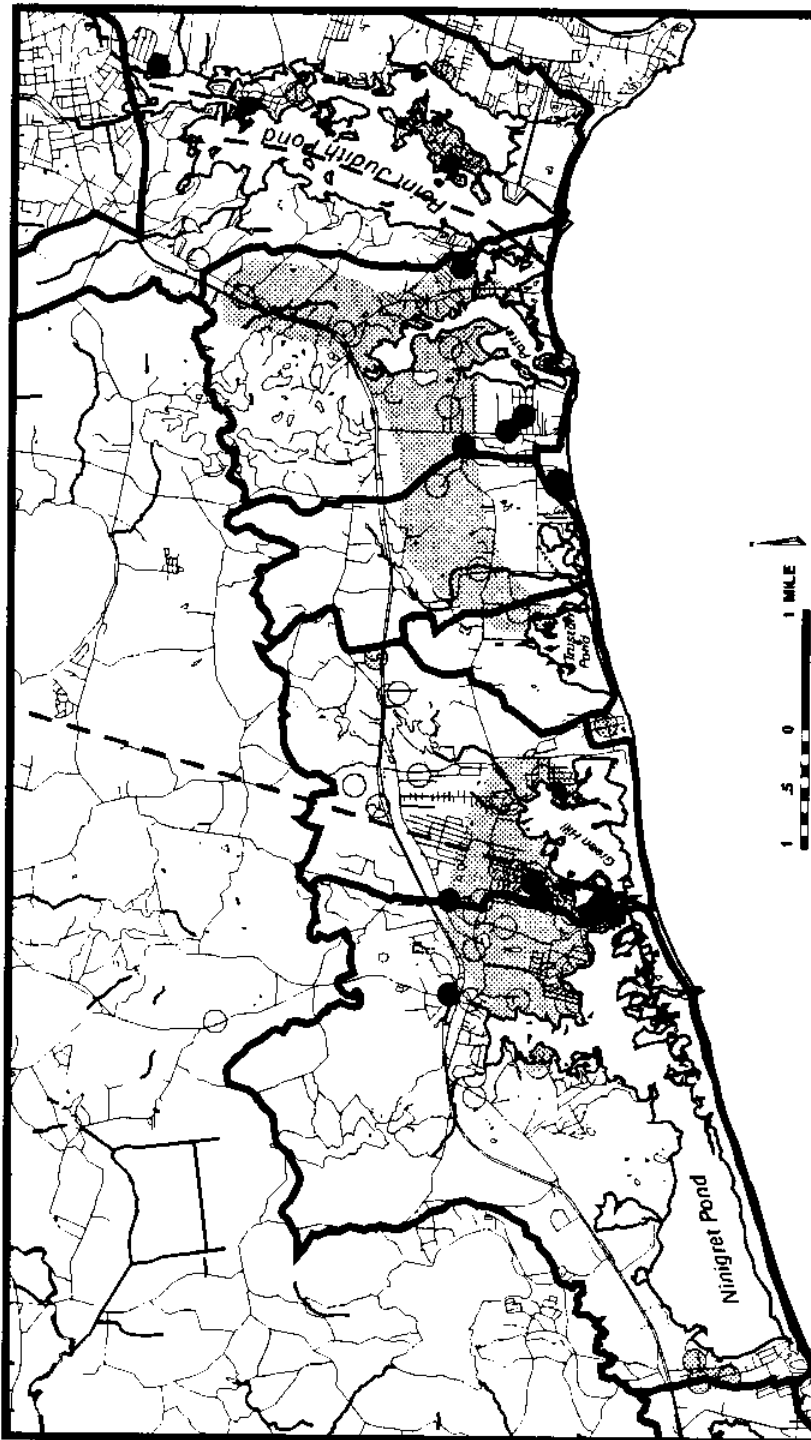
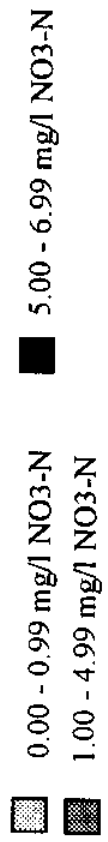


