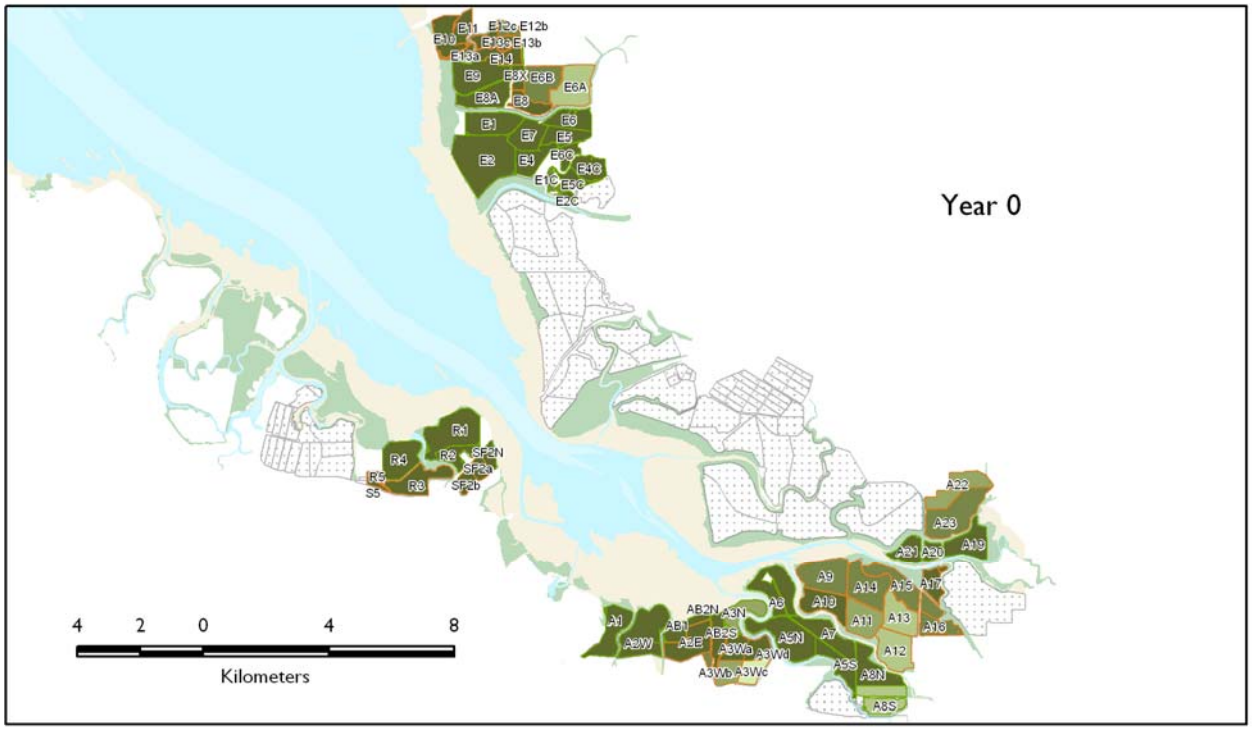
Bay
Other Pond
Tidal Marsh
Tidal Flat

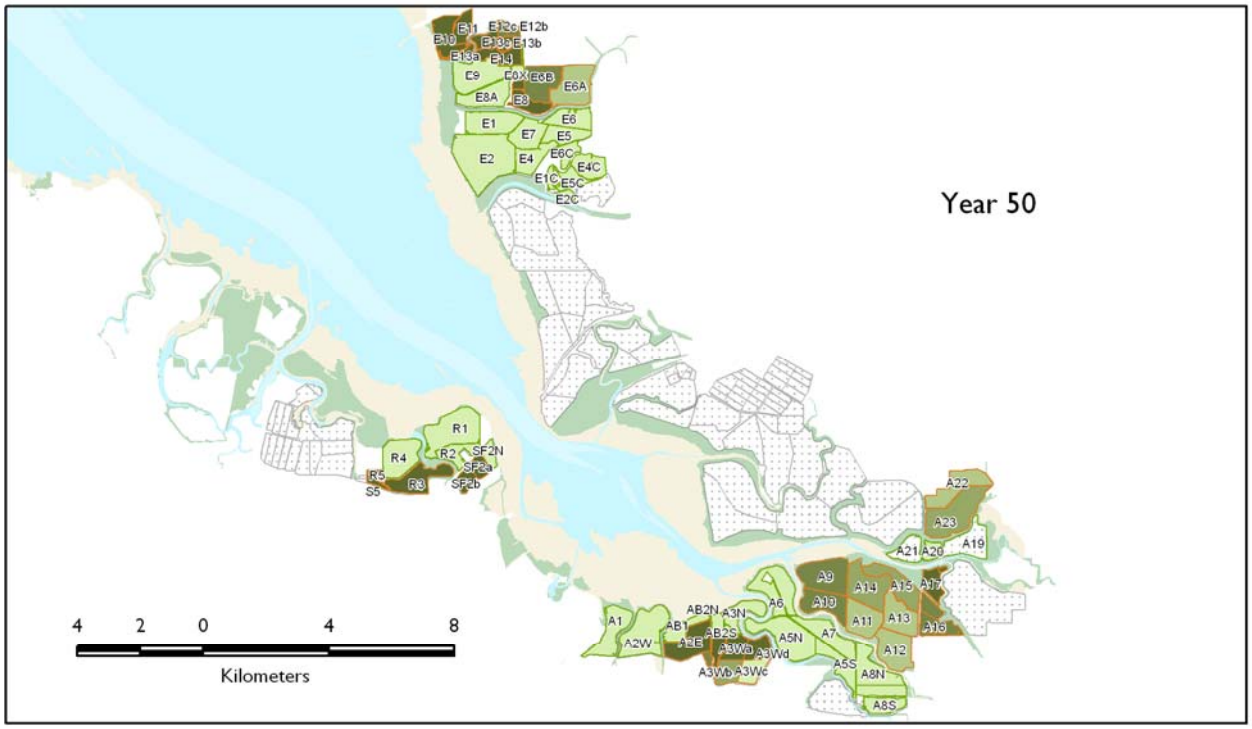
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

Predicted Density (birds/ha)
0.00830 - 0.126
0.127 - 0.215
0.216 - 0.291
0.292 - 0.407
0.408 - 0.543

N

Winter Willet, Alternative B





Legend

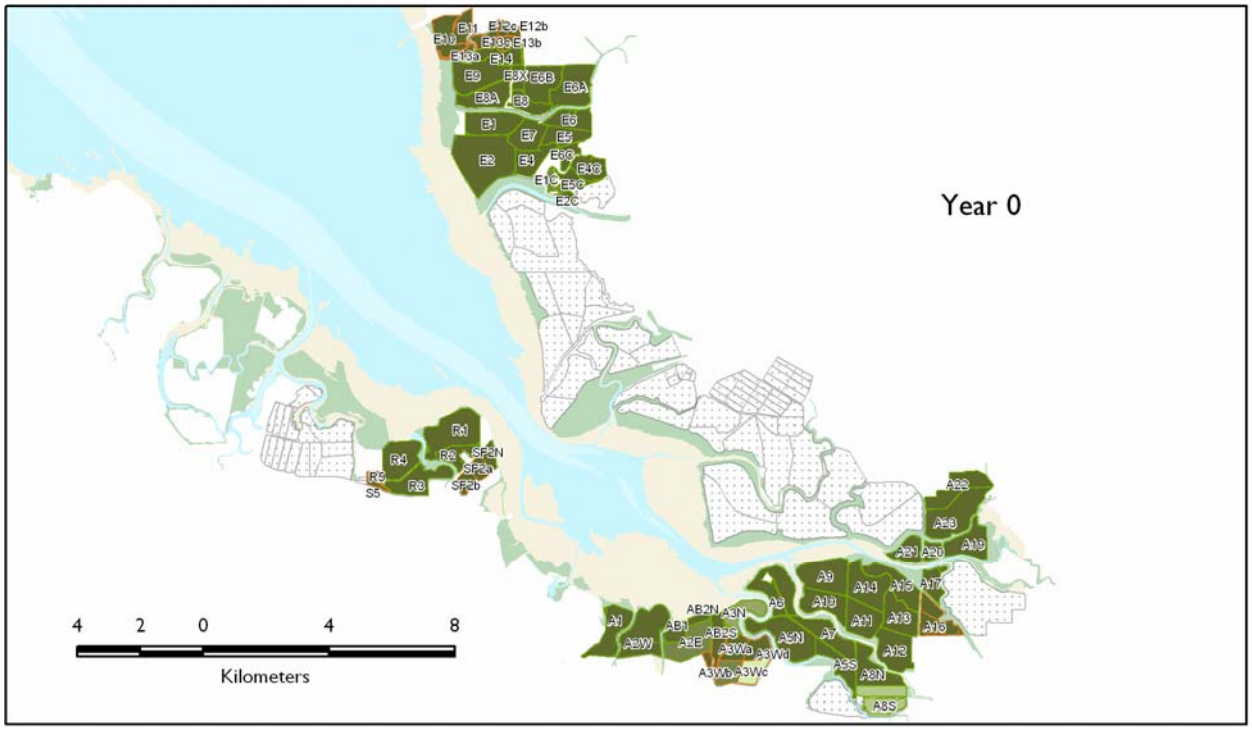
Bay
Other Pond
Tidal Marsh
Tidal Flat

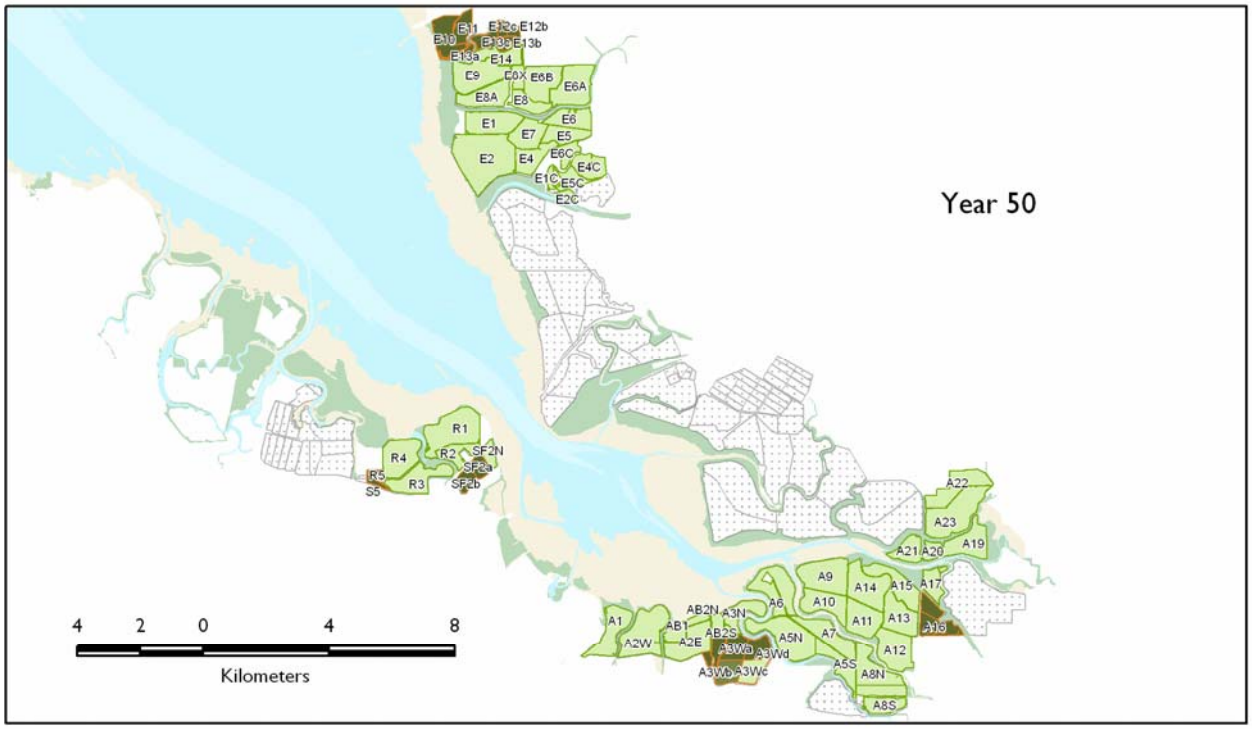
Habitat
Managed Pond
Tidal Marsh

Predicted Density (birds/ha)
0.00830 - 0.126
0.127 - 0.215
0.216 - 0.291
0.292 - 0.407
0.408 - 1.00

N

Winter Willet, Alternative C





Legend

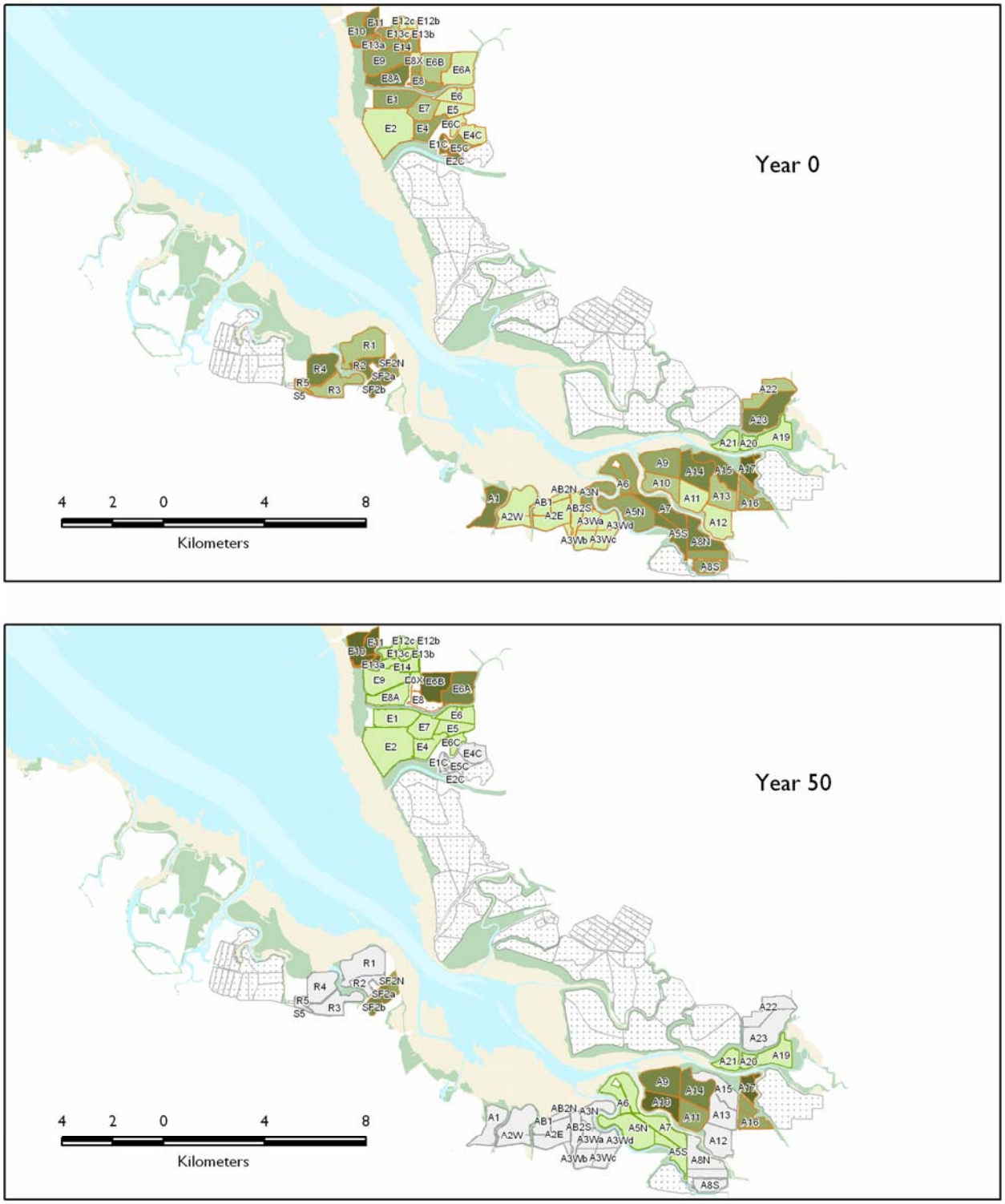
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

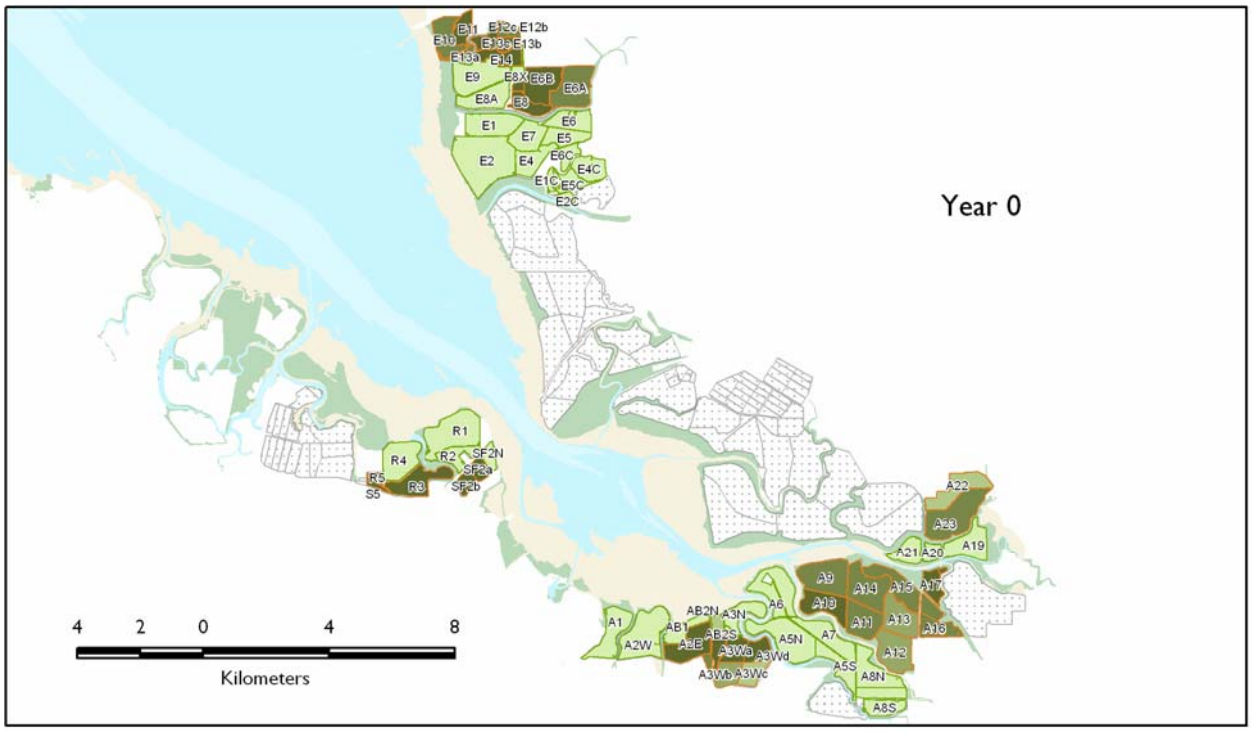
Predicted Density (birds/ha)
0.00830 - 0.126
0.127 - 0.215
0.216 - 0.291
0.292 - 0.407
0.408 - 1.00

