Appendix A. Boundary Conditions

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Appendix A1

Tidal Components at Open Boundary for 2006, 2008 and 2014

KEY	Tidal harmonics (amplitudes are in cm) !2006									
	S2	M2	N2	K2	K1	P1	O1	Q1	M4	M6
Total number of nodes	87									
Node, mean sea level	1	1.18								
Harmonic amplitude	24.9	87.6	17.9	8.5	50.7	14.1	33.3	6	0.2	0.4
Harmonic phase	8.4	19.6	-34.7	158.9	104.3	123.3	145	112.5	167.2	1.1

Tidal harmonics (amplitudes are in cm) !2006									
S2	M2	N2	K2	K1	P1	O1	Q1	M4	M6
87									
1	1.18								
24.9	87.6	17.9	8.5	50.7	14.1	33.3	6	0.2	0.4
8.4	19.6	-34.7	158.9	104.3	123.3	145	112.5	167.2	1.1
2	1.18								
24.7	86.8	17.7	8.4	50.3	14	33	5.9	0.2	0.4
8.8	19.9	-34.4	159.2	104.5	123.5	145.3	112.9	165.8	1.2
3	1.18								
24.5	86.1	17.6	8.4	50.1	13.9	32.8	5.9	0.2	0.3
9.1	20.1	-34.2	159.5	104.6	123.7	145.6	113.2	164.8	1.3
4	1.18								
24.3	85.5	17.5	8.3	49.9	13.9	32.6	5.9	0.2	0.3
9.5	20.4	-34	159.9	104.7	123.8	145.8	113.6	163.9	1.6
5	1.18								
24.3	85.4	17.4	8.3	49.9	13.9	32.6	5.8	0.2	0.3
10.1	20.8	-33.6	160.4	104.9	124	146	113.9	163.2	2
6	1.18								
24.3	85.3	17.4	8.3	49.8	13.9	32.5	5.8	0.2	0.3
10.6	21.2	-33.1	160.9	105.1	124.2	146.2	114.1	162.9	2.5
7	1.18								
24.5	85.8	17.5	8.4	49.9	13.9	32.6	5.8	0.2	0.3
11.3	21.7	-32.6	161.6	105.4	124.5	146.4	114.3	163.2	3.1
8	1.18								
24.6	86.1	17.6	8.4	49.9	13.9	32.6	5.8	0.2	0.3
11.8	22.2	-32.2	162.1	105.6	124.7	146.6	114.3	163.4	3.6
9	1.18								
24.7	86.4	17.6	8.5	49.9	13.9	32.6	5.8	0.2	0.3
12.3	22.6	-31.8	162.6	105.8	124.8	146.7	114.5	163.6	4.1
10	1.18								
24.8	86.7	17.7	8.5	50	13.9	32.7	5.8	0.2	0.3
12.7	22.9	-31.4	163	106	125.1	146.9	114.6	163.8	4.6
11	1.18								
24.9	87	17.8	8.5	50	13.9	32.8	5.8	0.2	0.3
13.2	23.3	-31	163.5	106.2	125.3	147.1	114.8	164.1	5.1
12	1.18								
25.1	87.3	17.8	8.6	50.1	14	32.8	5.8	0.2	0.3
13.6	23.7	-30.6	163.9	106.4	125.5	147.3	115	164.3	5.6
13	1.18								
25.2	87.6	17.9	8.6	50.2	14	32.9	5.9	0.2	0.3
14.1	24	-30.3	164.3	106.6	125.7	147.5	115.1	164.6	6.1
14	1.18								
25.3	87.8	17.9	8.7	50.3	14	33	5.9	0.2	0.3
14.4	24.3	-30	164.7	106.8	125.9	147.7	115.2	164.8	6.6
15	1.18								
25.4	88.1	18	8.7	50.3	14	33.1	5.9	0.2	0.3
14.8	24.6	-29.7	165.1	107	126.1	148	115.4	165.1	7.1
16	1.18								
25.5	88.3	18	8.7	50.4	14	33.2	5.9	0.2	0.3
15.2	24.9	-29.3	165.4	107.2	126.4	148.3	115.7	165.4	7.6
17	1.18								
25.6	88.6	18.1	8.8	50.3	14	33.2	5.9	0.2	0.3
15.6	25.2	-29	165.8	107.5	126.7	148.8	116.1	165.9	8.2
18	1.18								
25.8	89	18.2	8.8	50.3	14	33.1	5.9	0.2	0.3
16	25.6	-28.7	166.2	107.7	126.9	149.2	116.7	166.4	8.8
19	1.18								
25.9	89.3	18.2	8.9	50.2	14	32.9	5.9	0.2	0.3
16.4	25.9	-28.3	166.6	107.8	127	149.5	117.2	166.7	9.4
20	1.18								
26	89.5	18.3	8.9	50.2	13.9	32.7	5.9	0.2	0.3
16.8	26.2	-28	167	107.8	127	149.5	117.5	166.9	9.8
21	1.18								
26.1	89.7	18.3	9	50.2	13.9	32.5	5.8	0.3	0.3
17.2	26.5	-27.7	167.5	107.8	127	149.3	117.7	167.1	10.2
22	1.18								
26.1	89.8	18.3	9	50.2	14	32.5	5.8	0.3	0.3
17.4	26.8	-27.5	167.7	107.8	127	149	117.5	167.5	10.5

Tidal harmonics (amplitudes are in cm) !2008									
S2	M2	N2	K2	K1	P1	O1	Q1	M4	M6
87									
1	1.18								
24.9	88.4	18.1	8.1	49.8	14.1	32.4	5.8	0.2	0.4
8.4	176.8	-60.1	149.5	99.8	122.8	-51.4	93.5	167.2	1.1
2	1.18								
24.7	87.5	17.9	8	49.4	14	32.1	5.7	0.2	0.4
8.8	177.1	-59.8	149.8	100	123.1	-51.1	94	165.8	1.2
3	1.18								
24.5	86.8	17.7	7.9	49.2	13.9	31.9	5.7	0.2	0.3
9.1	177.3	-59.7	150.1	100.2	123.2	-50.8	94.3	164.8	1.3
4	1.18								
24.3	86.2	17.6	7.9	49	13.9	31.7	5.7	0.2	0.3
9.5	177.6	-59.4	150.5	100.3	123.4	-50.6	94.6	163.9	1.6
5	1.18								
24.3	86.1	17.6	7.9	49	13.9	31.7	5.7	0.2	0.3
10.1	178	-59	151	100.5	123.5	-50.4	94.9	163.2	2
6	1.18								
24.3	86.1	17.6	7.9	49	13.9	31.6	5.7	0.2	0.3
10.6	178.4	-58.5	151.5	100.7	123.8	-50.2	95.2	162.9	2.5
7	1.18								
24.5	86.5	17.7	7.9	49	13.9	31.7	5.7	0.2	0.3
11.3	178.9	-58	152.2	100.9	124	-50	95.3	163.2	3.1
8	1.18								
24.6	86.9	17.7	8	49	13.9	31.7	5.7	0.2	0.3
11.8	179.3	-57.6	152.7	101.1	124.2	-49.8	95.4	163.4	3.6
9	1.18								
24.7	87.1	17.8	8	49.1	13.9	31.7	5.7	0.2	0.3
12.3	179.7	-57.2	153.2	101.3	124.4	-49.7	95.5	163.6	4.1
10	1.18								
24.8	87.4	17.8	8	49.1	13.9	31.8	5.7	0.2	0.3
12.7	180.1	-56.8	153.6	101.5	124.6	-49.5	95.7	163.8	4.6
11	1.18								
24.9	87.7	17.9	8.1	49.2	13.9	31.9	5.7	0.2	0.3
13.2	180.4	-56.4	154.1	101.7	124.8	-49.3	95.9	164.1	5.1
12	1.18								
25.1	88	18	8.1	49.2	14	31.9	5.7	0.2	0.3
13.6	180.8	-56	154.5	101.9	125	-49.1	96	164.3	5.6
13	1.18								
25.2	88.3	18	8.2	49.3	14	32	5.7	0.2	0.3
14.1	181.1	-55.7	154.9	102.2	125.2	-48.9	96.2	164.6	6.1
14	1.18								
25.3	88.6	18.1	8.2	49.4	14	32.1	5.7	0.2	0.3
14.4	181.5	-55.4	155.3	102.4	125.4	-48.7	96.3	164.8	6.6
15	1.18								
25.4	88.8	18.1	8.2	49.4	14	32.2	5.7	0.2	0.3
14.8	181.7	-55.1	155.7	102.6	125.7	-48.4	96.4	165.1	7.1
16	1.18								
25.5	89.1	18.2	8.3	49.5	14	32.3	5.8	0.2	0.3
15.2	182	-54.8	156	102.8	125.9	-48.1	96.7	165.4	7.6
17	1.18								
25.6	89.4	18.2	8.3	49.4	14	32.3	5.8	0.2	0.3
15.6	182.4	-54.4	156.4	103	126.2	-47.6	97.1	165.9	8.2
18	1.18								
25.8	89.7	18.3	8.4	49.4	14	32.2	5.8	0.2	0.3
16	182.7	-54.1	156.8	103.2	126.4	-47.2	97.7	166.4	8.8
19	1.18								
25.9	90	18.4	8.4	49.3	14	32	5.8	0.2	0.3
16.4	183	-53.7	157.2	103.3	126.5	-46.9	98.2	166.7	9.4
20	1.18								
26	90.3	18.4	8.5	49.3	13.9	31.8	5.7	0.2	0.3
16.8	183.3	-53.4	157.6	103.4	126.6	-46.9	98.5	166.9	9.8
21	1.18								
26.1	90.5	18.5	8.5	49.3	13.9	31.6	5.7	0.3	0.3
17.2	183.7	-53.1	158.1	103.4	126.5	-47.1	98.8	167.1	10.2
22	1.18								
26.1	90.5	18.5	8.5	49.4	14	31.6	5.6	0.3	0.3
17.4	183.9	-52.9	158.3	103.4	126.5	-47.4	98.6	167.5	10.5

23	1.18								
26.2	89.9	18.3	9	50.3	14	32.7	5.8	0.3	0.3
17.7	27	-27.2	168	108	127.1	149	117.3	167.9	10.9
24	1.18								
26.2	90	18.4	9	50.4	14	32.8	5.8	0.3	0.3
17.9	27.2	-27	168.2	108.1	127.2	149	117.2	168.3	11.1
25	1.18								
26.3	90.2	18.4	9	50.5	14.1	33	5.8	0.3	0.3
18.2	27.4	-26.8	168.5	108.3	127.3	149.1	117.1	168.7	11.4
26	1.18								
26.4	90.3	18.4	9.1	50.6	14.1	33.1	5.9	0.3	0.3
18.6	27.7	-26.5	168.8	108.6	127.7	149.5	117.4	169.4	11.8
27	1.18								
26.5	90.6	18.5	9.1	50.7	14.1	33.2	5.9	0.3	0.3
19	28.1	-26.1	169.2	108.9	128	149.8	117.7	170.2	12.2
28	1.18								
26.6	90.8	18.5	9.1	50.7	14.1	33.2	5.9	0.3	0.3
19.3	28.3	-25.8	169.5	109.1	128.2	150	117.9	170.9	12.5
29	1.18								
26.7	91.1	18.6	9.2	50.6	14.1	33.3	5.9	0.3	0.3
19.9	28.8	-25.4	170	109.4	128.5	150.4	118.2	171.7	12.9
30	1.18								
26.8	91.4	18.6	9.2	50.6	14.1	33.3	5.9	0.3	0.3
20.3	29.2	-25	170.5	109.5	128.7	150.5	118.2	171.8	13.1
31	1.18								
26.9	91.6	18.7	9.3	50.5	14	33.2	5.9	0.3	0.3
20.8	29.5	-24.6	170.9	109.6	128.9	151	118.8	172.1	13.3
32	1.18								
27.1	91.9	18.7	9.3	50.7	14.1	33.1	5.9	0.3	0.3
21.5	30.1	-24	171.6	109.7	128.9	151	118.8	172.5	14
33	1.18								
27.2	92.1	18.8	9.4	50.9	14.1	33.2	5.9	0.3	0.3
21.9	30.5	-23.6	172	109.9	129	151	118.9	172.8	14.4
34	1.18								
27.3	92.3	18.8	9.4	51	14.2	33.3	5.9	0.3	0.3
22.3	30.9	-23.2	172.4	110	129.2	151.1	119.1	173	14.9
35	1.18								
27.4	92.4	18.9	9.5	51.1	14.2	33.4	5.9	0.3	0.3
22.8	31.3	-22.8	172.9	110.3	129.4	151.2	119.3	173.2	15.4
36	1.18								
27.5	92.5	18.9	9.5	51.2	14.2	33.5	5.9	0.3	0.3
23.3	31.7	-22.4	173.4	110.7	129.6	151.4	119.7	173.6	16.3
37	1.18								
27.5	92.6	18.9	9.6	51.2	14.3	33.7	5.9	0.3	0.3
23.8	32.1	-22	173.9	111	129.8	151.6	119.5	174	17.2
38	1.18								
27.6	92.6	18.9	9.6	51.2	14.3	34	6	0.3	0.3
24.2	32.4	-21.7	174.3	111.2	130.1	152.2	119.6	174.3	17.9
39	1.18								
27.6	92.6	18.9	9.6	51	14.3	33.9	6	0.3	0.3
24.5	32.6	-21.4	174.7	111.4	130.6	152.8	120.3	174.6	18.5
40	1.18								
27.6	92.7	18.9	9.6	50.9	14.3	33.7	6	0.3	0.3
24.8	32.8	-21.2	175.1	111.4	130.8	153	120.7	174.8	19.2
41	1.18								
27.7	92.8	18.9	9.7	51.1	14.3	33.5	5.9	0.3	0.2
25.2	33.1	-21	175.5	111.3	130.9	153.1	121.2	175.3	20
42	1.18								
27.8	93.1	19	9.7	51.5	14.3	33.6	5.9	0.3	0.2
25.5	33.4	-20.7	176	111.4	131	152.9	120.9	175.8	20.8
43	1.18								
27.9	93.4	19	9.7	52.2	14.4	34.1	6	0.3	0.2
25.9	33.8	-20.3	176.4	112.1	131.3	153	120.7	175.6	21.5
44	1.18								
28	93.6	19.1	9.7	52.1	14.4	34.2	6	0.3	0.2
26.3	34.1	-20	176.8	113	132	154	121.5	175.7	22.2
45	1.18								
28.1	93.9	19.1	9.8	51.8	14.4	33.9	6	0.3	0.2
26.7	34.4	-19.6	177.1	113.4	132.4	154.4	122.2	176.3	23.1
46	1.18								

23	1.18								
26.2	90.7	18.5	8.5	49.4	14	31.8	5.6	0.3	0.3
17.7	184.1	-52.6	158.6	103.5	126.6	-47.4	98.3	167.9	10.9
24	1.18								
26.2	90.8	18.5	8.5	49.5	14	31.9	5.7	0.3	0.3
17.9	184.3	-52.4	158.8	103.6	126.7	-47.4	98.2	168.3	11.1
25	1.18								
26.3	90.9	18.5	8.6	49.6	14.1	32.1	5.7	0.3	0.3
18.2	184.6	-52.2	159.1	103.8	126.9	-47.3	98.2	168.7	11.4
26	1.18								
26.4	91.1	18.6	8.6	49.7	14.1	32.2	5.7	0.3	0.3
18.6	184.9	-51.9	159.4	104.1	127.2	-46.9	98.4	169.4	11.8
27	1.18								
26.5	91.4	18.6	8.6	49.8	14.1	32.3	5.7	0.3	0.3
19	185.2	-51.5	159.8	104.4	127.5	-46.6	98.7	170.2	12.2
28	1.18								
26.6	91.6	18.7	8.7	49.8	14.1	32.3	5.7	0.3	0.3
19.3	185.5	-51.2	160.1	104.6	127.7	-46.4	99	170.9	12.5
29	1.18								
26.7	91.9	18.8	8.7	49.7	14.1	32.3	5.7	0.3	0.3
19.9	185.9	-50.8	160.6	104.9	128.1	-46	99.3	171.7	12.9
30	1.18								
26.8	92.2	18.8	8.8	49.7	14.1	32.4	5.8	0.3	0.3
20.3	186.3	-50.4	161.1	105.1	128.2	-45.9	99.3	171.8	13.1
31	1.18								
26.9	92.4	18.8	8.8	49.6	14	32.3	5.7	0.3	0.3
20.8	186.7	-50	161.5	105.1	128.4	-45.4	99.8	172.1	13.3
32	1.18								
27.1	92.7	18.9	8.8	49.8	14.1	32.2	5.7	0.3	0.3
21.5	187.3	-49.4	162.2	105.2	128.4	-45.4	99.9	172.5	14
33	1.18								
27.2	92.9	19	8.9	50	14.1	32.3	5.7	0.3	0.3
21.9	187.7	-49	162.6	105.4	128.6	-45.4	100	172.8	14.4
34	1.18								
27.3	93.1	19	8.9	50.1	14.2	32.4	5.7	0.3	0.3
22.3	188	-48.6	163	105.6	128.7	-45.3	100.1	173	14.9
35	1.18								
27.4	93.2	19	9	50.2	14.2	32.5	5.8	0.3	0.3
22.8	188.4	-48.2	163.5	105.8	128.9	-45.2	100.4	173.2	15.4
36	1.18								
27.5	93.3	19	9	50.3	14.2	32.6	5.7	0.3	0.3
23.3	188.8	-47.8	164	106.2	129.1	-45	100.7	173.6	16.3
37	1.18								
27.5	93.4	19	9	50.3	14.3	32.8	5.8	0.3	0.3
23.8	189.2	-47.4	164.5	106.5	129.3	-44.8	100.6	174	17.2
38	1.18								
27.6	93.4	19	9.1	50.3	14.3	33	5.8	0.3	0.3
24.2	189.5	-47.1	164.9	106.8	129.7	-44.2	100.6	174.3	17.9
39	1.18								
27.6	93.4	19.1	9.1	50.1	14.3	33	5.8	0.3	0.3
24.5	189.8	-46.8	165.3	106.9	130.1	-43.6	101.3	174.6	18.5
40	1.18								
27.6	93.5	19	9.1	50	14.3	32.8	5.8	0.3	0.3
24.8	189.9	-46.7	165.7	106.9	130.3	-43.4	101.7	174.8	19.2
41	1.18								
27.7	93.6	19.1	9.1	50.1	14.3	32.6	5.8	0.3	0.2
25.2	190.2	-46.4	166.1	106.8	130.5	-43.3	102.2	175.3	20
42	1.18								
27.8	93.9	19.1	9.2	50.6	14.3	32.7	5.8	0.3	0.2
25.5	190.5	-46.1	166.6	107	130.5	-43.5	102	175.8	20.8
43	1.18								
27.9	94.2	19.2	9.2	51.2	14.4	33.1	5.8	0.3	0.2
25.9	190.9	-45.7	167	107.7	130.8	-43.4	101.8	175.6	21.5
44	1.18								
28	94.4	19.2	9.2	51.2	14.4	33.2	5.9	0.3	0.2
26.3	191.2	-45.4	167.4	108.5	131.5	-42.4	102.5	175.7	22.2
45	1.18								
28.1	94.7	19.3	9.3	50.9	14.4	33	5.8	0.3	0.2
26.7	191.6	-45	167.7	109	131.9	-42	103.2	176.3	23.1
46	1.18								

28.2	94.1	19.2	9.8	51.5	14.3	33.7	6	0.3	0.2	28.2	94.9	19.3	9.3	50.5	14.3	32.7	5.8	0.3	0.2
27.1	34.8	-19.3	177.5	113.8	132.7	154.7	122.6	176.7	23.7	27.1	191.9	-44.7	168.1	109.3	132.3	-41.7	103.6	176.7	23.7
47	1.18									47	1.18								
28.3	94.2	19.2	9.8	51.4	14.3	33.7	5.9	0.3	0.2	28.3	95	19.3	9.3	50.5	14.3	32.7	5.8	0.3	0.2
27.4	35.1	-19	177.8	113.9	132.8	154.6	122.6	177	24.4	27.4	192.2	-44.4	168.4	109.5	132.3	-41.8	103.6	177	24.4
48	1.18									48	1.18								
28.4	94.4	19.2	9.9	51.2	14.3	33.7	5.9	0.3	0.2	28.4	95.2	19.4	9.3	50.3	14.3	32.8	5.8	0.3	0.2
27.8	35.4	-18.6	178.2	114.1	133	154.7	122.6	177.4	25.1	27.8	192.5	-44	168.8	109.7	132.6	-41.7	103.7	177.4	25.1
49	1.18									49	1.18								
28.6	94.6	19.3	9.9	50.6	14.2	33.7	5.9	0.3	0.2	28.6	95.4	19.4	9.4	49.7	14.2	32.8	5.8	0.3	0.2
28.4	35.9	-18.1	178.7	114.2	133.4	155	122.8	177.8	26.3	28.4	193.1	-43.5	169.3	109.8	132.9	-41.4	103.8	177.8	26.3
50	1.18									50	1.18								
28.7	94.8	19.3	10	50.3	14.1	33.7	5.9	0.3	0.2	28.7	95.6	19.5	9.4	49.4	14.1	32.7	5.8	0.3	0.2
28.8	36.3	-17.7	179.1	113.9	133.5	155.4	123.2	177.8	27.3	28.8	193.4	-43.1	169.7	109.5	133	-41	104.2	177.8	27.3
51	1.18									51	1.18								
28.7	94.9	19.3	10	50.3	14.1	33.5	5.9	0.3	0.1	28.7	95.8	19.5	9.5	49.4	14.1	32.6	5.8	0.3	0.1
29.2	36.6	-17.4	179.4	113.6	133.4	155.7	123.5	177.6	28	29.2	193.7	-42.8	170	109.1	132.9	-40.7	104.6	177.6	28
52	1.18									52	1.18								
28.8	95.1	19.4	10	50.5	14.1	33.3	5.9	0.3	0.1	28.8	95.9	19.5	9.5	49.6	14.1	32.3	5.7	0.3	0.1
29.5	36.9	-17.1	179.8	113.2	133.2	155.6	123.7	177.6	28.8	29.5	194	-42.5	170.4	108.8	132.7	-40.8	104.7	177.6	28.8
53	1.18									53	1.18								
28.9	95.2	19.4	10	51.1	14.1	33.1	5.8	0.3	0.1	28.9	96	19.5	9.5	50.2	14.1	32.2	5.7	0.3	0.1
29.8	37.2	-16.8	180.2	113	132.7	155	123.3	177.9	29.7	29.8	194.3	-42.2	170.8	108.5	132.2	-41.4	104.3	177.9	29.7
54	1.18									54	1.18								
28.9	95.2	19.4	10	51.6	14.3	33.5	5.9	0.3	0.1	28.9	96.1	19.6	9.5	50.7	14.3	32.5	5.7	0.3	0.1
30.1	37.4	-16.6	180.4	113.5	132.8	154.8	122.8	178.1	30.2	30.1	194.5	-42	171	109	132.3	-41.6	103.8	178.1	30.2
55	1.18									55	1.18								
29	95.4	19.4	10.1	51.8	14.4	33.7	5.9	0.3	0.1	29	96.2	19.6	9.5	50.8	14.4	32.8	5.8	0.3	0.1
30.4	37.7	-16.3	180.7	114.2	133.3	155.2	123.2	178.3	31.5	30.4	194.8	-41.7	171.3	109.7	132.9	-41.2	104.2	178.3	31.5
56	1.18									56	1.18								
29.1	95.6	19.5	10.1	51.7	14.4	33.8	5.9	0.3	0.1	29.1	96.4	19.6	9.6	50.7	14.4	32.9	5.8	0.3	0.1
30.7	38	-16	181	114.8	133.9	155.4	123.6	178.4	32.9	30.7	195.1	-41.4	171.6	110.3	133.4	-41	104.6	178.4	32.9
57	1.18									57	1.18								
29.2	95.7	19.5	10.1	51.3	14.3	34	5.9	0.3	0.1	29.2	96.6	19.7	9.6	50.4	14.3	33.1	5.8	0.3	0.1
31.1	38.3	-15.7	181.4	115.1	134.2	155.5	123.5	178.5	34.8	31.1	195.4	-41.1	172	110.7	133.7	-40.9	104.5	178.5	34.8
58	1.18									58	1.18								
29.3	95.9	19.5	10.2	51.1	14.3	34.1	6	0.3	0.1	29.3	96.7	19.7	9.6	50.2	14.3	33.2	5.8	0.3	0.1
31.5	38.6	-15.3	181.7	115	134.3	156.2	123.8	178.6	36.8	31.5	195.8	-40.7	172.3	110.6	133.8	-40.2	104.9	178.6	36.8
59	1.18									59	1.18								
29.4	96.1	19.6	10.2	51.2	14.3	33.9	6	0.3	0.1	29.4	96.9	19.7	9.7	50.2	14.3	33	5.8	0.3	0.1
31.8	38.9	-15	182	114.9	134.4	156.6	124.4	178.7	39	31.8	196.1	-40.4	172.6	110.5	133.9	-39.8	105.4	178.7	39
60	1.18									60	1.18								
29.5	96.3	19.6	10.3	51.3	14.3	33.9	6	0.3	0.1	29.5	97.1	19.8	9.7	50.4	14.3	33	5.8	0.3	0.1
32.1	39.2	-14.7	182.3	115.1	134.5	156.6	124.5	178.7	41.8	32.1	196.3	-40.2	172.9	110.7	134	-39.8	105.5	178.7	41.8
61	1.18									61	1.18								
29.6	96.4	19.6	10.3	51.4	14.3	33.9	6	0.3	0.1	29.6	97.2	19.8	9.7	50.5	14.3	33	5.8	0.3	0.1
32.2	39.3	-14.6	182.5	115.2	134.6	156.6	124.5	178.8	43.7	32.2	196.5	-40	173.1	110.7	134.1	-39.8	105.5	178.8	43.7
62	1.18									62	1.18								
29.6	96.5	19.6	10.3	51.4	14.3	34	6	0.3	0.1	29.6	97.3	19.8	9.8	50.5	14.3	33	5.8	0.3	0.1
32.4	39.5	-14.5	182.6	115.3	134.7	156.7	124.6	178.8	45.6	32.4	196.6	-39.9	173.2	110.9	134.2	-39.7	105.6	178.8	45.6
63	1.18									63	1.18								
29.7	96.6	19.7	10.3	51.4	14.3	33.9	6	0.3	0.1	29.7	97.5	19.8	9.8	50.5	14.3	33	5.8	0.3	0.1
32.6	39.6	-14.3	182.8	115.4	134.8	156.9	125	178.8	48	32.6	196.8	-39.7	173.4	111	134.3	-39.5	106	178.8	48
64	1.18									64	1.18								
29.7	96.7	19.7	10.3	51.4	14.3	33.9	5.9	0.3	0.1	29.7	97.6	19.9	9.8	50.5	14.3	33	5.8	0.3	0.1
32.8	39.8	-14.1	183	115.5	134.8	156.7	124.8	178.8	51	32.8	196.9	-39.5	173.6	111	134.3	-39.7	105.8	178.8	51
65	1.18									65	1.18								
29.8	96.8	19.7	10.4	51.5	14.3	34	6	0.3	0.1	29.8	97.6	19.9	9.8	50.5	14.3	33.1	5.8	0.3	0.1
32.9	39.9	-14	183.2	115.6	134.9	156.8	124.7	178.8	52.8	32.9	197.1	-39.4	173.8	111.1	134.4	-39.6	105.7	178.8	52.8
66	1.18									66	1.18								
29.8	96.9	19.7	10.4	51.5	14.3	34.1	6	0.3	0.1	29.8	97.7	19.9	9.8	50.6	14.3	33.2	5.8	0.3	0.1
33	40	-13.9	183.3	115.7	135.1	157.1	124.8	178.8	54.9	33	197.2	-39.3	173.9	111.3	134.6	-39.3	105.9	178.8	54.9
67	1.18									67	1.18								
29.9	97	19.7	10.4	51.4	14.3	34.1	6	0.3	0	29.9	97.8	19.9	9.9	50.5	14.3	33.1	5.9	0.3	0
33.2	40.2	-13.7	183.4	115.8	135.2	157.4	125.3	178.8	59.3	33.2	197.3	-39.1	174	111.4	134.8	-39	106.3	178.8	59.3
68	1.18									68	1.18								
29.9	97.1	19.8	10.4	51.4	14.3	34	6	0.3	0	29.9	97.9	19.9	9.9	50.5	14.3	33	5.8	0.3	0
33.4	40.3	-13.6	183.6	115.9	135.4	157.6	125.7	178.8	64	33.4	197.5	-39	174.2	111.5	134.9	-38.8	106.7	178.8	64
69	1.18									69	1.18								
30	97.2	19.8	10.5	51.4	14.3	33.8	6	0.3	0	30	98	20	9.9	50.4	14.3	32.9	5.8	0.3	0