## Appendix B



## Groundwater Nitrate Concentration, 1994



1981 and 1994 Homeowner Well Data

Well #	POND	1981 N (µM/l)	1994 N (µM/l)	1994 NH3 (µM/l)	1994 P (µM/l)	Well Depth (feet)	94 Well Age (Years)
51	CARDS	4				30	
16	CARDS	16				15	300
11	CARDS	158	249.1	1.45	0.05		
15	CARDS	219	73.82	0	0.16	35	
22	CARDS	342	468.59	0.01	0.07		20
141	GREENHILL	4	7.43	0.82	0.13	7	44
105	GREENHILL	5	13.18	0.28	0.11	80	
104	GREENHILL	8				185	
35	GREENHILL	9					
40	GREENHILL	10					
38	GREENHILL	10					
153	GREENHILL	11				20	12
44	GREENHILL	11					
29	GREENHILL	13	103.42	0.31	0.05	82	30
106	GREENHILL	15	28.58	4.17	0.07	80	
37	GREENHILL	25					
36	GREENHILL	40					
39	GREENHILL	41					
142	GREENHILL	50				7	25
190	GREENHILL	59	51.92	0.01	0.17		
183	GREENHILL	59					
160	GREENHILL	61					
45	GREENHILL	62	103.65	0.11	0.03	10	50
107	GREENHILL	77				30	
108	GREENHILL	80				20	
151	GREENHILL	93				8	5
72	GREENHILL	97	190.64	0.44	0.13	20	38
88	GREENHILL	99	74.81	0.44	0.01	18	38
102	GREENHILL	111	35.97	0.06	0.05	300	21
87	GREENHILL	126	176.69	0.33	0.04	12	25
84	GREENHILL	131					
89	GREENHILL	137	101.23	1.71	0.08	20	20
96	GREENHILL	138					50
148	GREENHILL	149				10	
150	GREENHILL	154	27.86	79.9	10.62	20	39
73	GREENHILL	155				33	34
147	GREENHILL	156	85.01	0.9	0.33	19	39
145	GREENHILL	172	92.63	1.3	0.88	7	44
143	GREENHILL	179				3	
103	GREENHILL	184				150	
163	GREENHILL	190					
74	GREENHILL	4				14	24
191	GREENHILL	195					
85	GREENHILL	200	416.07	0.24	0.01	48	37
30	GREENHILL	211					
193	GREENHILL	228					
90	GREENHILL	242					
144	GREENHILL	244				101	44
50	GREENHILL	251	85.88	0.01	0.03		16
86	GREENHILL	251	192.8	0.47	0.03	10	50
80	GREENHILL	254	462.37	51.8	0.01	10	57
81	GREENHILL	263	309.35	0.52	0.02	15	41
68	GREENHILL	266				10	21
31	GREENHILL	272	391.9	0.24	0.03	21	40
152	GREENHILL	274				20	30
93	GREENHILL	276				15	7
149	GREENHILL	283	129.6	0.74	0.17	20	
77	GREENHILL	293				15	25
79	GREENHILL	302	297.33	35.34	0.02	16	30
71	GREENHILL	307	268.32	0.14	0.04	20	19
83	GREENHILL	312				14	8
34	GREENHILL	321					
47	GREENHILL	359					

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate ( $\mu\text{M/l}$ )	94 Nitrate ( $\mu\text{M/l}$ )	94 Ammonia ( $\mu\text{M/l}$ )	94 Phosphate ( $\mu\text{M/l}$ )	Well Depth (feet)	94 Well Age (Years)
78	GREENHILL	374				15	25
101	GREENHILL	387	185.69	0.02	0.04	210	
94	GREENHILL	436	161.27	0.05	0.36	16	39
75	GREENHILL	454					25
70	GREENHILL	455					
69	GREENHILL	461				65	25
100	GREENHILL	472	354.8	0.47	0.17	82	21
98	GREENHILL	480	80.18	0.39	0.03		21
99	GREENHILL	485	145.89	3.78	0.01	82	44
91	GREENHILL	497				15	20
97	GREENHILL	498	89.96	0.16	0.53	20	34
82	GREENHILL	509				14	60
146	GREENHILL	528	102.32	0.99	0.66	8	34
92	GREENHILL	545	405.26	0.52	0.08	10	15
46	GREENHILL	549					
76	GREENHILL	563				35	16
32	GREENHILL	594	217.22	0.03	0.07	50	16
33	GREENHILL	696					
194	GREENHILL	708					
67	GREENHILL	735	291.89	0.49	0.03	15	32
95	GREENHILL	1098	290.37	0.11	0.01	18	56
637	GREENHILL		101.8	0.12	0.16	360	13
342	GREENHILL		7.1	0.36	0.05		
611	GREENHILL		15.79	0.94	0.05	18	26
648	GREENHILL		52.69	0.34	0.08		1
649	GREENHILL		57.83	0.45	0.18	100	15
303	GREENHILL		115.3	0.01	0.01	300	13
369	GREENHILL		142.06	0.33	0.02	18	6
333	GREENHILL		151.05	0.24	0.13		
384	GREENHILL		172.57	0.38	0.02	18	8
640	GREENHILL		174.24	0.68	0	18	17
330	GREENHILL		194.1	0.33	0.04		
374	GREENHILL		195.13	1.31	0.07	25	31
390	GREENHILL		195.34	0.34	0		
396	GREENHILL		196.42	0.31	0.03	16	35
639	GREENHILL		222.12	1.45	0.06	10	66
334	GREENHILL		225.42	0.62	0.04	18	20
347	GREENHILL		248.05	10.21	0.04		25
370	GREENHILL		261.64	0.76	0.01	14	16
368	GREENHILL		262.85	1.99	0.02	15	10
346	GREENHILL		291.01	1.12	0.02		40
608	GREENHILL		298.6	2.75	0.02		55
443	GREENHILL		345.37	0.86	0.07	15	74
383	GREENHILL		377.06	33.46	0.02	10	12
382	GREENHILL		380.34	0.16	0.06	12	56
393	GREENHILL		417.49	0.94	0.01		40
647	GREENHILL		418.51	0.47	0.18		
373	GREENHILL		436.58	45.36	0	26	3
154	NINIGRET	0	0.02	0.25	0.11	125	32
42	NINIGRET	0	3.74	44.52	0.39	35	50
49	NINIGRET	0				125	32
48	NINIGRET	0					
169	NINIGRET	1	1.62	0.21	0.26	100	80
28	NINIGRET	1	3.97	0.4	0.13	100	15
155	NINIGRET	3	12.52	0.45	0.05	125	32
187	NINIGRET	3					
167	NINIGRET	9	9.44	0.55	9	200	30
192	NINIGRET	14					
170	NINIGRET	16	27.33	0.41	0.06		
172	NINIGRET	19	58.44	0.77	0.18	12	75
133	NINIGRET	22	15.31	0.44	0.2	300	6
115	NINIGRET	22	46.18	0	0.01	28	18
168	NINIGRET	22	51.12	0.6	0.14		