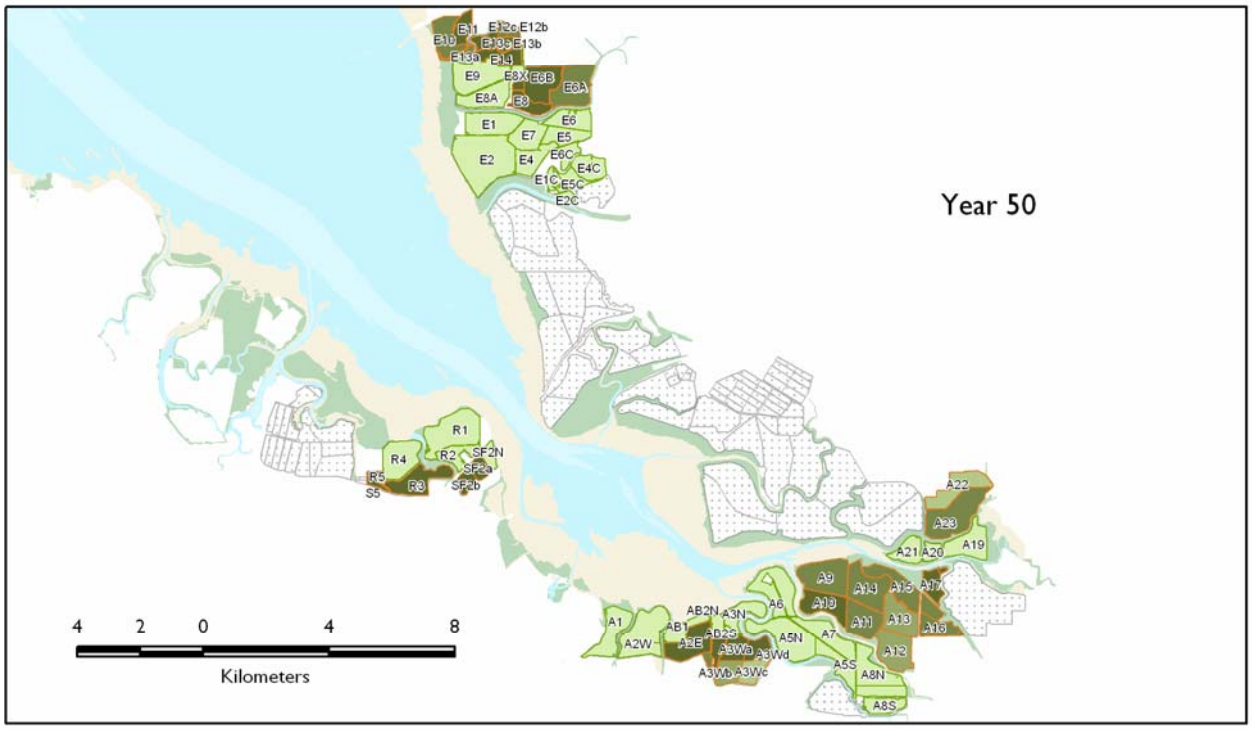
N

Fall Willet, Alternative A



Fall Willet, Alternative B





Legend

Bay
Other Pond
Tidal Marsh
Tidal Flat

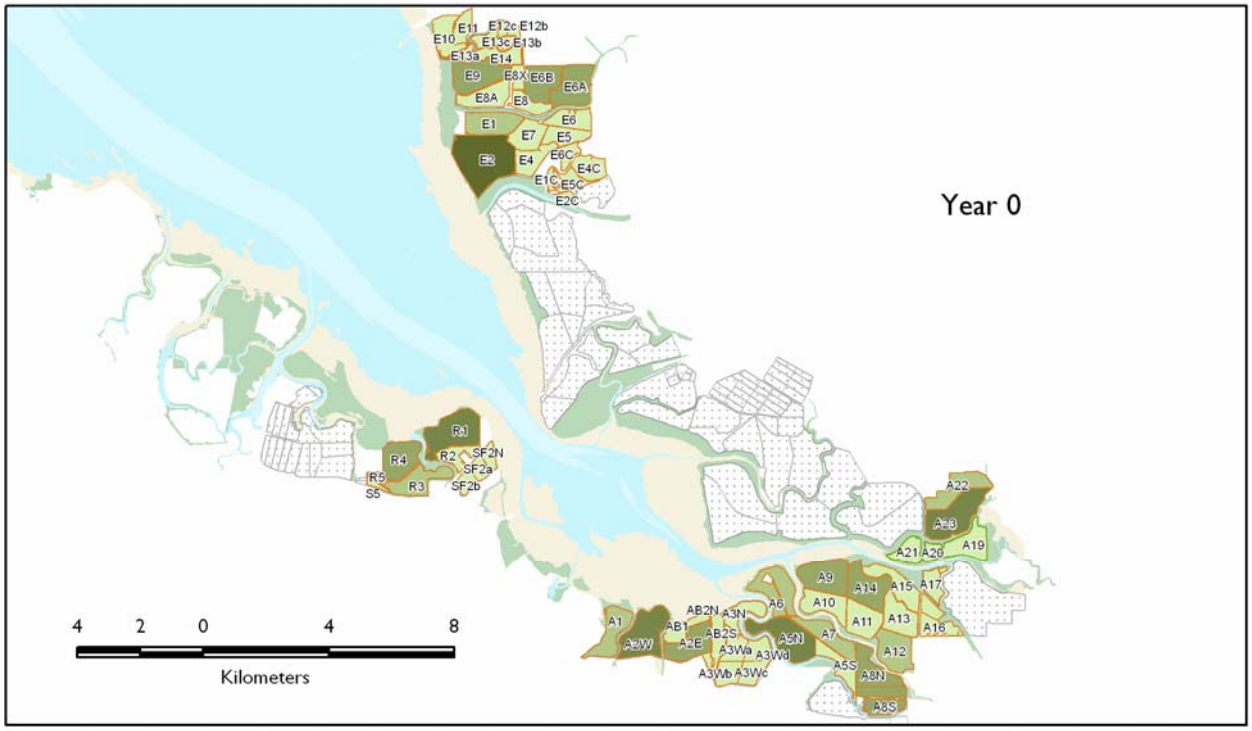
Habitat
Managed Pond
Tidal Marsh

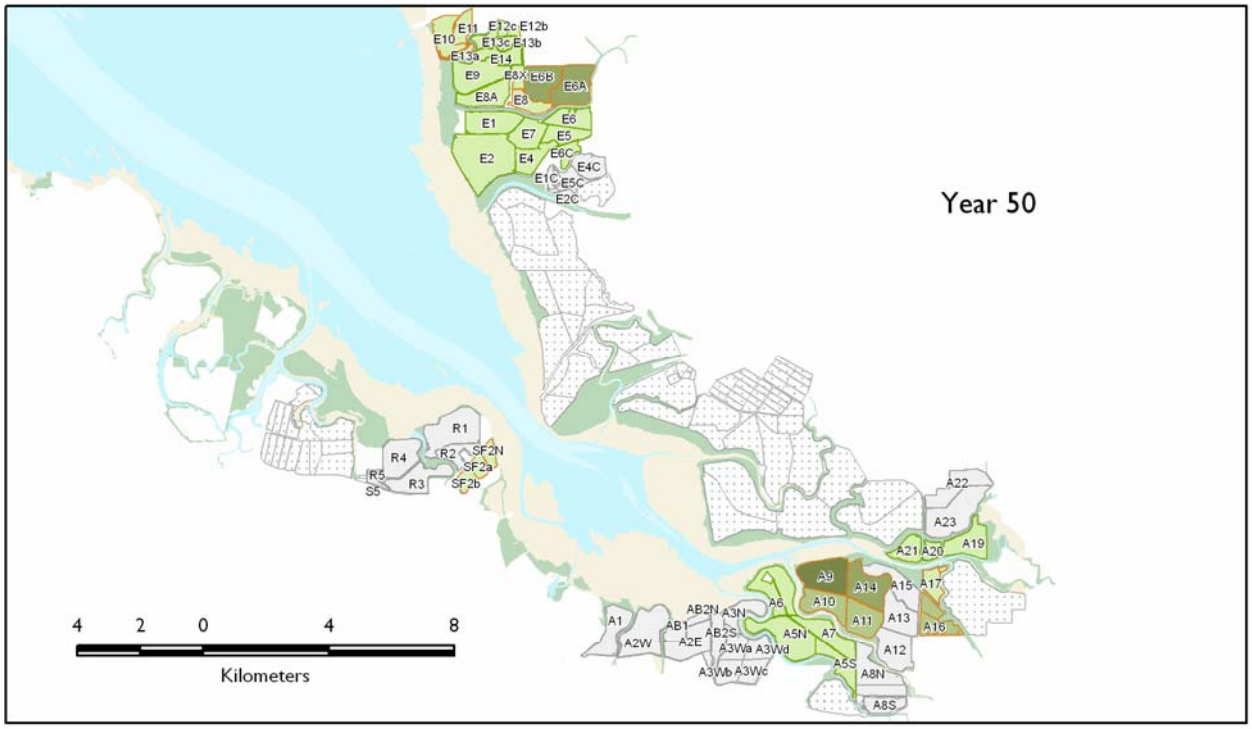
Predicted Density (birds/ha)
0.000 - 0.101
0.102 - 0.265
0.266 - 0.521
0.522 - 0.961
0.962 - 2.50

N

Fall Willet, Alternative C

Fall Red-necked Phalarope, Alternative A





Legend

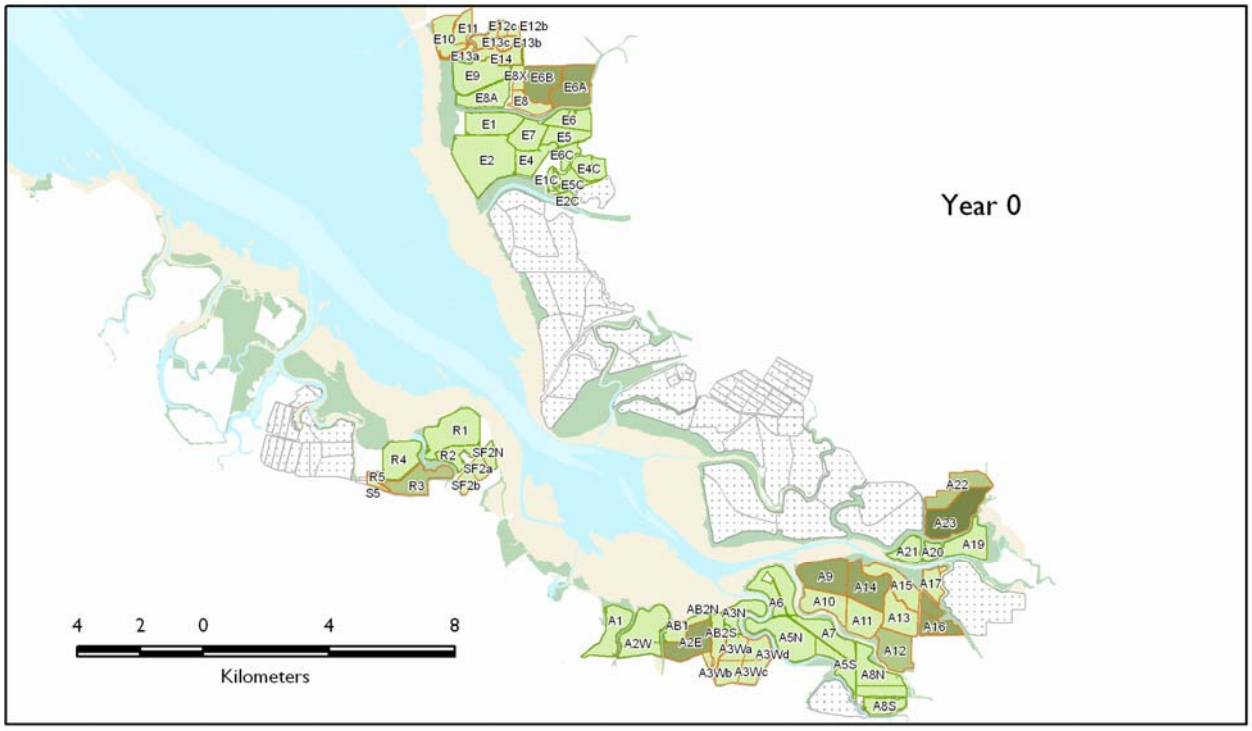
Bay
Other Pond
Tidal Marsh
Tidal Flat

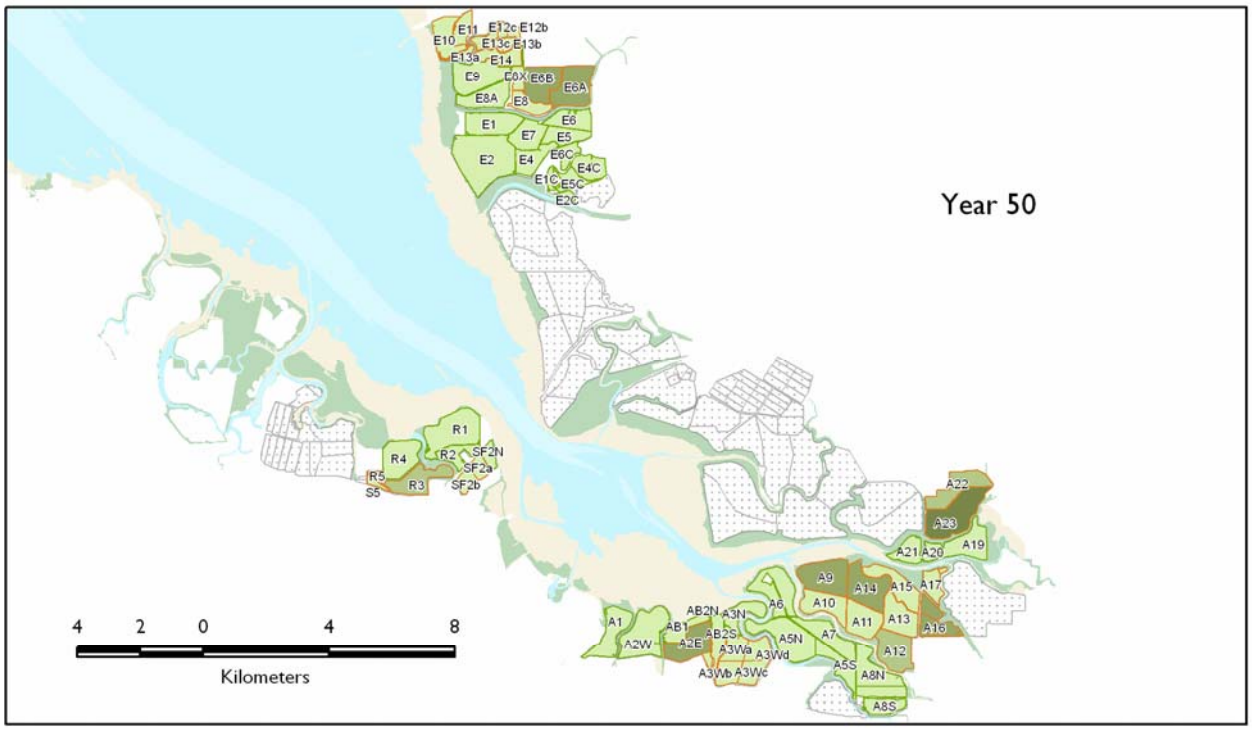
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

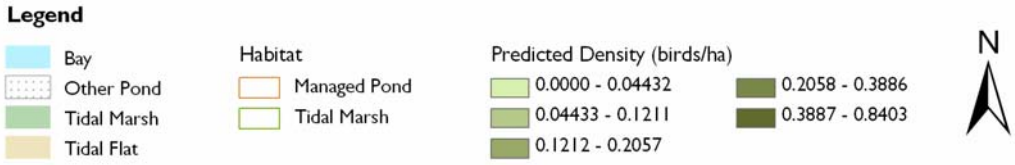
Predicted Density (birds/ha)
0.0000 - 0.04432
0.04433 - 0.1211
0.1212 - 0.2057
0.2058 - 0.3886
0.3887 - 0.8403