33.6	40.5	-13.4	183.8	115.9	135.3	157.5	125.8	178.6	71.3	33.6	197.6	-38.8	174.4	111.5	134.8	-38.9	106.8	178.6	71.3
70	1.18									70	1.18								
30	97.3	19.8	10.5	51.4	14.3	33.7	5.9	0.3	0	30	98.1	20	9.9	50.5	14.3	32.8	5.7	0.3	0
33.7	40.6	-13.3	184	115.8	135.1	157.2	125.6	178.4	80.3	33.7	197.8	-38.7	174.6	111.4	134.6	-39.2	106.6	178.4	80.3
71	1.18									71	1.18								
30.1	97.4	19.8	10.5	51.5	14.3	33.8	5.9	0.3	0	30.1	98.2	20	9.9	50.5	14.3	32.9	5.7	0.3	0
33.9	40.7	-13.1	184.1	115.9	135.1	156.9	125.1	178.3	88.5	33.9	197.9	-38.5	174.7	111.4	134.6	-39.5	106.2	178.3	88.5
72	1.18									72	1.18								
30.1	97.5	19.8	10.5	51.5	14.4	34	5.9	0.3	0	30.1	98.3	20	9.9	50.6	14.4	33.1	5.8	0.3	0
34	40.8	-13	184.2	116	135.3	156.9	124.8	178.2	96.7	34	198	-38.4	174.8	111.6	134.8	-39.5	105.9	178.2	96.7
73	1.18									73	1.18								
30.2	97.7	19.9	10.5	51.5	14.4	34.1	6	0.3	0	30.2	98.5	20.1	10	50.6	14.4	33.2	5.8	0.3	0
34.1	41	-12.9	184.4	116.2	135.5	157.3	125.1	178	108.4	34.1	198.1	-38.3	175	111.8	135.1	-39.1	106.2	178	108.4
74	1.18									74	1.18								
30.3	97.9	19.9	10.6	51.4	14.4	34.1	6	0.3	0	30.3	98.8	20.1	10	50.5	14.4	33.2	5.8	0.3	0
34.3	41.1	-12.8	184.5	116.3	135.7	157.6	125.5	177.8	121.8	34.3	198.2	-38.2	175.1	111.8	135.2	-38.8	106.5	177.8	121.8
75	1.18									75	1.18								
30.5	98.3	20	10.6	51.4	14.3	34.1	6	0.3	0	30.5	99.1	20.2	10.1	50.5	14.3	33.1	5.8	0.3	0
34.4	41.2	-12.6	184.7	116.2	135.7	157.7	125.7	177.6	139.6	34.4	198.4	-38.1	175.3	111.8	135.2	-38.7	106.7	177.6	139.6
76	1.18									76	1.18								
30.6	98.7	20.1	10.7	51.5	14.3	34	6	0.3	0	30.6	99.6	20.3	10.1	50.6	14.3	33.1	5.8	0.3	0
34.5	41.3	-12.5	184.8	116.1	135.6	157.8	125.7	177.6	154.9	34.5	198.5	-37.9	175.4	111.7	135.1	-38.6	106.8	177.6	154.9
77	1.18									77	1.18								
31.3	100.4	20.4	11	51.7	14.4	34.1	6	0.3	0.1	31.3	101.3	20.6	10.4	50.8	14.4	33.2	5.8	0.3	0.1
35.2	41.9	-11.9	185.4	116.8	136.3	158.3	126.4	179.7	185.1	35.2	199	-37.3	176	112.3	135.8	-38.1	107.4	179.7	185.1
78	1.18									78	1.18								
32.5	103.1	21	11.5	51.8	14.4	34.4	6	0.4	0.3	32.5	104	21.2	10.9	50.9	14.4	33.4	5.9	0.4	0.3
35.8	42.4	-11.3	185.7	117.6	137.3	159.1	127.1	184	194.8	35.8	199.5	-36.7	176.3	113.2	136.8	-37.3	108.1	184	194.8
79	1.18									79	1.18								
33	104.7	21.3	11.7	51.6	14.4	34.2	6	0.4	0.3	33	105.6	21.5	11.1	50.7	14.4	33.3	5.9	0.4	0.3
36.1	42.6	-11.1	186	117.9	137.5	159.4	127.5	184.9	199.6	36.1	199.7	-36.5	176.6	113.4	137	-37	108.5	184.9	199.6
80	1.18									80	1.18								
33.7	106.6	21.6	11.9	51.5	14.3	34.2	6	0.4	0.4	33.7	107.5	21.8	11.3	50.6	14.3	33.2	5.8	0.4	0.4
36.2	42.7	-10.9	186.3	118.1	137.7	159.6	127.8	186.6	203.9	36.2	199.9	-36.3	176.9	113.7	137.2	-36.8	108.8	186.6	203.9
81	1.18									81	1.18								
34.2	108.1	21.9	12.1	51.5	14.3	34.1	6	0.4	0.5	34.2	109	22.1	11.5	50.6	14.3	33.2	5.8	0.4	0.5
36.3	42.8	-10.9	186.5	118.3	137.9	159.7	127.9	188.3	206.6	36.3	199.9	-36.3	177.1	113.9	137.4	-36.7	108.9	188.3	206.6
82	1.18									82	1.18								
34.5	109.2	22.1	12.2	51.5	14.3	34.2	6	0.4	0.6	34.5	110.1	22.3	11.6	50.6	14.3	33.2	5.8	0.4	0.6
36.3	42.8	-10.9	186.5	118.5	138	159.8	127.9	189.7	208.1	36.3	199.9	-36.3	177.1	114.1	137.5	-36.6	109	189.7	208.1
83	1.18									83	1.18								
35	110.5	22.4	12.4	51.7	14.4	34.2	6	0.4	0.7	35	111.4	22.6	11.8	50.7	14.4	33.2	5.8	0.4	0.7
36.3	42.7	-10.9	186.5	118.7	138.2	159.9	128.1	191.4	209.5	36.3	199.8	-36.3	177.1	114.3	137.7	-36.5	109.1	191.4	209.5
84	1.18									84	1.18								
35.4	111.5	22.6	12.6	51.8	14.4	34.2	6	0.5	0.7	35.4	112.5	22.8	11.9	50.9	14.4	33.3	5.8	0.5	0.7
36.1	42.6	-11	186.4	118.8	138.3	159.9	128.2	192.7	210.5	36.1	199.7	-36.4	177	114.4	137.9	-36.5	109.2	192.7	210.5
85	1.18									85	1.18								
35.7	112.5	22.8	12.7	52	14.5	34.3	6	0.5	0.8	35.7	113.5	23	12.1	51.1	14.5	33.4	5.9	0.5	0.8
35.9	42.4	-11.2	186.2	118.9	138.4	160	128.2	193.9	211.3	35.9	199.5	-36.6	176.8	114.4	137.9	-36.4	109.3	193.9	211.3
86	1.18									86	1.18								
35.9	113.1	22.9	12.8	52.1	14.5	34.4	6	0.4	0.8	35.9	114	23.1	12.1	51.2	14.5	33.5	5.9	0.4	0.8
35.7	42.2	-11.4	185.9	118.9	138.4	160	128.2	194.6	211.9	35.7	199.3	-36.8	176.5	114.4	137.9	-36.4	109.3	194.6	211.9
87	1.18									87	1.18								
35.9	113.1	22.9	12.8	52.2	14.5	34.4	6	0.5	0.8	35.9	114.1	23.1	12.1	51.2	14.5	33.5	5.9	0.5	0.8
35.2	41.8	-11.8	185.4	118.8	138.3	159.9	128.2	190.3	212.7	35.2	198.9	-37.2	176	114.4	137.9	-36.5	109.2	190.3	212.7

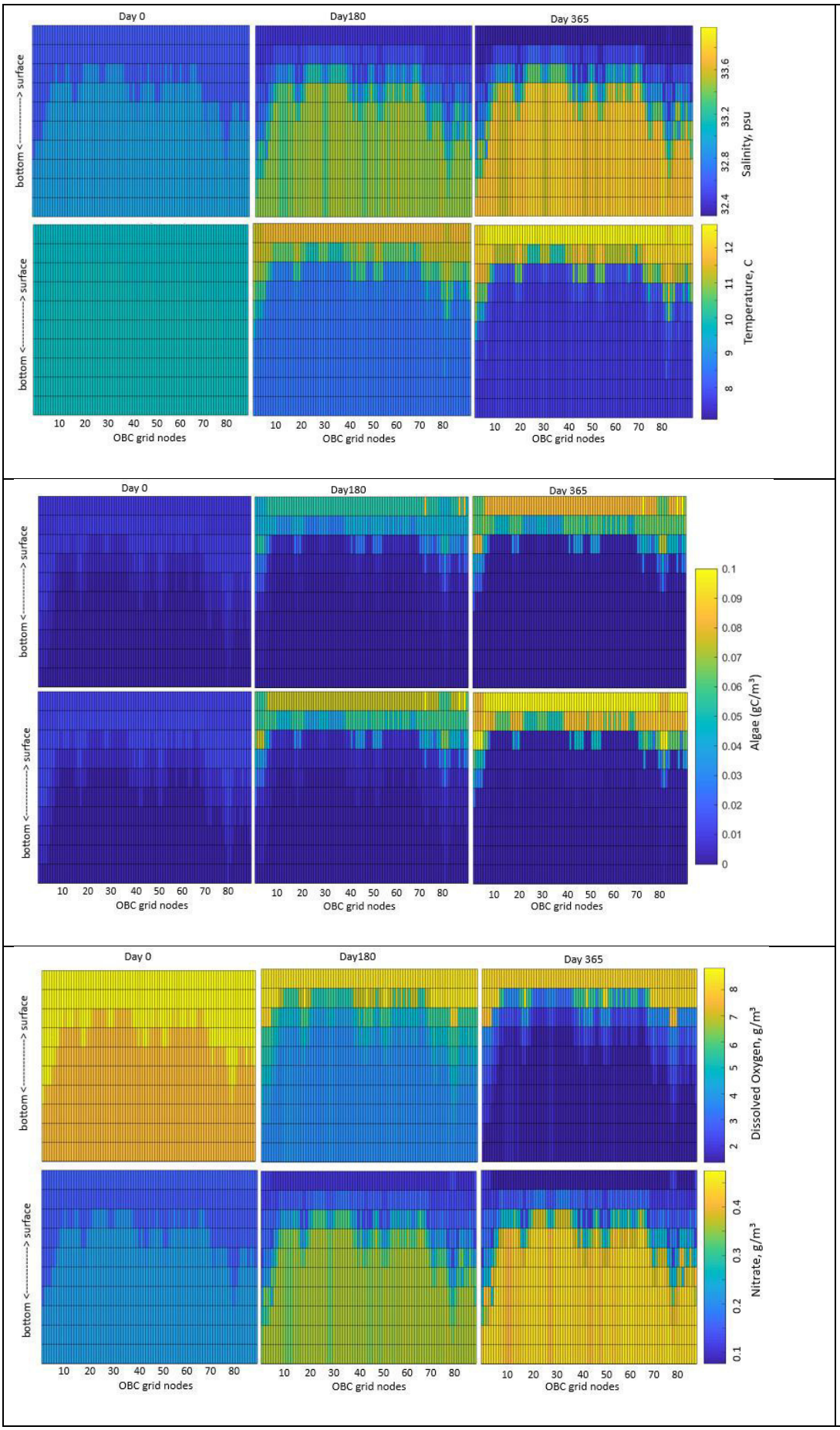
Tidal harmonics (amplitudes are in cm) !**2014**									
S2	M2	N2	K2	K1	P1	O1	Q1	M4	M6
87									
1	1.18								
24.9	94.1	19.2	5	40.8	14.1	23.3	4.2	0.2	0.4
8.4	-18.5	-56.9	151.1	100	123.4	113.4	96.8	167.2	1.1
2	1.18								
24.7	93.2	19.1	4.9	40.5	14	23.1	4.1	0.2	0.4
8.8	-18.2	-56.6	151.5	100.2	123.6	113.8	97.3	165.8	1.2
3	1.18								
24.5	92.4	18.9	4.9	40.3	13.9	23	4.1	0.2	0.3
9.1	-18	-56.5	151.7	100.4	123.7	114	97.6	164.8	1.3
4	1.18								
24.3	91.8	18.8	4.8	40.2	13.9	22.9	4.1	0.2	0.3
9.5	-17.7	-56.2	152.1	100.5	123.9	114.2	97.9	163.9	1.6
5	1.18								
24.3	91.7	18.7	4.8	40.1	13.9	22.8	4.1	0.2	0.3
10.1	-17.3	-55.8	152.6	100.7	124.1	114.4	98.2	163.2	2
6	1.18								
24.3	91.7	18.7	4.8	40.1	13.9	22.8	4.1	0.2	0.3
10.6	-16.9	-55.3	153.2	100.9	124.3	114.7	98.5	162.9	2.5
7	1.18								
24.5	92.1	18.8	4.9	40.2	13.9	22.8	4.1	0.2	0.3
11.3	-16.4	-54.8	153.8	101.1	124.5	114.9	98.6	163.2	3.1
8	1.18								
24.6	92.5	18.9	4.9	40.2	13.9	22.8	4.1	0.2	0.3
11.8	-16	-54.4	154.3	101.3	124.7	115	98.7	163.4	3.6
9	1.18								
24.7	92.8	18.9	4.9	40.2	13.9	22.9	4.1	0.2	0.3
12.3	-15.6	-54	154.8	101.5	124.9	115.2	98.8	163.6	4.1
10	1.18								
24.8	93.1	19	5	40.2	13.9	22.9	4.1	0.2	0.3
12.7	-15.2	-53.6	155.3	101.7	125.1	115.4	99	163.8	4.6
11	1.18								
24.9	93.4	19.1	5	40.3	13.9	23	4.1	0.2	0.3
13.2	-14.8	-53.2	155.7	101.9	125.3	115.5	99.2	164.1	5.1
12	1.18								
25.1	93.7	19.1	5	40.3	14	23	4.1	0.2	0.3
13.6	-14.5	-52.8	156.2	102.1	125.5	115.7	99.3	164.3	5.6
13	1.18								
25.2	94	19.2	5	40.4	14	23.1	4.1	0.2	0.3
14.1	-14.1	-52.5	156.6	102.3	125.8	115.9	99.5	164.6	6.1
14	1.18								
25.3	94.3	19.3	5.1	40.4	14	23.1	4.1	0.2	0.3
14.4	-13.8	-52.2	157	102.5	126	116.1	99.6	164.8	6.6
15	1.18								
25.4	94.6	19.3	5.1	40.5	14	23.2	4.1	0.2	0.3
14.8	-13.5	-51.9	157.3	102.7	126.2	116.4	99.7	165.1	7.1
16	1.18								
25.5	94.8	19.4	5.1	40.5	14	23.3	4.1	0.2	0.3
15.2	-13.2	-51.6	157.7	103	126.5	116.8	100	165.4	7.6
17	1.18								
25.6	95.2	19.4	5.1	40.5	14	23.3	4.2	0.2	0.3
15.6	-12.9	-51.2	158.1	103.2	126.7	117.2	100.4	165.9	8.2
18	1.18								
25.8	95.5	19.5	5.2	40.5	14	23.2	4.2	0.2	0.3
16	-12.6	-50.9	158.5	103.4	127	117.7	101	166.4	8.8
19	1.18								
25.9	95.9	19.6	5.2	40.4	14	23.1	4.1	0.2	0.3
16.4	-12.2	-50.5	158.9	103.5	127.1	117.9	101.5	166.7	9.4
20	1.18								
26	96.1	19.6	5.2	40.4	13.9	22.9	4.1	0.2	0.3
16.8	-11.9	-50.2	159.3	103.6	127.1	117.9	101.8	166.9	9.8
21	1.18								
26.1	96.3	19.6	5.2	40.4	13.9	22.7	4.1	0.3	0.3
17.2	-11.6	-49.9	159.7	103.6	127	117.8	102.1	167.1	10.2
22	1.18								
26.1	96.4	19.7	5.2	40.4	14	22.8	4.1	0.3	0.3
17.4	-11.4	-49.7	159.9	103.6	127	117.5	101.9	167.5	10.5
23	1.18								
26.2	96.5	19.7	5.2	40.5	14	22.9	4.1	0.3	0.3

17.7	-11.2	-49.4	160.2	103.7	127.1	117.4	101.6	167.9	10.9
24	1.18								
26.2	96.6	19.7	5.3	40.6	14	23	4.1	0.3	0.3
17.9	-10.9	-49.2	160.4	103.8	127.2	117.4	101.5	168.3	11.1
25	1.18								
26.3	96.8	19.7	5.3	40.7	14.1	23.1	4.1	0.3	0.3
18.2	-10.7	-49	160.7	104	127.4	117.5	101.5	168.7	11.4
26	1.18								
26.4	97	19.8	5.3	40.8	14.1	23.2	4.1	0.3	0.3
18.6	-10.4	-48.7	161.1	104.3	127.7	117.9	101.7	169.4	11.8
27	1.18								
26.5	97.3	19.8	5.3	40.8	14.1	23.3	4.1	0.3	0.3
19	-10.1	-48.3	161.4	104.6	128	118.3	102	170.2	12.2
28	1.18								
26.6	97.5	19.9	5.3	40.8	14.1	23.3	4.1	0.3	0.3
19.3	-9.8	-48	161.8	104.8	128.3	118.5	102.3	170.9	12.5
29	1.18								
26.7	97.9	20	5.4	40.8	14.1	23.3	4.1	0.3	0.3
19.9	-9.3	-47.6	162.3	105.1	128.6	118.8	102.6	171.7	12.9
30	1.18								
26.8	98.1	20	5.4	40.7	14.1	23.4	4.1	0.3	0.3
20.3	-9	-47.2	162.7	105.3	128.8	119	102.6	171.8	13.1
31	1.18								
26.9	98.3	20.1	5.4	40.6	14	23.3	4.1	0.3	0.3
20.8	-8.6	-46.8	163.2	105.3	128.9	119.4	103.1	172.1	13.3
32	1.18								
27.1	98.7	20.1	5.5	40.8	14.1	23.2	4.1	0.3	0.3
21.5	-8	-46.2	163.8	105.4	129	119.4	103.2	172.5	14
33	1.18								
27.2	98.9	20.2	5.5	40.9	14.1	23.3	4.1	0.3	0.3
21.9	-7.6	-45.8	164.3	105.6	129.1	119.4	103.3	172.8	14.4
34	1.18								
27.3	99.1	20.2	5.5	41	14.2	23.3	4.1	0.3	0.3
22.3	-7.3	-45.4	164.7	105.8	129.2	119.5	103.4	173	14.9
35	1.18								
27.4	99.3	20.3	5.5	41.1	14.2	23.4	4.1	0.3	0.3
22.8	-6.9	-45	165.1	106	129.4	119.6	103.7	173.2	15.4
36	1.18								
27.5	99.4	20.3	5.6	41.2	14.2	23.5	4.1	0.3	0.3
23.3	-6.4	-44.6	165.6	106.4	129.7	119.8	104	173.6	16.3
37	1.18								
27.5	99.4	20.3	5.6	41.2	14.3	23.7	4.2	0.3	0.3
23.8	-6	-44.2	166.1	106.7	129.9	120.1	103.9	174	17.2
38	1.18								
27.6	99.5	20.3	5.6	41.2	14.3	23.8	4.2	0.3	0.3
24.2	-5.8	-43.9	166.5	107	130.2	120.6	103.9	174.3	17.9
39	1.18								
27.6	99.5	20.3	5.6	41.1	14.3	23.7	4.2	0.3	0.3
24.5	-5.5	-43.6	167	107.1	130.6	121.3	104.6	174.6	18.5
40	1.18								
27.6	99.5	20.3	5.6	41	14.3	23.6	4.2	0.3	0.3
24.8	-5.3	-43.5	167.3	107.1	130.8	121.4	105	174.8	19.2
41	1.18								
27.7	99.7	20.3	5.6	41.1	14.3	23.5	4.2	0.3	0.2
25.2	-5.1	-43.2	167.8	107	131	121.5	105.5	175.3	20
42	1.18								
27.8	100	20.4	5.7	41.4	14.3	23.5	4.2	0.3	0.2
25.5	-4.8	-42.9	168.2	107.2	131.1	121.3	105.3	175.8	20.8
43	1.18								
27.9	100.3	20.4	5.7	42	14.4	23.9	4.2	0.3	0.2
25.9	-4.4	-42.5	168.7	107.9	131.4	121.5	105.1	175.6	21.5
44	1.18								
28	100.5	20.5	5.7	41.9	14.4	23.9	4.2	0.3	0.2
26.3	-4.1	-42.2	169	108.7	132.1	122.4	105.8	175.7	22.2
45	1.18								
28.1	100.8	20.5	5.7	41.7	14.4	23.8	4.2	0.3	0.2
26.7	-3.7	-41.8	169.3	109.2	132.5	122.9	106.5	176.3	23.1
46	1.18								
28.2	101	20.6	5.7	41.4	14.3	23.6	4.2	0.3	0.2
27.1	-3.3	-41.5	169.8	109.5	132.8	123.1	106.9	176.7	23.7

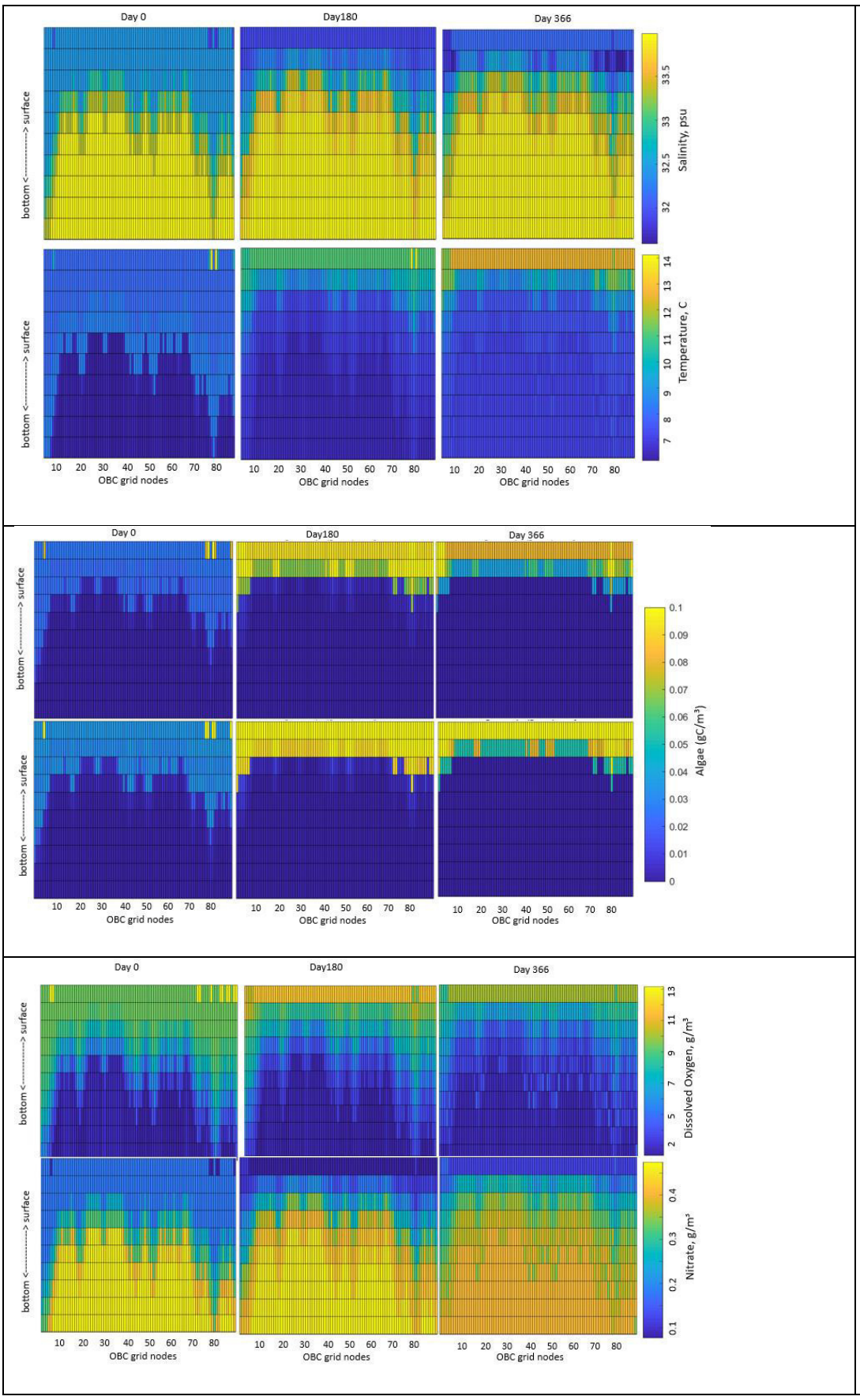
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48 1.18
28.4 101.4 20.6 5.8 41.2 14.3 23.6 4.2 0.3 0.2
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28.4 -2.2 -40.3 170.9 110 133.4 123.5 107.1 177.8 26.3
50 1.18
28.7 101.8 20.7 5.8 40.5 14.1 23.6 4.2 0.3 0.2
28.8 -1.8 -39.9 171.3 109.7 133.5 123.9 107.5 177.8 27.3
51 1.18
28.7 102 20.8 5.8 40.4 14.1 23.5 4.2 0.3 0.1
29.2 -1.6 -39.6 171.7 109.3 133.5 124.1 107.9 177.6 28
52 1.18
28.8 102.1 20.8 5.9 40.6 14.1 23.3 4.1 0.3 0.1
29.5 -1.3 -39.3 172.1 109 133.2 124.1 108 177.6 28.8
53 1.18
28.9 102.2 20.8 5.9 41.1 14.1 23.2 4.1 0.3 0.1
29.8 -1 -39 172.4 108.7 132.8 123.5 107.6 177.9 29.7
54 1.18
28.9 102.3 20.8 5.9 41.5 14.3 23.4 4.1 0.3 0.1
30.1 -0.8 -38.8 172.6 109.2 132.9 123.3 107.1 178.1 30.2
55 1.18
29 102.5 20.9 5.9 41.7 14.4 23.6 4.2 0.3 0.1
30.4 -0.5 -38.5 172.9 109.9 133.4 123.6 107.5 178.3 31.5
56 1.18
29.1 102.6 20.9 5.9 41.6 14.4 23.7 4.2 0.3 0.1
30.7 -0.1 -38.2 173.3 110.5 133.9 123.8 107.9 178.4 32.9
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29.2 102.8 20.9 5.9 41.3 14.3 23.9 4.2 0.3 0.1
31.1 0.2 -37.9 173.6 110.9 134.3 124 107.8 178.5 34.8
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29.3 103 21 5.9 41.1 14.3 23.9 4.2 0.3 0.1
31.5 0.5 -37.5 174 110.8 134.4 124.7 108.2 178.6 36.8
59 1.18
29.4 103.1 21 6 41.2 14.3 23.8 4.2 0.3 0.1
31.8 0.8 -37.2 174.3 110.7 134.4 125 108.7 178.7 39
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29.5 103.4 21 6 41.3 14.3 23.7 4.2 0.3 0.1
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61 1.18
29.6 103.5 21.1 6 41.4 14.3 23.8 4.2 0.3 0.1
32.2 1.2 -36.8 174.7 110.9 134.6 125 108.8 178.8 43.7
62 1.18
29.6 103.6 21.1 6 41.4 14.3 23.8 4.2 0.3 0.1
32.4 1.3 -36.7 174.9 111.1 134.7 125.1 108.9 178.8 45.6
63 1.18
29.7 103.8 21.1 6 41.4 14.3 23.8 4.2 0.3 0.1
32.6 1.5 -36.5 175.1 111.2 134.9 125.3 109.3 178.8 48
64 1.18
29.7 103.9 21.1 6 41.4 14.3 23.8 4.2 0.3 0.1
32.8 1.7 -36.3 175.3 111.2 134.9 125.2 109.1 178.8 51
65 1.18
29.8 103.9 21.2 6 41.4 14.3 23.9 4.2 0.3 0.1
32.9 1.8 -36.2 175.4 111.3 135 125.3 109 178.8 52.8
66 1.18
29.8 104 21.2 6.1 41.4 14.3 23.9 4.2 0.3 0.1
33 1.9 -36.1 175.5 111.4 135.1 125.5 109.2 178.8 54.9
67 1.18
29.9 104.1 21.2 6.1 41.4 14.3 23.9 4.2 0.3 0
33.2 2.1 -35.9 175.7 111.6 135.3 125.9 109.6 178.8 59.3
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29.9 104.3 21.2 6.1 41.4 14.3 23.8 4.2 0.3 0
33.4 2.2 -35.8 175.8 111.7 135.4 126.1 110 178.8 64
69 1.18
30 104.4 21.2 6.1 41.3 14.3 23.7 4.2 0.3 0
33.6 2.3 -35.6 176 111.7 135.3 125.9 110.1 178.6 71.3
70 1.18