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate (µM/l)	94 Nitrate (µM/l)	94 Ammonia (µM/l)	94 Phosphate (µM/l)	Well Depth (feet)	94 Well Age (Years)
131	NINIGRET	25	37.03	0	0.03	45	30
134	NINIGRET	28	23.58	0.02	0.02	15	76
132	NINIGRET	29					60
124	NINIGRET	36	100.9	0.02	0.12	94	20
60	NINIGRET	38				10	14
43	NINIGRET	45	86.28	0.1	0.03	40	100
119	NINIGRET	46				100	3
56	NINIGRET	55	154.3	1.86	0.12	16	14
165	NINIGRET	58	374.39	0.67	0.1		
171	NINIGRET	67	13.8	0.08	0.06	120	60
173	NINIGRET	67					
41	NINIGRET	75				27	200
54	NINIGRET	75				20	40
26	NINIGRET	84					
179	NINIGRET	99					
55	NINIGRET	104				200	24
177	NINIGRET	106					
129	NINIGRET	124	139.35	0.39	0.01	10	28
117	NINIGRET	124	173.56	0.1	0.03	20	16
120	NINIGRET	127	183.26	0.03	0.02	350	16
123	NINIGRET	128	104.86	0.43	0.13	90	23
128	NINIGRET	131				36	15
118	NINIGRET	132	72.26	0.29	0.12	60	24
130	NINIGRET	150	145.31	0.17	0.01	12	34
125	NINIGRET	151	160.82	0.06	0.04	14	1
174	NINIGRET	151	258.77	0	0.02		12
159	NINIGRET	154	31.53	0.59	0.79		
175	NINIGRET	165	160.39	0.2	0	85	17
176	NINIGRET	189	330.43	0.08	0.06	20	38
122	NINIGRET	216	231.15	0.19	0.06	210	34
59	NINIGRET	219				10	49
58	NINIGRET	227	220.85	0.28	0.02	10	7
27	NINIGRET	250				15	
57	NINIGRET	254	24.49	0.16	0.08	10	50
178	NINIGRET	257					10
25	NINIGRET	290	142.24	0.2	0.13	15	28
121	NINIGRET	375	367.31	0.3	0.03		16
126	NINIGRET	394				25	28
127	NINIGRET	412	54.56	0.24	0.08	20	28
116	NINIGRET	767	236.78	0.64	0.18	20	20
651	NINIGRET		13.12	1.63	0.1		
646	NINIGRET		62.09	0.07	0.41	140	17
636	NINIGRET		0.84	0.24	0.69		
302	NINIGRET		16.52	0.01	0.14		30
632	NINIGRET		39.6	0.03	0.02	20	95
641	NINIGRET		40.73	1.23	0.02	89	22
603	NINIGRET		69.19	0	0.05		15
634	NINIGRET		71.72	5.38	0.03	45	77
635	NINIGRET		88.23	6.2	0.25	45	77
473	NINIGRET		158	0	0.02		
631	NINIGRET		194.73	0.28	0		10
199	POINTJUDITH	0	0.95	0.06	0.08		
64	POINTJUDITH	0				20	
2	POINT JUDITH	10	23.33	0.28	0.41		
65	POINTJUDITH	16	7.44	0.48	0.06		26
113	POINTJUDITH	44					
63	POINTJUDITH	78	179.19	0.54	1.75	20	44
114	POINTJUDITH	113	96.59	0.01	0.2	75	28
61	POINTJUDITH	169				15	44
62	POINTJUDITH	209				10	44
66	POINTJUDITH	785				20	44
202	POINTJUDITH	1	0.71	0.49	0.15	400	67
204	POINTJUDITH	9	28.17	0.13	0.16	160	25