N

Fall Red-necked Phalarope, Alternative B

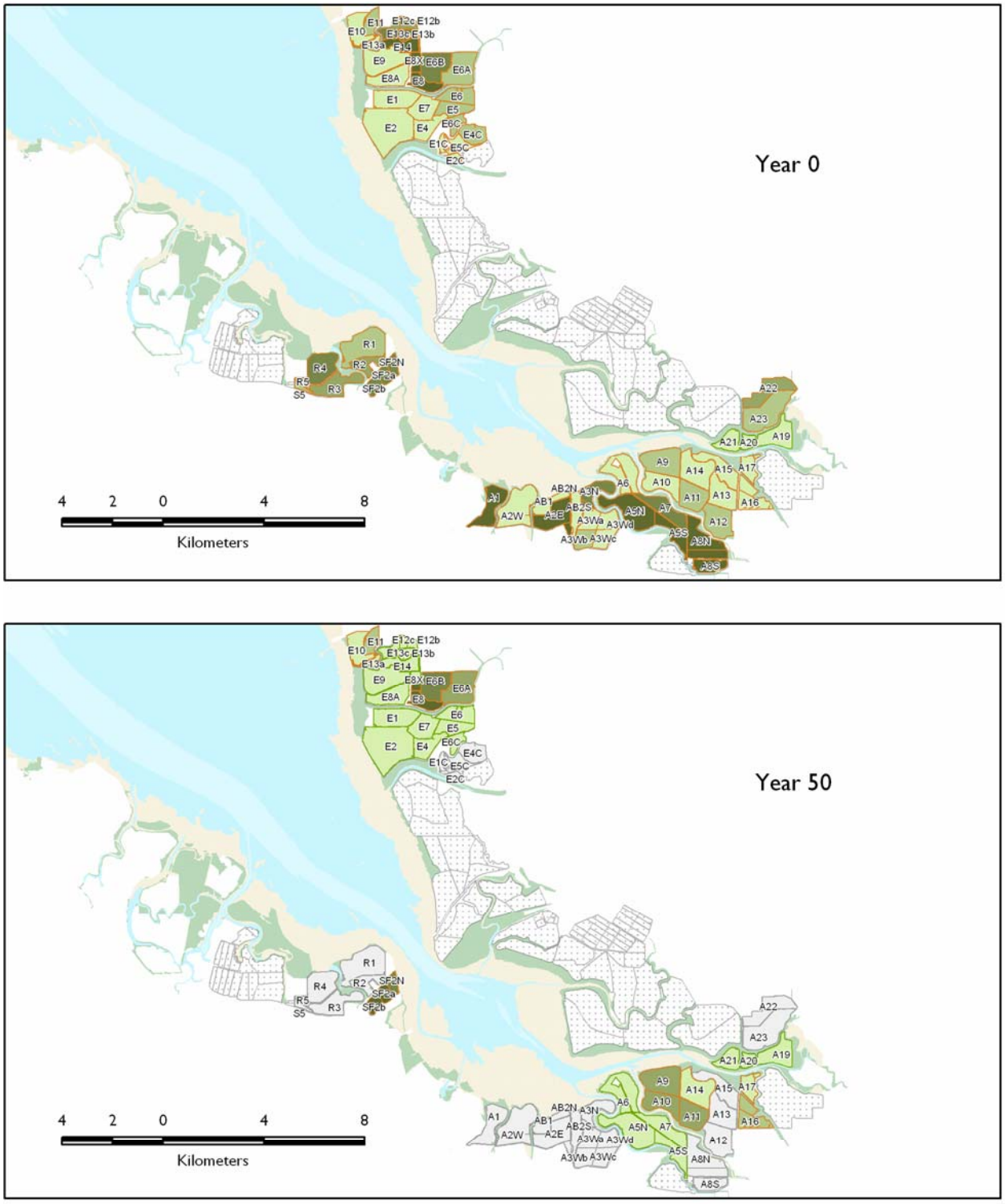




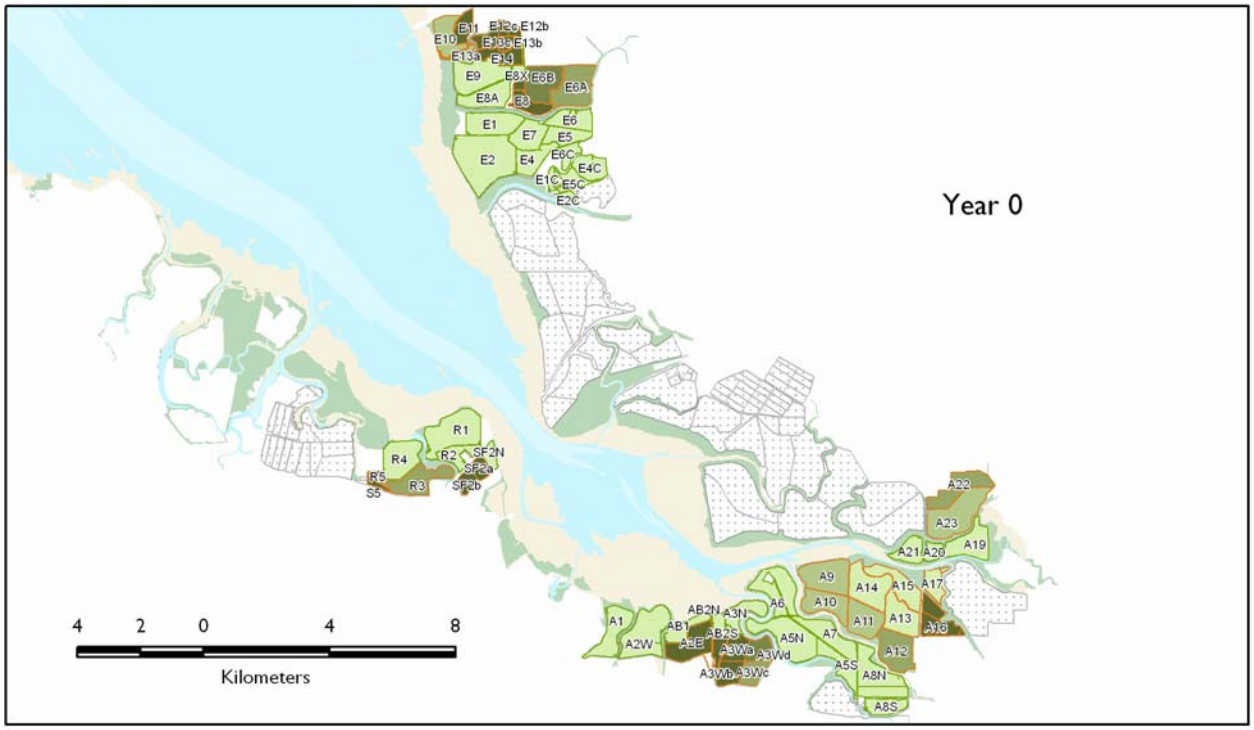


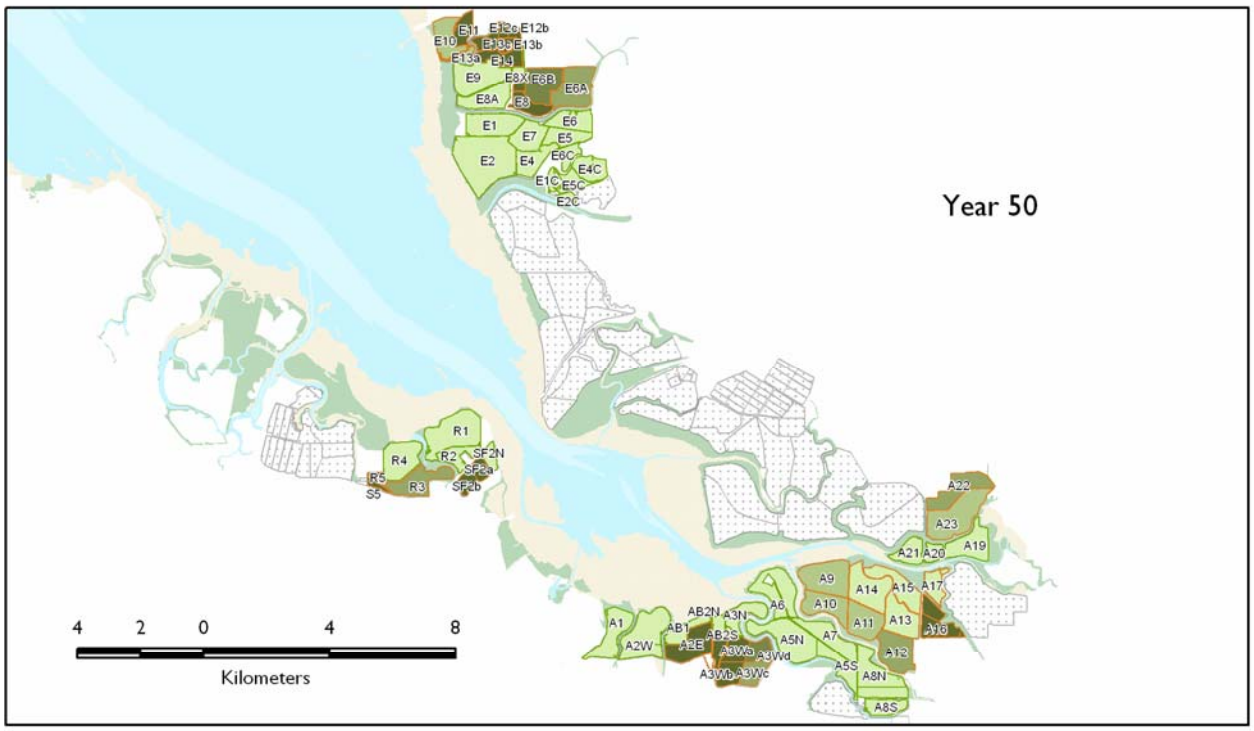
Fall Red-necked Phalarope, Alternative C

Fall Wilson's Phalarope, Alternative A



Fall Wilson's Phalarope, Alternative B





Legend

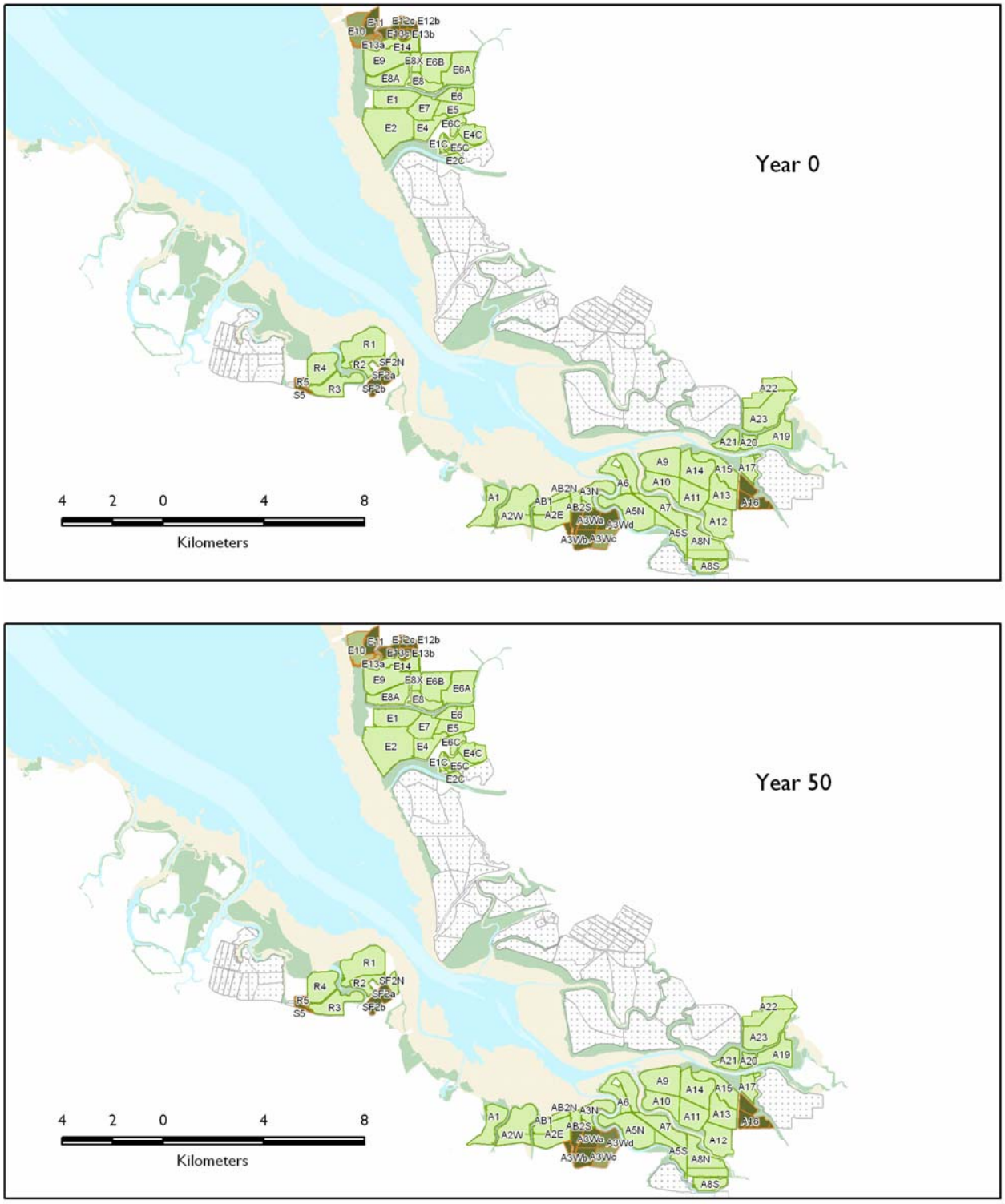
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

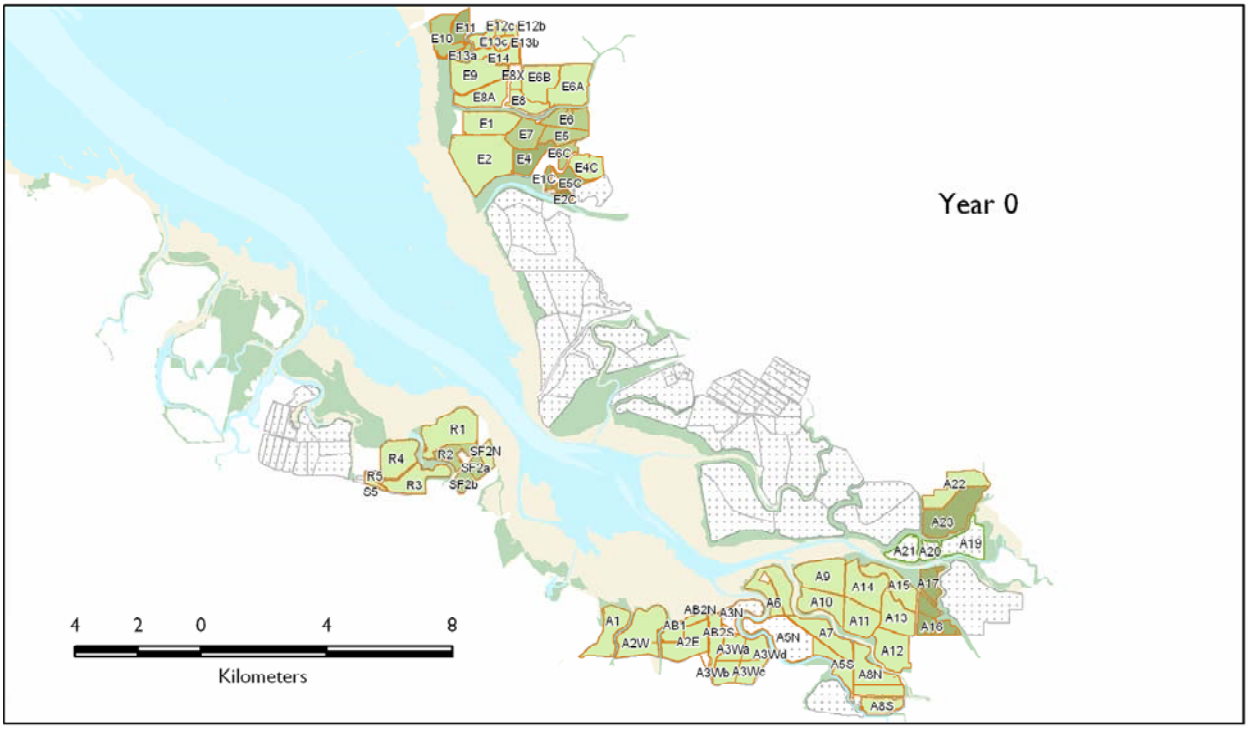
Predicted Density (birds/ha)
0.0000 - 0.01241
0.01242 - 0.03394
0.03395 - 0.09879
0.09880 - 0.1844
0.1845 - 0.3455

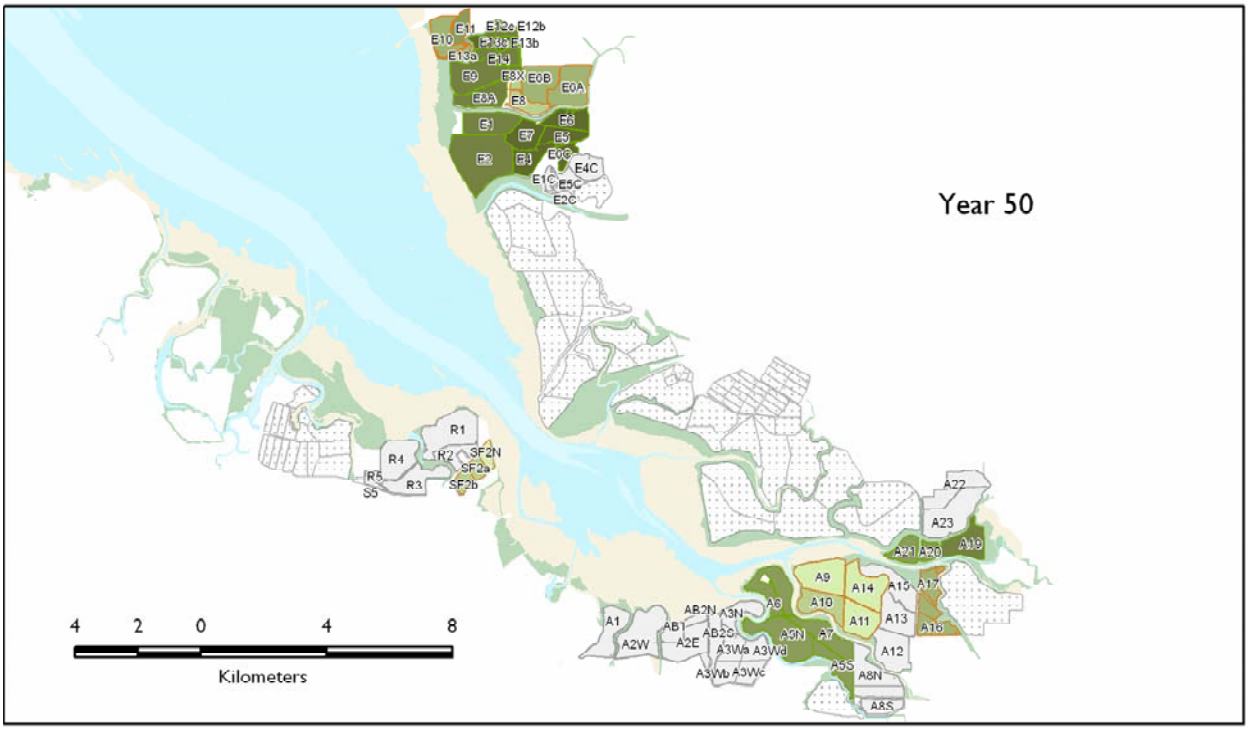
N

Fall Wilson's Phalarope, Alternative C



Winter Gadwall, Alternative A





Legend

Bay
Other Pond
Tidal Marsh
Tidal Flat

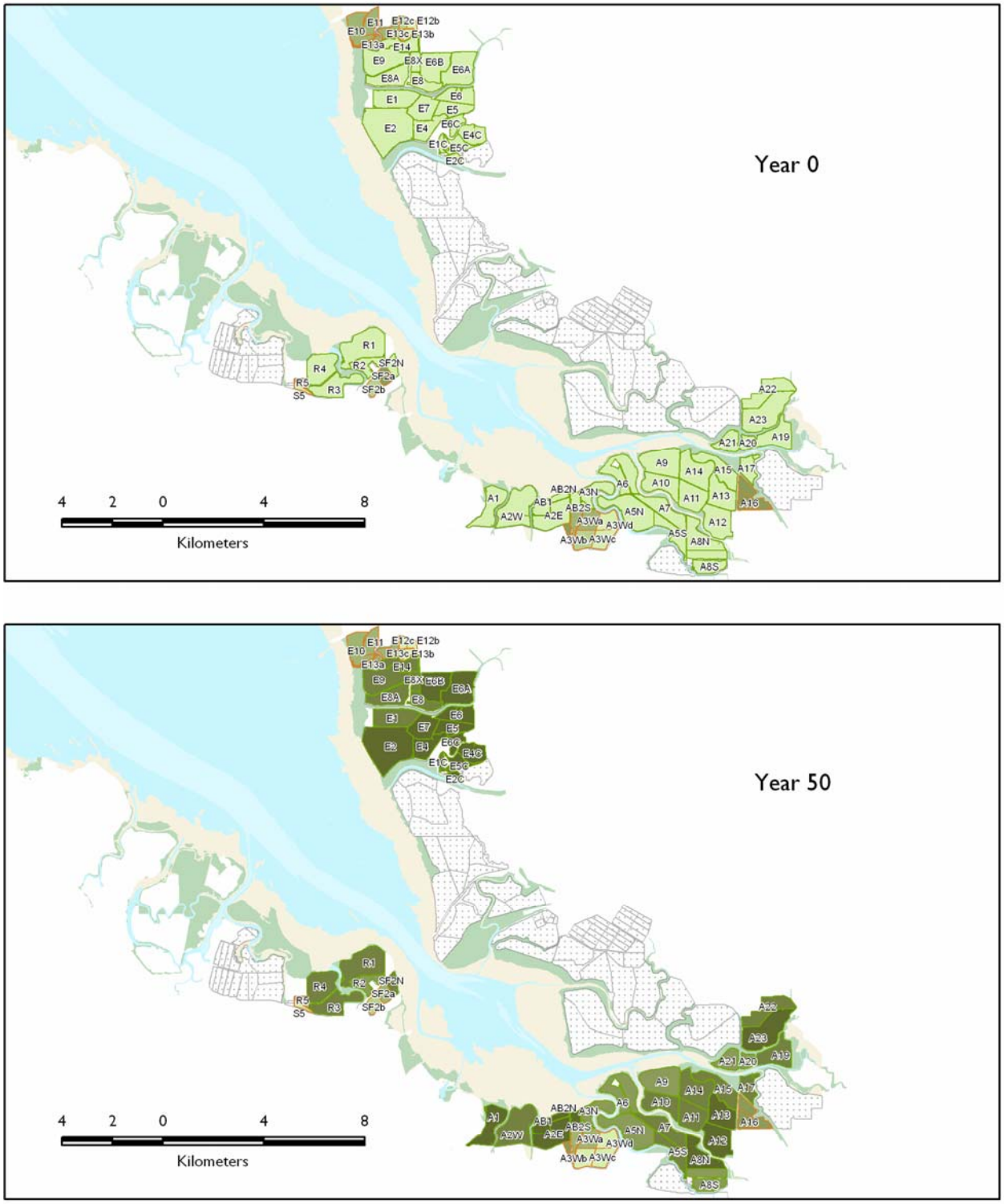
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