30	104.5	21.3	6.1	41.4	14.3	23.6	4.1	0.3	0
33.7	2.5	-35.5	176.2	111.6	135.2	125.6	109.9	178.4	80.3
71	1.18								
30.1	104.6	21.3	6.1	41.4	14.3	23.7	4.1	0.3	0
33.9	2.6	-35.3	176.3	111.6	135.2	125.3	109.5	178.3	88.5
72	1.18								
30.1	104.7	21.3	6.1	41.5	14.4	23.8	4.2	0.3	0
34	2.7	-35.2	176.5	111.7	135.3	125.3	109.2	178.2	96.7
73	1.18								
30.2	104.9	21.4	6.2	41.5	14.4	23.9	4.2	0.3	0
34.1	2.8	-35.1	176.6	111.9	135.6	125.7	109.5	178	108.4
74	1.18								
30.3	105.2	21.4	6.2	41.4	14.4	23.9	4.2	0.3	0
34.3	3	-35	176.8	112	135.8	126	109.8	177.8	121.8
75	1.18								
30.5	105.5	21.5	6.2	41.4	14.3	23.9	4.2	0.3	0
34.4	3.1	-34.9	176.9	112	135.8	126.2	110	177.6	139.6
76	1.18								
30.6	106	21.6	6.2	41.5	14.3	23.9	4.2	0.3	0
34.5	3.2	-34.7	177.1	111.9	135.7	126.2	110.1	177.6	154.9
77	1.18								
31.3	107.8	21.9	6.4	41.6	14.4	23.9	4.2	0.3	0.1
35.2	3.8	-34.1	177.6	112.5	136.3	126.8	110.7	179.7	185.1
78	1.18								
32.5	110.7	22.5	6.7	41.7	14.4	24.1	4.2	0.4	0.3
35.8	4.2	-33.5	178	113.4	137.3	127.5	111.4	184	194.8
79	1.18								
33	112.4	22.9	6.8	41.5	14.4	24	4.2	0.4	0.3
36.1	4.4	-33.3	178.3	113.6	137.6	127.9	111.8	184.9	199.6
80	1.18								
33.7	114.5	23.2	6.9	41.4	14.3	23.9	4.2	0.4	0.4
36.2	4.6	-33.1	178.6	113.9	137.8	128.1	112.1	186.6	203.9
81	1.18								
34.2	116.1	23.6	7.1	41.4	14.3	23.9	4.2	0.4	0.5
36.3	4.7	-33.1	178.7	114.1	137.9	128.1	112.2	188.3	206.6
82	1.18								
34.5	117.3	23.8	7.1	41.5	14.3	23.9	4.2	0.4	0.6
36.3	4.6	-33.1	178.8	114.3	138.1	128.2	112.3	189.7	208.1
83	1.18								
35	118.6	24.1	7.3	41.6	14.4	24	4.2	0.4	0.7
36.3	4.6	-33.1	178.8	114.5	138.3	128.3	112.4	191.4	209.5
84	1.18								
35.4	119.8	24.3	7.3	41.7	14.4	24	4.2	0.5	0.7
36.1	4.5	-33.2	178.7	114.6	138.4	128.4	112.5	192.7	210.5
85	1.18								
35.7	120.8	24.5	7.4	41.8	14.5	24.1	4.2	0.5	0.8
35.9	4.3	-33.4	178.4	114.6	138.5	128.4	112.6	193.9	211.3
86	1.18								
35.9	121.4	24.6	7.5	41.9	14.5	24.1	4.2	0.4	0.8
35.7	4	-33.6	178.1	114.6	138.5	128.4	112.6	194.6	211.9
87	1.18								
35.9	121.5	24.6	7.5	42	14.5	24.1	4.2	0.5	0.8
35.2	3.6	-34	177.7	114.6	138.4	128.3	112.5	190.3	212.7

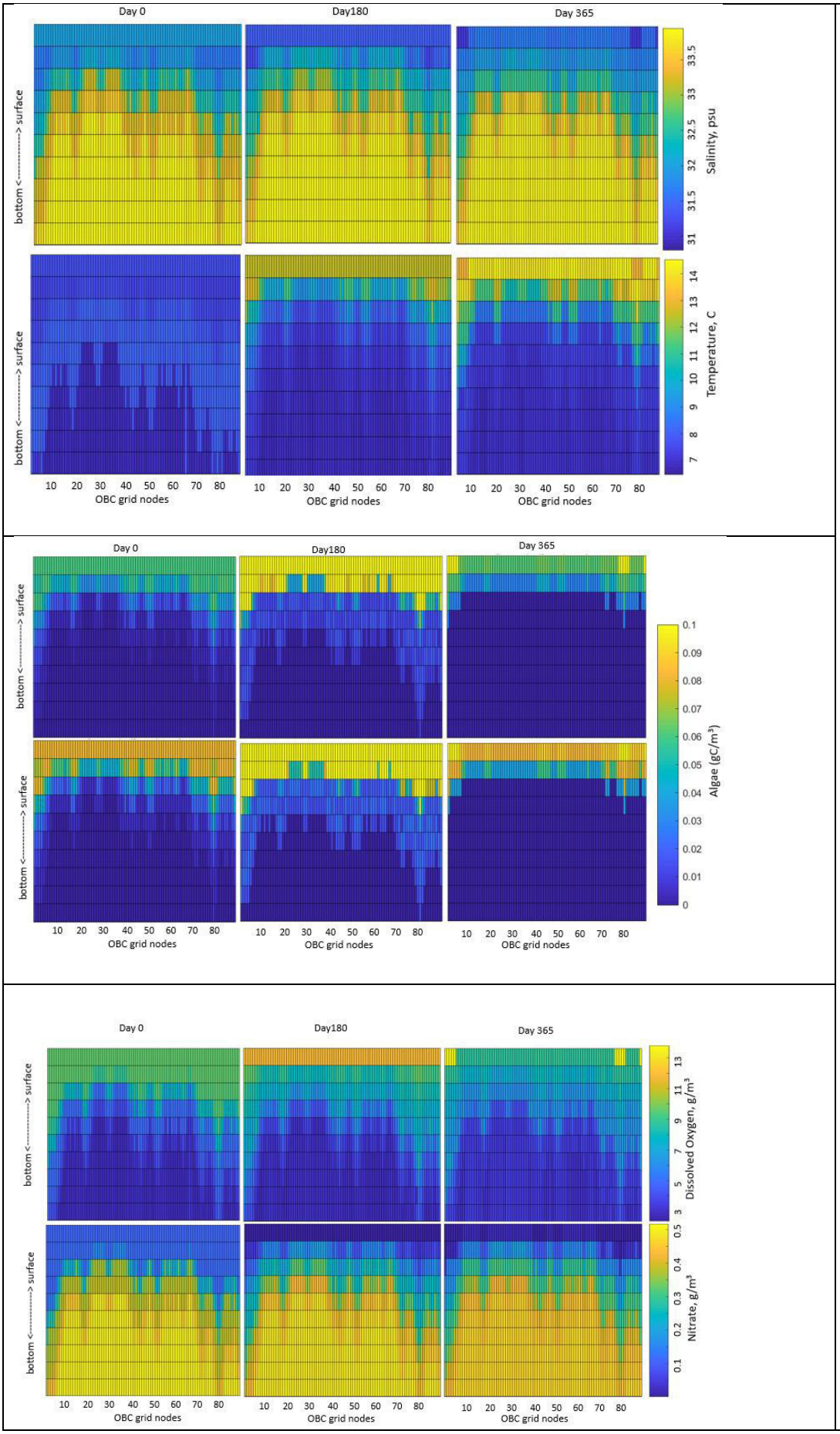
Appendix A2
Open Boundary Water Quality for 2006, 2008 and 2014



2006 open boundary water quality



2008 open boundary water quality


Day 0
Day180
Day 365
bottom <----------> surface
Salinity, psu
Temperature, C
Algae (gC/m³)
Dissolved Oxygen, g/m³
Nitrate, g/m³
OBC grid nodes
2014 open boundary water quality

Appendix A3. List of Rivers Entering the Salish Sea

List of river/watershed inflows included in the Salish Sea Model, and which regions of the Salish Sea they discharge to, are shown in the following table. Abbreviations in the table below are spelled out at the end of the table.

SSM ID	Name of river, creek or watershed	Sub-region of Salish Sea into which inflow enters	Region of Salish Sea into which inflow enters	Country where inflow is located
301	Agate East	South Sound	Puget Sound	USA
302	Agate West	South Sound	Puget Sound	USA
303	Anderson east	South Sound	Puget Sound	USA
304	Anderson west	South Sound	Puget Sound	USA
305	Artondale	South Sound	Puget Sound	USA
306	Burley Cr	South Sound	Puget Sound	USA
307	Butler Cr	South Sound	Puget Sound	USA
308	Campbell Cr	South Sound	Puget Sound	USA
309	Chambers Cr	South Sound	Puget Sound	USA
310	Coulter Cr	South Sound	Puget Sound	USA
311	Cranberry Cr	South Sound	Puget Sound	USA
312	Dana Passage North	South Sound	Puget Sound	USA
313	Dana Passage South	South Sound	Puget Sound	USA
314	Deer Cr	South Sound	Puget Sound	USA
315	Capitol Lake/Deschutes R	South Sound	Puget Sound	USA
316	Dutcher Cove	South Sound	Puget Sound	USA
317	Ellis/Mission Cr	South Sound	Puget Sound	USA
318	Filucy Bay	South Sound	Puget Sound	USA
319	Fox Island	South Sound	Puget Sound	USA
320	Frye Cove	South Sound	Puget Sound	USA
321	Gallagher Cove	South Sound	Puget Sound	USA
322	Glen Cove	South Sound	Puget Sound	USA
323	Goldsborough Cr	South Sound	Puget Sound	USA
324	McCormick Cr	South Sound	Puget Sound	USA
325	Grant East	South Sound	Puget Sound	USA
326	Grant West	South Sound	Puget Sound	USA
327	Green Cove	South Sound	Puget Sound	USA
328	Gull Harbor	South Sound	Puget Sound	USA
329	Hale Passage	South Sound	Puget Sound	USA
330	Henderson Inlet	South Sound	Puget Sound	USA
331	Herron	South Sound	Puget Sound	USA
332	Hope Island	South Sound	Puget Sound	USA
333	Jarrel Cove	South Sound	Puget Sound	USA
334	Johns Cr	South Sound	Puget Sound	USA
335	Kennedy/Schneider	South Sound	Puget Sound	USA
336	Ketron	South Sound	Puget Sound	USA
337	Ketron Island	South Sound	Puget Sound	USA

SSM ID	Name of river, creek or watershed	Sub-region of Salish Sea into which inflow enters	Region of Salish Sea into which inflow enters	Country where inflow is located
338	Mable Taylor Cr	South Sound	Puget Sound	USA
339	Mayo Cove	South Sound	Puget Sound	USA
340	McAllister Cr	South Sound	Puget Sound	USA
341	McLane Cove	South Sound	Puget Sound	USA
342	McLane Cr	South Sound	Puget Sound	USA
343	McNeil Isl	South Sound	Puget Sound	USA
344	Mill Cr	South Sound	Puget Sound	USA
345	Minter Cr	South Sound	Puget Sound	USA
346	Moxlie Cr	South Sound	Puget Sound	USA
347	Nisqually R	South Sound	Puget Sound	USA
348	Peale Passage	South Sound	Puget Sound	USA
349	Perry Cr	South Sound	Puget Sound	USA
350	Purdy Cr	South Sound	Puget Sound	USA
351	Rocky Cr	South Sound	Puget Sound	USA
352	Rosedale	South Sound	Puget Sound	USA
353	Schneider Cr	South Sound	Puget Sound	USA
354	Sequalitchew Cr	South Sound	Puget Sound	USA
355	Sherwood Cr	South Sound	Puget Sound	USA
356	Skookum Cr	South Sound	Puget Sound	USA
357	Snodgrass Cr	South Sound	Puget Sound	USA
358	Squaxin Island East	South Sound	Puget Sound	USA
359	Squaxin Island West	South Sound	Puget Sound	USA
360	Sun Pt	South Sound	Puget Sound	USA
361	Tolmie	South Sound	Puget Sound	USA
362	Van Gelden	South Sound	Puget Sound	USA
363	Vaughn	South Sound	Puget Sound	USA
364	Whitman Cove	South Sound	Puget Sound	USA
365	Wilson Pt	South Sound	Puget Sound	USA
366	Woodard Cr	South Sound	Puget Sound	USA
367	Woodland Cr	South Sound	Puget Sound	USA
368	Young Cove	South Sound	Puget Sound	USA
369	Hylebos Cr	Main Basin	Puget Sound	USA
370	Puyallup R	Main Basin	Puget Sound	USA
371	Bainbridge Island West	Main Basin	Puget Sound	USA
372	Blackjack Cr	Main Basin	Puget Sound	USA
373	Chico Cr	Main Basin	Puget Sound	USA
374	Dyes Inlet	Main Basin	Puget Sound	USA
375	Gorst Cr	Main Basin	Puget Sound	USA
376	Liberty Bay	Main Basin	Puget Sound	USA
377	Miller Bay	Main Basin	Puget Sound	USA
378	Green R	Main Basin	Puget Sound	USA
379	Bainbridge Island East	Main Basin	Puget Sound	USA
380	Blake Island	Main Basin	Puget Sound	USA

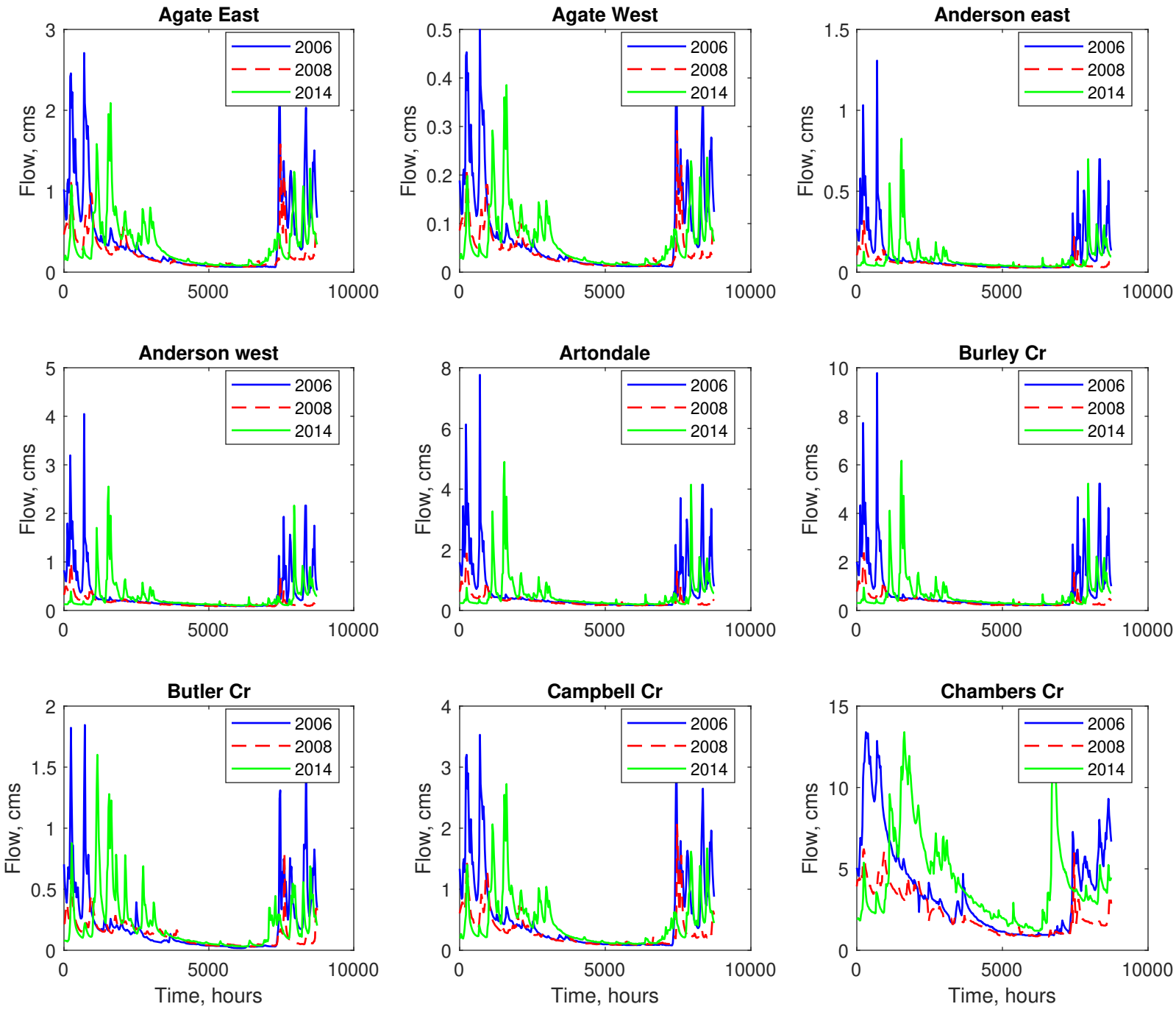
SSM ID	Name of river, creek or watershed	Sub-region of Salish Sea into which inflow enters	Region of Salish Sea into which inflow enters	Country where inflow is located
381	Buenna	Main Basin	Puget Sound	USA
382	Green Valley Cr	Main Basin	Puget Sound	USA
383	Curley Cr	Main Basin	Puget Sound	USA
384	Des Moines Cr	Main Basin	Puget Sound	USA
385	Ellisport	Main Basin	Puget Sound	USA
386	Federal Way	Main Basin	Puget Sound	USA
387	Gig Harbor	South Sound	Puget Sound	USA
388	Judd Cr	Main Basin	Puget Sound	USA
389	Kitsap NE	Main Basin	Puget Sound	USA
390	Lake Washington	Main Basin	Puget Sound	USA
391	Magnolia Bch	Main Basin	Puget Sound	USA
392	Maury Island	Main Basin	Puget Sound	USA
393	Miller Cr	Main Basin	Puget Sound	USA
394	Olalla Cr	Main Basin	Puget Sound	USA
395	Saltwater St Pk	Main Basin	Puget Sound	USA
396	Shingle Mill Cr	Main Basin	Puget Sound	USA
397	South Snohomish	Main Basin	Puget Sound	USA
398	Tahlequah	Main Basin	Puget Sound	USA
399	University Place	South Sound	Puget Sound	USA
400	Dabob Bay	Hood Canal	Puget Sound	USA
401	Dosewallips R	Hood Canal	Puget Sound	USA
402	Duckabush R	Hood Canal	Puget Sound	USA
403	Hamma Hamma R	Hood Canal	Puget Sound	USA
404	Kitsap/Hood	Hood Canal	Puget Sound	USA
405	Lynch Cove	Hood Canal	Puget Sound	USA
406	NW Hood	Hood Canal	Puget Sound	USA
407	Port Gamble	Hood Canal	Puget Sound	USA
408	Quilcene	Hood Canal	Puget Sound	USA
409	Skokomish R	Hood Canal	Puget Sound	USA
410	Tahuya	Hood Canal	Puget Sound	USA
411	Skagit R	Whidbey Basin	Puget Sound	USA
412	Snohomish R	Whidbey Basin	Puget Sound	USA
413	Stillaguamish R	Whidbey Basin	Puget Sound	USA
414	Whidbey east	Whidbey Basin	Puget Sound	USA
415	Port Townsend	Admiralty	Puget Sound	USA
416	Whidbey west	Admiralty	Puget Sound	USA
417	Birch Bay	SOG - US	Straits - US	USA
418	Lopez Island	SOG - US	Straits - US	USA
419	Nooksack R	Bham, Samish, Pad Bays	Straits - US	USA
420	Orcas Island	SOG - US	Straits - US	USA
421	Samish/Bell south	Bham, Samish, Pad Bays	Straits - US	USA
422	San Juan Island	SOG - US	Straits - US	USA
423	Whatcom/Bell north	Bham, Samish, Pad Bays	Straits - US	USA

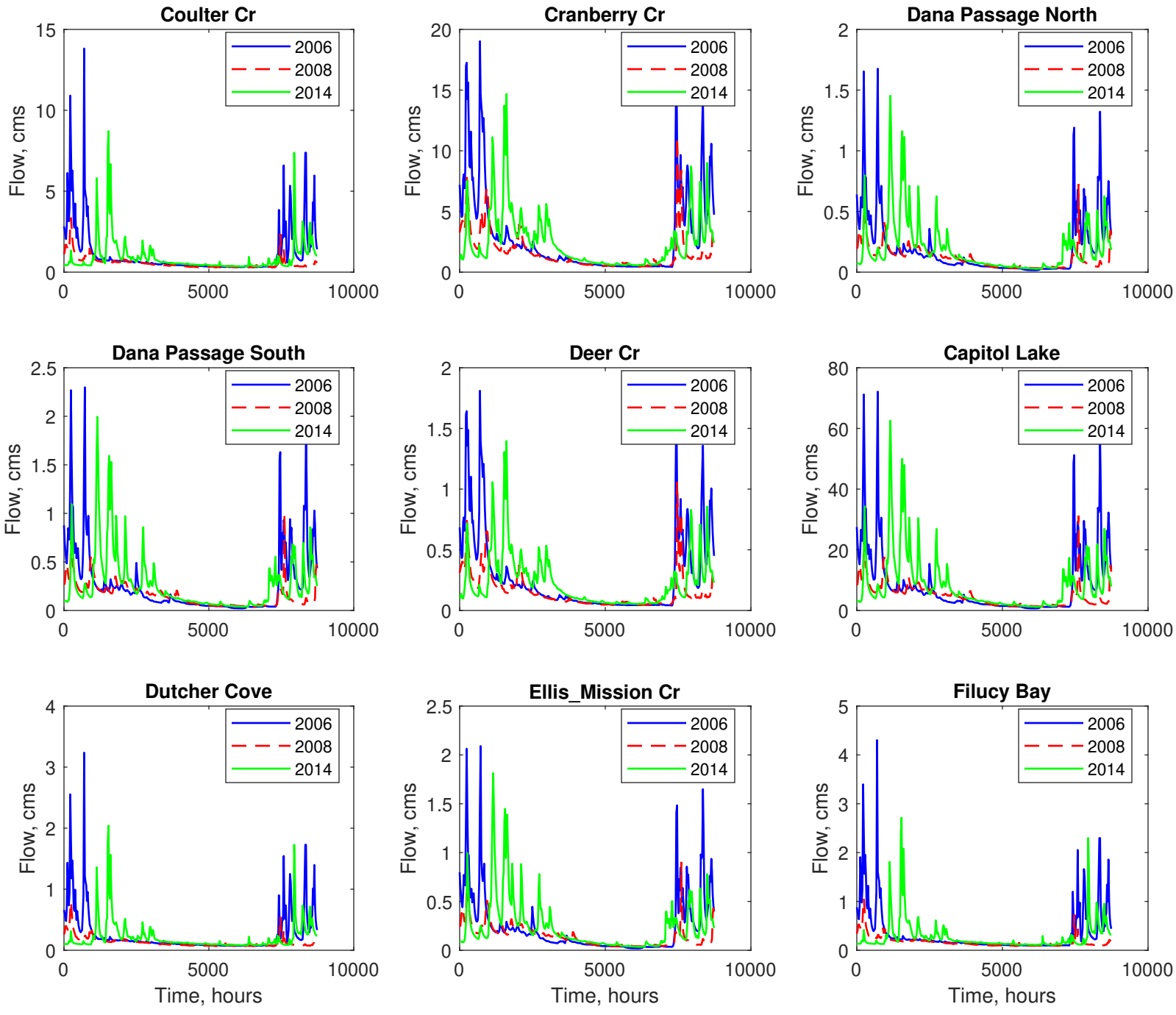
SSM ID	Name of river, creek or watershed	Sub-region of Salish Sea into which inflow enters	Region of Salish Sea into which inflow enters	Country where inflow is located
424	Clallam Bay	SJF - US	Straits - US	USA
425	Discovery Bay	SJF - US	Straits - US	USA
426	Dungeness R	SJF - US	Straits - US	USA
427	Elwha R	SJF - US	Straits - US	USA
428	North Olympic	SJF - US	Straits - US	USA
429	Port Angeles	SJF - US	Straits - US	USA
430	Sequim Bay	SJF - US	Straits - US	USA
431	Fraser R	SOG - Canada	Straits - Canada	Canada
432	Howe Sound	SOG - Canada	Straits - Canada	Canada
433	Sunshine Coast	SOG - Canada	Straits - Canada	Canada
434	Vancouver Isl C	SOG - Canada	Straits - Canada	Canada
435	Vancouver Isl N	SOG - Canada	Straits - Canada	Canada
436	Vancouver Isl S	SOG - Canada	Straits - Canada	Canada
437	Victoria_SJdF	SJF - Canada	Straits - Canada	Canada
438	Chehalis R	WA Coast	Pacific Ocean	USA
439	Willapa R	WA Coast	Pacific Ocean	USA
440	Columbia R	WA Coast	Pacific Ocean	USA
441	Willamette R	WA Coast	Pacific Ocean	USA
442	Cushman No 2	Hood Canal	Puget Sound	USA
443	Holberg	BC Coast	Pacific Ocean	Canada
444	NE Vancouver Island	SOG - Canada	Straits - Canada	Canada
445	Brooks Peninsula	BC Coast	Pacific Ocean	Canada
446	Tahsis	BC Coast	Pacific Ocean	Canada
447	Nimpkish River	SOG - Canada	Straits - Canada	Canada
448	Tsitika River	SOG - Canada	Straits - Canada	Canada
449	Gold River	BC Coast	Pacific Ocean	Canada
450	Salmon River	SOG - Canada	Straits - Canada	Canada
451	Clayoquot	BC Coast	Pacific Ocean	Canada
452	Campbell River	SOG - Canada	Straits - Canada	Canada
453	Comox	SOG - Canada	Straits - Canada	Canada
454	Alberni Inlet	BC Coast	Pacific Ocean	Canada
455	Owikeno Lake	SOG - Canada	Straits - Canada	Canada
456	Homathco River	SOG - Canada	Straits - Canada	Canada
457	Klinaklini River	SOG - Canada	Straits - Canada	Canada
458	Seymour Inlet	SOG - Canada	Straits - Canada	Canada
459	Knight Inlet	SOG - Canada	Straits - Canada	Canada
460	Toba Inlet	SOG - Canada	Straits - Canada	Canada
461	Neil Creek	SOG - Canada	Straits - Canada	Canada