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate ( $\mu\text{M/l}$ )	94 Nitrate ( $\mu\text{M/l}$ )	94 Ammonia ( $\mu\text{M/l}$ )	94 Phosphate ( $\mu\text{M/l}$ )	Well Depth (feet)	94 Well Age (Years)
181	POINTJUDITH	18					
186	POINTJUDITH	30					
180	POINTJUDITH	42	35.17	1.81	0.31	15	
157	POINTJUDITH	63	102.76	37.92	0.51	15	
203	POINTJUDITH	74	147.23	0.18	0.04	80	25
182	POINTJUDITH	102	69.67	0.25	0.07	15	44
196	POINTJUDITH	155					
156	POINTJUDITH	210	235.54	0.97	0.1		
185	POINTJUDITH	483	111.43	0.35	0.12		
189	POINTJUDITH	579	409.85	0.4	0.45		
184	POINTJUDITH	639	699.64	0.51	0.53	25	47
195	POINTJUDITH	803	640.69	0.83	0.12	14	44
164	POINTJUDITH	1356	431.8	0.72	0.36	20	
205	POINTJUDITH		0.16	0.08	0.07	400	19
680	POINTJUDITH		10.43	89.86	15.18	20	
602	POINTJUDITH		23.92	0.08	0.14	400	67
200	POTTER	118	0.73	0.34	0.12	286	14
140	POTTER	6				4	1
9	POTTER	9	21.42	0.17	0.16		
21	POTTER	33				148	
135	POTTER	39	106.83	0.69	0.15	80	15
137	POTTER	41	38.28	0.1	0.13	27	13
138	POTTER	72	132.85	0.09	0.02	32	85
197	POTTER	87	11.33	26.32	2.42	20	
139	POTTER	103				40	77
111	POTTER	108					
23	POTTER	122				14	40
20	POTTER	136	123.62	0.17	0.11	150	25
1	POTTER	146	354.96	6.59	0.23		
10	POTTER	155	55.6	0.63	0.87	6	
109	POTTER	158					
136	POTTER	174	68.7	1.13	0.06	45	84
24	POTTER	198	422.97	0.54	0.12	57	26
8	POTTER	209				10	
3	POTTER	220	25.64	0.21	0.13		
6	POTTER	248	10.98	0.43	0.03	15	
12	POTTER	248				250	
13	POTTER	290				22	
110	POTTER	308	263.84	13.98	0.83	20	
14	POTTER	313	371.97	0.68	0.06	35	
112	POTTER	319				15	
5	POTTER	320	22.43	0.14	0.15	25	
7	POTTER	338	440.28	1.51	0.75	33	
4	POTTER	420	26.69	0.15	0.15	25	
312	SUBWATERSHED		396.8	8.07	0.03	15	26
313	SUBWATERSHED		388.75	4.74	0.01		
19	TRUSTOM	1	0.11	26.6	0.02	15	162
53	TRUSTOM	32	2.22	0.1	0.01	231	44
18	TRUSTOM	37					
17	TRUSTOM	46	3.35	0.08	0.06	26	3
52	TRUSTOM	642	319.29	0.31	0.22		
652	TRUSTOM		48.95	0.03	3.35	30	
645	TRUSTOM		119.2	0.04	0.06	125	29
318	TRUSTOM		286.47	0.42	0.03		40