Predicted Density (birds/ha)
0.00480 - 0.00876
0.00877 - 0.0102
0.0103 - 0.0120
0.0121 - 0.0831
0.0832 - 0.130
0.131 - 0.193

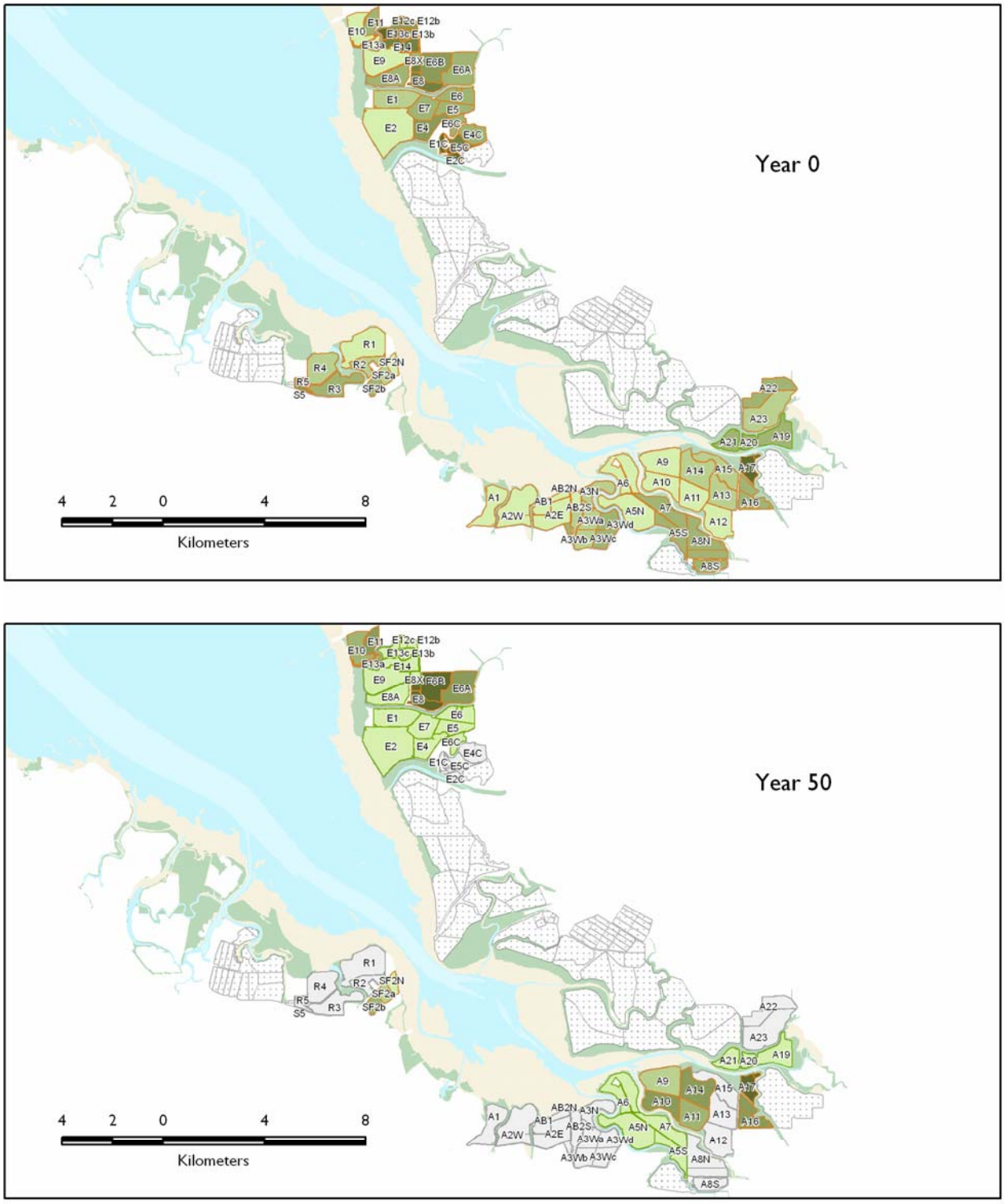
N

Winter Gadwall, Alternative B

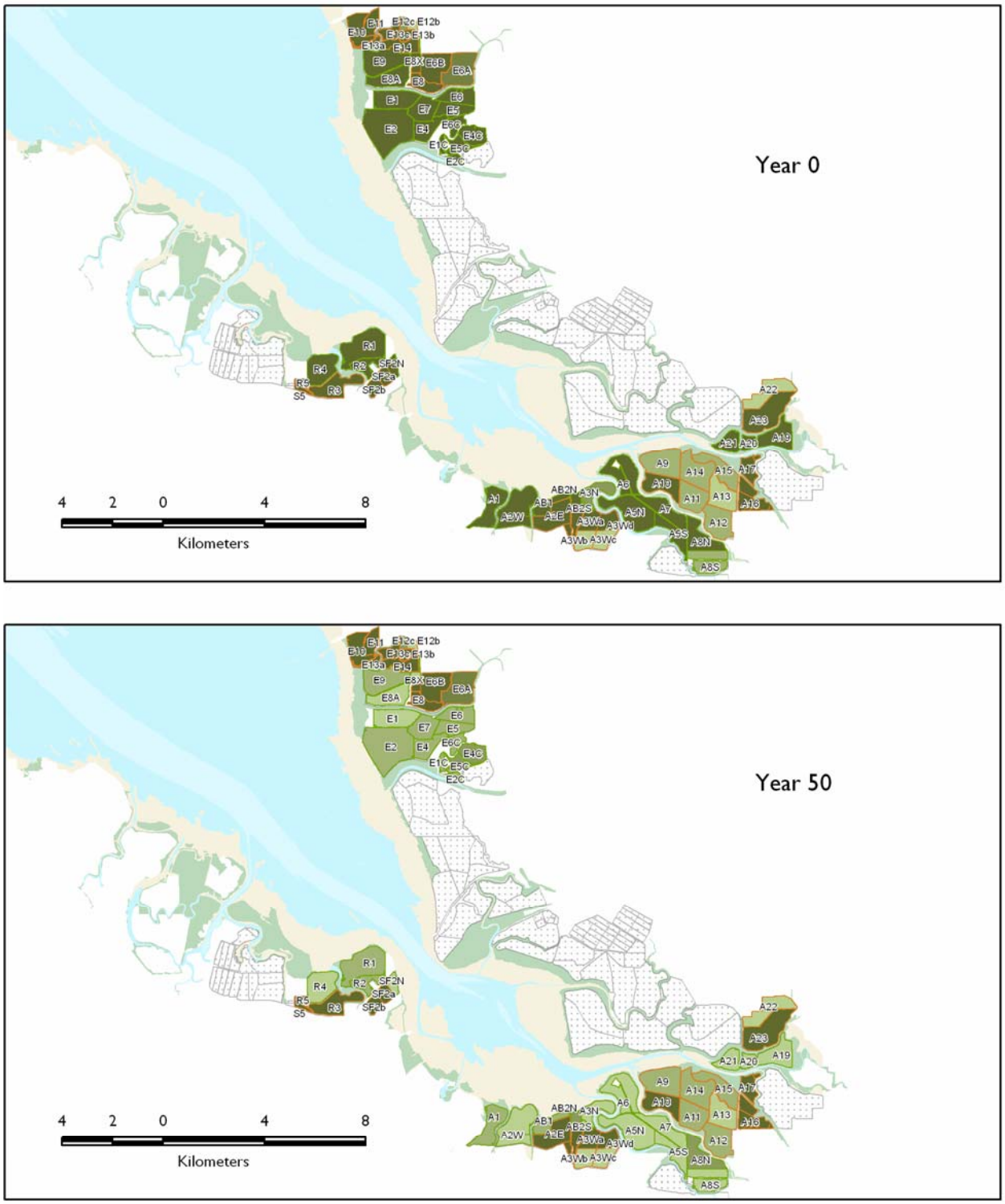
Winter Gadwall, Alternative C



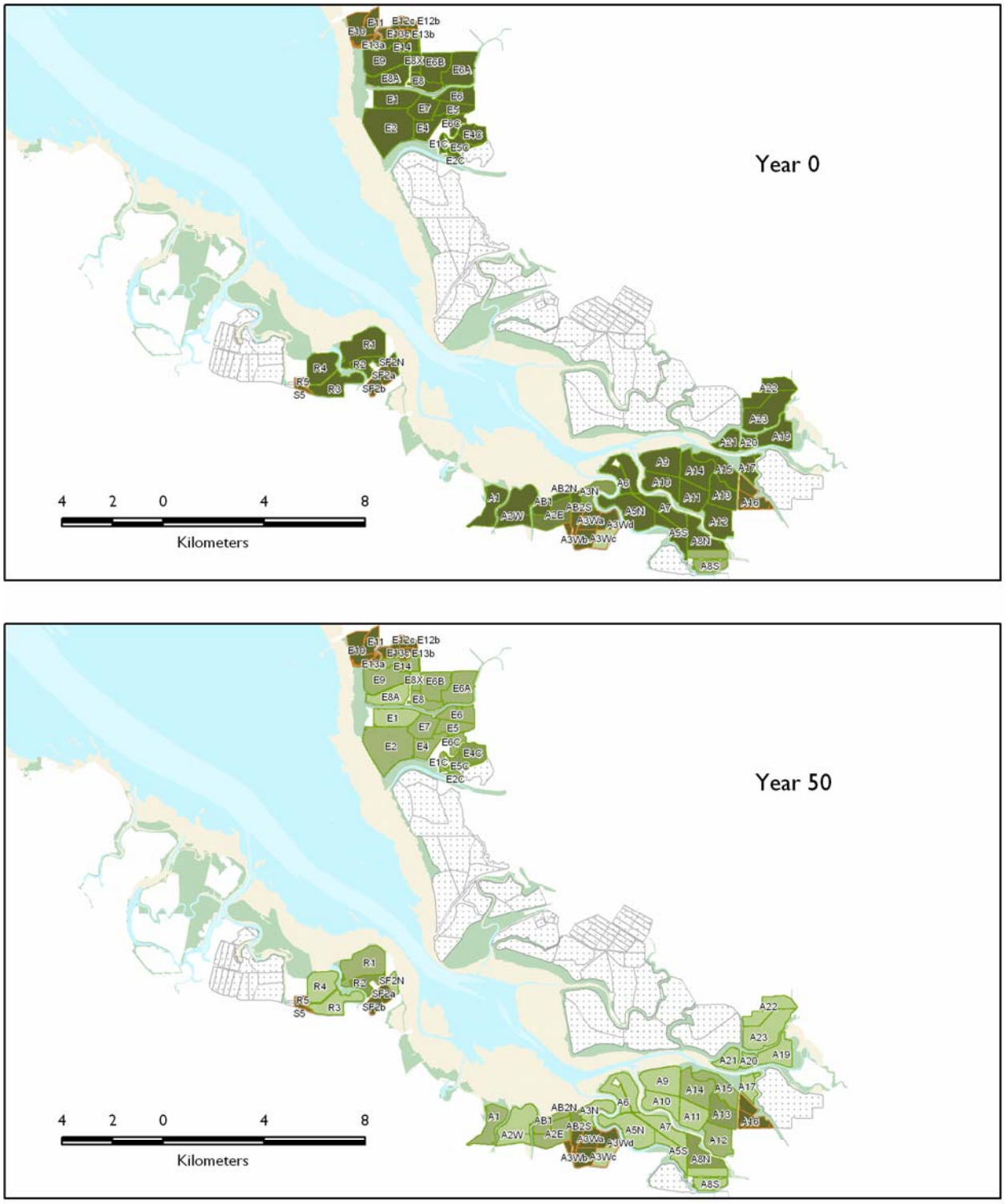
Winter Mallard, Alternative A



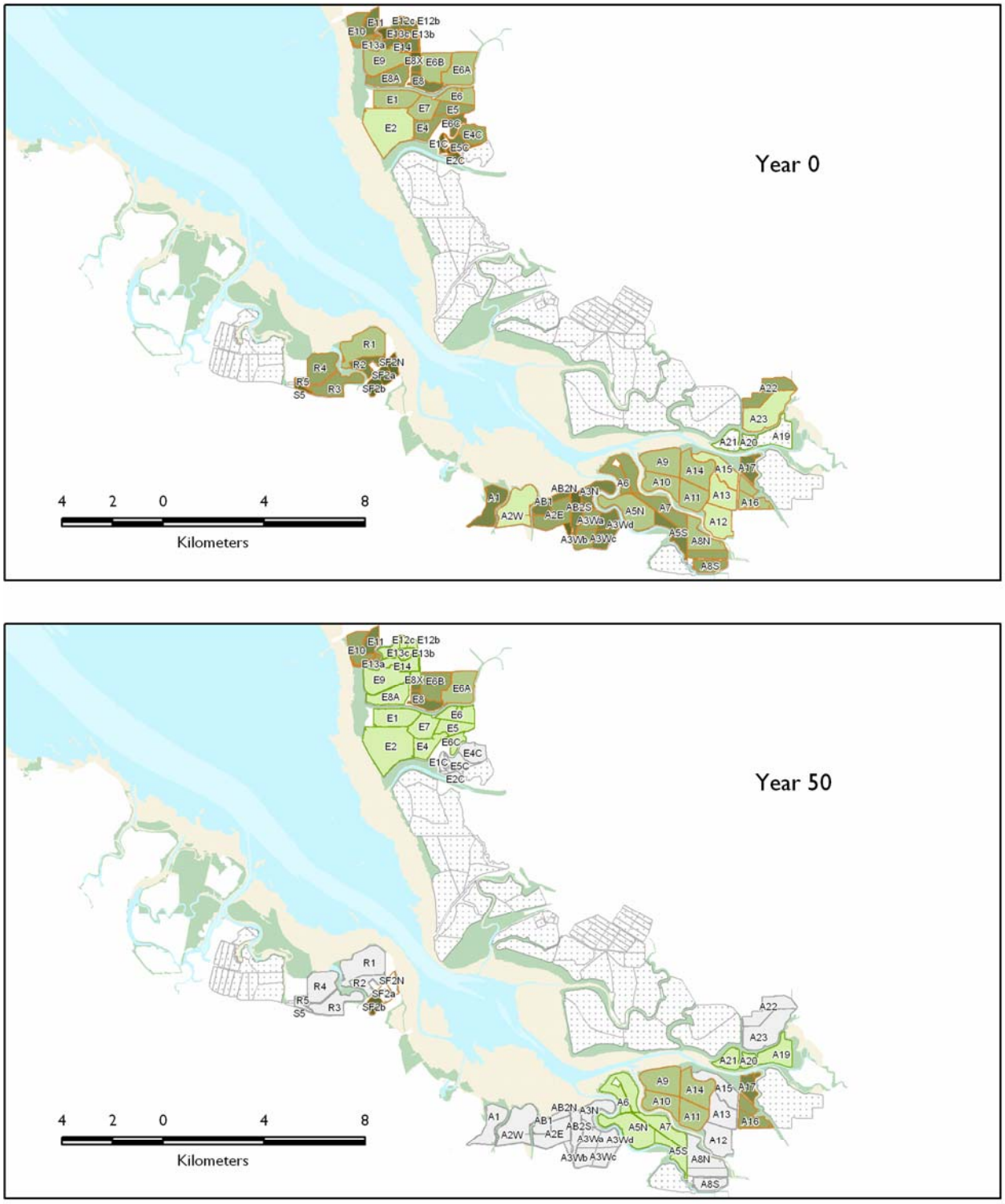
Winter Mallard, Alternative B



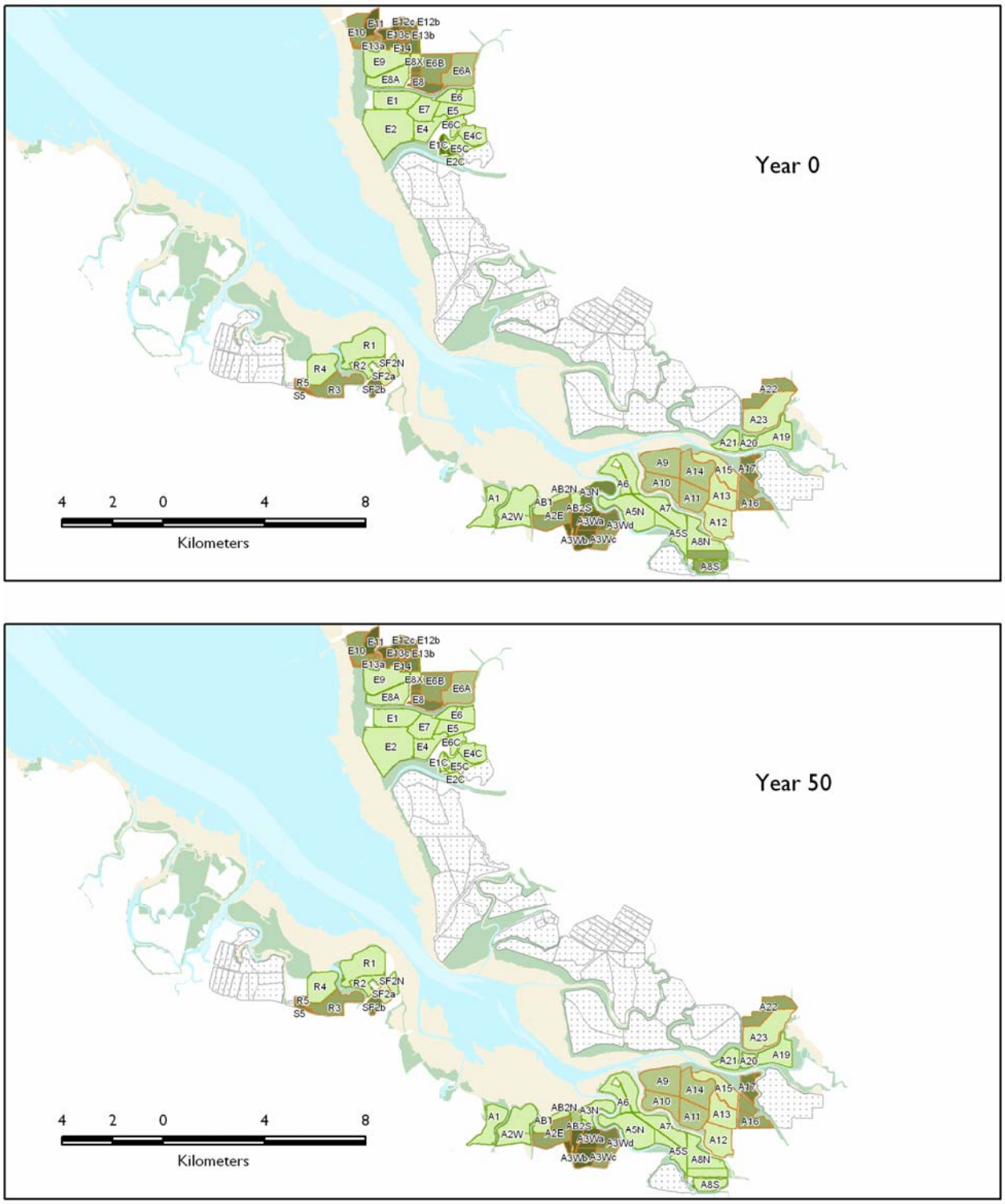
Winter Mallard, Alternative C



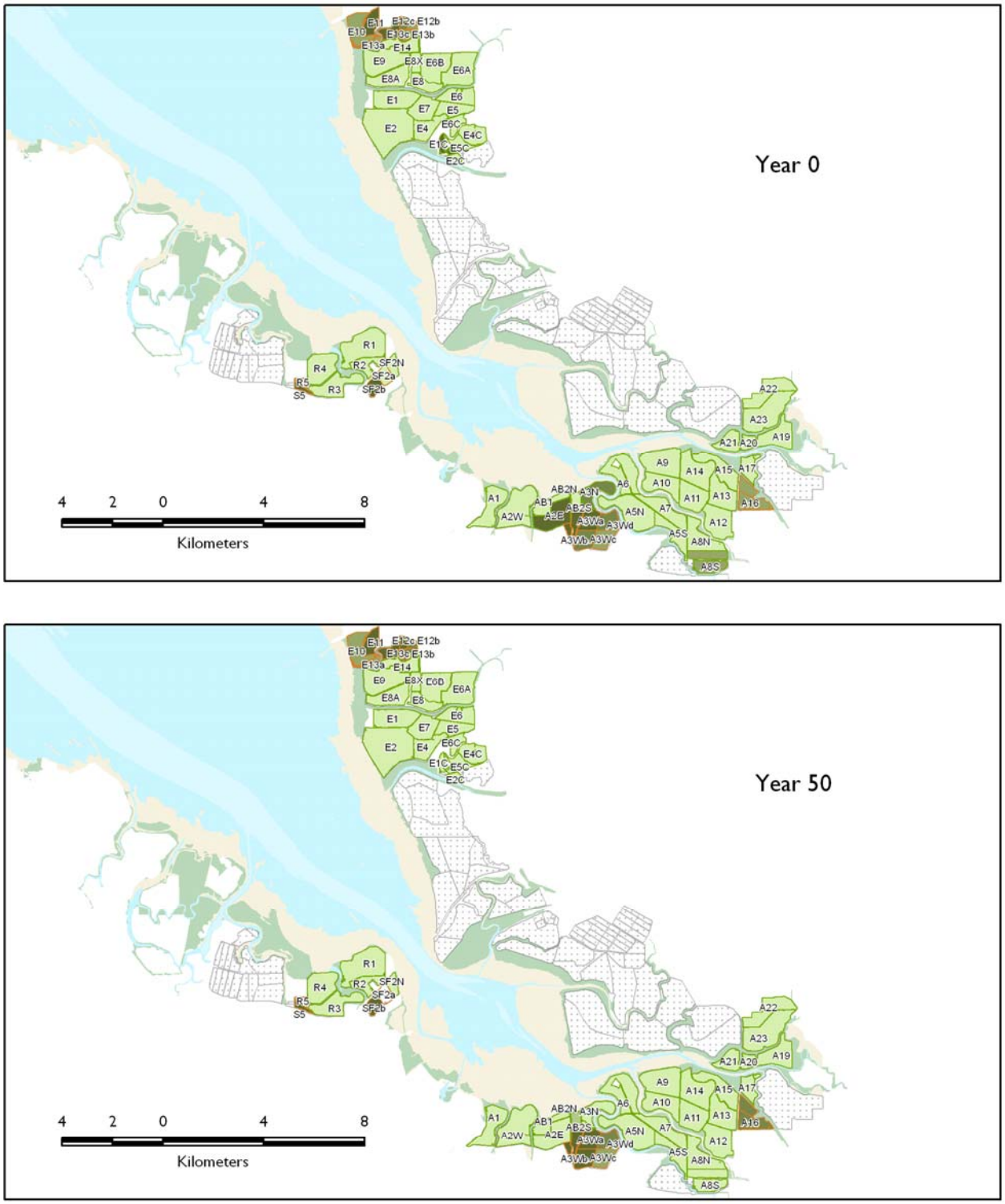