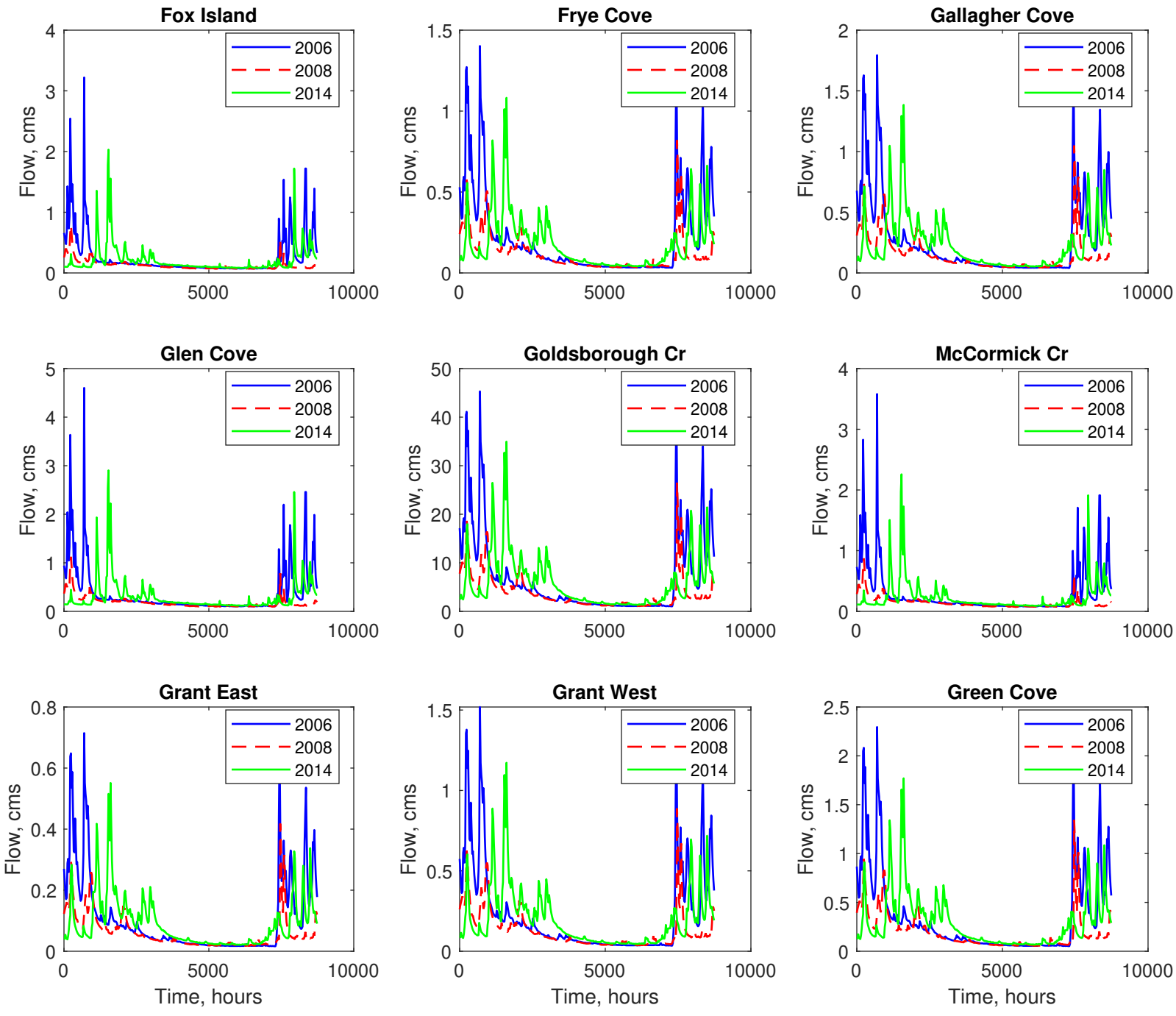
Abbreviations explained: SSM ID – Salish Sea Model ID number, USA – United States of America, SOG – Strait of Georgia, SJF – Strait of Juan de Fuca, WA – Washington State, BC – British of Columbia

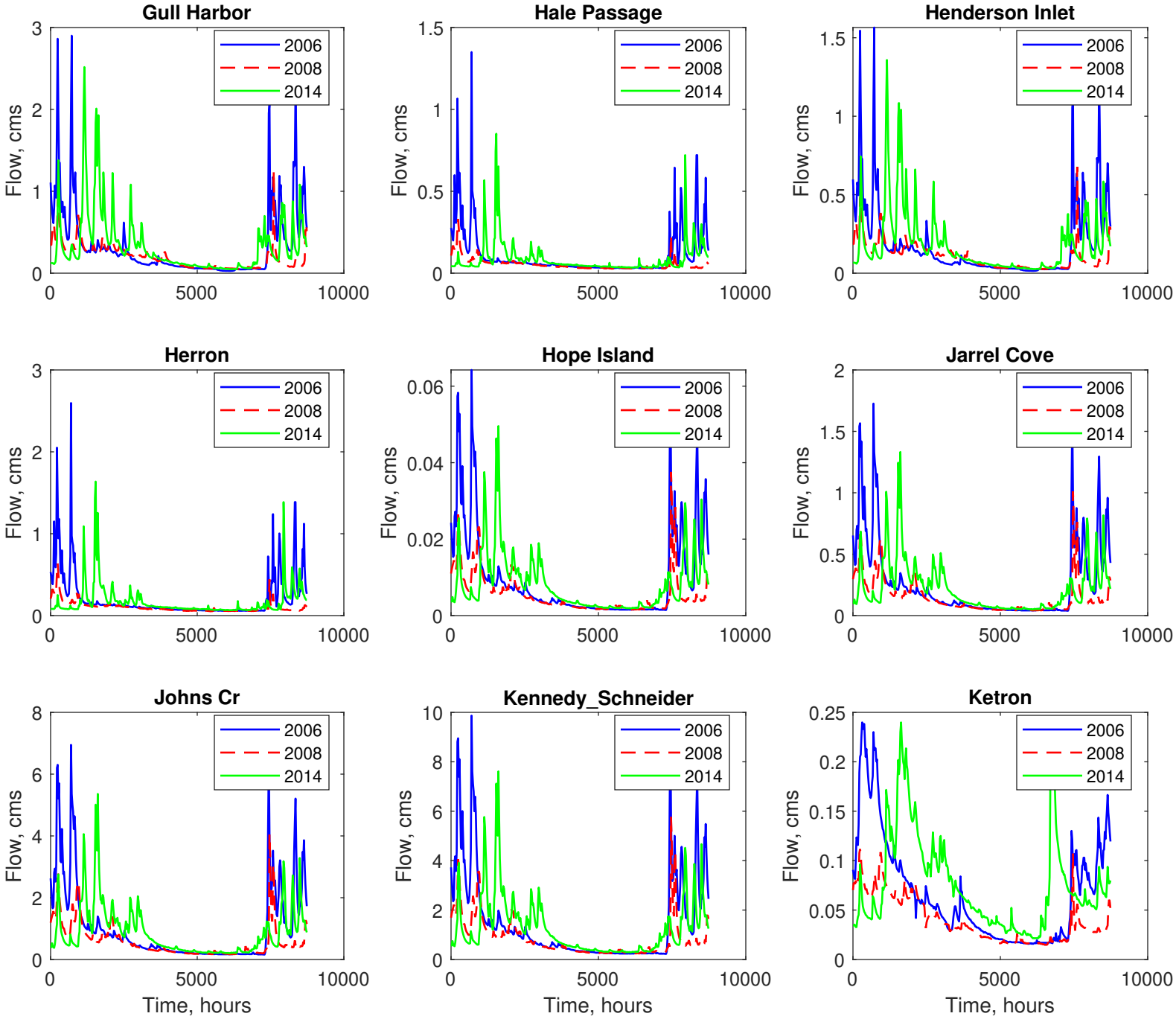
Note: The 'Puget Sound' region includes all marine areas south of the entrance of Admiralty Inlet.

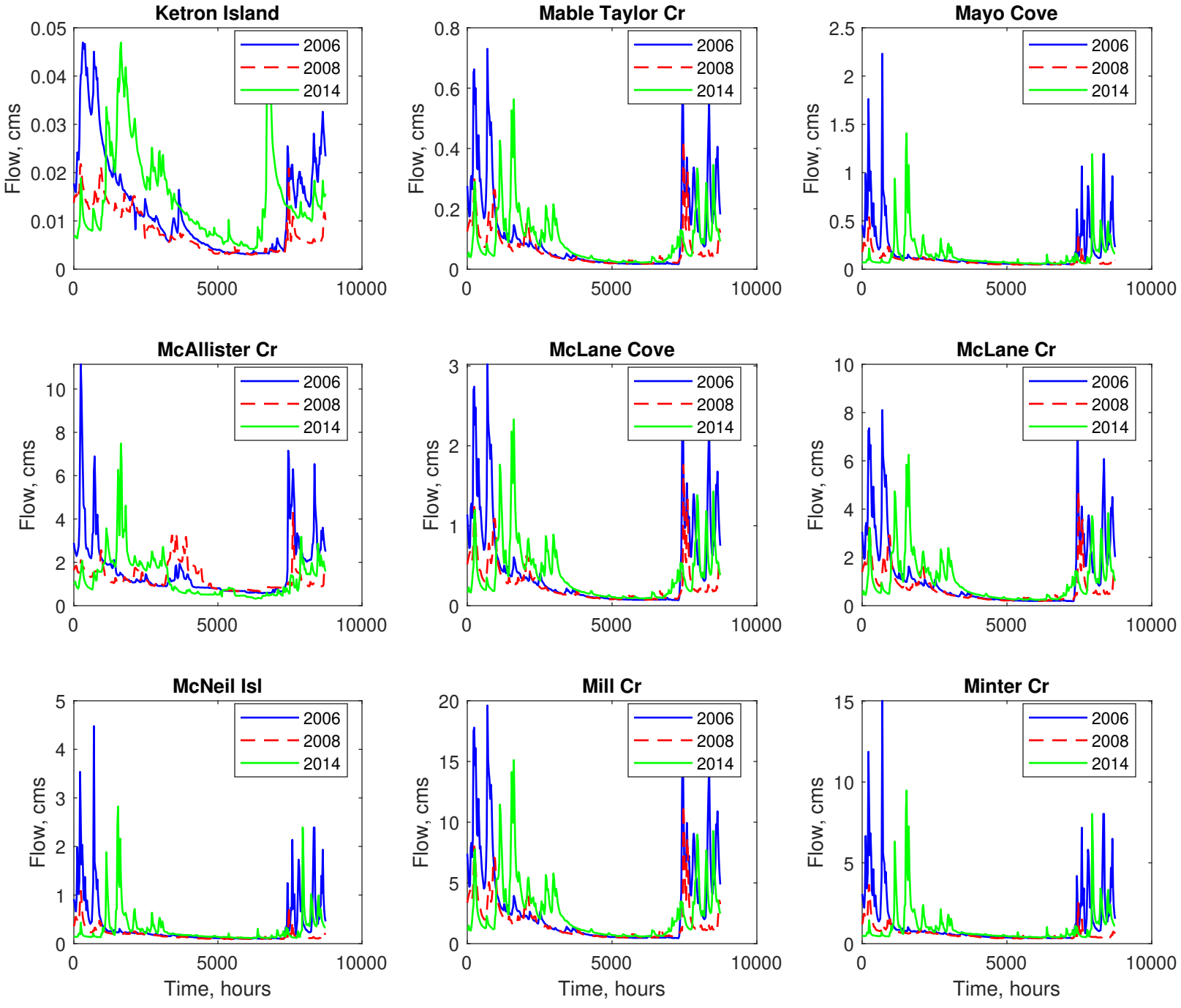
Appendix A4
Watershed Inflows for 2006, 2008 and 2014

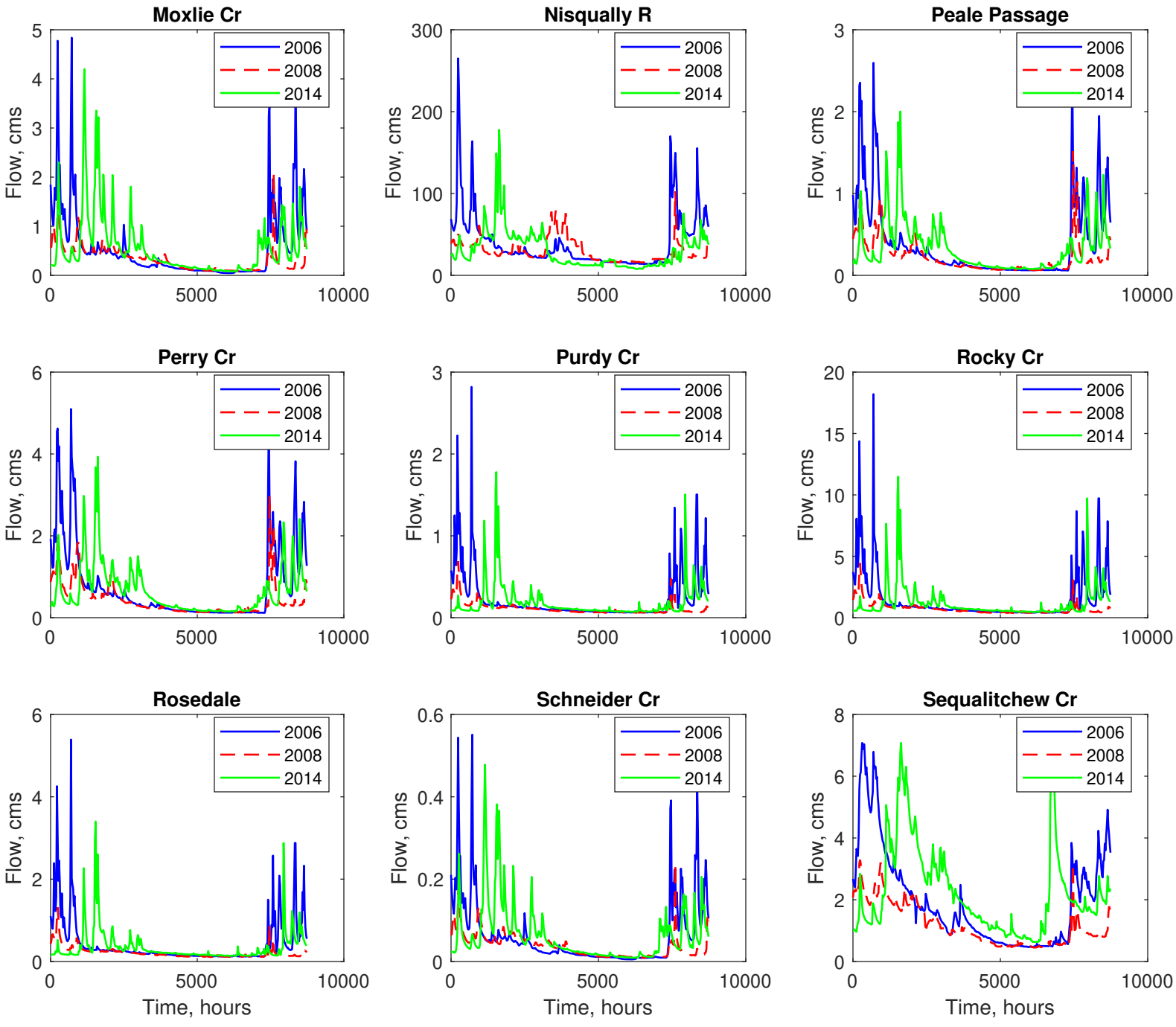

Agate East
Agate West
Anderson east
Anderson west
Artondale
Burley Cr
Butler Cr
Campbell Cr
Chambers Cr
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

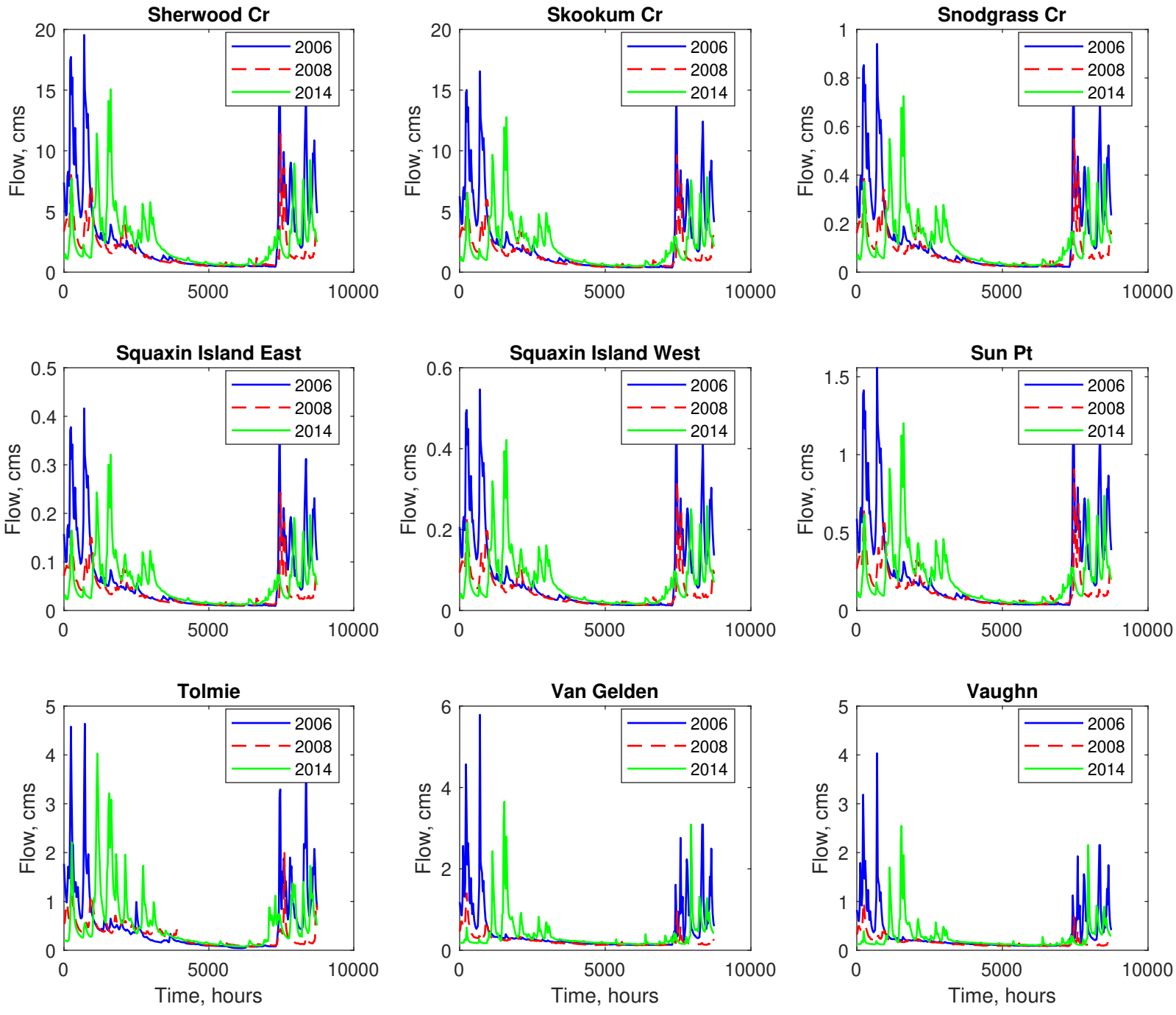

Coulter Cr
Cranberry Cr
Dana Passage North
Dana Passage South
Deer Cr
Capitol Lake
Dutcher Cove
Ellis_Mission Cr
Filucy Bay
2006
2008
2014
Flow, cms
Time, hours

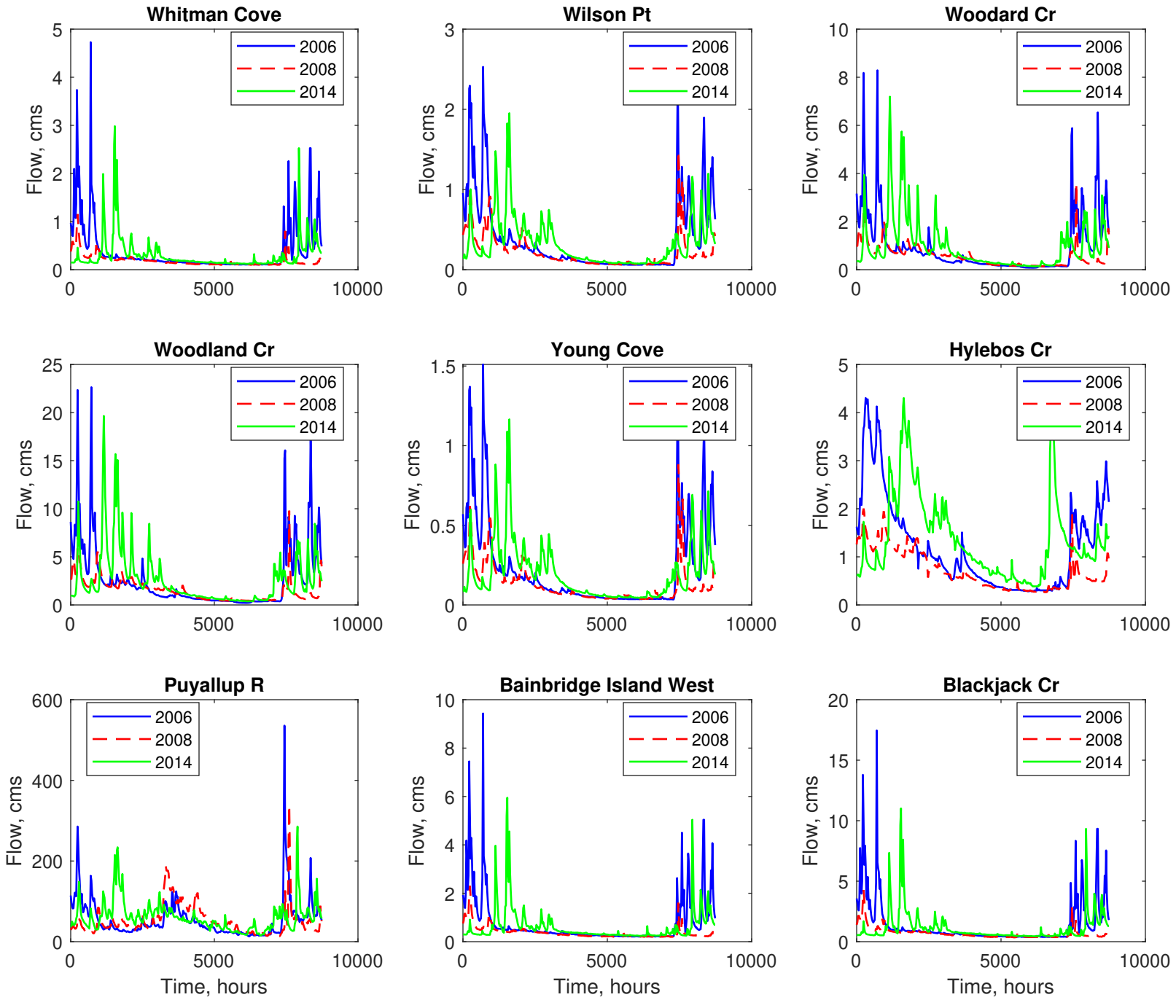

Fox Island
Frye Cove
Gallagher Cove
Glen Cove
Goldsborough Cr
McCormick Cr
Grant East
Grant West
Green Cove
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

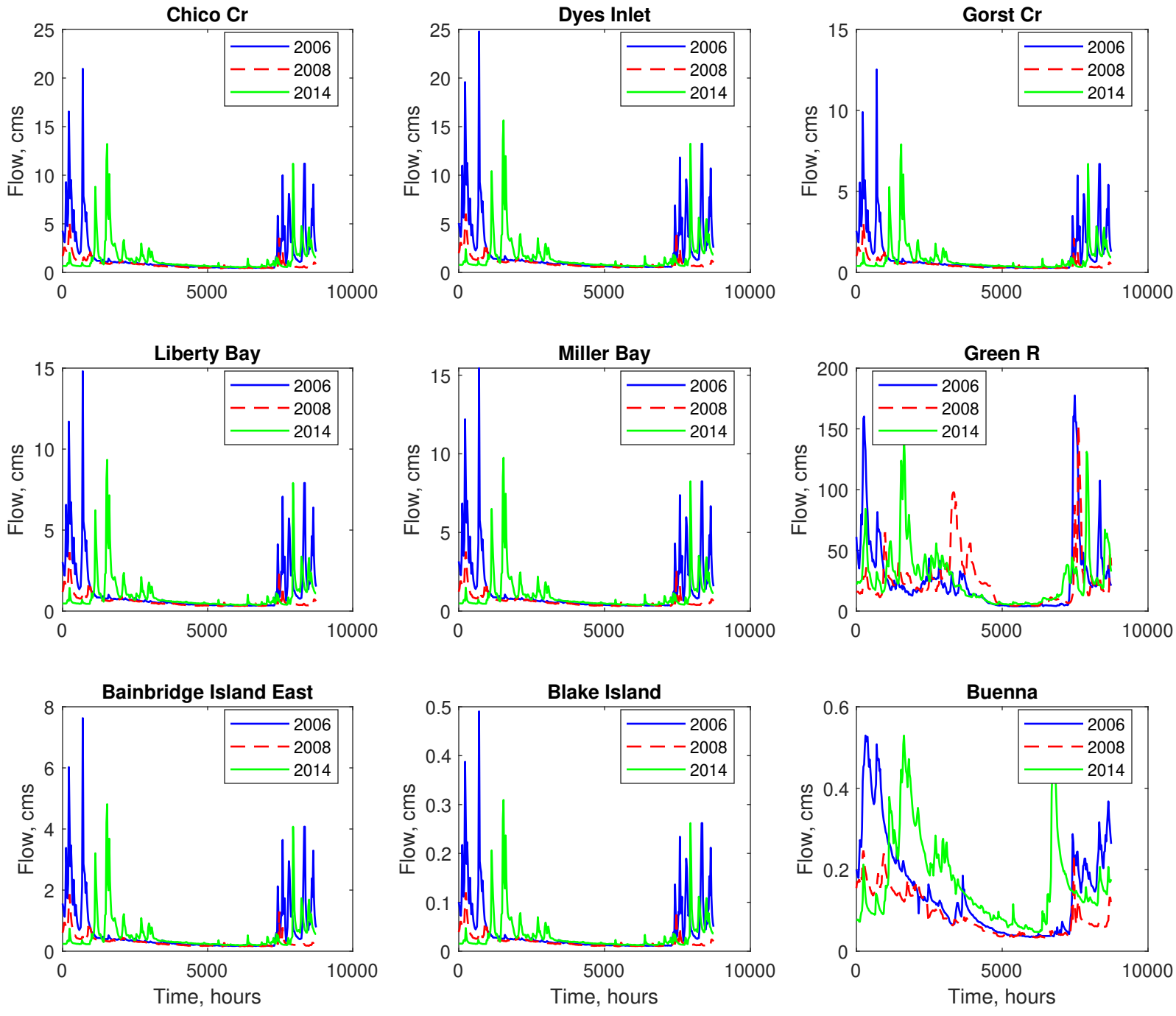

Gull Harbor
Hale Passage
Henderson Inlet
Herron
Hope Island
Jarrel Cove
Johns Cr
Kennedy_Schneider
Ketron
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

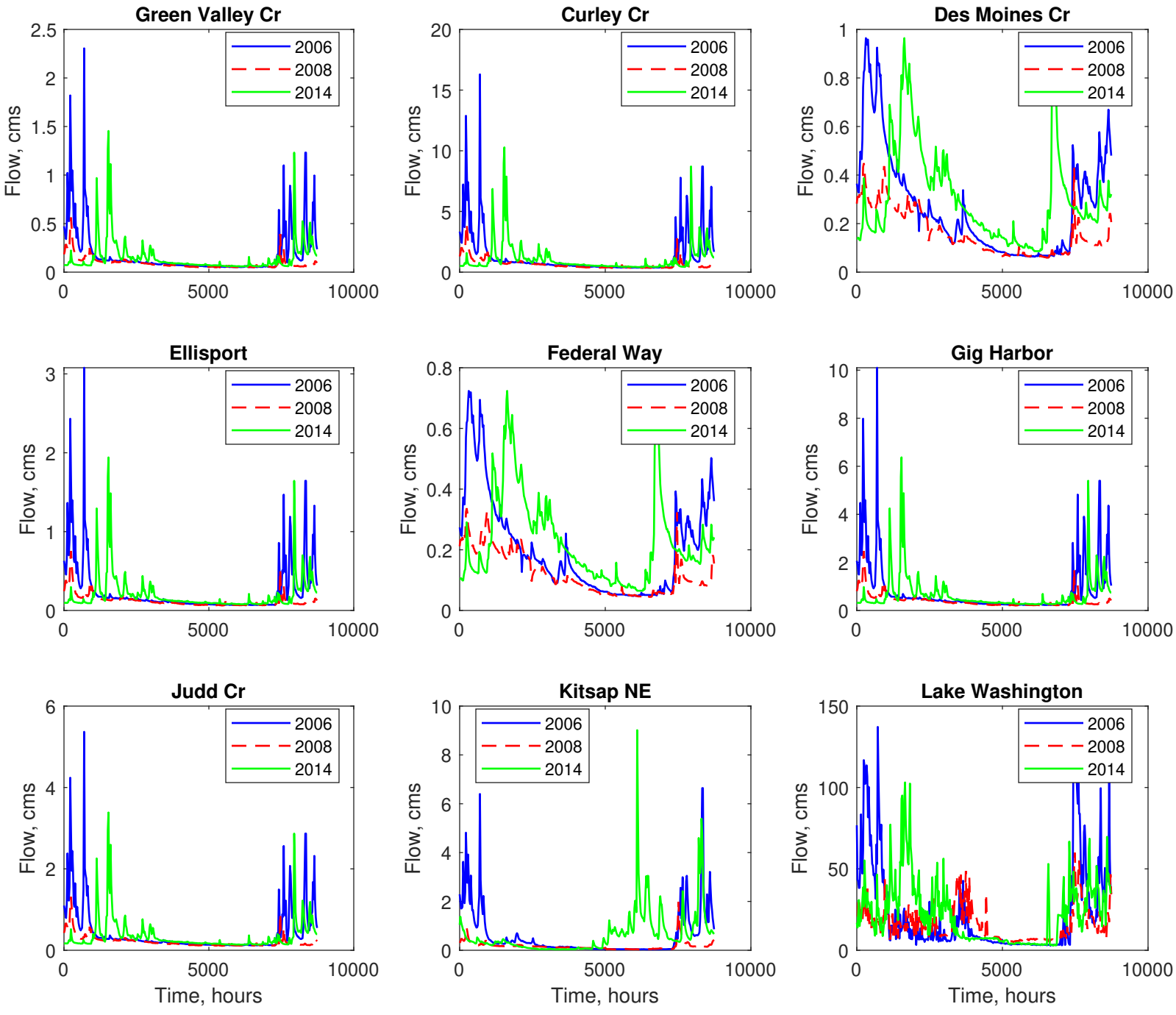

Ketron Island
Mable Taylor Cr
Mayo Cove
McAllister Cr
McLane Cove
McLane Cr
McNeil Isl
Mill Cr
Minter Cr
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