USGS Groundwater Levels

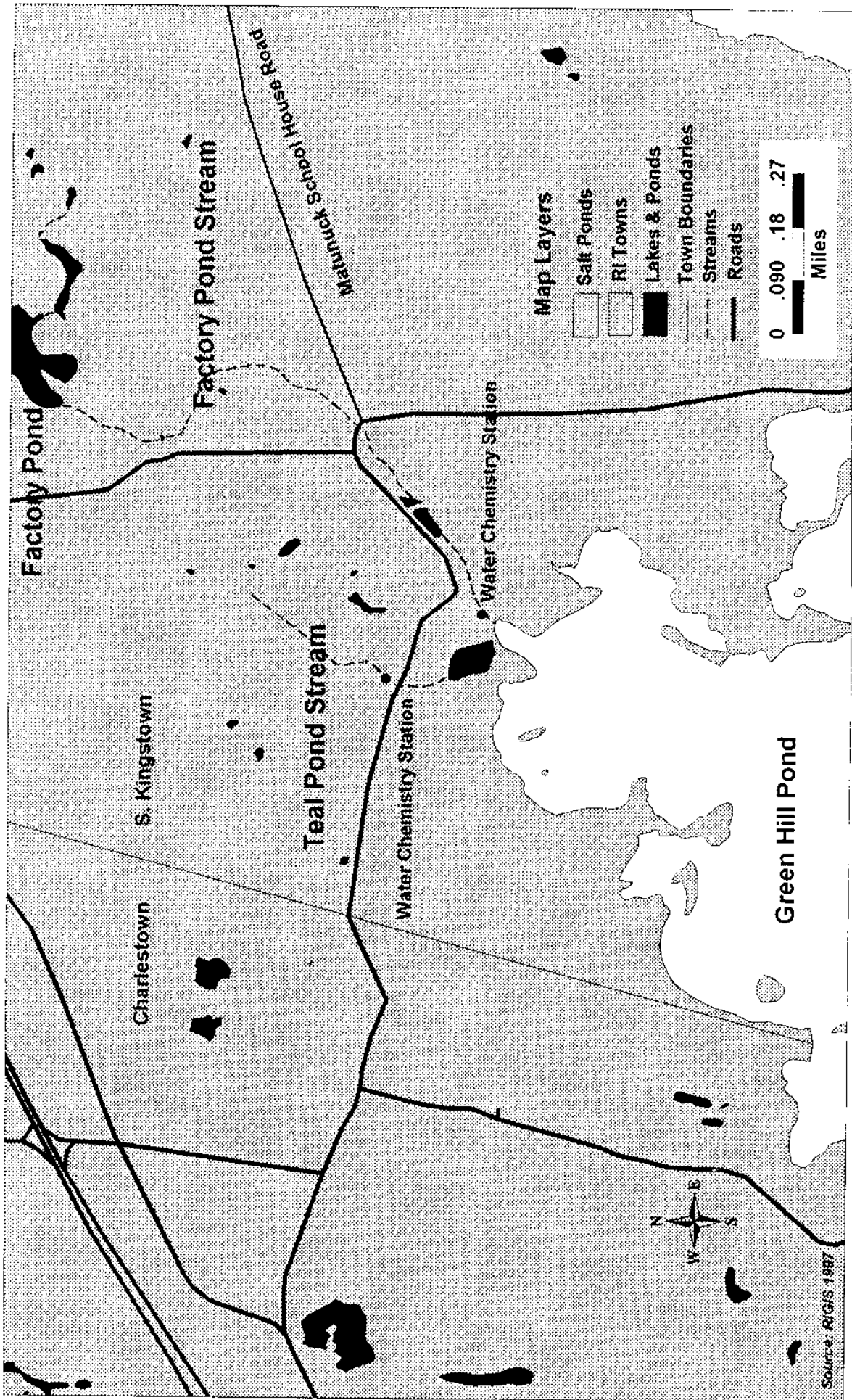
Date	Well WEW 522 <sup>1</sup> Water Level (ft)	Well CHW18 <sup>2</sup> Water Level (ft)
25-Oct-80	14.49	21.13
22-Nov-80	13.81	21.17
27-Dec-80	13.44	20.89
24-Jan-81	13.59	21.21
21-Feb-81	13.07	20.68
28-Mar-81	12.45	7
25-Apr-81	12.23	18.97
23-May-81	12.61	18.24
27-Jun-81	12.55	19.25
27-Jul-81	13.15	19.45
22-Aug-81	13.85	20.09
26-Sep-81	14.14	20.92
<b>1980-81 Average</b>	<b><u>13.28</u></b>	<b><u>20.09</u></b>
26-Oct-91	12.24	
21-Nov-91	12.33	19.28
23-Dec-91	11.86	17.23
24-Jan-92	11.74	17.44
25-Feb-92	11.73	17.88
28-Mar-92	11.86	17.44
28-Apr-92	11.78	17.29
26-May-92	12.79	17.95
26-Jun-92	12.67	19.01
24-Jun-96	13.21	19.8
27-Aug-92	12.97	19.1
25-Sep-92	12.94	19.12
<b>1991-92 Average</b>	<b><u>12.34</u></b>	<b><u>18.32</u></b>
23-Oct-92	13.07	19.12
27-Nov-92	12.26	19.16
23-Dec-92	10.83	14.58
22-Jan-93	11.33	15
19-Feb-93	11.39	16.1
25-Mar-93	10.53	13.43
27-Apr-93	11.23	13.78
25-May-93	12.21	15.85
24-Jun-93	13.12	17.54
26-Jul-93	14.14	18.9
26-Aug-93	14.65	19.83
23-Sep-93	14.69	20.38
<b>1992-93 Average</b>	<b><u>12.45</u></b>	<b><u>16.97</u></b>
25-Oct-93	14.03	20.49
26-Nov-93	13.49	20.56
28-Dec-93	12.07	18.57
28-Jan-94	12.2	17.43
22-Feb-94	12.77	17.62
24-Mar-94	11.12	15.08
21-Apr-94	11.33	14.09
27-May-94	12.41	16.46
27-Jun-94	13.09	17.89
26-Jul-94	13.96	18.96
25-Aug-94	13.44	19.66
28-Sep-94	13.56	20.16
<b>1993-94 Average</b>	<b><u>12.79</u></b>	<b><u>18.08</u></b>

<sup>1</sup> Well WEW 522 is located at Dunn's Corner, Westerly, R.I.