Winter Northern Pintail, Alternative A



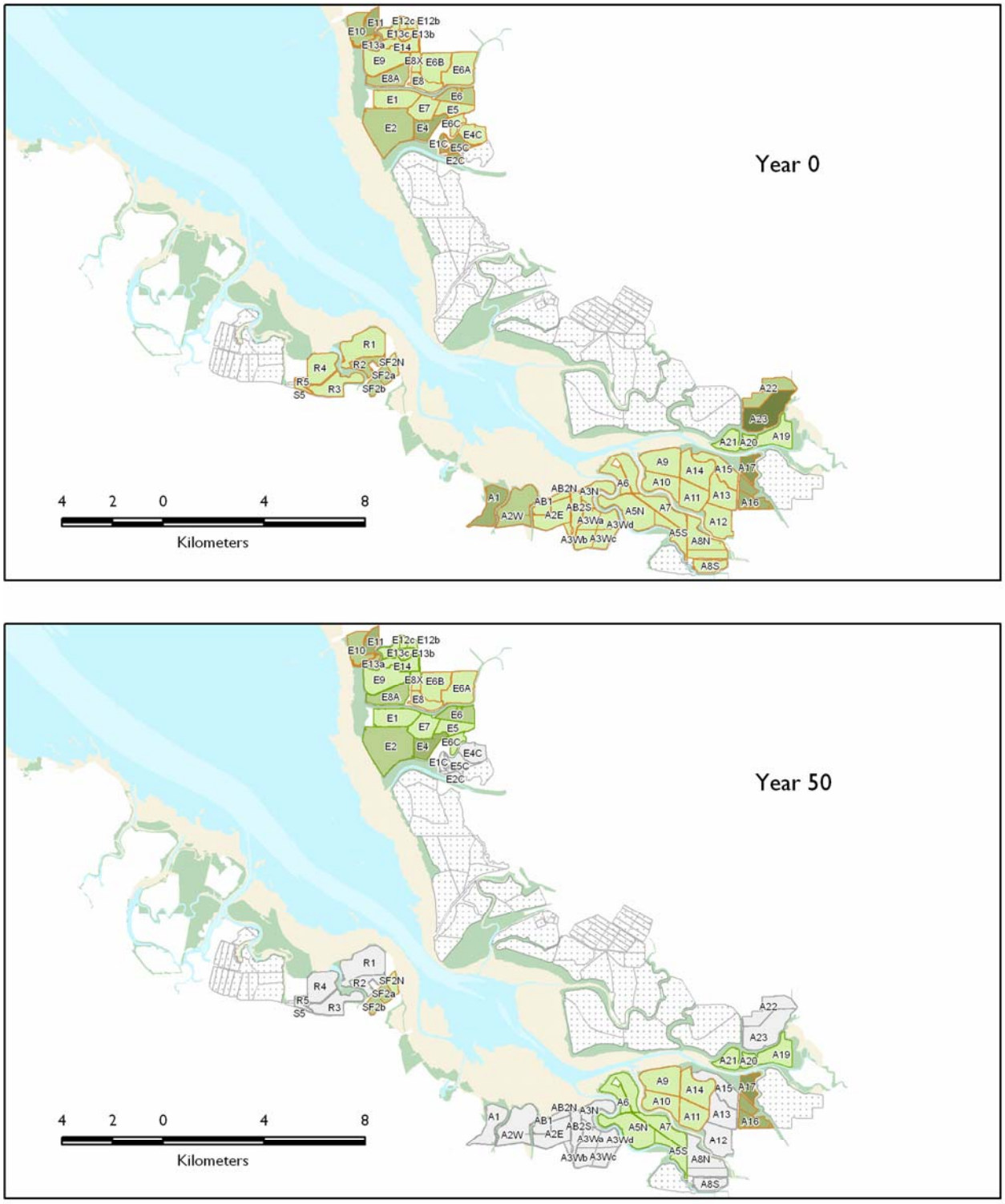
Winter Northern Pintail, Alternative B



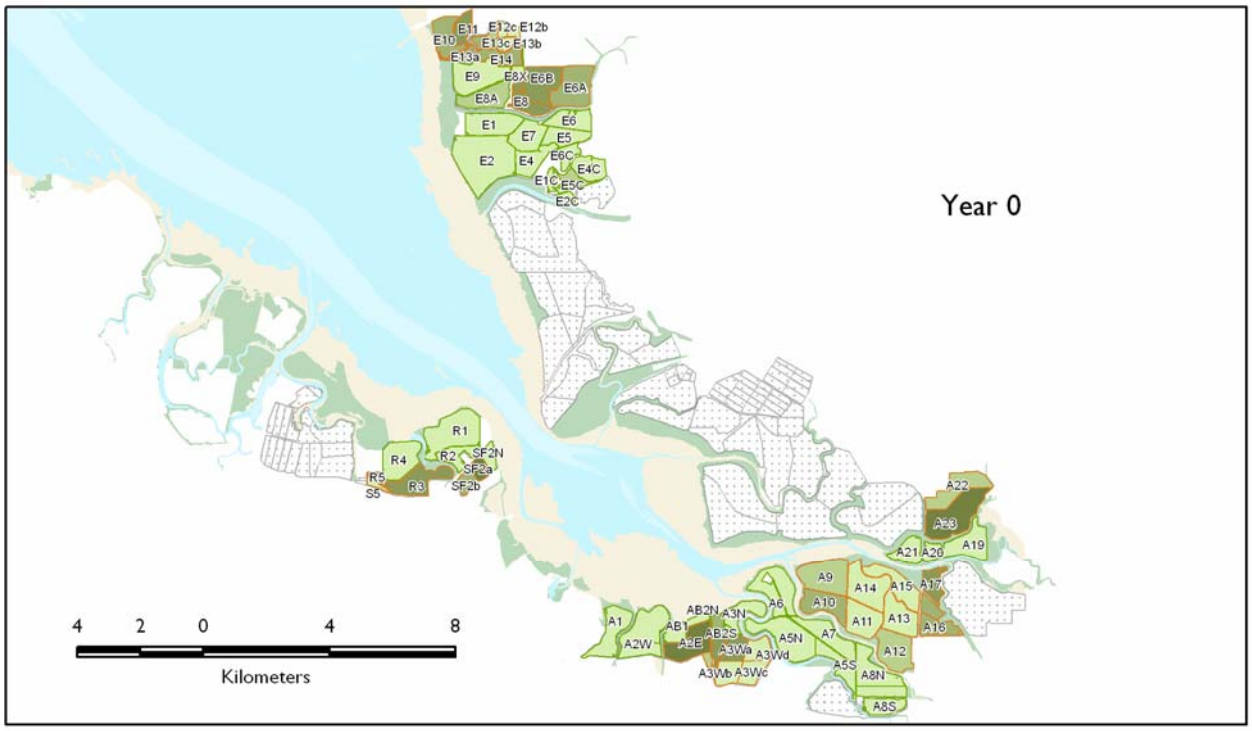
Winter Northern Pintail, Alternative C

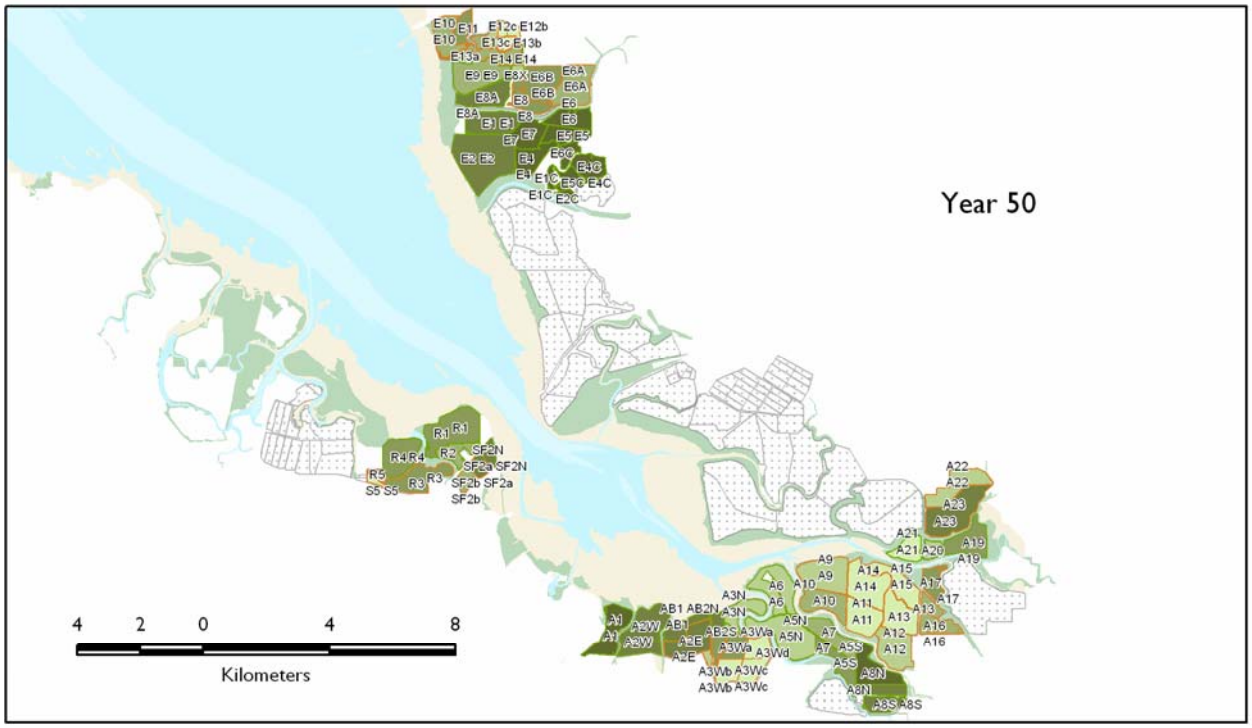


Winter Northern Shoveler, Alternative A



Winter Northern Shoveler, Alternative B





Legend

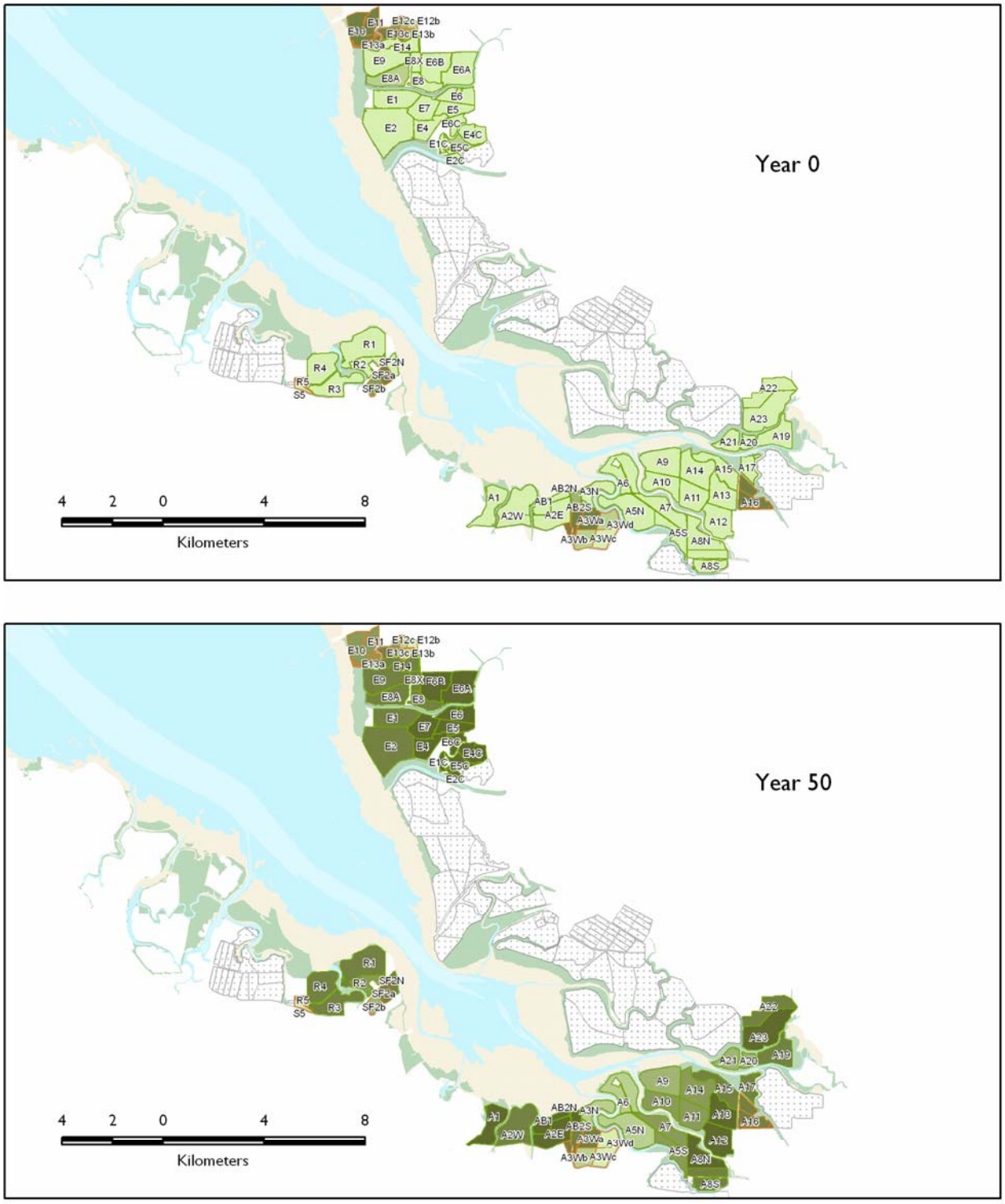
Bay
Other Pond
Tidal Marsh
Tidal Flat

Habitat
Managed Pond
Tidal Marsh

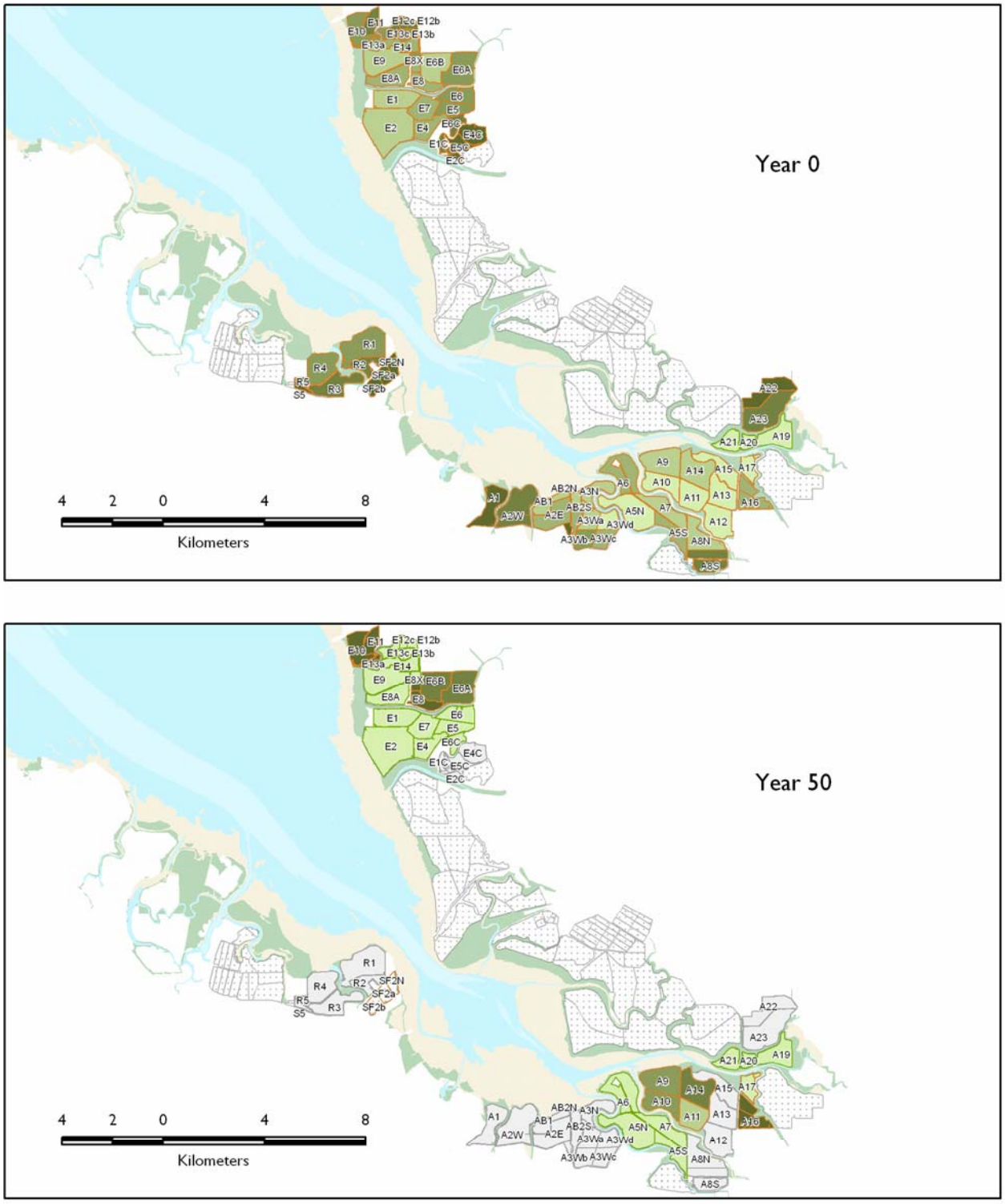
Predicted Density (birds/ha)
0.08717 - 0.2181
0.2182 - 0.2804