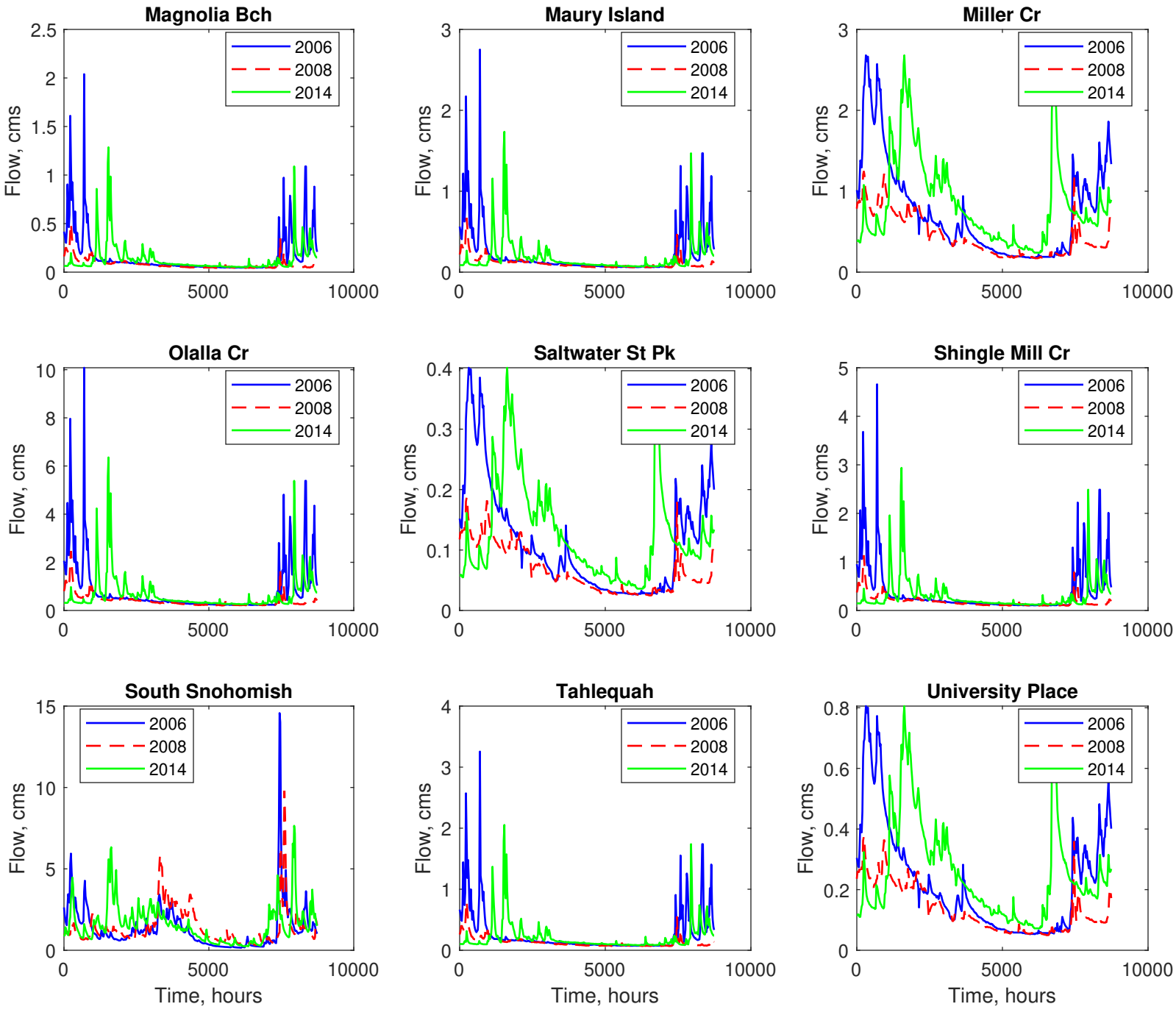

Moxlie Cr
Nisqually R
Peale Passage
Perry Cr
Purdy Cr
Rocky Cr
Rosedale
Schneider Cr
Sequalitchew Cr
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

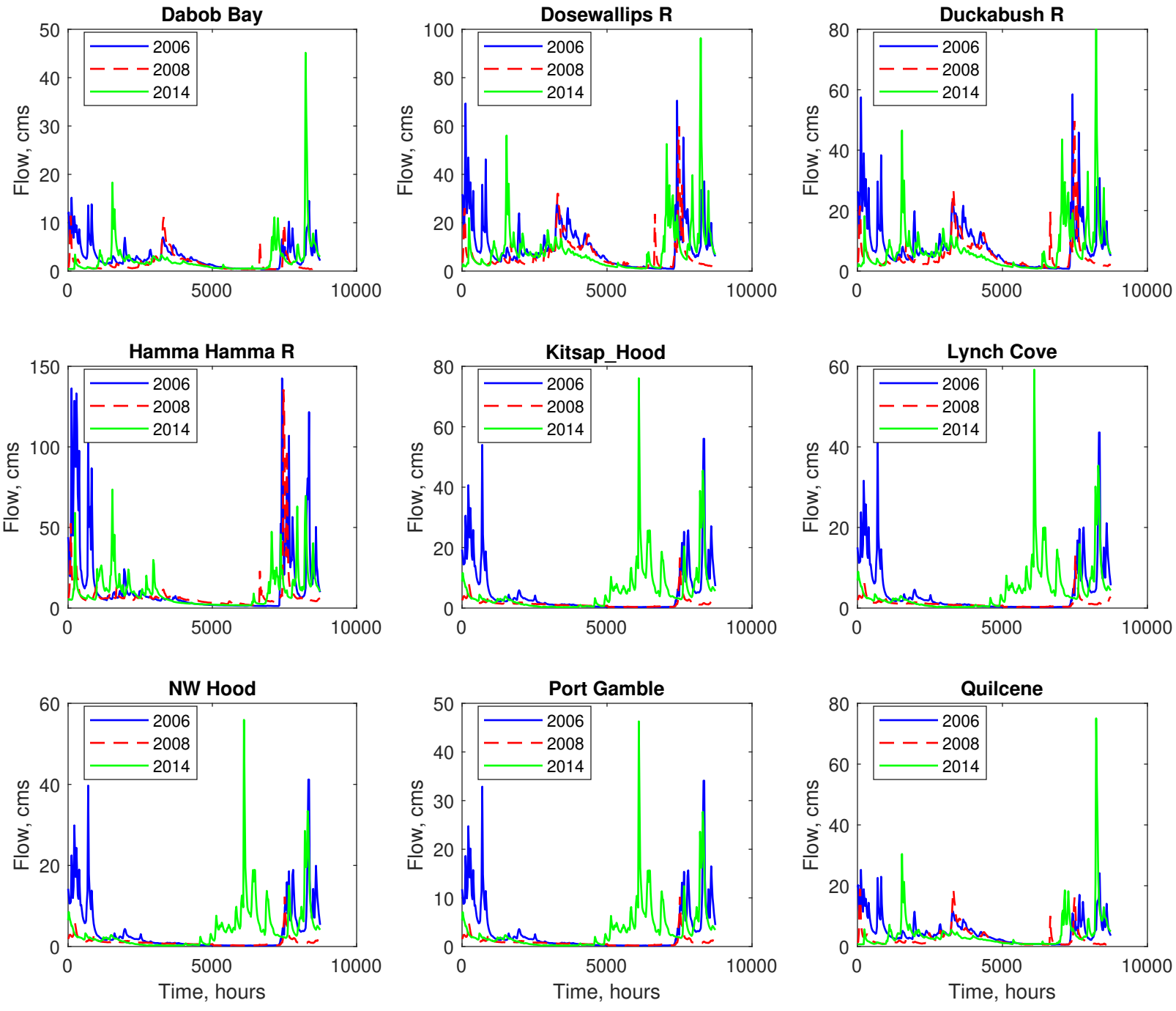

Sherwood Cr
Skookum Cr
Snodgrass Cr
Squaxin Island East
Squaxin Island West
Sun Pt
Tolmie
Van Gelden
Vaughn
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

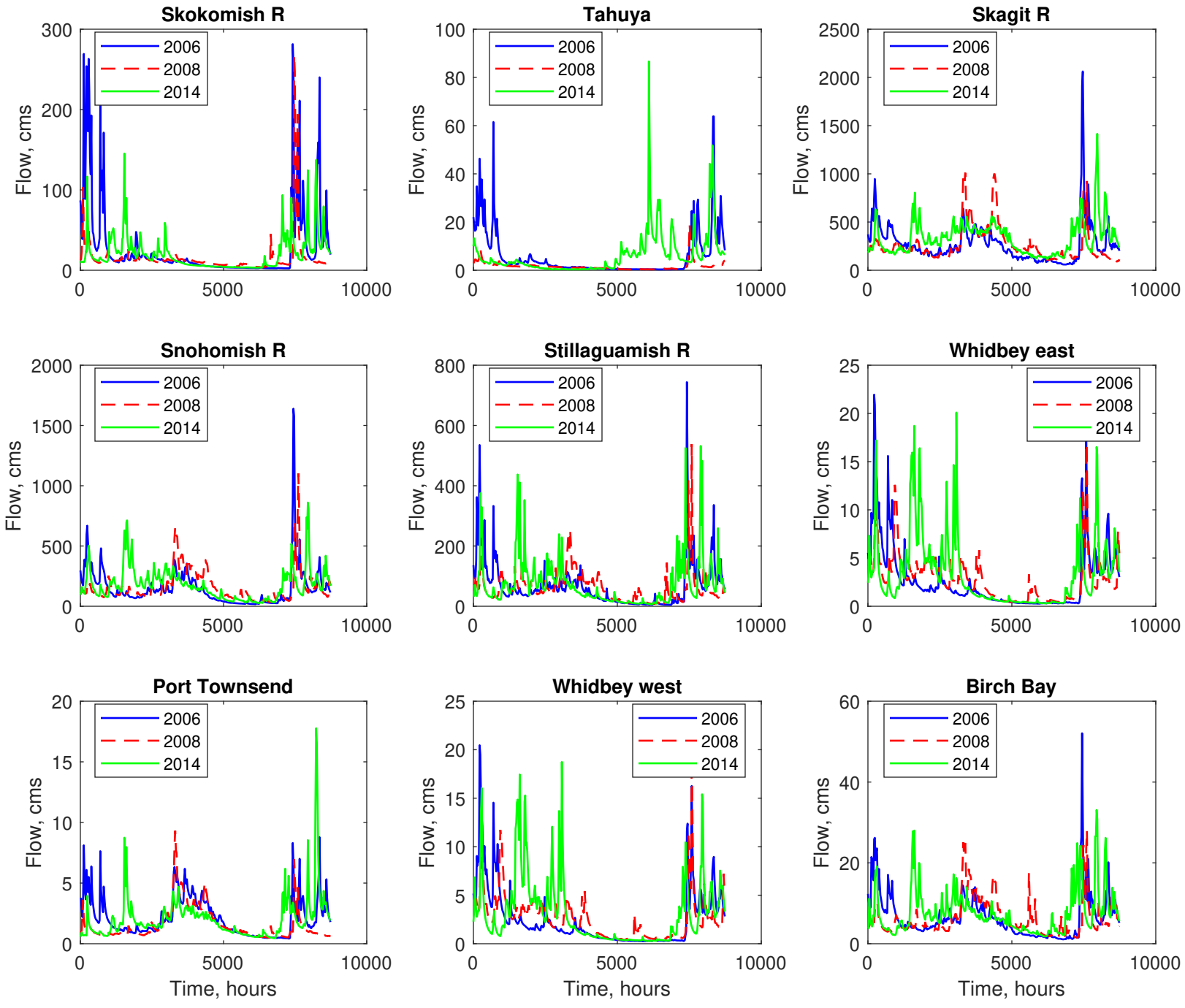

Whitman Cove
Wilson Pt
Woodard Cr
Woodland Cr
Young Cove
Hylebos Cr
Puyallup R
Bainbridge Island West
Blackjack Cr
2006
2008
2014
Flow, cms
Time, hours

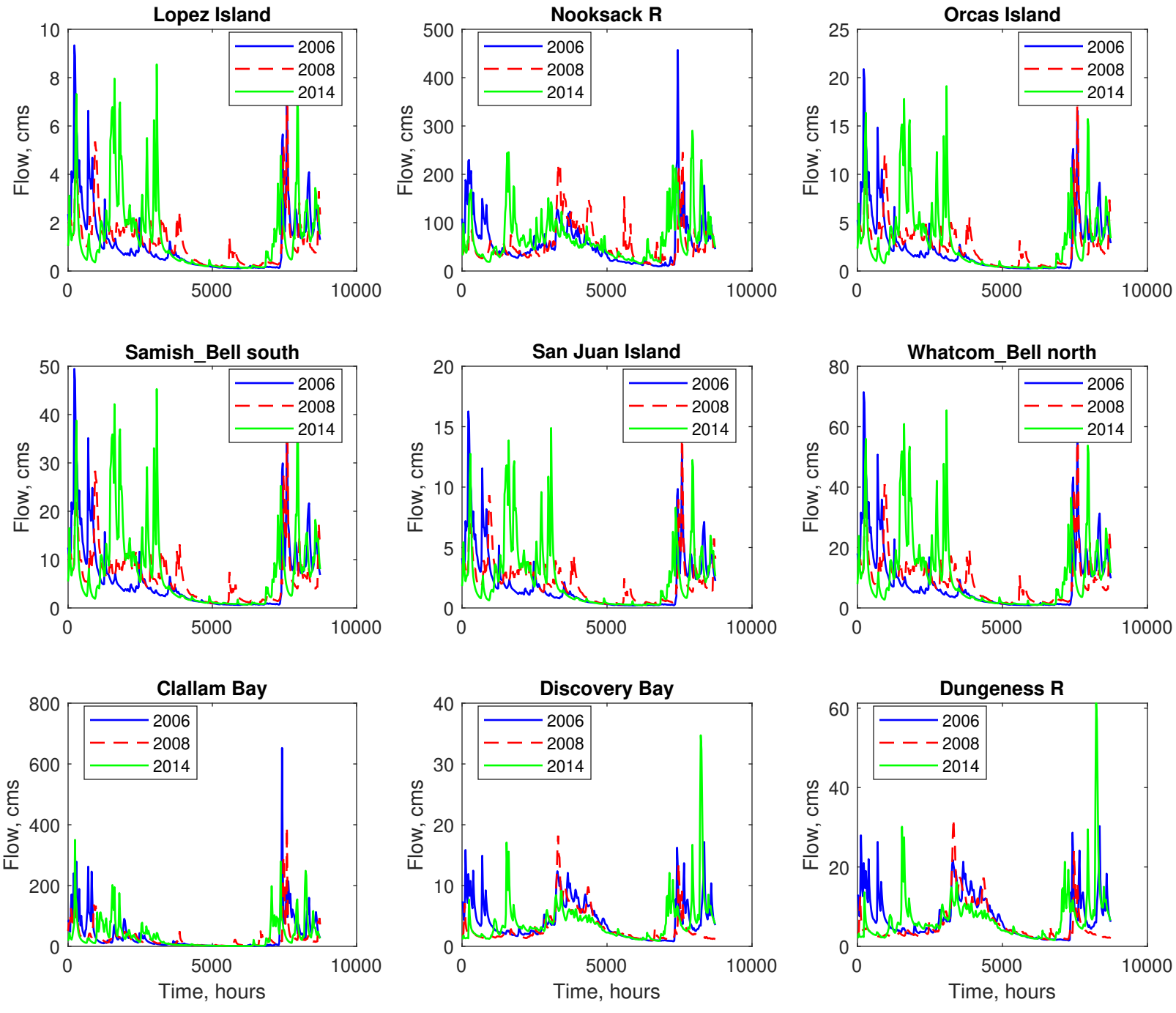

Chico Cr
Dyes Inlet
Gorst Cr
Liberty Bay
Miller Bay
Green R
Bainbridge Island East
Blake Island
Buenna
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

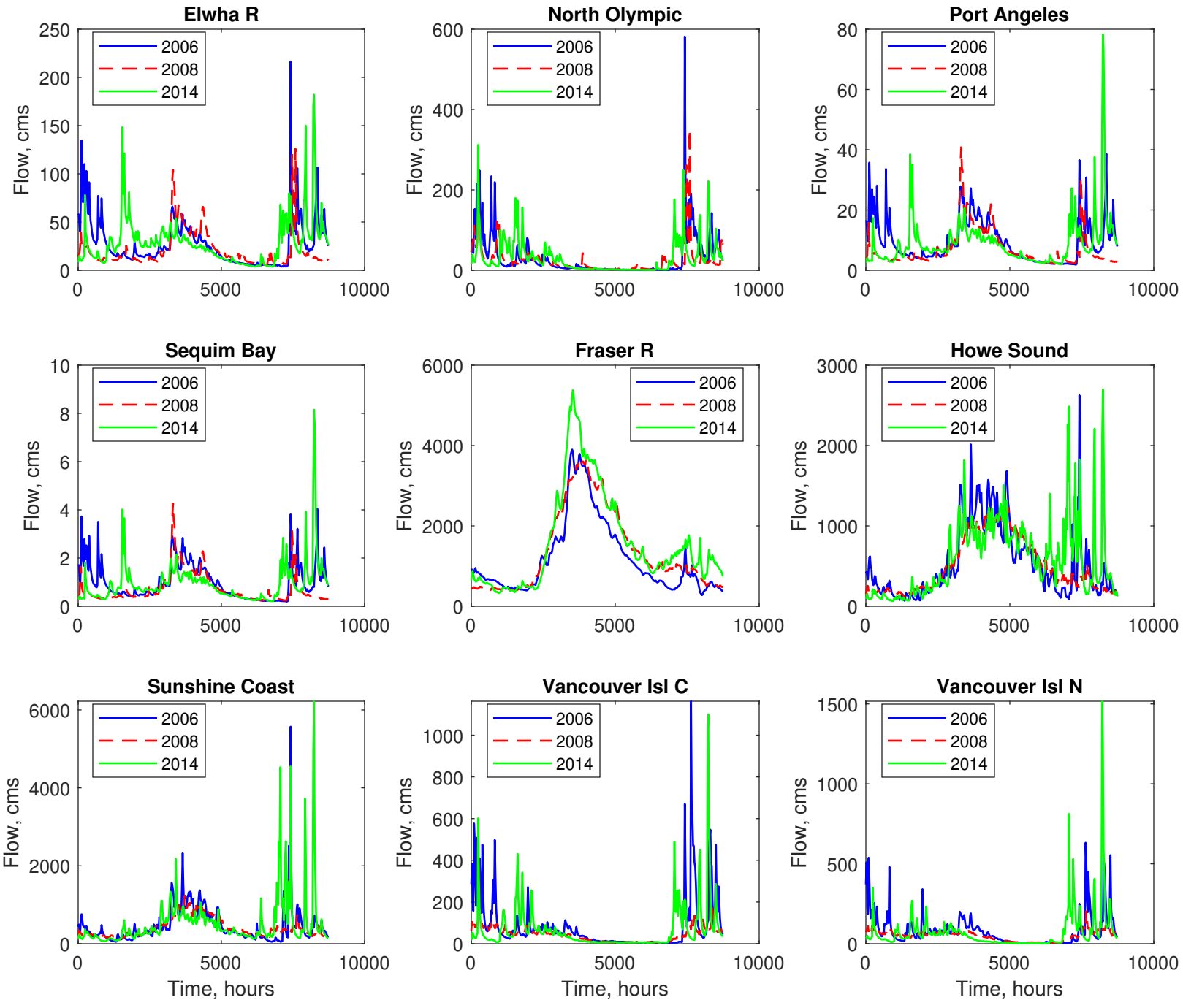

Green Valley Cr
Curley Cr
Des Moines Cr
Ellisport
Federal Way
Gig Harbor
Judd Cr
Kitsap NE
Lake Washington
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000


Magnolia Bch
Maury Island
Miller Cr
Olalla Cr
Saltwater St Pk
Shingle Mill Cr
South Snohomish
Tahlequah
University Place
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000


Dabob Bay
Dosewallips R
Duckabush R
Hamma Hamma R
Kitsap_Hood
Lynch Cove
NW Hood
Port Gamble
Quilcene
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000


Skokomish R
Tahuya
Skagit R
Snohomish R
Stillaguamish R
Whidbey east
Port Townsend
Whidbey west
Birch Bay
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000


Lopez Island
Nooksack R
Orcas Island
Samish_Bell south
San Juan Island
Whatcom_Bell north
Clallam Bay
Discovery Bay
Dungeness R
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000


Elwha R
North Olympic
Port Angeles
Sequim Bay
Fraser R
Howe Sound
Sunshine Coast
Vancouver Isl C
Vancouver Isl N
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

Appendix A5. List of Marine Point Sources Entering the Salish Sea

Marine point sources included in the Salish Sea Model, and which regions they discharge to are shown in the following table. Abbreviations in the table below are spelled out at the end of the table.

SSM ID	Name of marine point source	Sub-region of Salish Sea into which point source discharges	Region of Salish Sea into which point source discharges	Country where point source is located
501	Boston Harbor	South Sound	Puget Sound	USA
502	Carlyon	South Sound	Puget Sound	USA
503	Chambers Creek	South Sound	Puget Sound	USA
504	Fort Lewis	South Sound	Puget Sound	USA
505	Hartstene	South Sound	Puget Sound	USA
506	LOTT	South Sound	Puget Sound	USA
507	McNeil Is	South Sound	Puget Sound	USA
508	Rustlewood	South Sound	Puget Sound	USA
509	Seashore Villa	South Sound	Puget Sound	USA
510	Shelton	South Sound	Puget Sound	USA
511	Tamoshan	South Sound	Puget Sound	USA
512	Taylor Bay	South Sound	Puget Sound	USA
513	Puyallup	Main Basin	Puget Sound	USA
514	Tacoma Central	Main Basin	Puget Sound	USA
515	Tacoma North	Main Basin	Puget Sound	USA
516	US Oil & Refining	Main Basin	Puget Sound	USA
517	West Rock	Main Basin	Puget Sound	USA
518	Bainbridge Kitsap Co 7	Main Basin	Puget Sound	USA
519	Bremerton	Main Basin	Puget Sound	USA
520	Central Kitsap	Main Basin	Puget Sound	USA
521	Port Orchard	Main Basin	Puget Sound	USA
522	Suquamish	Main Basin	Puget Sound	USA
523	Alderwood	Main Basin	Puget Sound	USA
524	Bainbridge Island City	Main Basin	Puget Sound	USA
525	Brightwater	Main Basin	Puget Sound	USA
526	Edmonds	Main Basin	Puget Sound	USA
527	Gig Harbor	Main Basin	Puget Sound	USA
528	Kitsap Co Kingston	Main Basin	Puget Sound	USA
529	Lakota	Main Basin	Puget Sound	USA
530	Lynnwood	Main Basin	Puget Sound	USA
531	Manchester	Main Basin	Puget Sound	USA
532	Messenger House	Main Basin	Puget Sound	USA
533	Midway	Main Basin	Puget Sound	USA
534	Miller Creek	Main Basin	Puget Sound	USA

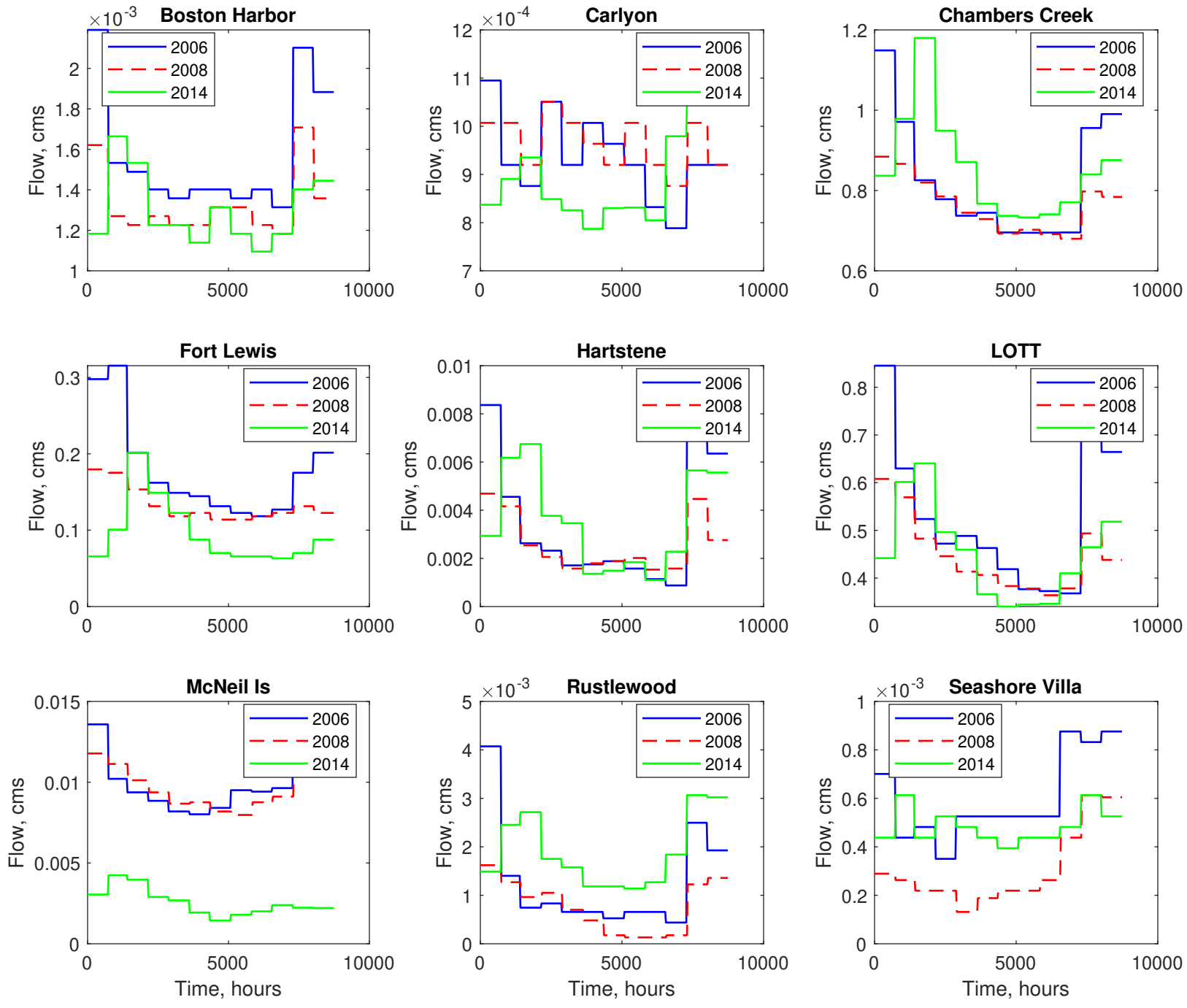
SSM ID	Name of marine point source	Sub-region of Salish Sea into which point source discharges	Region of Salish Sea into which point source discharges	Country where point source is located
535	Redondo	Main Basin	Puget Sound	USA
536	Salmon Creek	Main Basin	Puget Sound	USA
537	South King	Main Basin	Puget Sound	USA
538	Vashon	Main Basin	Puget Sound	USA
539	West Point	Main Basin	Puget Sound	USA
540	Alderbrook	Hood Canal	Puget Sound	USA
541	Port Gamble	Hood Canal	Puget Sound	USA
542	Coupeville	Whidbey Basin	Puget Sound	USA
543	Everett Snohomish	Whidbey Basin	Puget Sound	USA
544	Kimberly_Clark	Whidbey Basin	Puget Sound	USA
545	La Conner	Whidbey Basin	Puget Sound	USA
546	Lake Stevens 001	Whidbey Basin	Puget Sound	USA
547	Lake Stevens 002	Whidbey Basin	Puget Sound	USA
548	Langley	Whidbey Basin	Puget Sound	USA
549	Marysville	Whidbey Basin	Puget Sound	USA
550	Mt Vernon	Whidbey Basin	Puget Sound	USA
551	Mukilteo	Whidbey Basin	Puget Sound	USA
552	Oak Harbor Lagoon	Whidbey Basin	Puget Sound	USA
553	Oak Harbor RBC	Whidbey Basin	Puget Sound	USA
554	OF100 (Everett-Marysville)	Whidbey Basin	Puget Sound	USA
555	Penn Cove	Whidbey Basin	Puget Sound	USA
556	Skagit County 2 Big Lake	Whidbey Basin	Puget Sound	USA
557	Snohomish	Whidbey Basin	Puget Sound	USA
558	Stanwood	Whidbey Basin	Puget Sound	USA
559	Swinomish	Whidbey Basin	Puget Sound	USA
560	Tulalip	Whidbey Basin	Puget Sound	USA
561	Warm Beach Campground	Whidbey Basin	Puget Sound	USA
562	Port Ludlow	Admiralty	Puget Sound	USA
563	Port Townsend	Admiralty	Puget Sound	USA
564	Port Townsend Paper	Admiralty	Puget Sound	USA
565	Anacortes	SOG - US	Straits - US	USA
566	Bellingham	Bellingham, Samish, Padilla Bays	Straits - US	USA
567	Birch Bay	SOG - US	Straits - US	USA
568	Blaine	SOG - US	Straits - US	USA
569	BP Cherry Point	SOG - US	Straits - US	USA
570	Conoco Phillips	SOG - US	Straits - US	USA
571	East Sound Orcas Village	SOG - US	Straits - US	USA
572	East Sound Water District	SOG - US	Straits - US	USA
573	Fisherman Bay	SOG - US	Straits - US	USA
574	Friday Harbor	SOG - US	Straits - US	USA
575	Intalco	SOG - US	Straits - US	USA