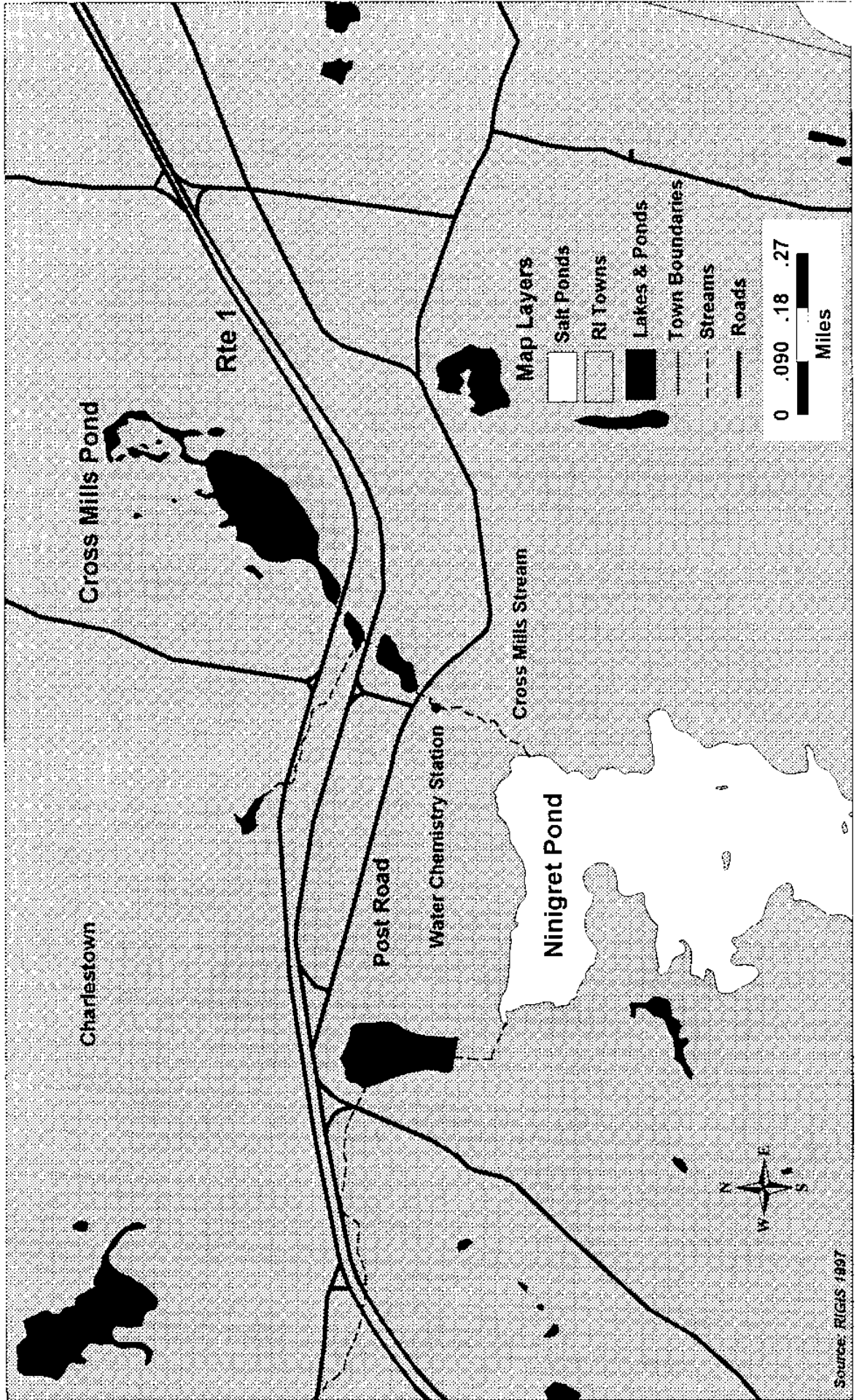
<sup>2</sup> Well CHW 586 is located at Burlingame State Park in Charlestown, R.I.