0.2805 - 0.3480
0.3481 - 0.3834
0.3835 - 0.6660
0.6661 - 1.101

N

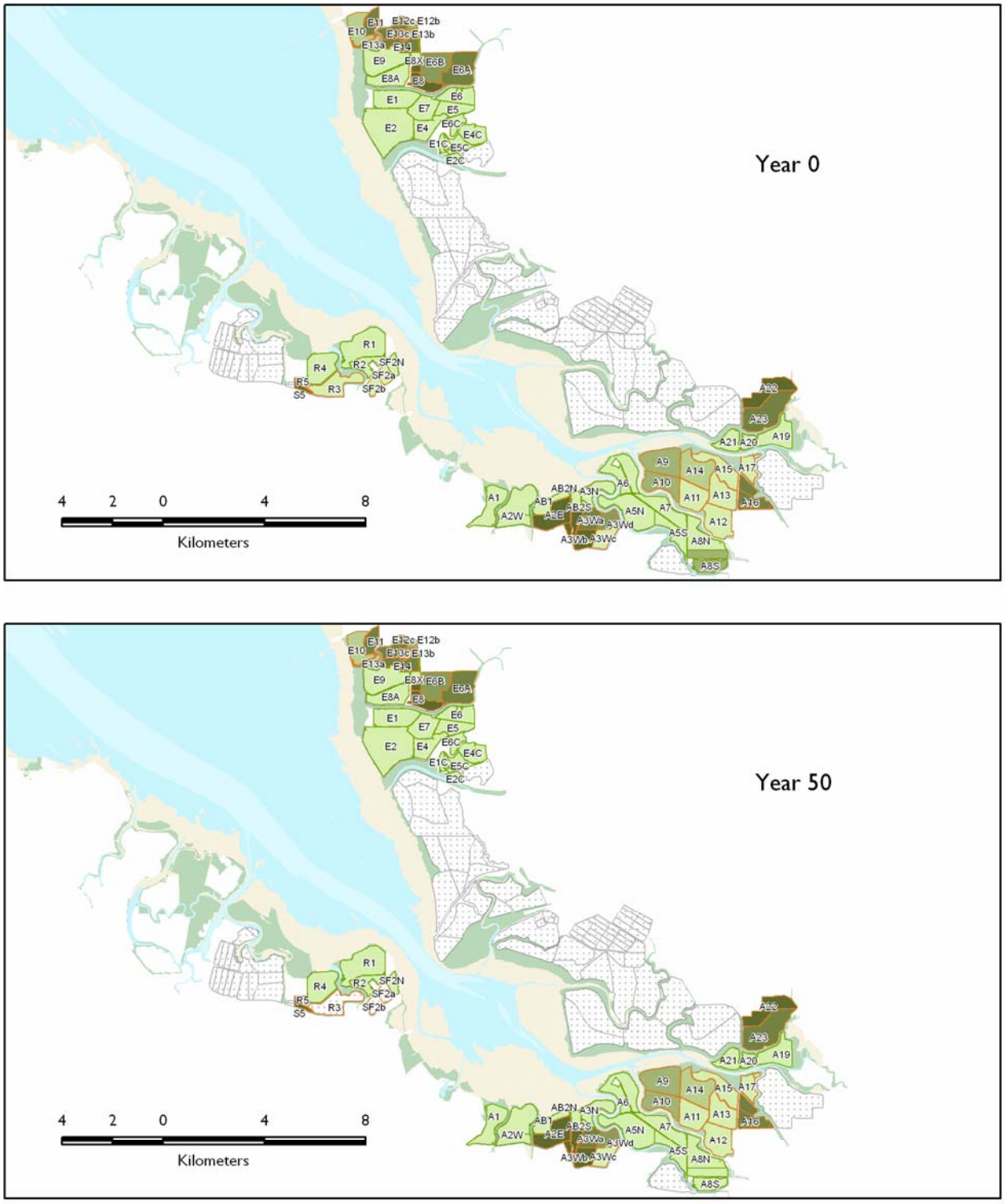
Winter Northern Shoveler, Alternative C



Winter Scaup, Alternative A

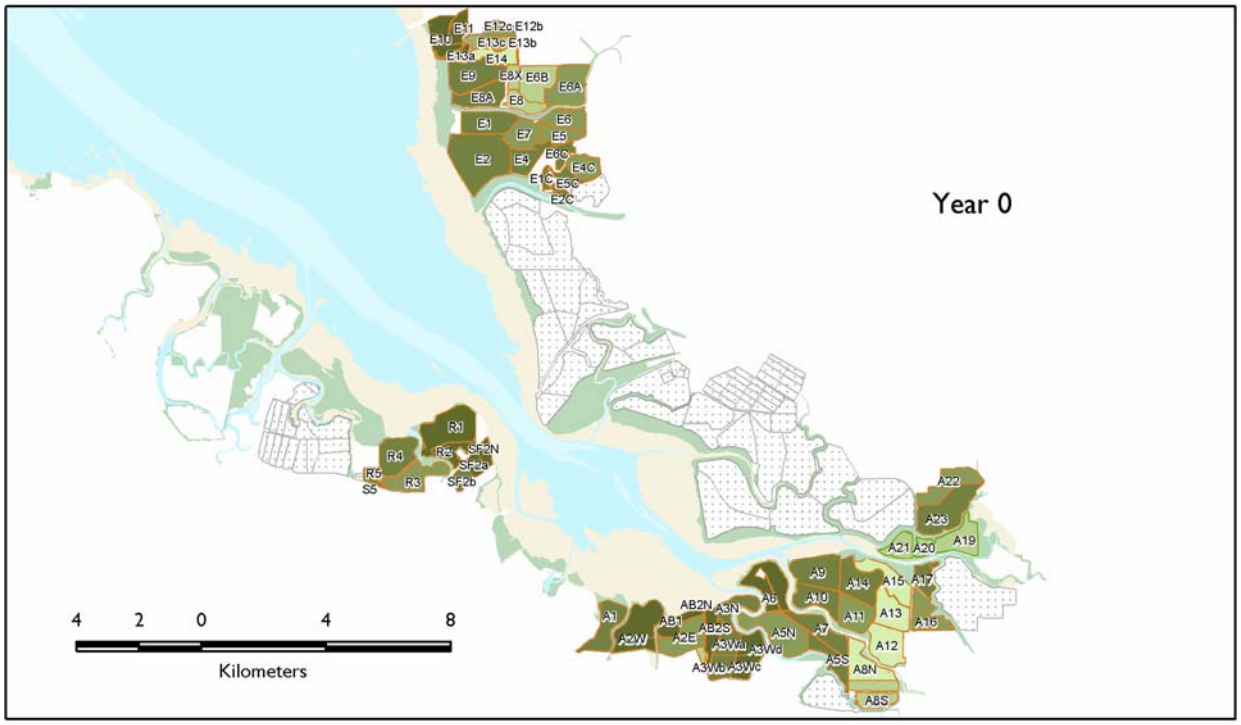


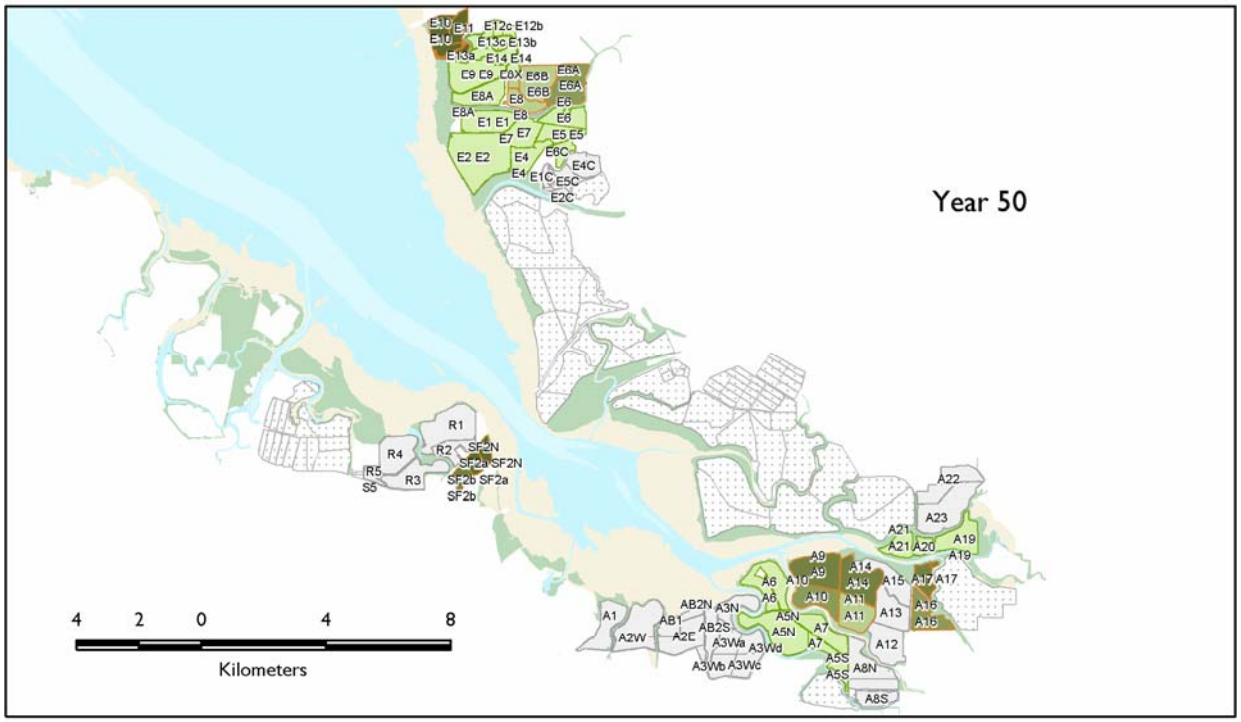
Winter Scaup, Alternative B



Winter Scaup, Alternative C

Winter American White Pelican, Alternative A





Legend

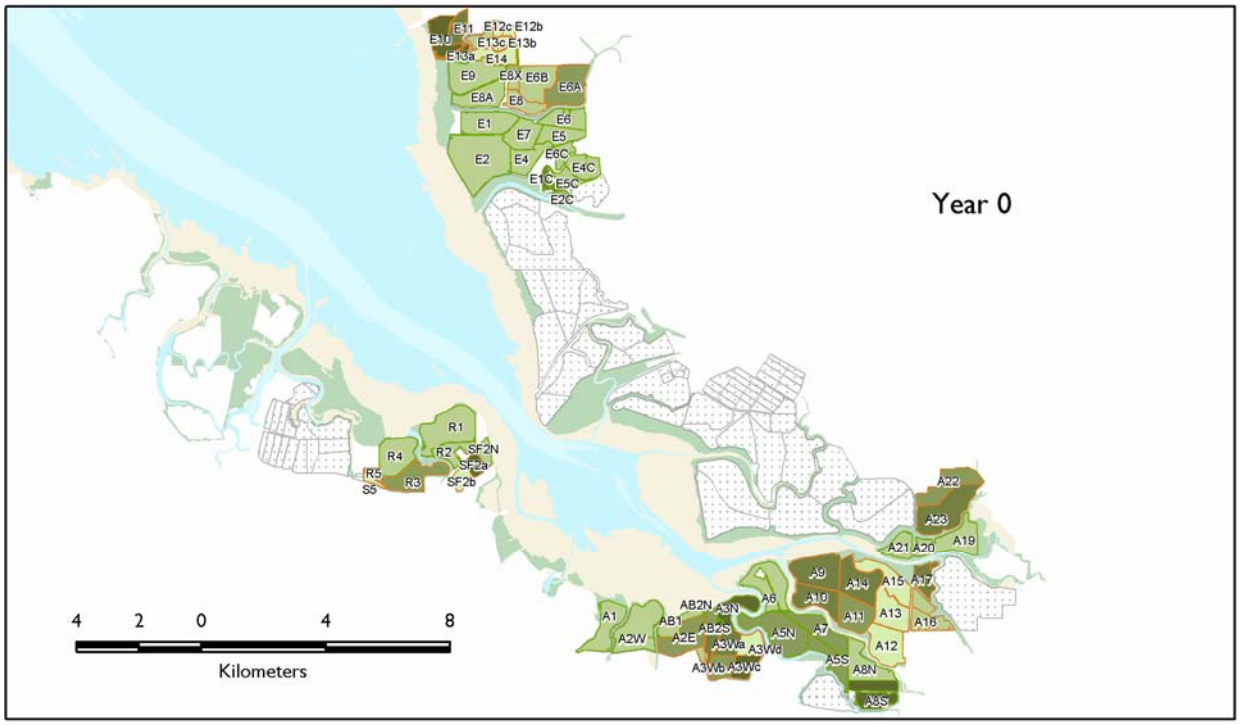
Bay
Other Pond
Tidal Marsh
Tidal Flat

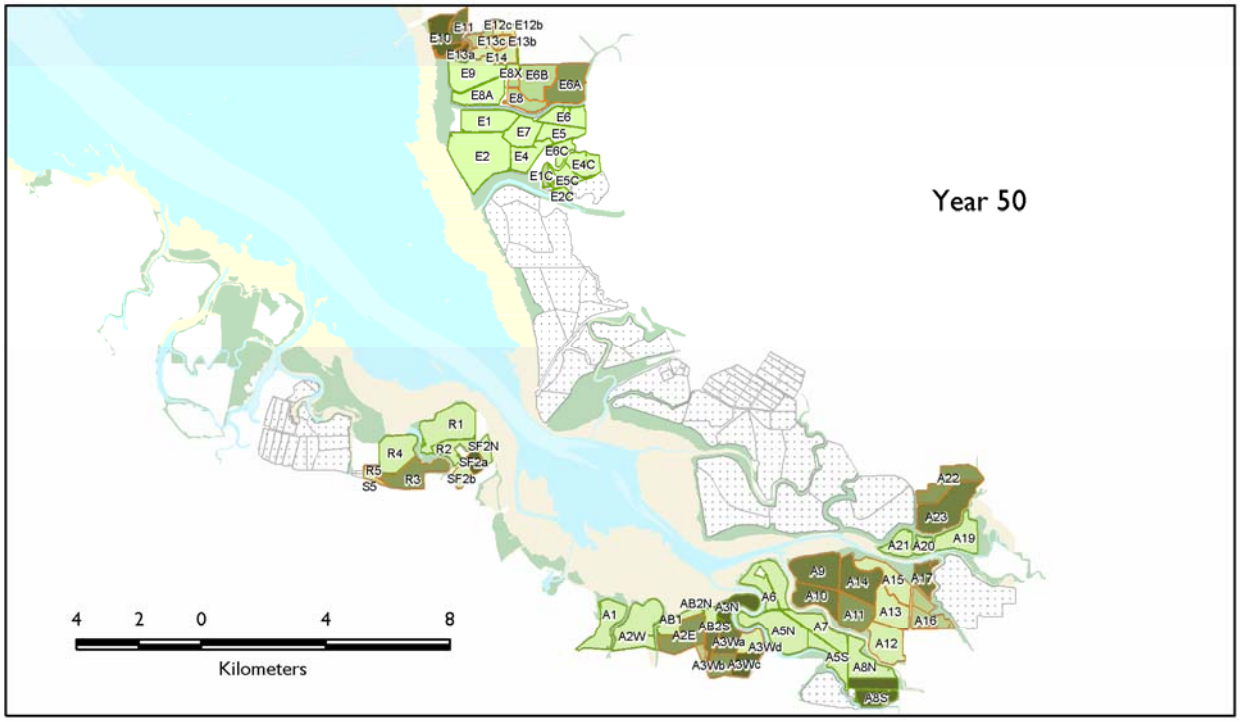
Habitat
Managed Pond
Tidal Marsh
Seasonal Wetland