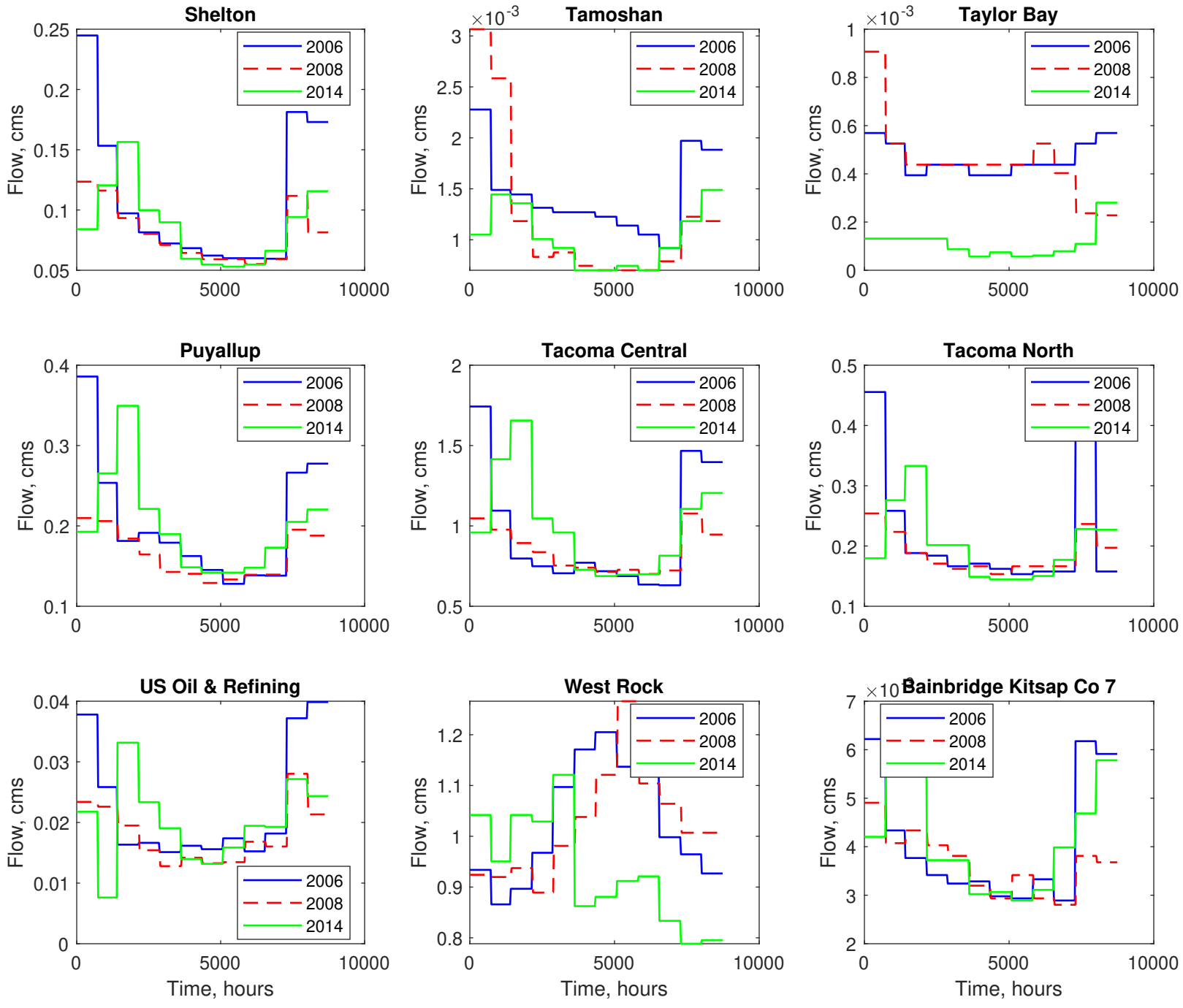
SSM ID	Name of marine point source	Sub-region of Salish Sea into which point source discharges	Region of Salish Sea into which point source discharges	Country where point source is located
576	Larrabee State Park	Bellingham, Samish, Padilla Bays	Straits - US	USA
577	Lummi Goose Pt	SOG - US	Straits - US	USA
578	Lummi Sandy Pt	SOG - US	Straits - US	USA
579	Makah	SOG - US	Straits - US	USA
580	Roche Harbor	SOG - US	Straits - US	USA
581	Rosario Utilities	SOG - US	Straits - US	USA
582	Shell Oil	Bellingham, Samish, Padilla Bays	Straits - US	USA
583	Tesoro	Bellingham, Samish, Padilla Bays	Straits - US	USA
584	Whidbey Naval Station	SOG - US	Straits - US	USA
585	Clallam Bay POTW	SJF - US	Straits - US	USA
586	Clallam DOC	SJF - US	Straits - US	USA
587	Nippon Paper	SJF - US	Straits - US	USA
588	Port Angeles	SJF - US	Straits - US	USA
589	Sekiu	SJF - US	Straits - US	USA
590	Sequim	SJF - US	Straits - US	USA
591	Annacis	SOG - Canada	Straits - Canada	Canada
592	Iona	SOG - Canada	Straits - Canada	Canada
593	Lions Gate	SOG - Canada	Straits - Canada	Canada
594	Lulu	SOG - Canada	Straits - Canada	Canada
595	NW Langley	SOG - Canada	Straits - Canada	Canada
596	Clover Point	SJF - Canada	Straits - Canada	Canada
597	Gulf Islands	SOG - Canada	Straits - Canada	Canada
598	Macaulay	SJF - Canada	Straits - Canada	Canada
599	Saanich	SOG - Canada	Straits - Canada	Canada

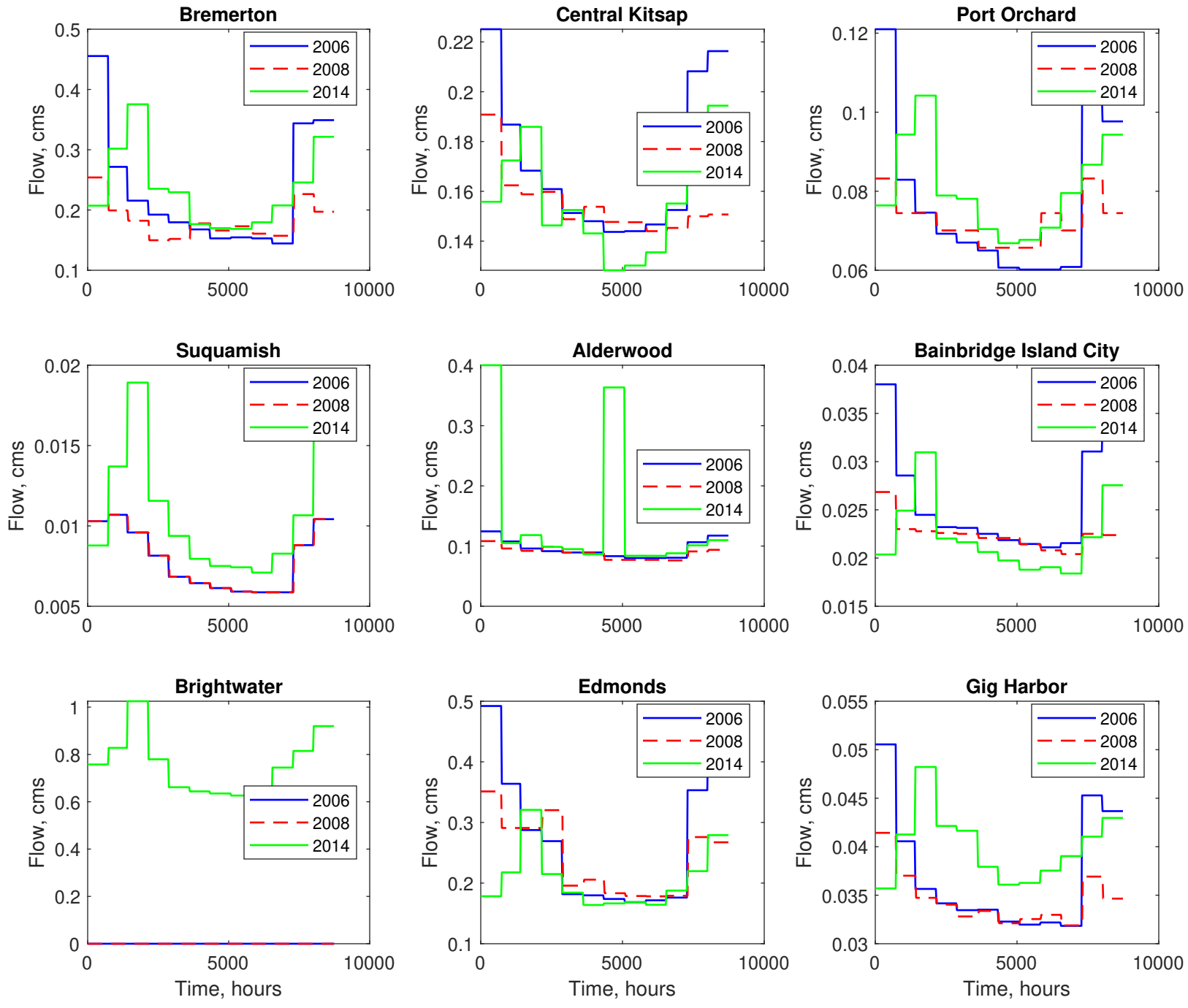
Abbreviations explained: SSM ID – Salish Sea Model ID number, USA – United States of America, SOG – Strait of Georgia, SJF – Strait of Juan de Fuca, WA – Washington State, BC – British of Columbia

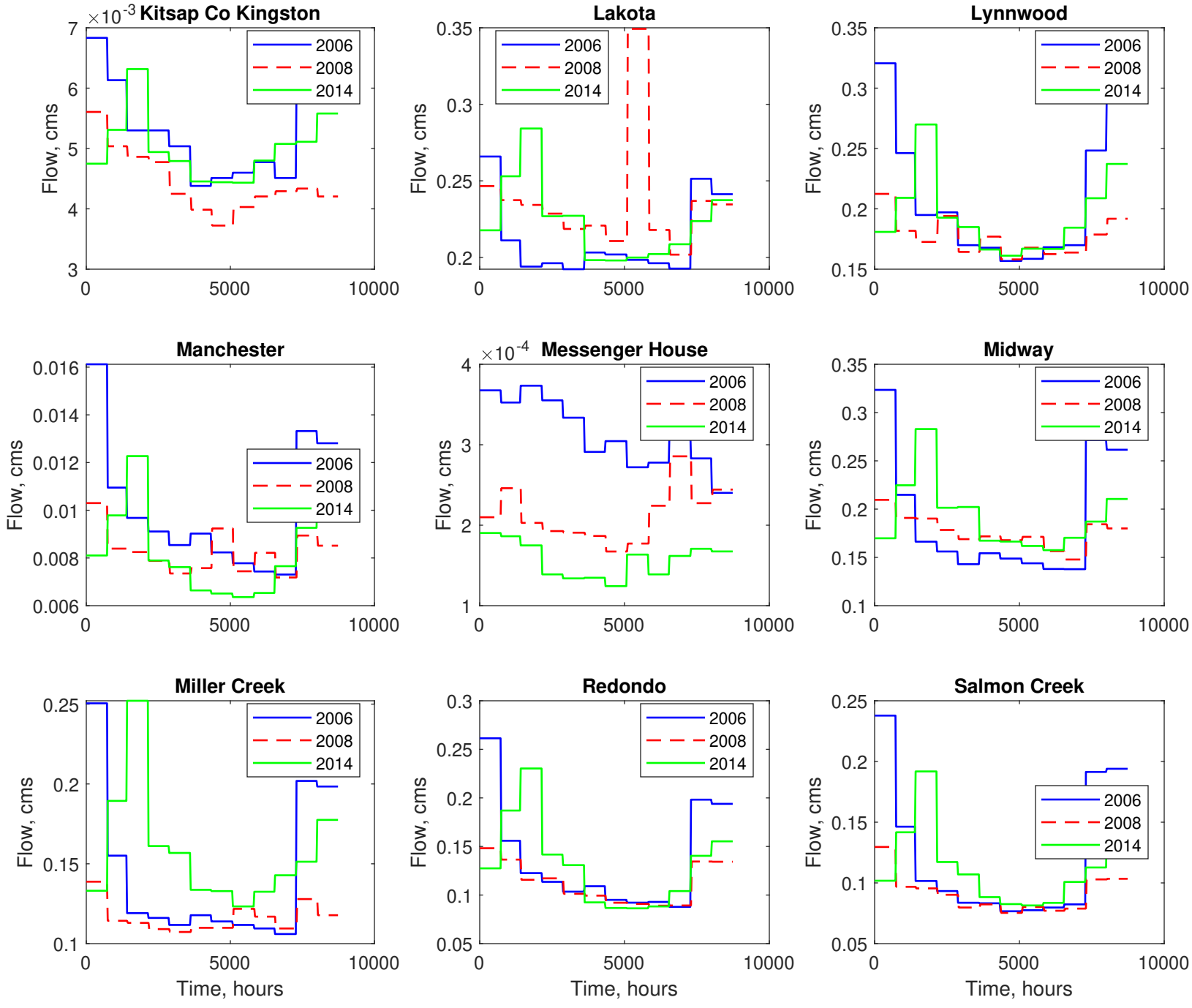
Note: The 'Puget Sound' region includes all marine areas south of the entrance of Admiralty Inlet.

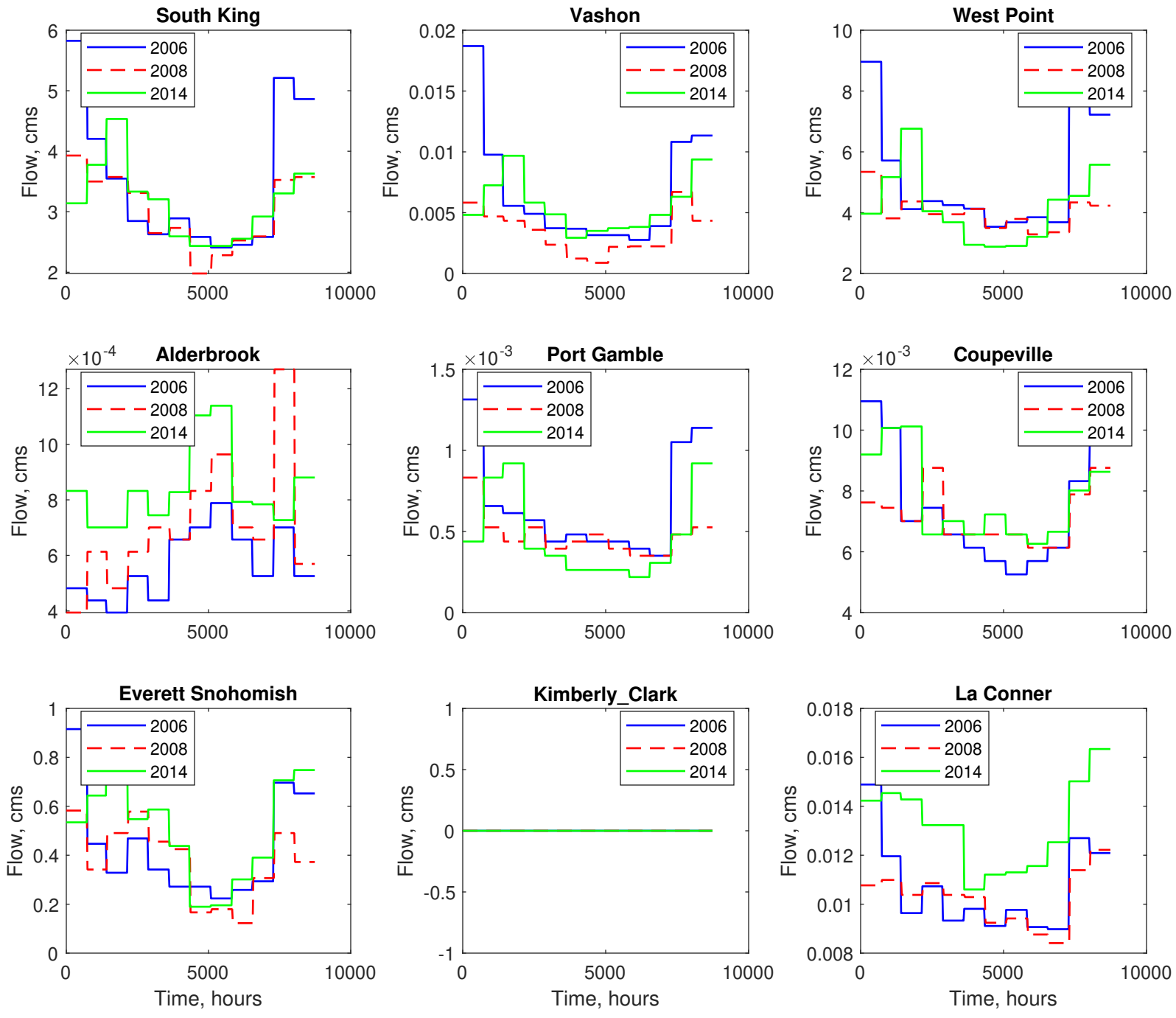
Appendix A6
Marine Point Source Inflows for 2006, 2008 and 2014

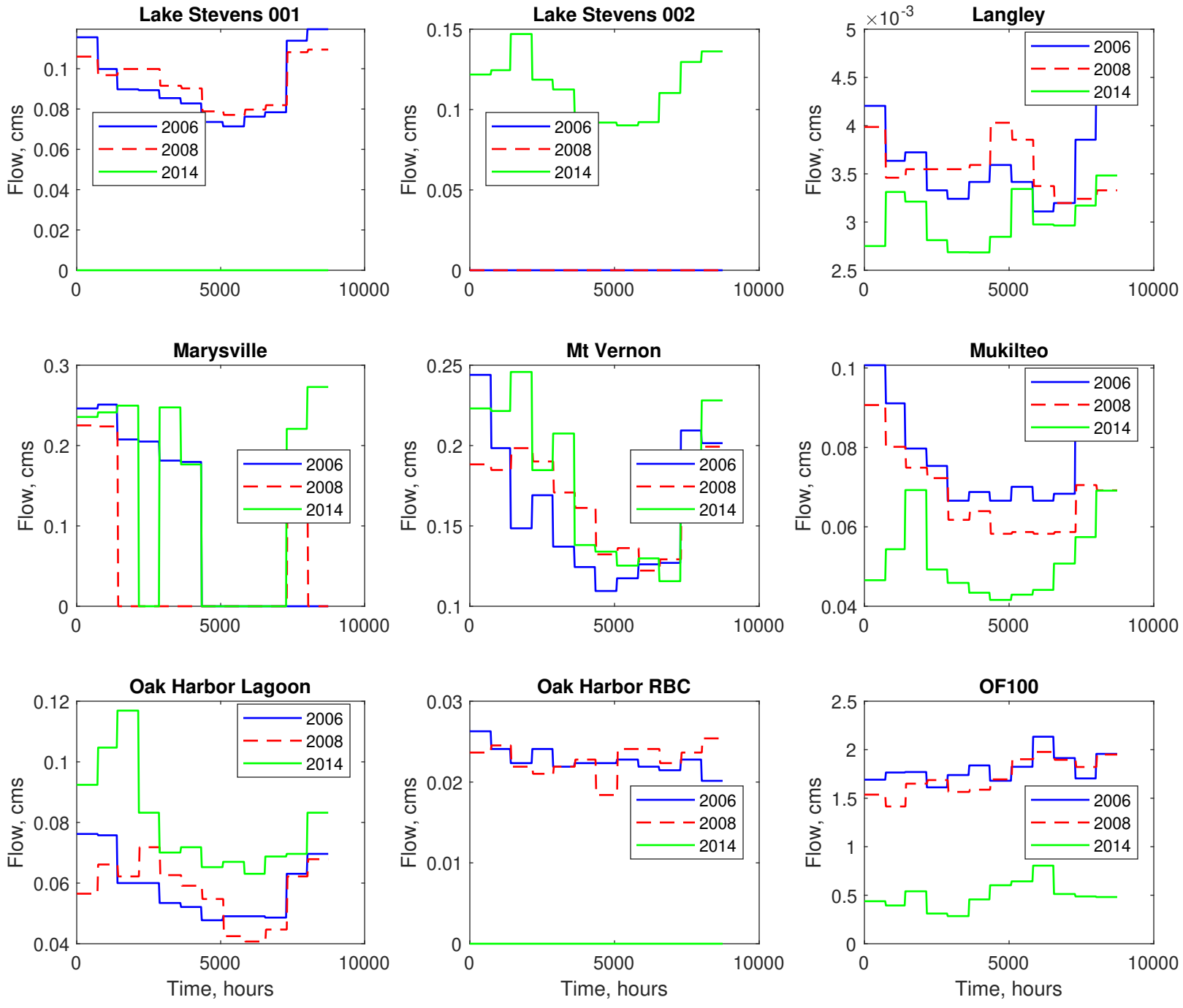

Boston Harbor
×10^-3
Carlyon
×10^-4
Chambers Creek
Fort Lewis
Hartstene
LOTT
McNeil Is
×10^-3
Rustlewood
×10^-3
Seashore Villa
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

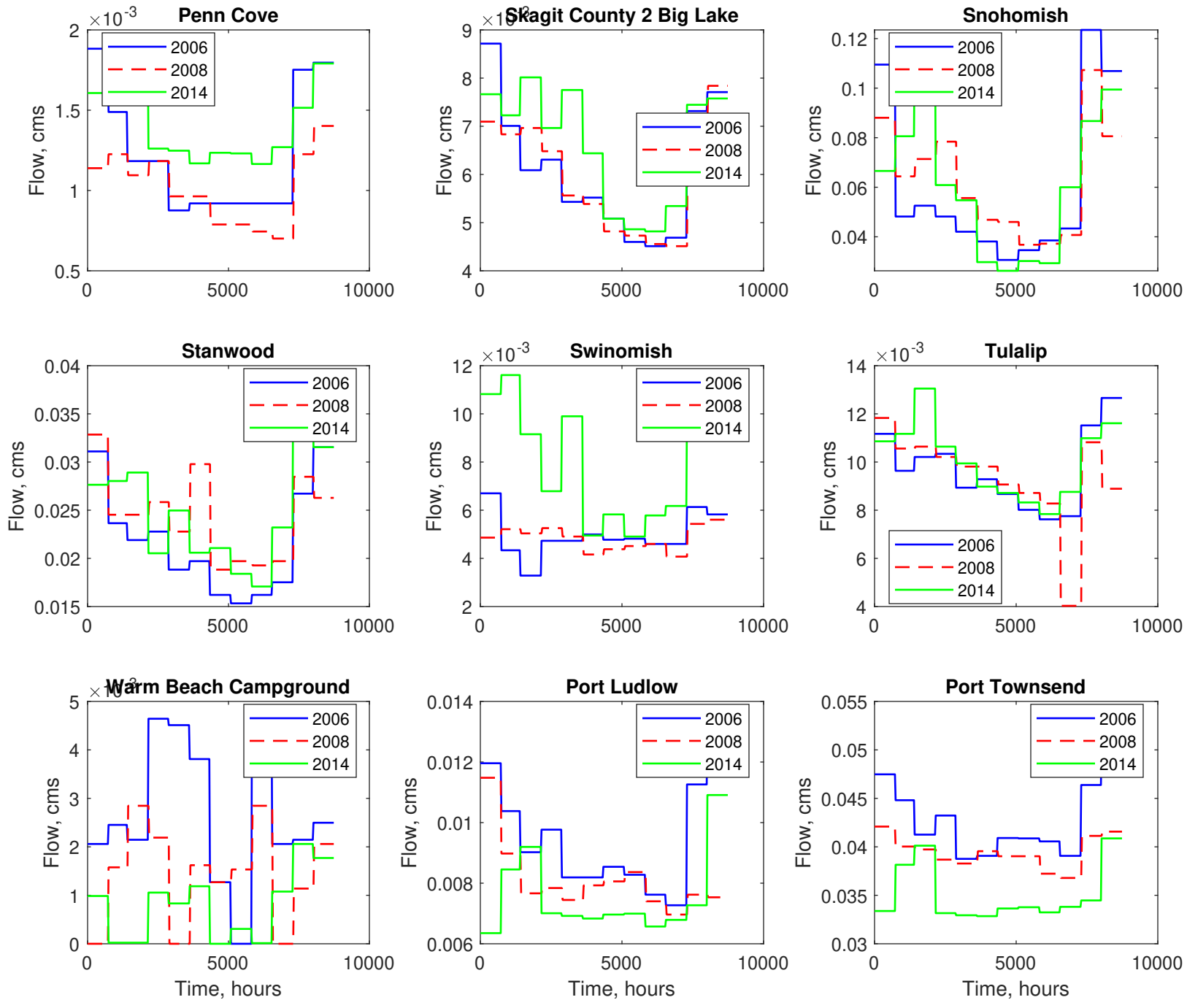

Shelton
Tamoshan
Taylor Bay
Puyallup
Tacoma Central
Tacoma North
US Oil & Refining
West Rock
Bainbridge Kitsap Co 7
2006
2008
2014
Flow, cms
Time, hours
×10^-3