## Appendix C

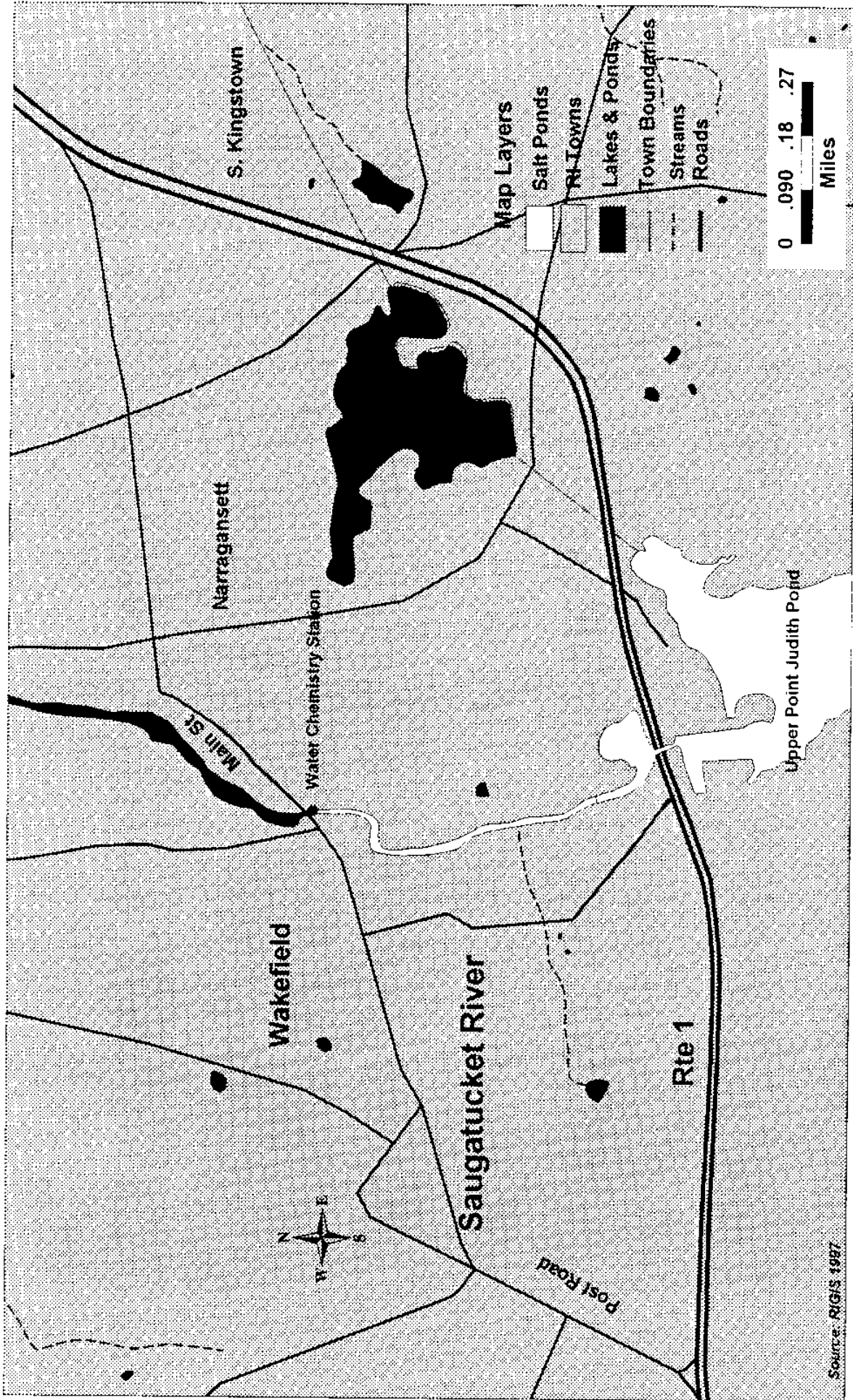




Source: R/GIS 1987



Source: RIGIS 1997



Source: RIGIS 1987

## Salt Pond Stream Chemistry Data

Stream	Salt Pond	Date	N ( $\mu\text{M/l}$ )	P ( $\mu\text{M/l}$ )	NH <sub>3</sub> ( $\mu\text{M/l}$ )	DON ( $\mu\text{M/l}$ )	DOP ( $\mu\text{M/l}$ )
Saugatucket	Point Judith	27-Jul-94	49.47	0.10	15.12	12.10	0.19
Saugatucket	Point Judith	19-Oct-94	79.95	0.07	17.48	-	-
Saugatucket	Point Judith	2-Nov-94	66.38	0.16	32.56	-	-
Saugatucket	Point Judith	22-Nov-94	30.46	0.30	39.15	-	-
Saugatucket	Point Judith	5-Dec-94	25.22	0.11	14.62	-	-
Saugatucket	Point Judith	28-Feb-95	29.40	0.38	17.45	24.10	0.00
Saugatucket	Point Judith	9-Apr-95	40.24	0.10	18.51	27.30	0.08
Saugatucket	Point Judith	23-Apr-95	25.07	0.08	10.52	29.90	0.14
Saugatucket	Point Judith	1-May-95	19.75	0.08	16.71	27.90	0.15
Saugatucket	Point Judith	12-May-95	24.90	0.08	17.90	27.60	0.18
Saugatucket	Point Judith	19-May-95	21.95	0.02	18.22	31.50	0.20
Teal	Green Hill	27-Jul-94	9.75	0.09	1.95	20.40	0.36
Teal	Green Hill	19-Oct-94	81.53	0.20	1.13	8.40	0.03
Teal	Green Hill	2-Nov-94	70.89	0.11	2.71	-	-
Teal	Green Hill	22-Nov-94	79.29	0.08	1.90	-	-
Teal	Green Hill	5-Dec-94	56.45	0.14	1.01	-	-
Teal	Green Hill	28-Feb-95	73.49	0.20	2.66	29.40	0.16
Teal	Green Hill	9-Apr-95	101.90	0.05	1.00	23.30	0.15
Teal	Green Hill	23-Apr-95	97.55	0.04	1.02	20.90	0.10
Teal	Green Hill	1-May-95	79.19	0.07	0.64	34.10	0.01
Teal	Green Hill	12-May-95	97.67	0.03	0.45	21.40	0.11
Teal	Green Hill	19-May-95	81.67	0.02	0.45	25.60	0.35
Factory	Green Hill	27-Jul-94	76.54	0.08	1.94	12.40	0.22
Factory	Green Hill	19-Oct-94	13.77	0.26	1.93	11.30	0.09
Factory	Green Hill	2-Nov-94	12.79	0.14	2.55	-	-
Factory	Green Hill	22-Nov-94	9.93	0.11	0.78	-	-
Factory	Green Hill	5-Dec-94	10.39	0.10	0.49	-	-
Factory	Green Hill	28-Feb-95	18.42	0.10	1.30	26.70	0.15
Factory	Green Hill	9-Apr-95	19.64	0.04	1.40	18.70	0.20
Factory	Green Hill	23-Apr-95	16.48	0.09	0.89	23.80	0.07
Factory	Green Hill	1-May-95	9.94	0.08	0.52	39.80	0.14
Factory	Green Hill	12-May-95	19.03	0.06	0.92	23.10	0.29
Factory	Green Hill	19-May-95	15.11	0.07	0.31	26.90	0.10
Cross Mills	Ninigret	27-Jul-94	0.73	0.22	0.97	32.50	0.30
Cross Mills	Ninigret	19-Oct-94	10.38	0.10	3.44	10.20	0.20
Cross Mills	Ninigret	2-Nov-94	9.14	0.15	4.89	-	-
Cross Mills	Ninigret	22-Nov-94	12.70	0.20	4.50	-	-
Cross Mills	Ninigret	5-Dec-94	15.27	0.12	4.76	-	-
Cross Mills	Ninigret	28-Feb-95	13.04	0.04	2.52	18.10	0.28
Cross Mills	Ninigret	9-Apr-95	7.69	0.11	2.57	17.80	0.19
Cross Mills	Ninigret	23-Apr-95	3.34	0.05	2.74	27.40	0.31
Cross Mills	Ninigret	1-May-95	2.14	0.04	3.71	27.60	0.33
Cross Mills	Ninigret	12-May-95	2.67	0.02	5.14	23.10	0.30
Cross Mills	Ninigret	19-May-95	7.94	0.05	6.25	23.70	0.40