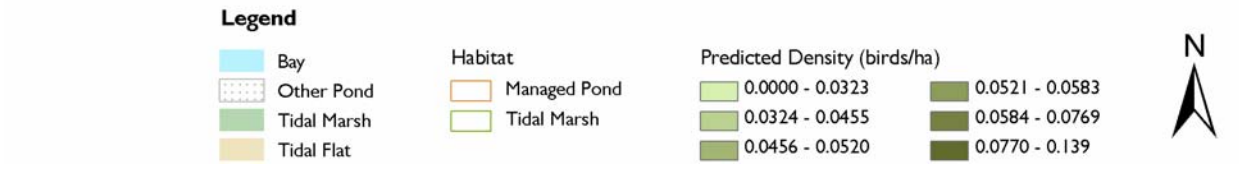
Predicted Density (birds/ha)
0.0000 - 0.0323
0.0324 - 0.0455
0.0456 - 0.0520
0.0521 - 0.0583
0.0584 - 0.0769
0.0770 - 0.139

N

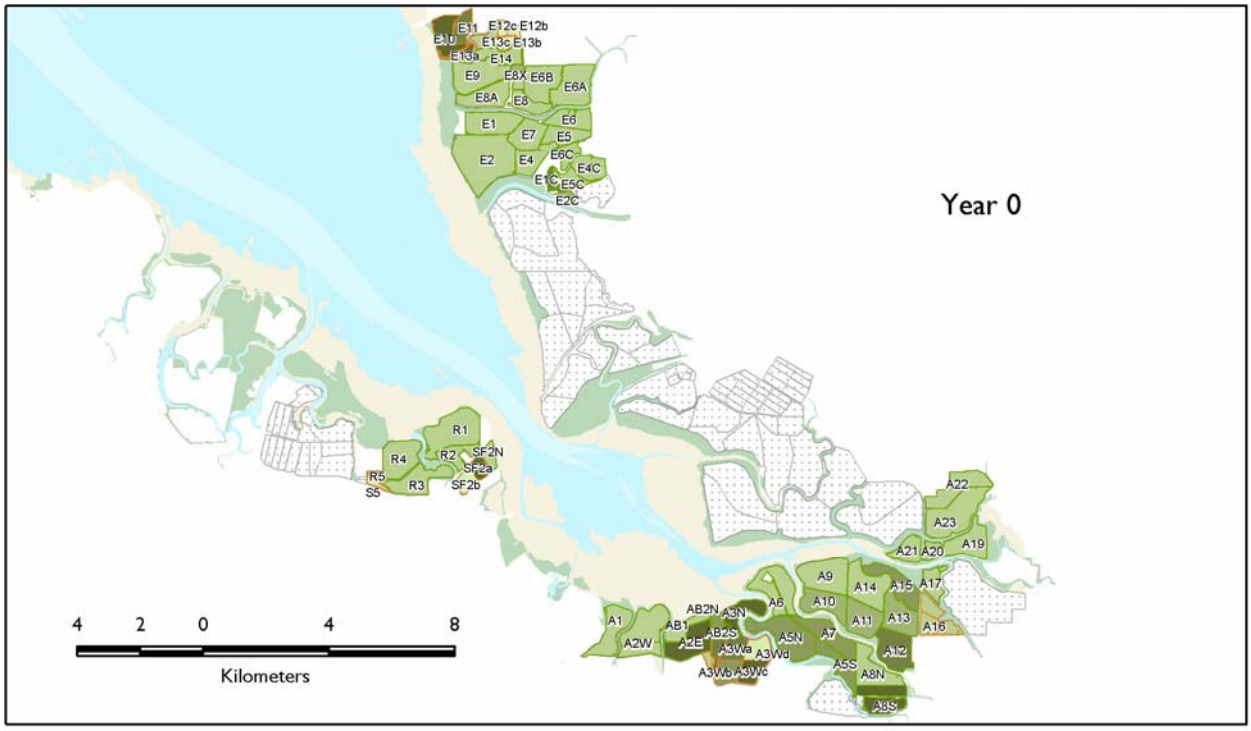
Winter American White Pelican, Alternative B

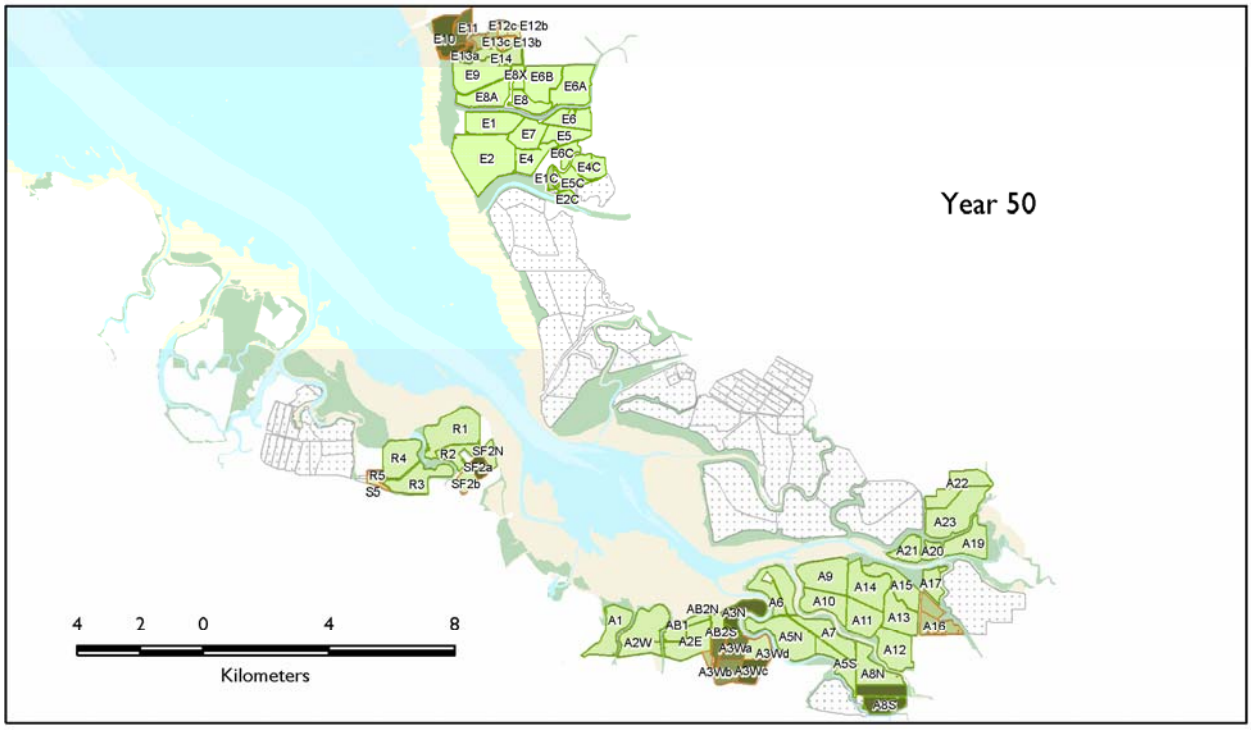






Winter American White Pelican, Alternative C





Legend

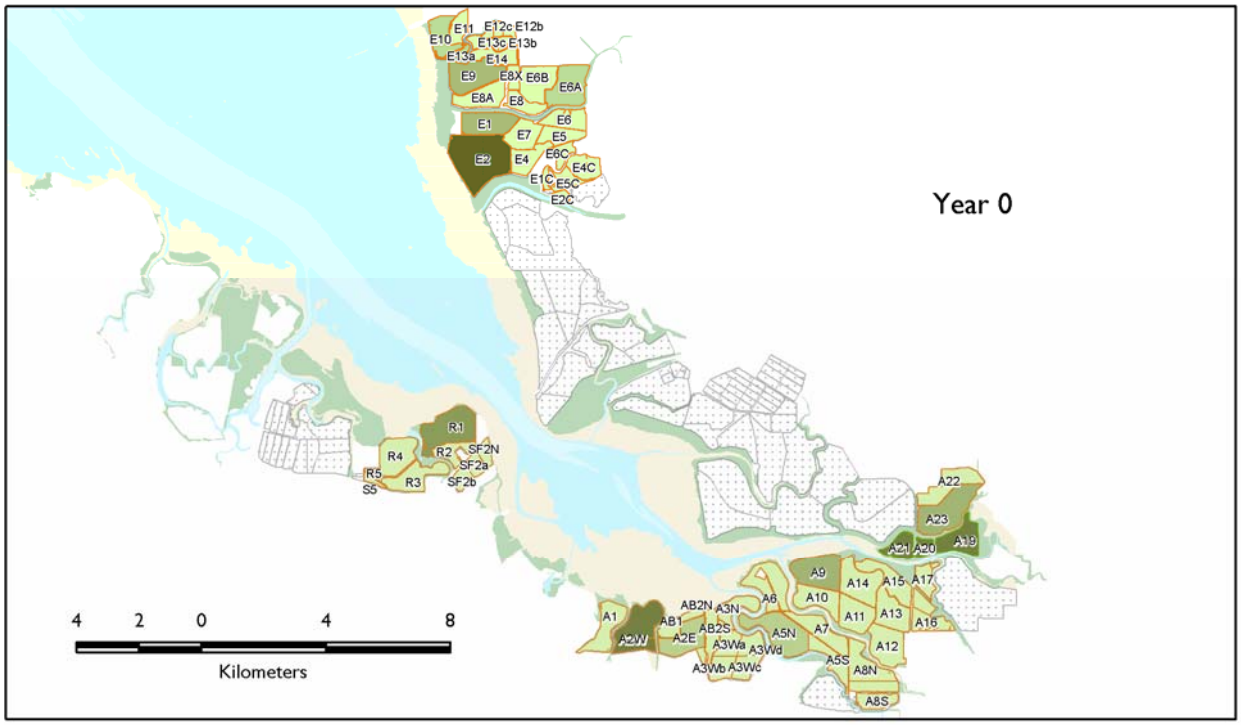
Bay
Other Pond
Tidal Marsh
Tidal Flat

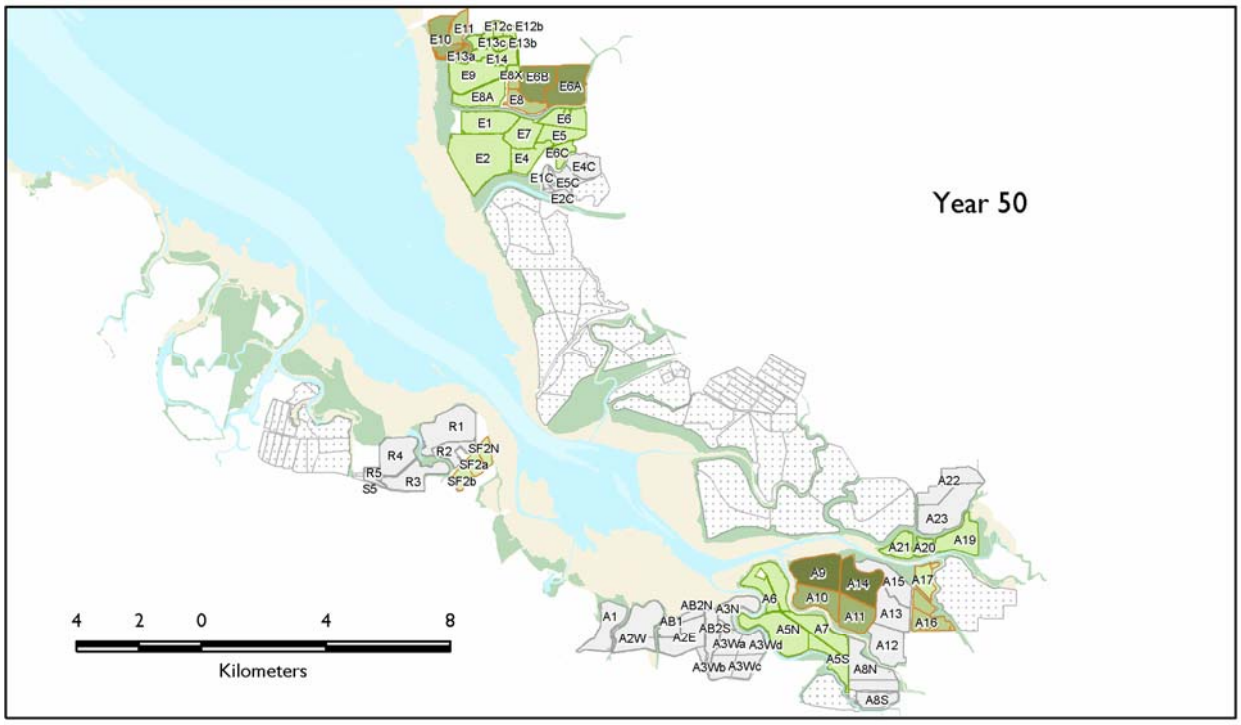
Habitat
Managed Pond
Tidal Marsh

Predicted Density (birds/ha)
0.0000 - 0.0323
0.0324 - 0.0455
0.0456 - 0.0520
0.0521 - 0.0583
0.0584 - 0.0769
0.0770 - 0.139