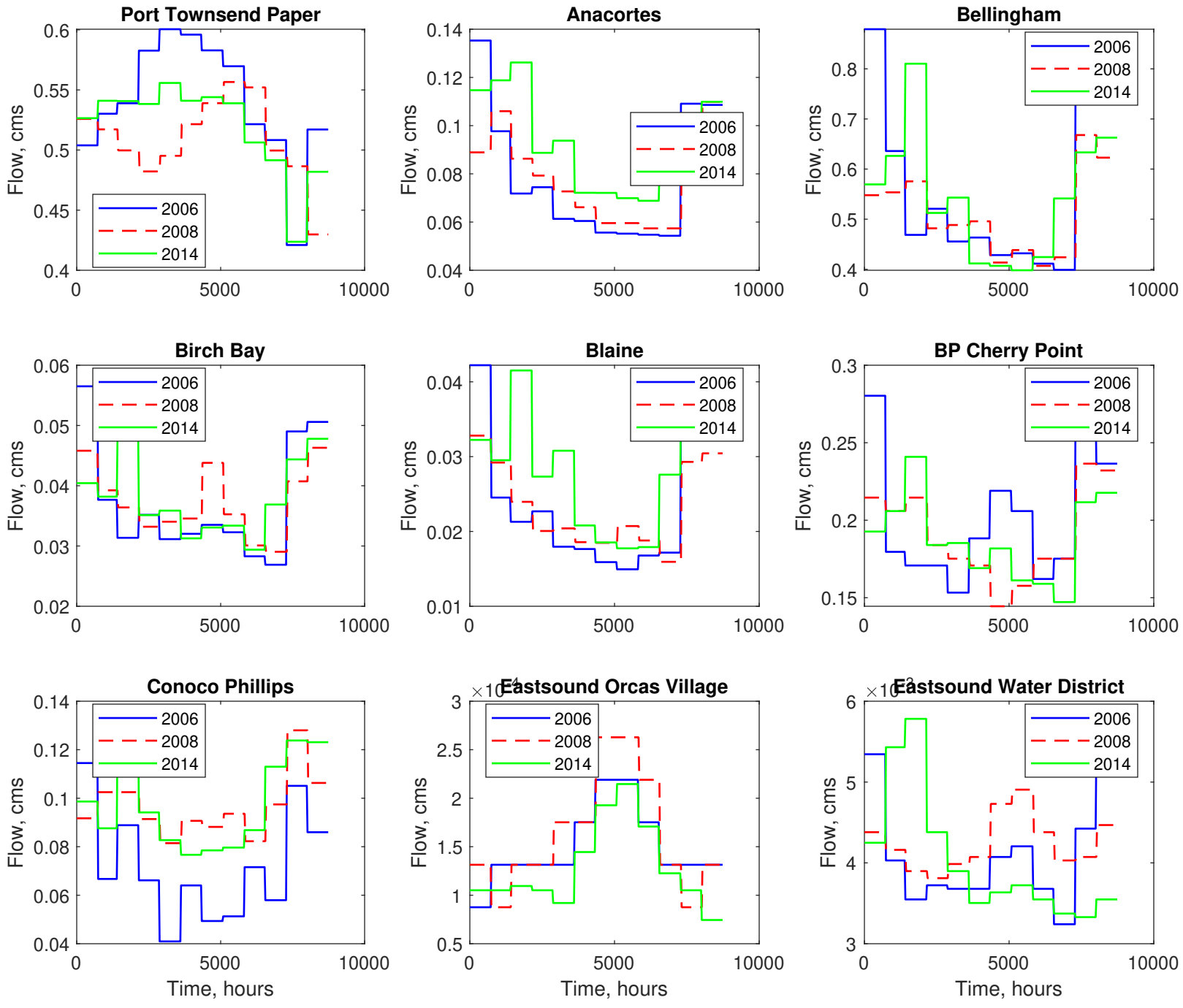

Bremerton
Central Kitsap
Port Orchard
Suquamish
Alderwood
Bainbridge Island City
Brightwater
Edmonds
Gig Harbor
Flow, cms
Time, hours
2006
2008
2014

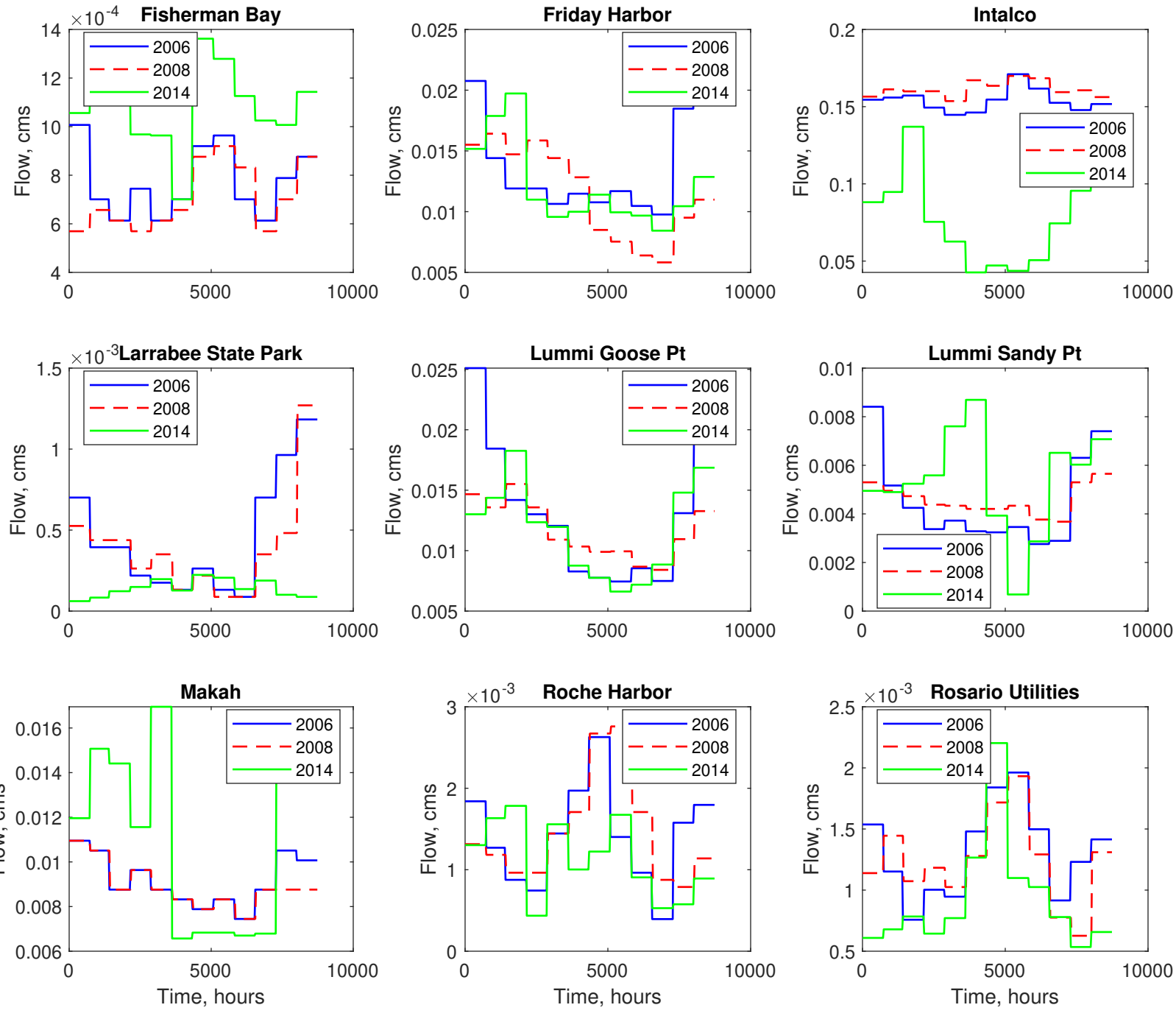

Kitsap Co Kingston
×10^-3
Lakota
Lynnwood
Manchester
Messenger House
×10^-4
Midway
Miller Creek
Redondo
Salmon Creek
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

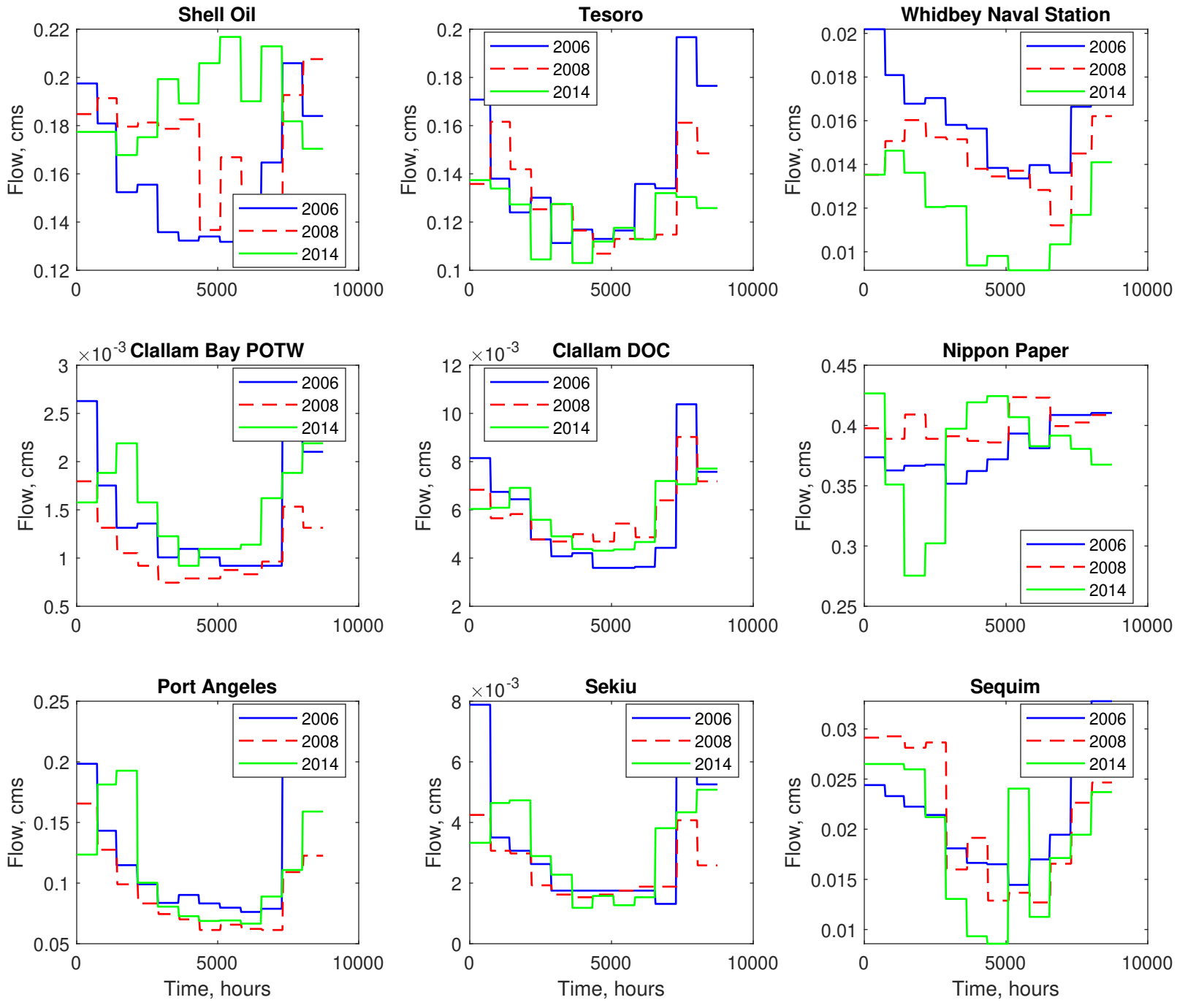

South King
Vashon
West Point
Alderbrook
Port Gamble
Coupeville
Everett Snohomish
Kimberly_Clark
La Conner
2006
2008
2014
Flow, cms
Time, hours
×10^-4
×10^-3
0
5000
10000

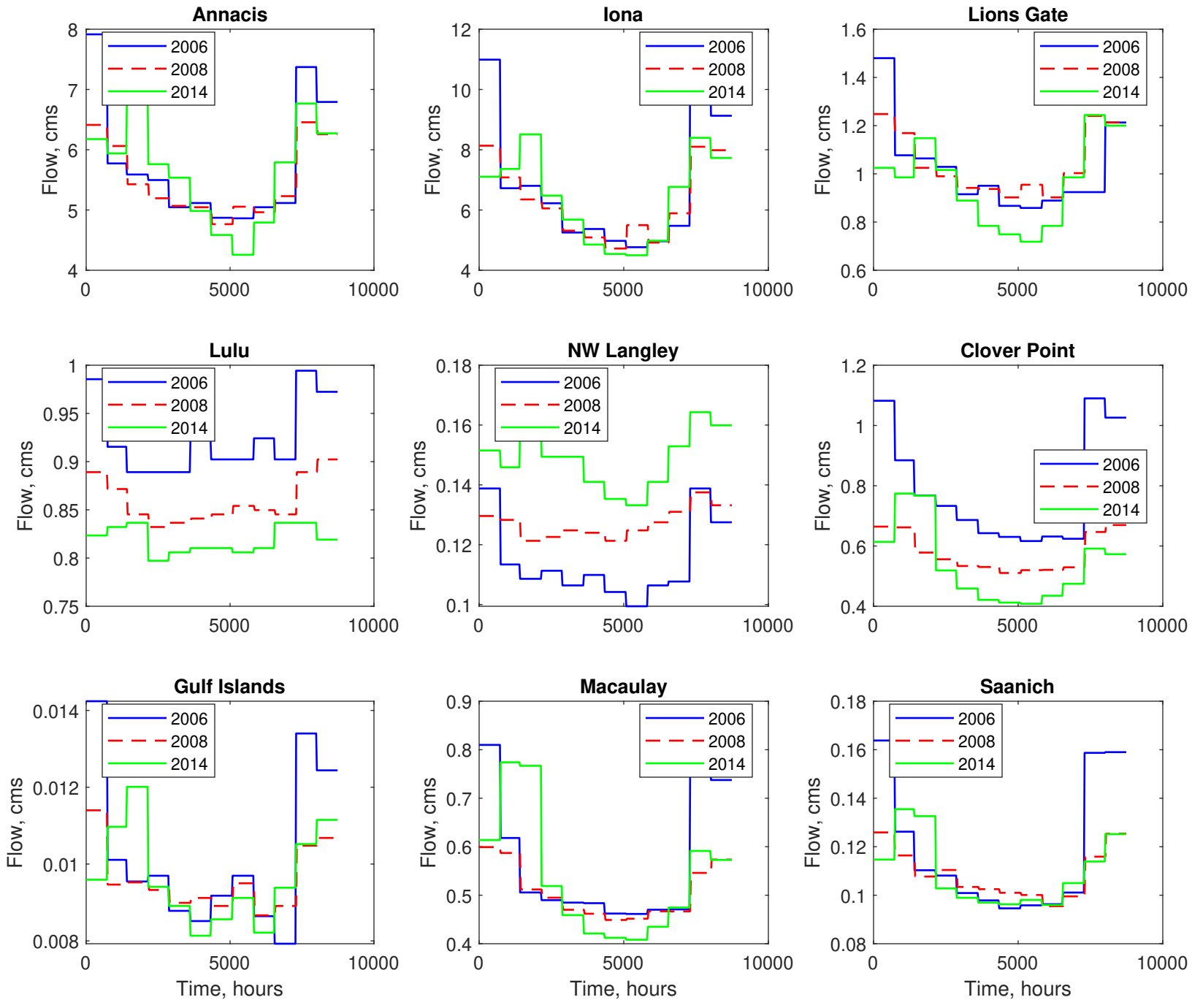

Lake Stevens 001
Lake Stevens 002
Langley
Marysville
Mt Vernon
Mukilteo
Oak Harbor Lagoon
Oak Harbor RBC
OF100
Flow, cms
Time, hours
2006
2008
2014
×10^-3


Penn Cove
Skagit County 2 Big Lake
Snohomish
Stanwood
Swinomish
Tulalip
Warm Beach Campground
Port Ludlow
Port Townsend
2006
2008
2014
Flow, cms
Time, hours

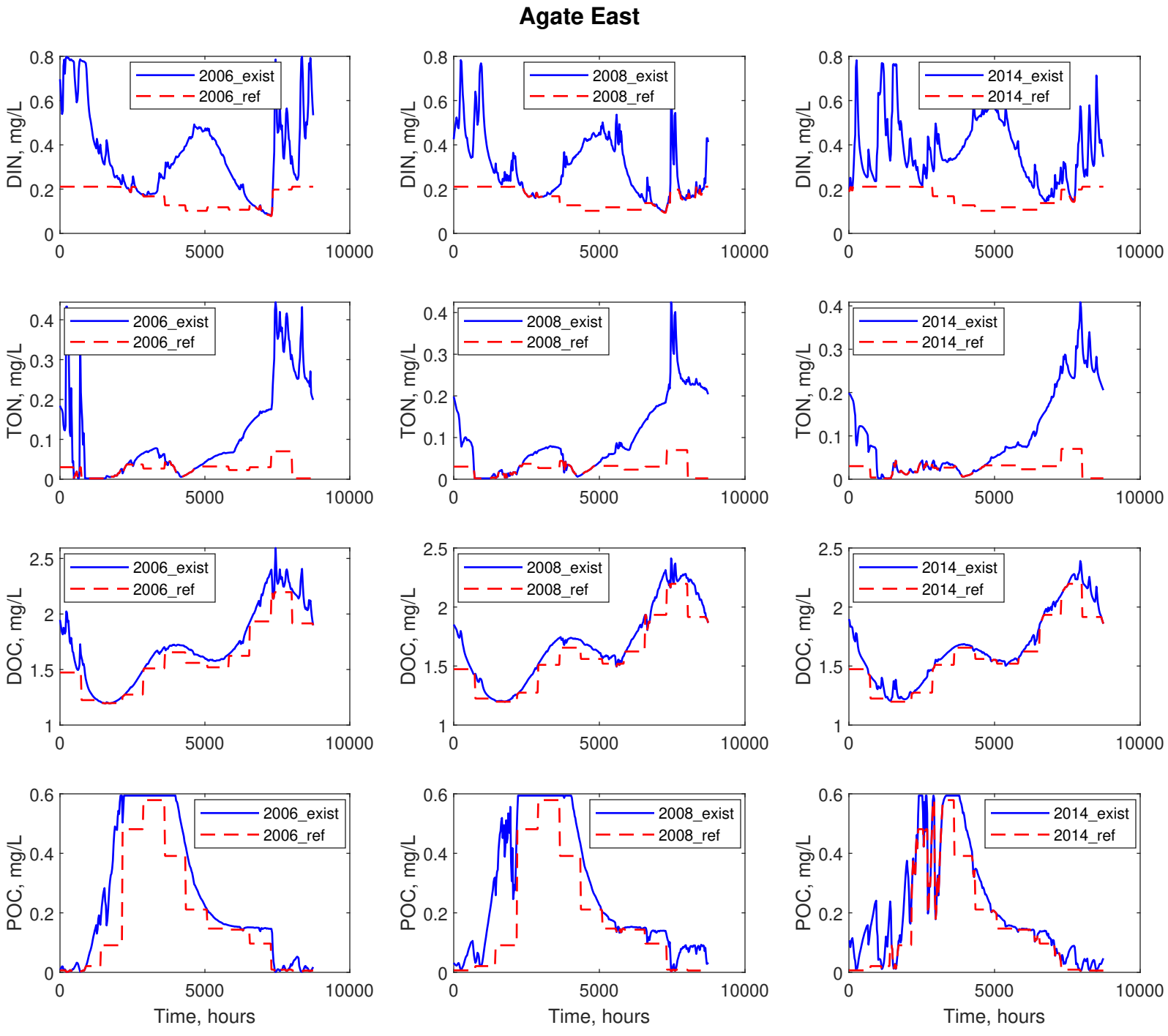

Port Townsend Paper
Anacortes
Bellingham
Birch Bay
Blaine
BP Cherry Point
Conoco Phillips
Eastsound Orcas Village
Eastsound Water District
Flow, cms
Time, hours
2006
2008
2014
0
5000
10000

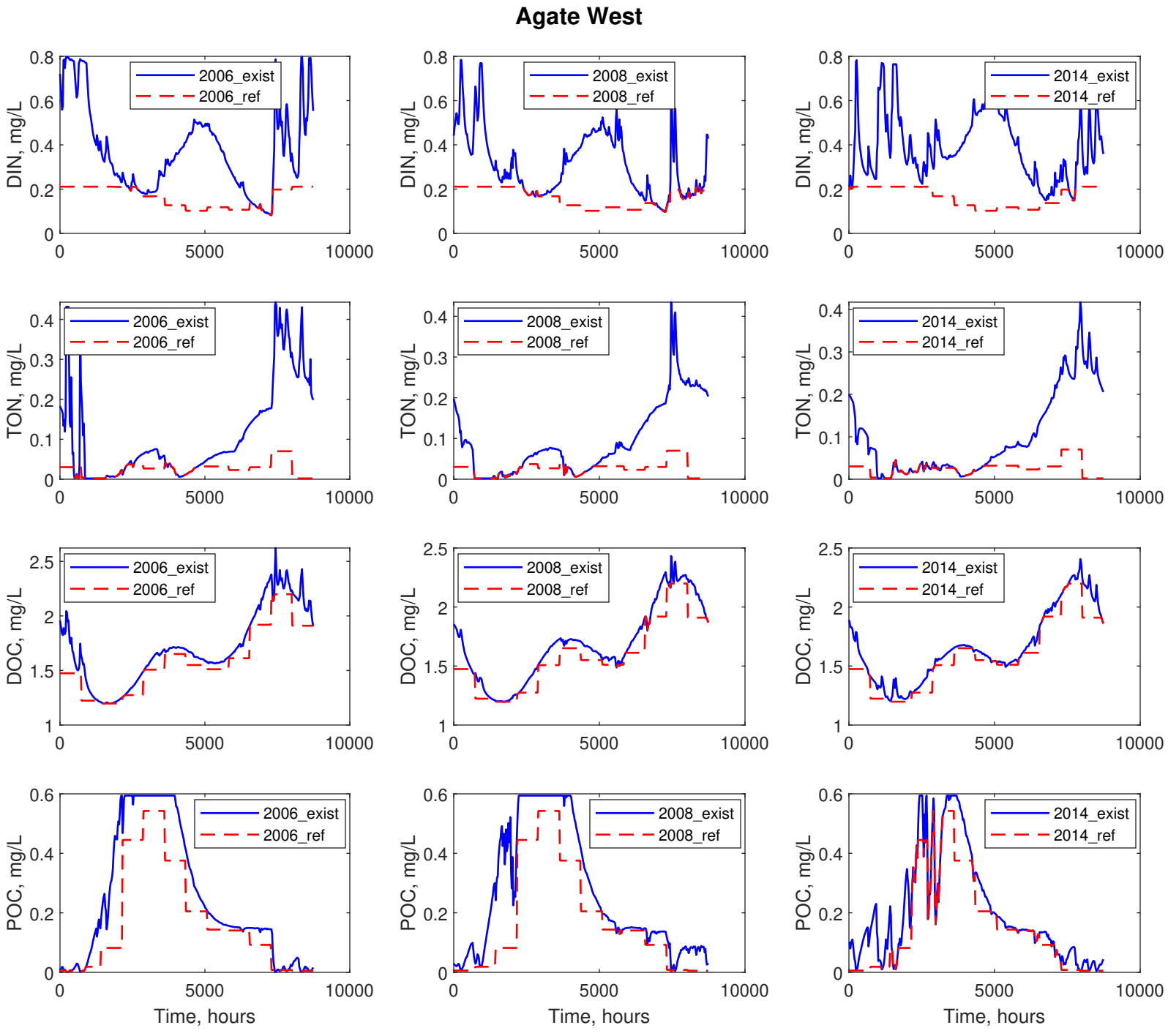

Fisherman Bay
×10^-4
Friday Harbor
Intalco
Larrabee State Park
×10^-3
Lummi Goose Pt
Lummi Sandy Pt
Makah
Roche Harbor
×10^-3
Rosario Utilities
×10^-3
2006
2008
2014
Flow, cms
Time, hours
0
5000
10000

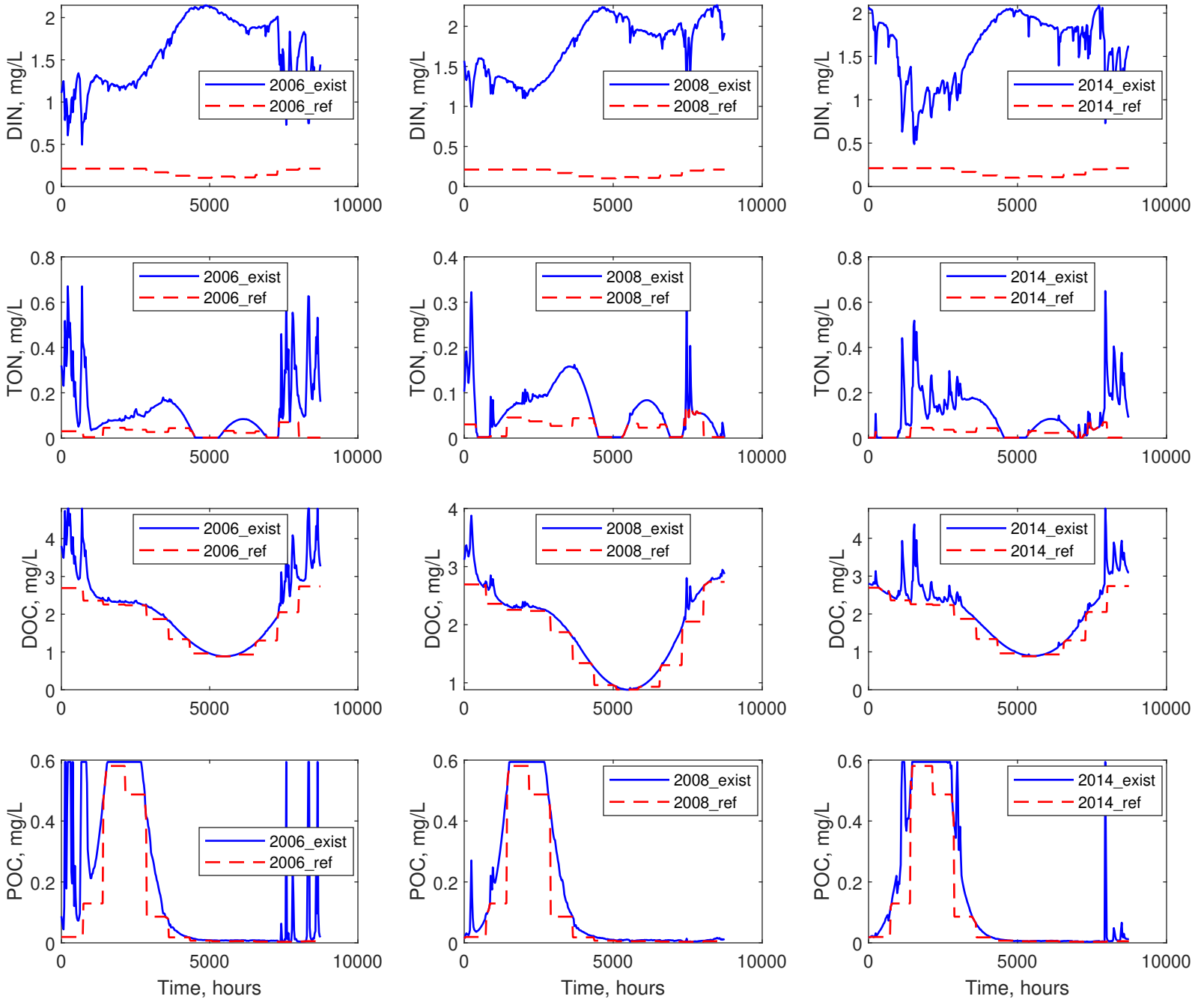

Shell Oil
Tesoro
Whidbey Naval Station
Clallam Bay POTW
Clallam DOC
Nippon Paper
Port Angeles
Sekiu
Sequim
Flow, cms
Time, hours
2006
2008
2014
×10-3