## Salt Pond Streams Flux and Flow 1994-1995

Stream	Salt Pond	Date	Discharge $\text{m}^3 \text{d}^{-1}$	Flux $\text{kg NO}^3 \text{d}^{-1}$
Saugatucket	Point Judith	27-Jul-94	221.29	0.21
Saugatucket	Point Judith	19-Oct-94	17056.44	23.44
Saugatucket	Point Judith	2-Nov-94	14219.28	19.88
Saugatucket	Point Judith	22-Nov-94	64011.38	62.44
Saugatucket	Point Judith	5-Dec-94	156168	87.65
Saugatucket	Point Judith	28-Feb-95	323983.26	213.63
Saugatucket	Point Judith	9-Apr-95	118650.42	97.84
Saugatucket	Point Judith	23-Apr-95	87942.35	44.08
Saugatucket	Point Judith	1-May-95	232307.46	119.36
Saugatucket	Point Judith	12-May-95	123316.34	74.24
Saugatucket	Point Judith	19-May-95	139019.6	78.63
Teal	Green Hill	27-Jul-94	4644.29	0.89
Teal	Green Hill	19-Oct-94	7669.83	8.91
Teal	Green Hill	2-Nov-94	9533.8	9.61
Teal	Green Hill	22-Nov-94	4840.23	5.52
Teal	Green Hill	5-Dec-94	11645.85	9.39
Teal	Green Hill	28-Feb-95	16654.87	17.81
Teal	Green Hill	9-Apr-95	7669.99	11.06
Teal	Green Hill	23-Apr-95	9533.8	13.19
Teal	Green Hill	1-May-95	3459.7	3.88
Teal	Green Hill	12-May-95	2220.75	0.62
Teal	Green Hill	19-May-95	1903.99	2.19
Factory	Green Hill	27-Jul-94	1289.78	1.72
Factory	Green Hill	19-Oct-94	2722.16	0.61
Factory	Green Hill	2-Nov-94	2560.7	0.51
Factory	Green Hill	22-Nov-94	4812.51	0.67
Factory	Green Hill	5-Dec-94	14355.51	2.21
Factory	Green Hill	28-Feb-95	9828.5	2.74
Factory	Green Hill	9-Apr-95	8152.75	2.41
Factory	Green Hill	23-Apr-95	6383.53	1.56
Factory	Green Hill	1-May-95	11266	1.7
Factory	Green Hill	12-May-95	9058.61	1.66
Factory	Green Hill	19-May-95	5905.66	1.97
Cross Mills	Ninigret	27-Jul-94	11986.2	0.51
Cross Mills	Ninigret	19-Oct-94	11767.46	2.41
Cross Mills	Ninigret	2-Nov-94	18349.7	3.67
Cross Mills	Ninigret	22-Nov-94	18337.97	4.52
Cross Mills	Ninigret	5-Dec-94	19490.54	5.65
Cross Mills	Ninigret	28-Feb-95	26482.46	5.82
Cross Mills	Ninigret	9-Apr-95	14948.93	2.22
Cross Mills	Ninigret	23-Apr-95	16765.92	1.47
Cross Mills	Ninigret	1-May-95	23622.62	1.98
Cross Mills	Ninigret	12-May-95	20255.62	2.24
Cross Mills	Ninigret	19-May-95	20572.7	4.15