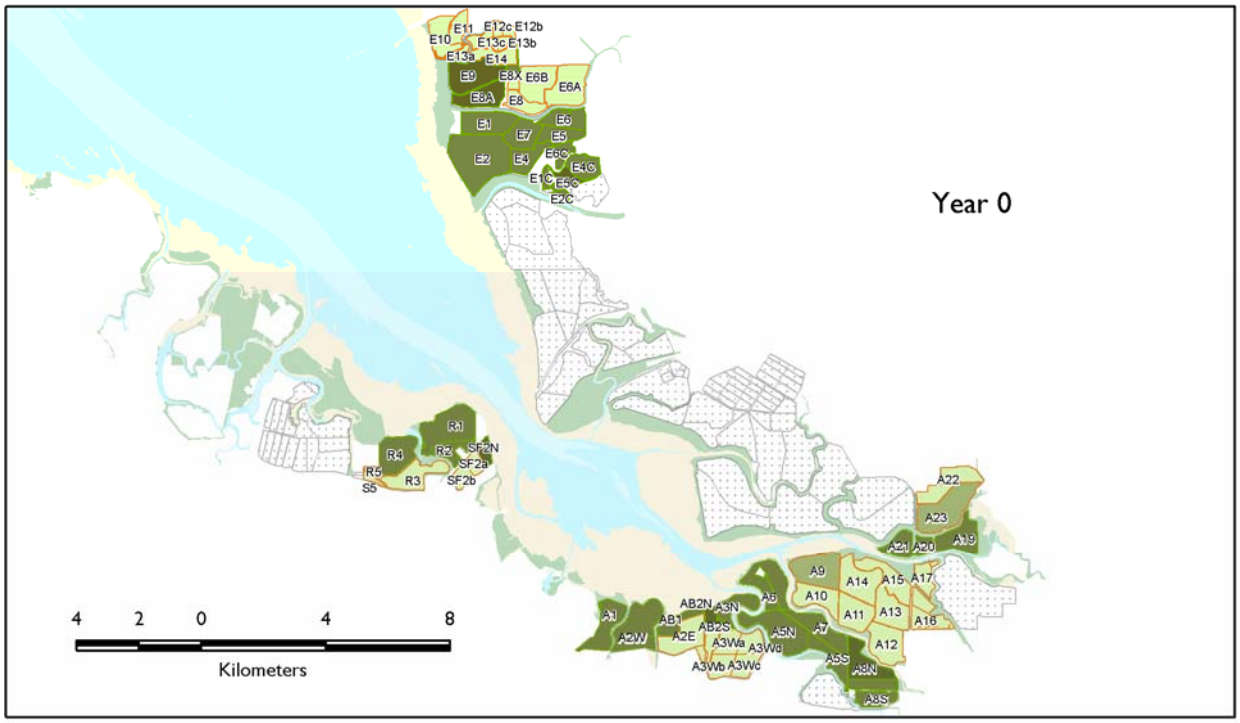
N

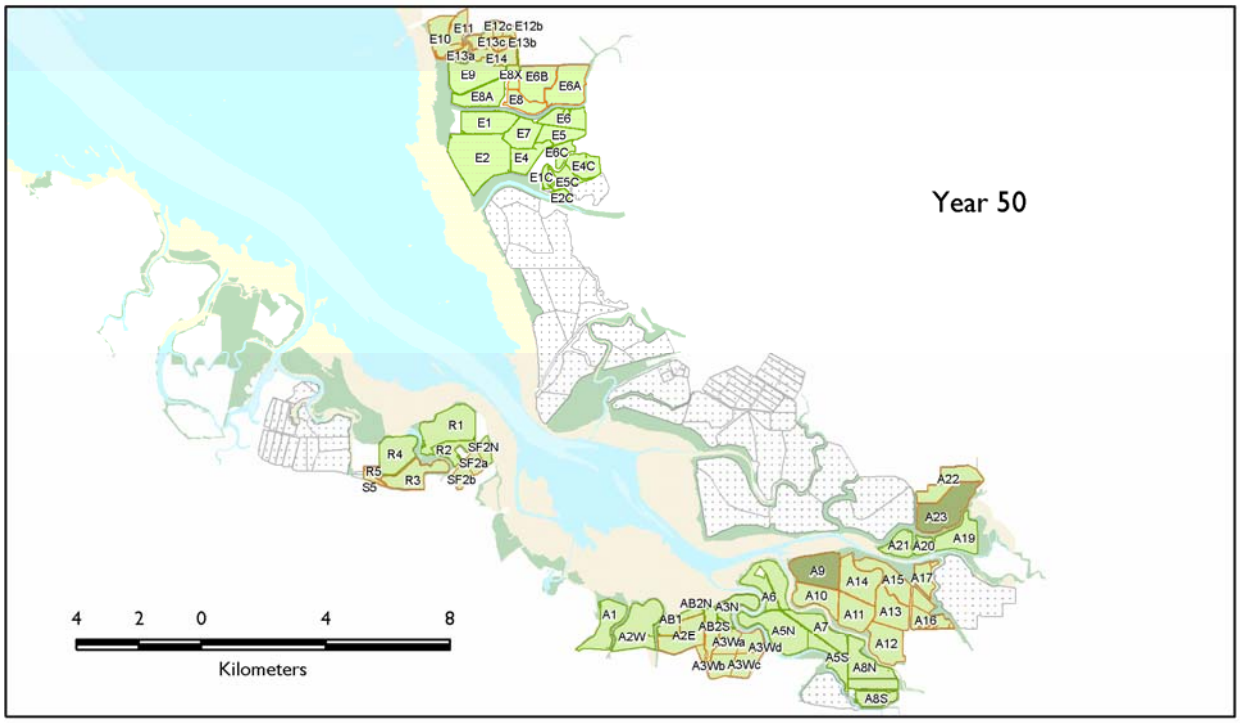
Winter Forster's Tern, Alternative A

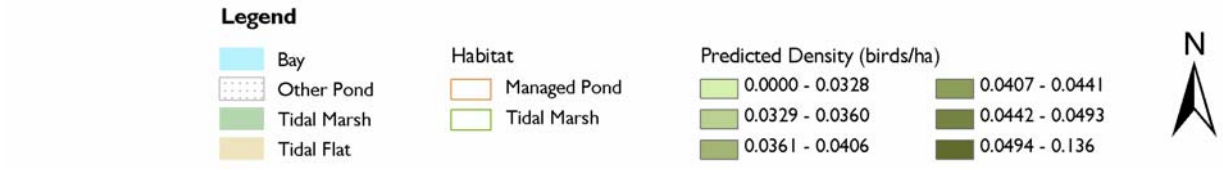




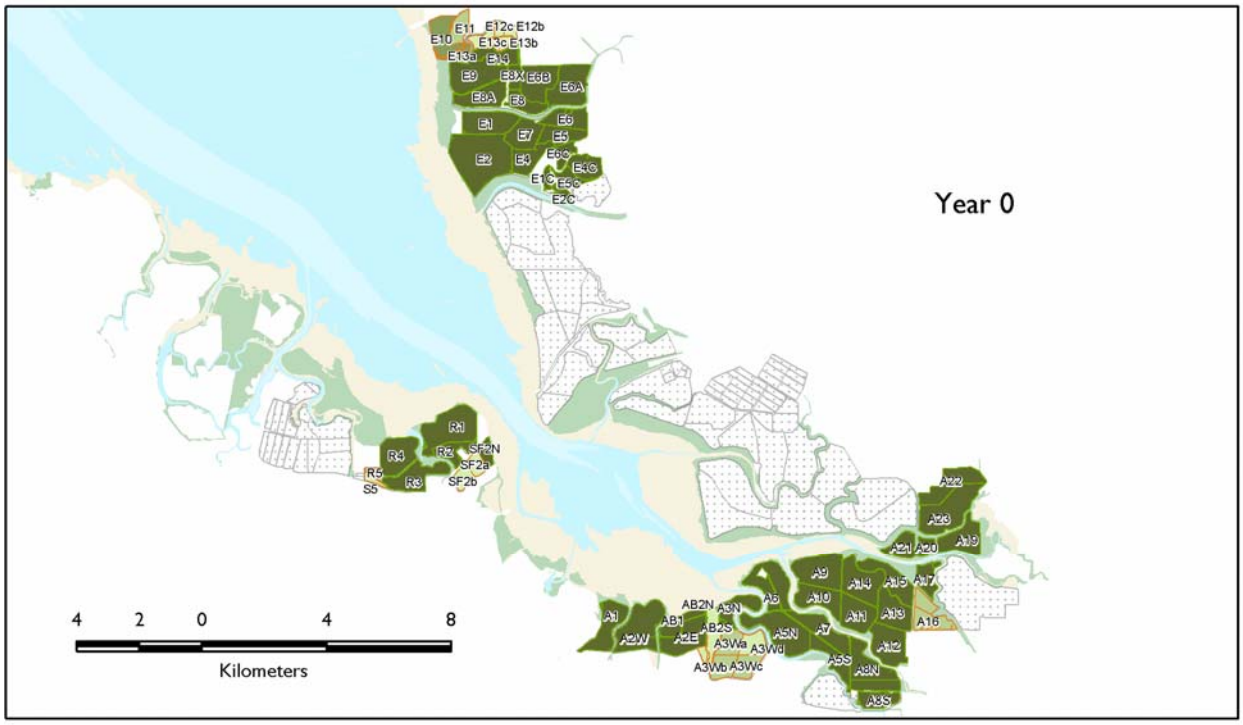
Winter Forster's Tern, Alternative B

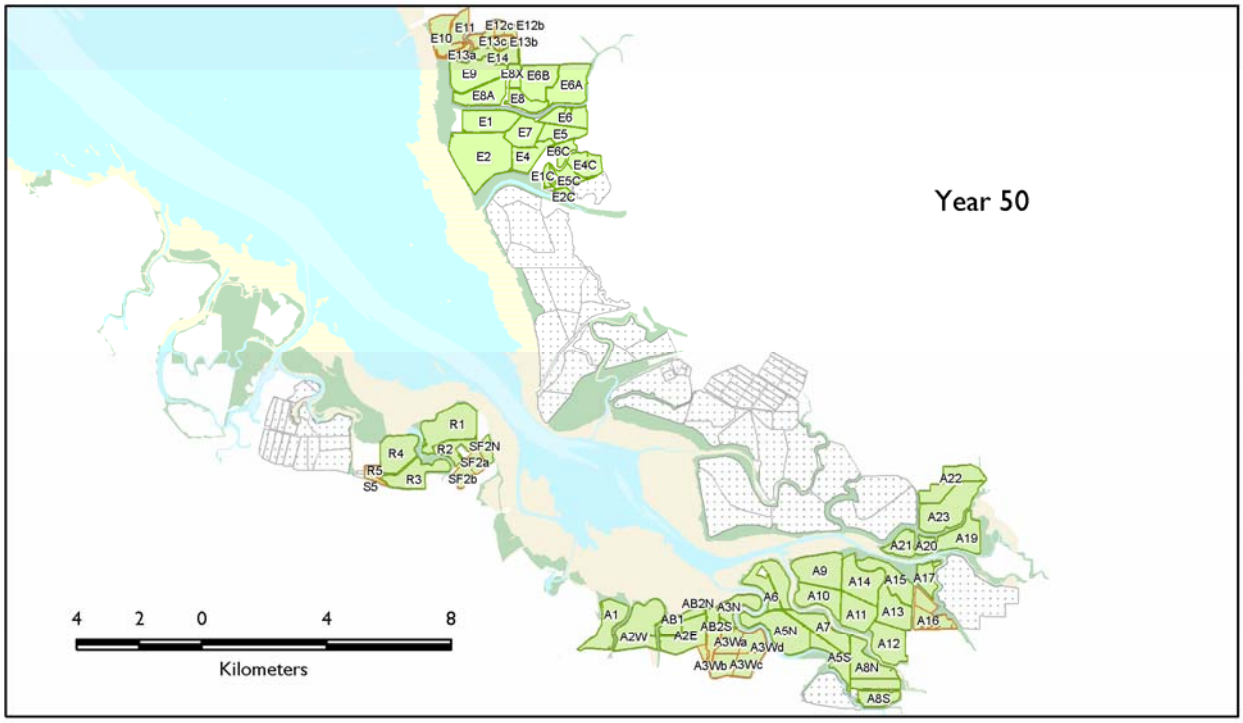




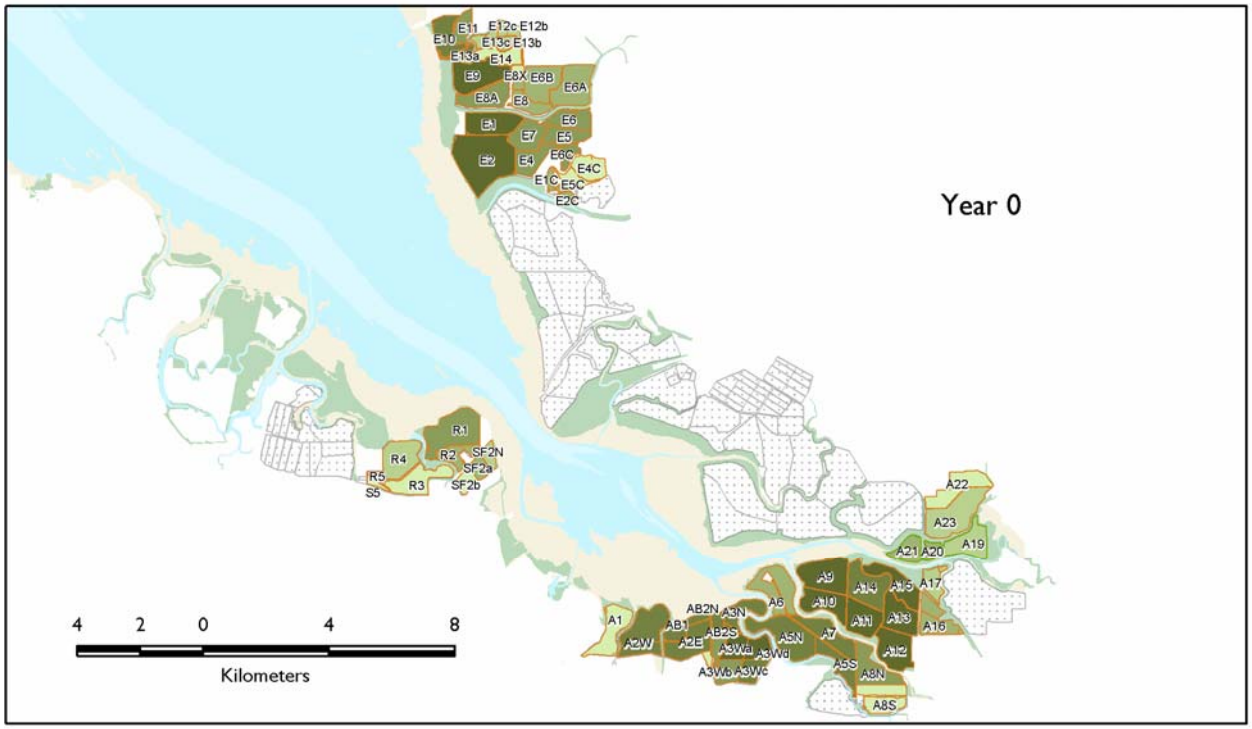


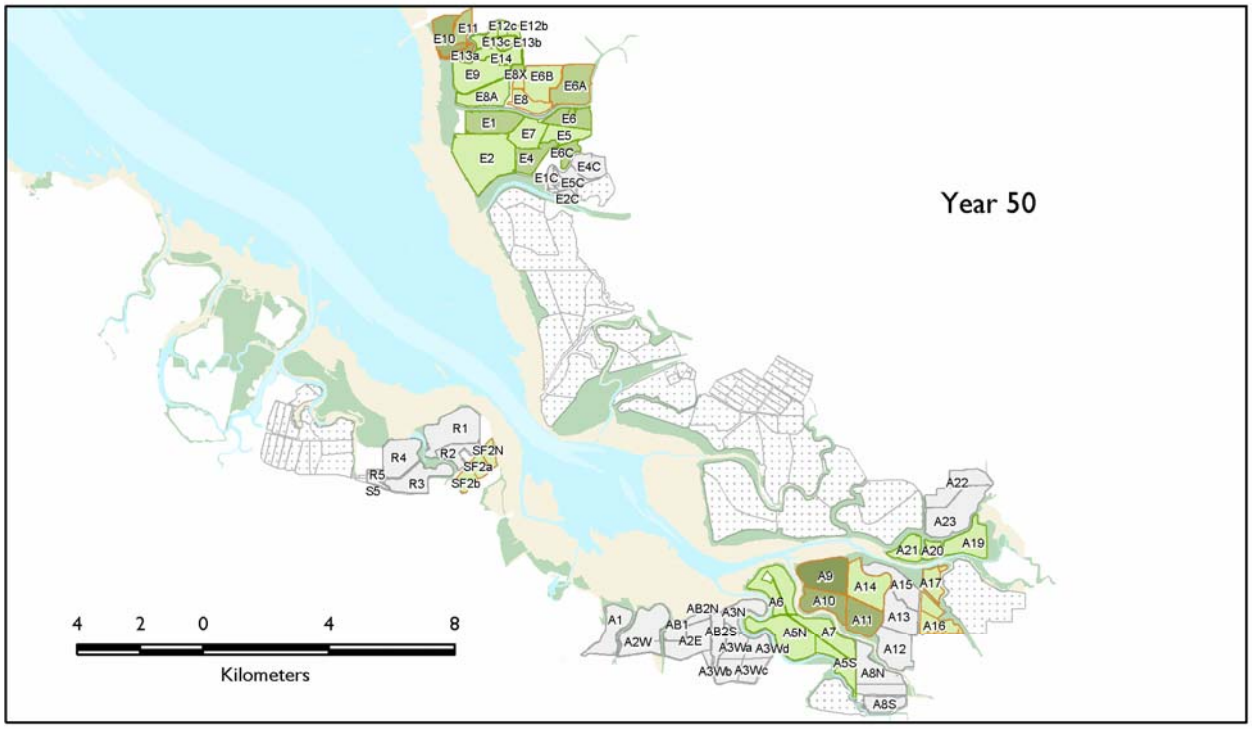
Winter Forster's Tern, Alternative C

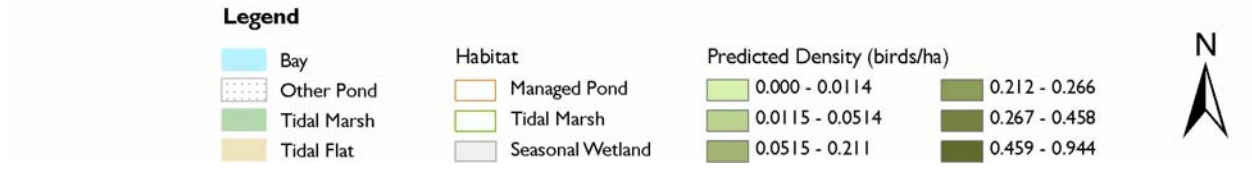




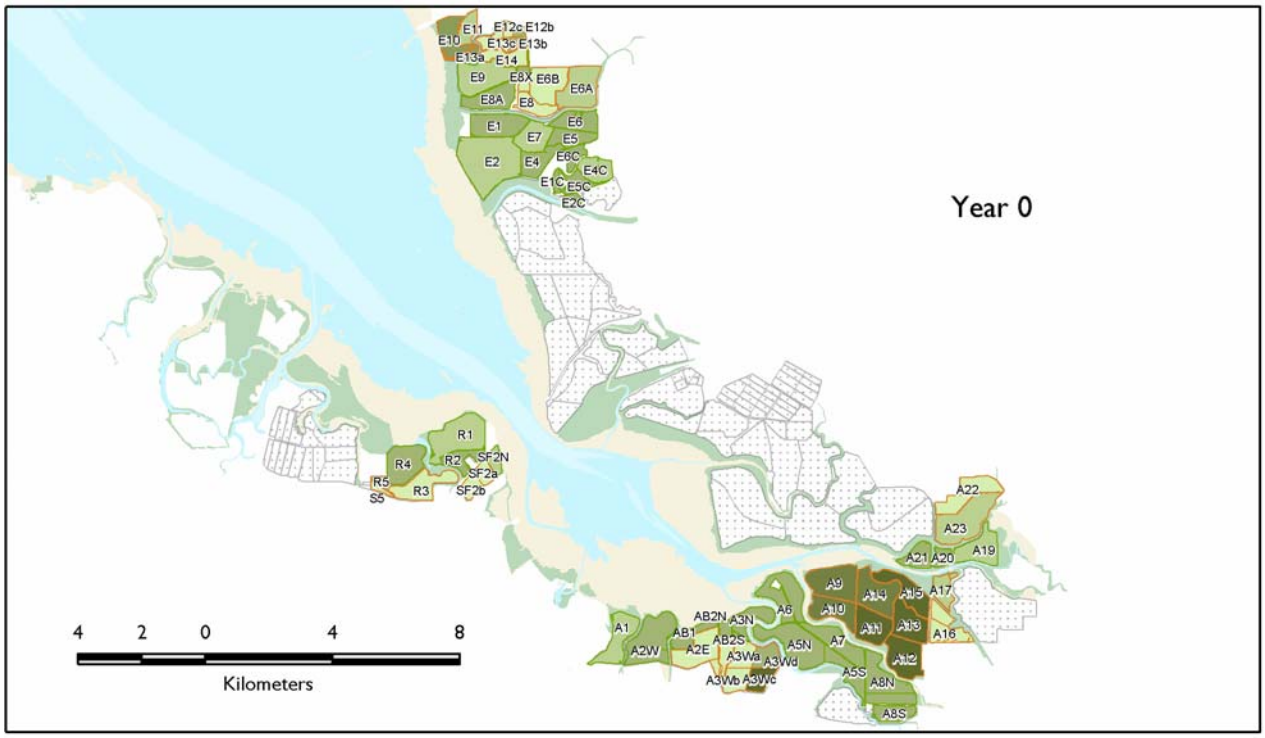
Winter Eared Grebe, Alternative A

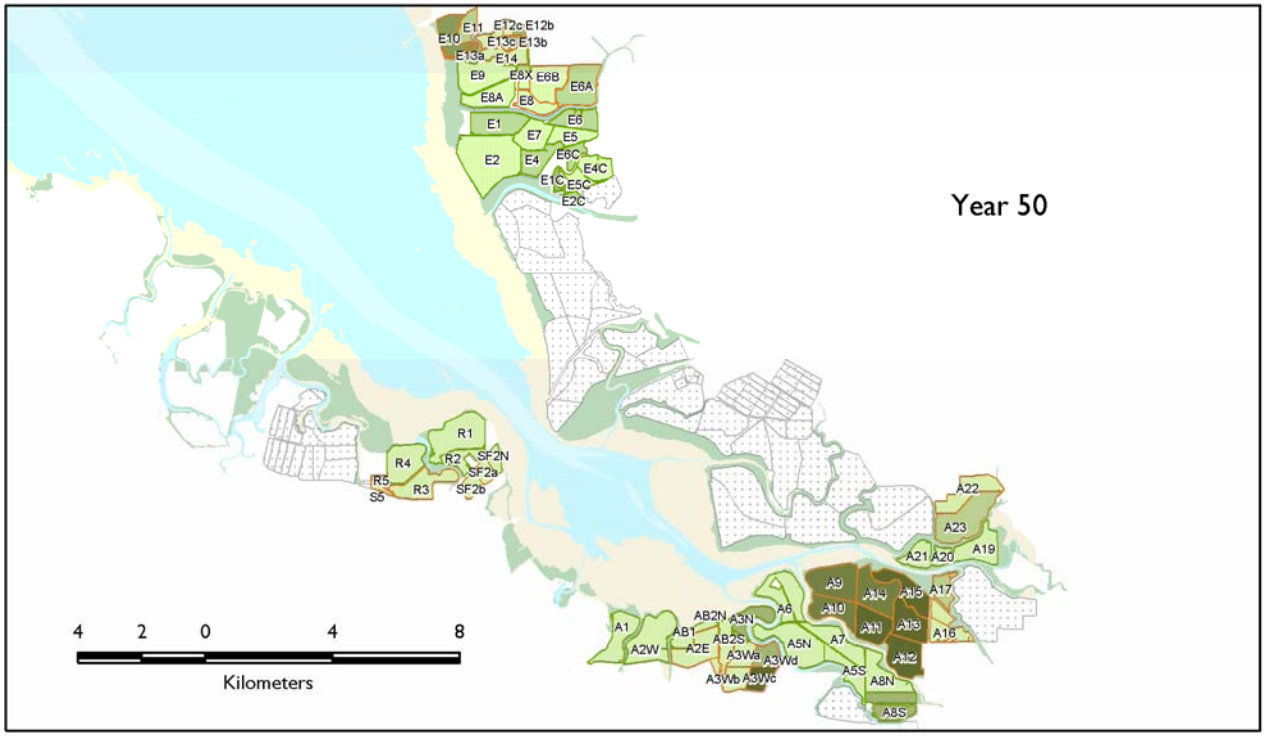






Winter Eared Grebe, Alternative B





Legend

- Bay
- Other Pond
- Tidal Marsh
- Tidal Flat

Habitat

- Managed Pond
- Tidal Marsh

Predicted Density (birds/ha)

- 0.000 - 0.0114
- 0.0115 - 0.0514
- 0.0515 - 0.211
- 0.212 - 0.266
- 0.267 - 0.458
- 0.459 - 0.944

N

Winter Eared Grebe, Alternative C