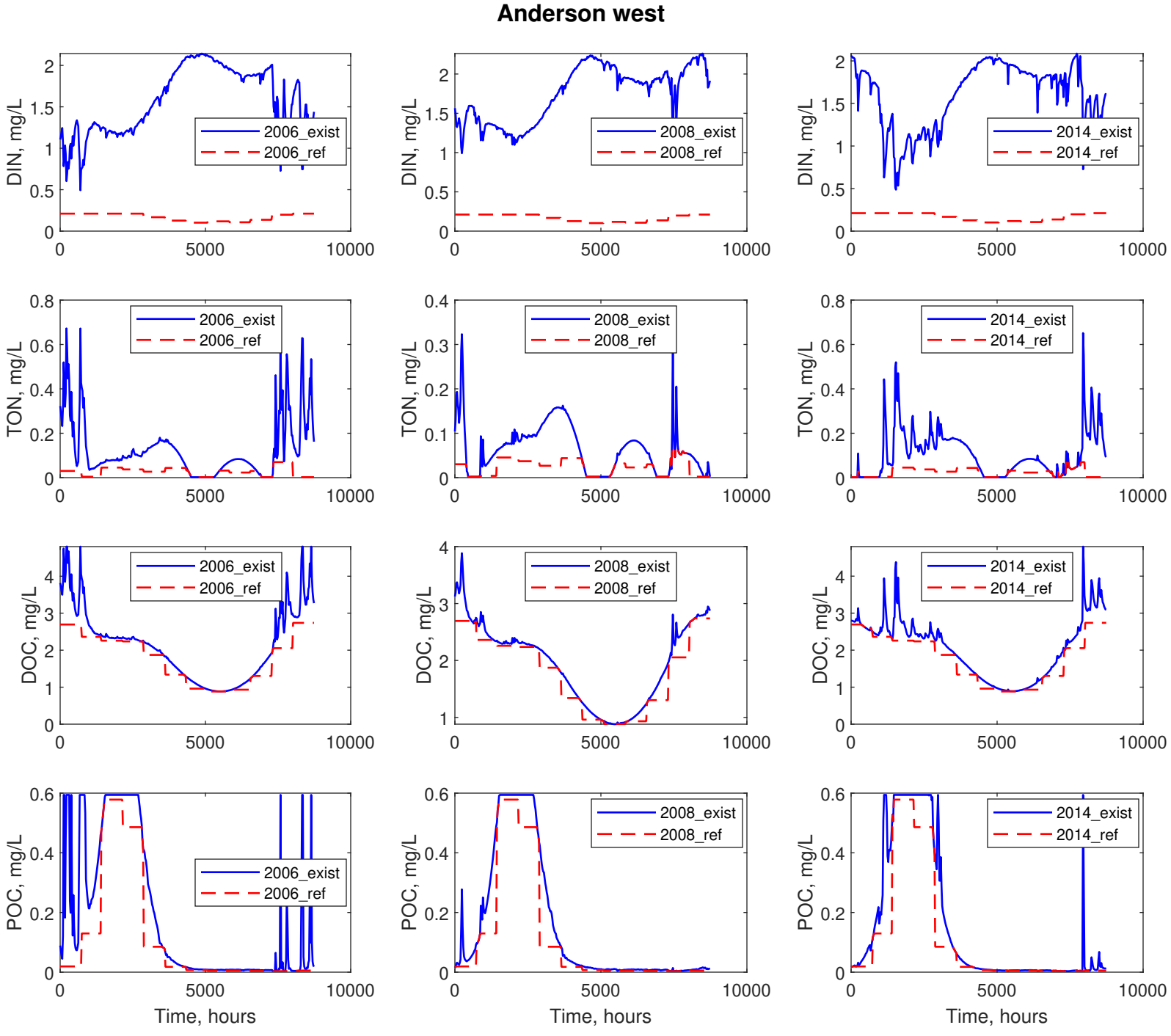

Annacis
Iona
Lions Gate
Lulu
NW Langley
Clover Point
Gulf Islands
Macaulay
Saanich
2006
2008
2014
Flow, cms
Time, hours

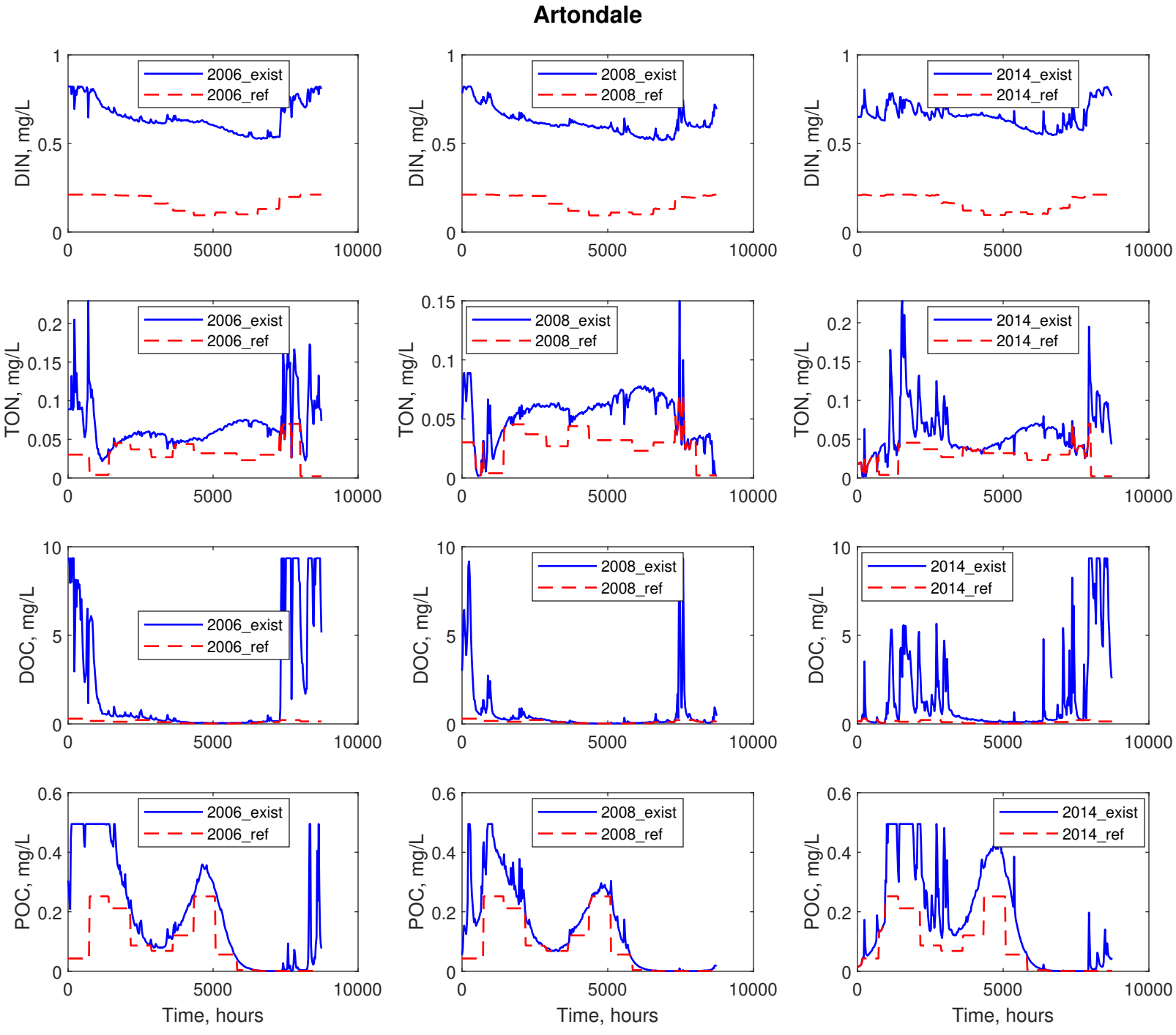
Appendix A7
Watershed Inflow Water Quality for 2006, 2008 and 2014

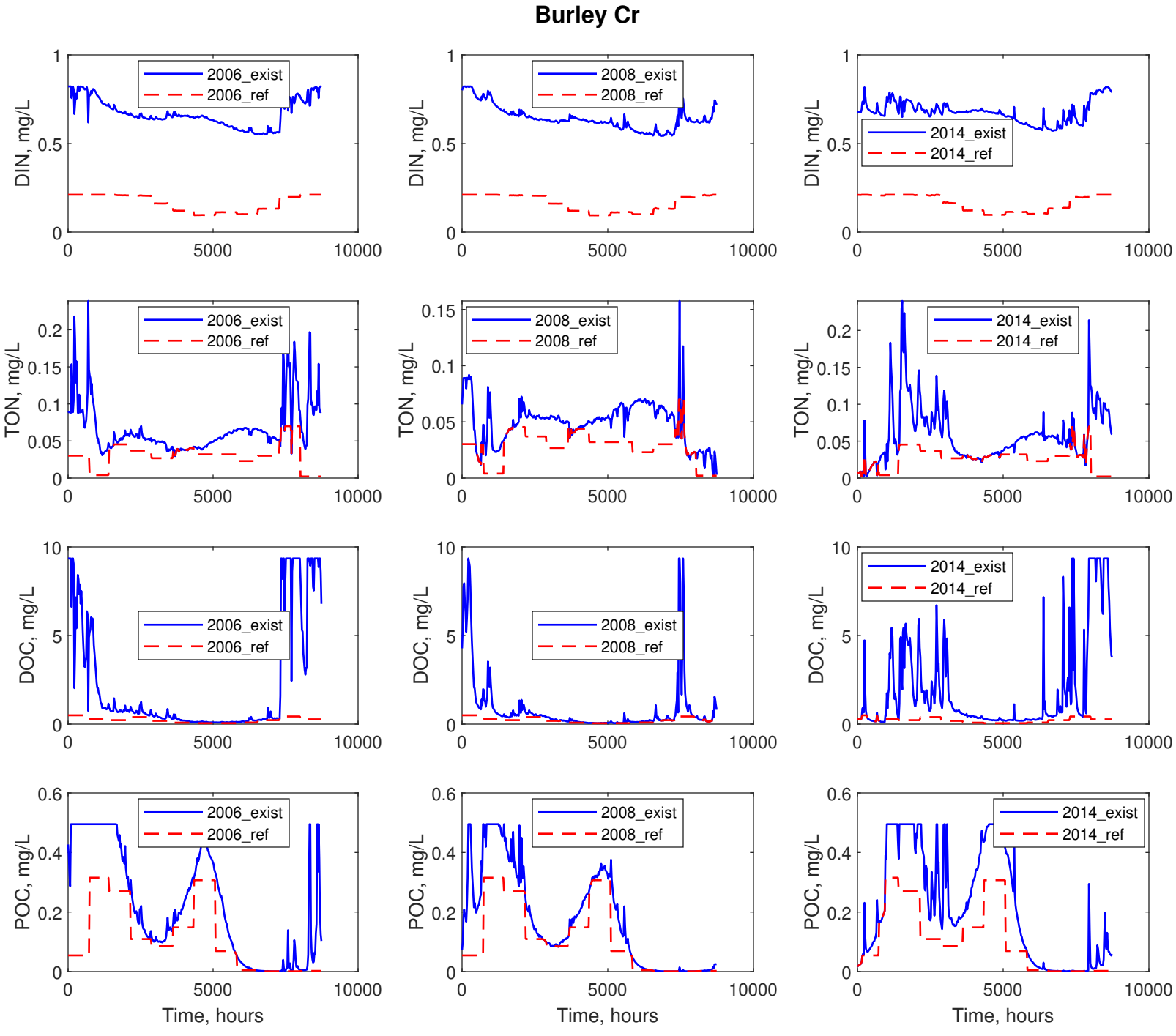

Agate East
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

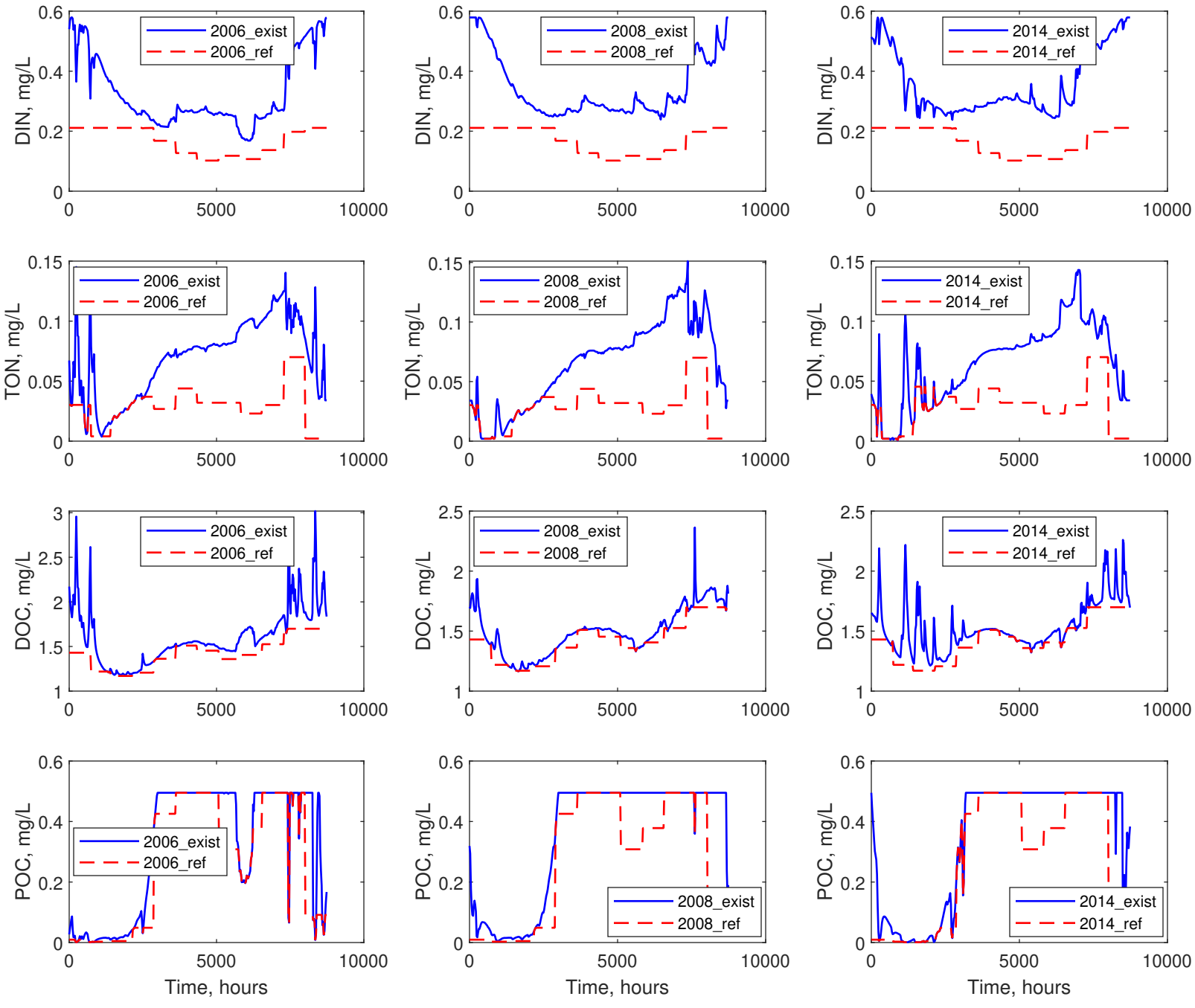

Agate West
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

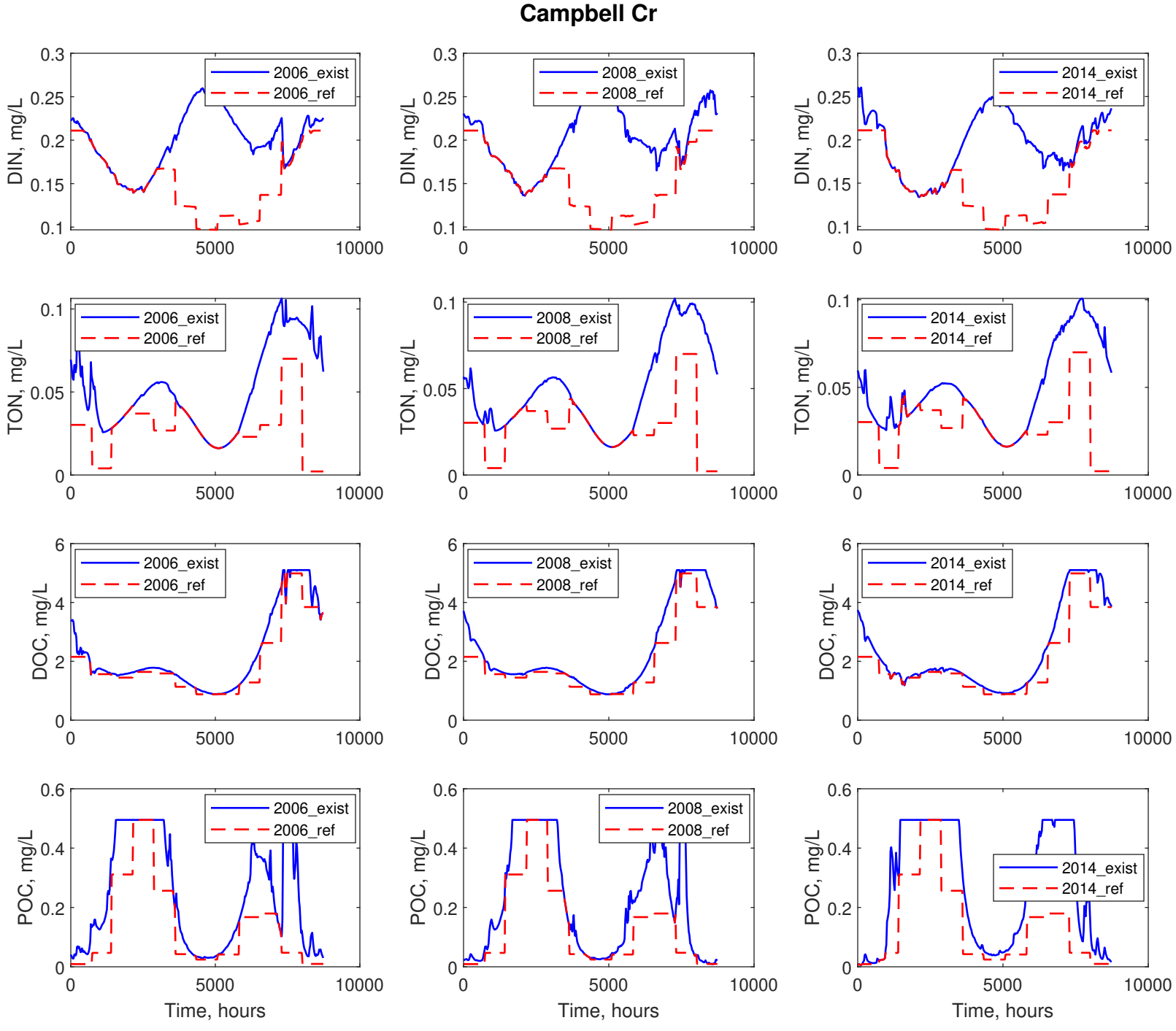

Anderson east
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

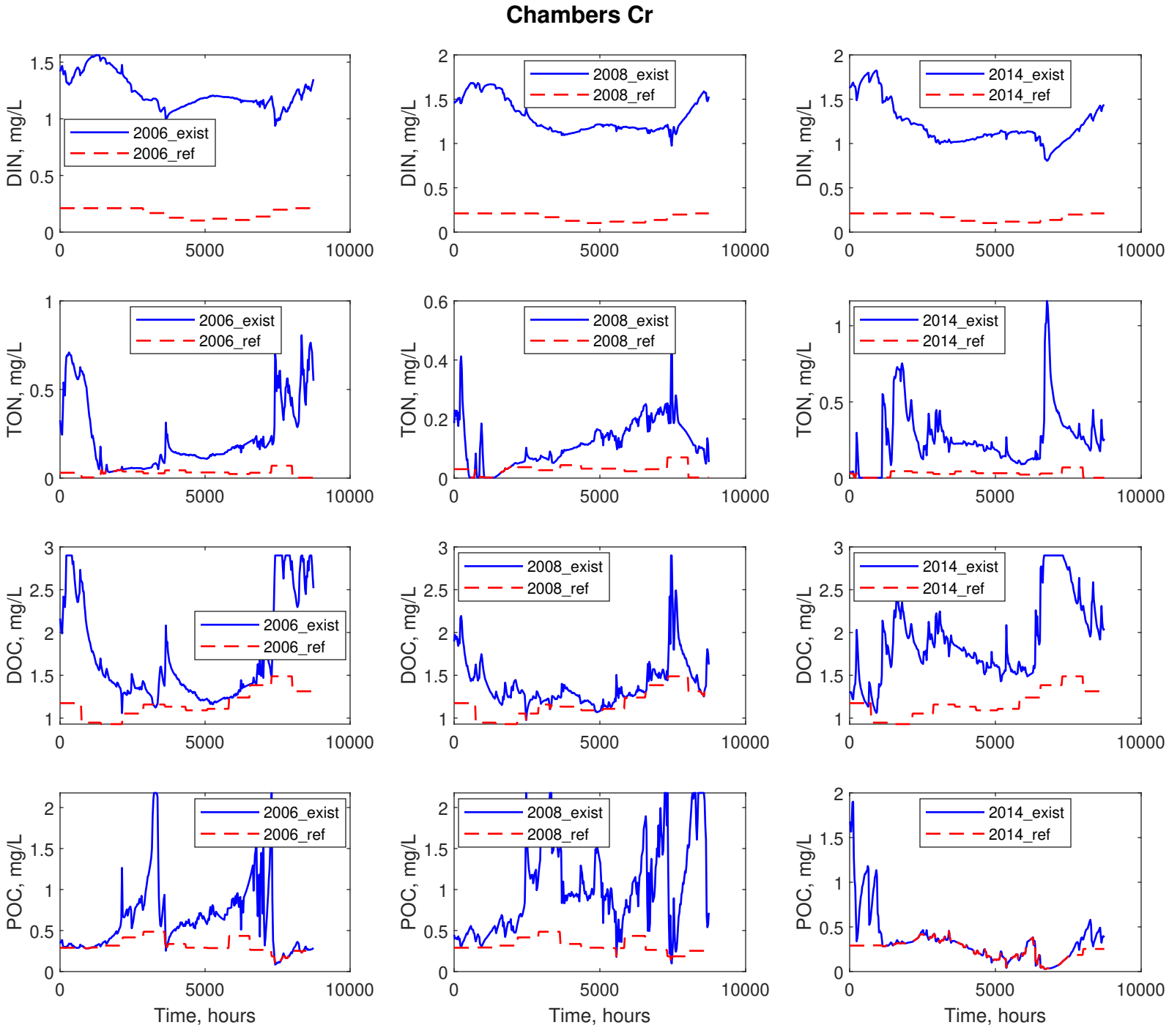

Anderson west
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

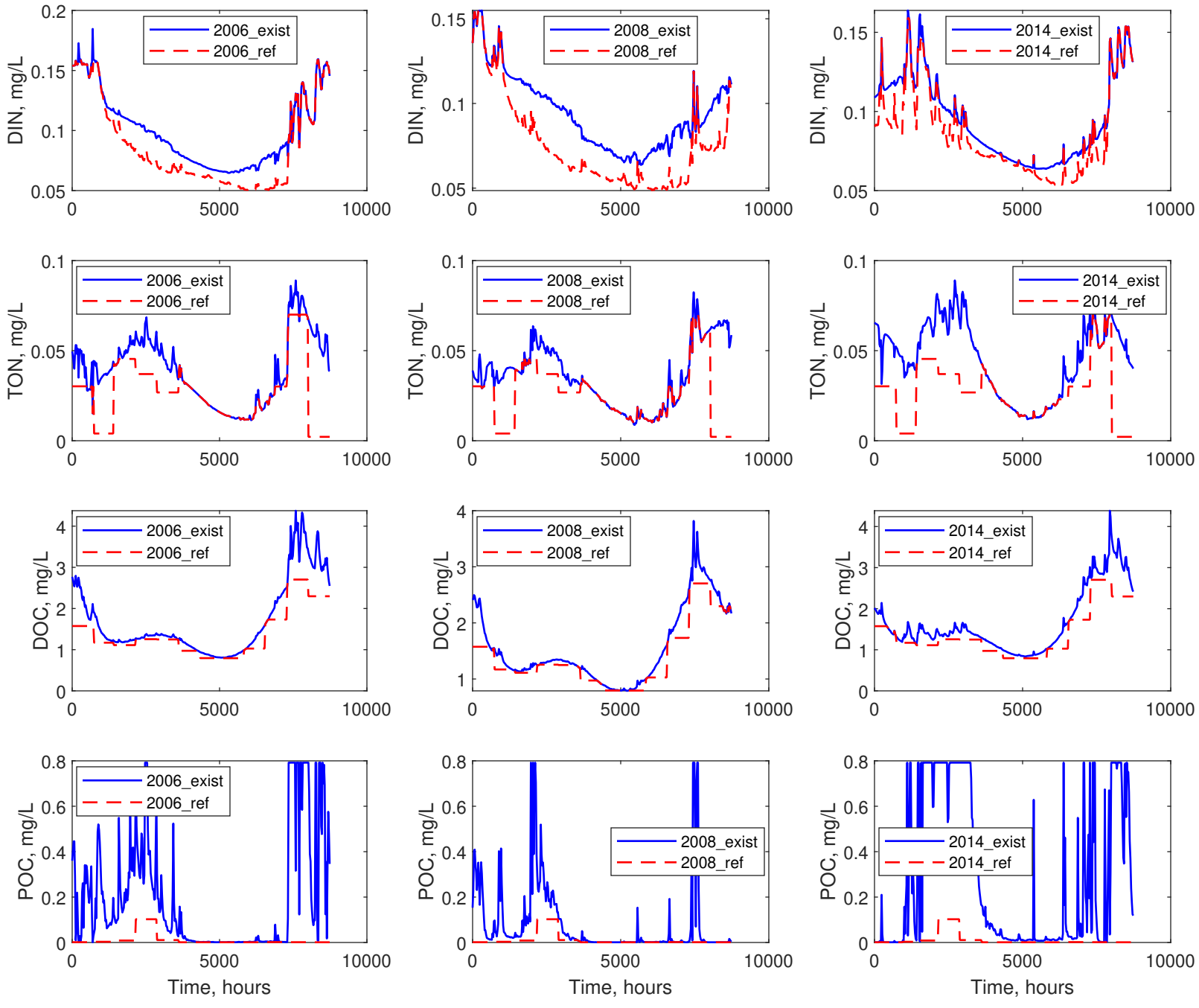

Artondale
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
0
5000
10000

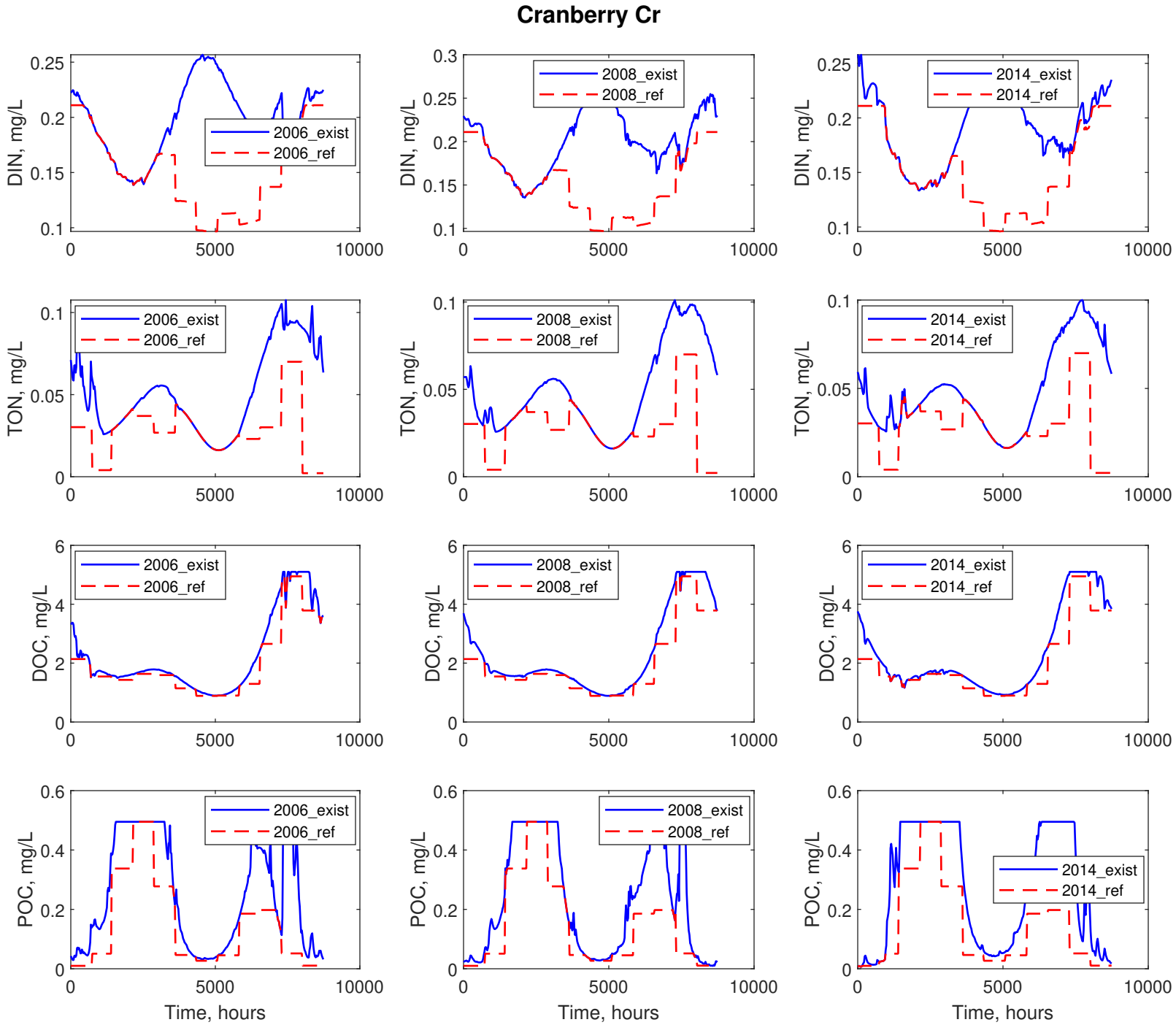

Burley Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

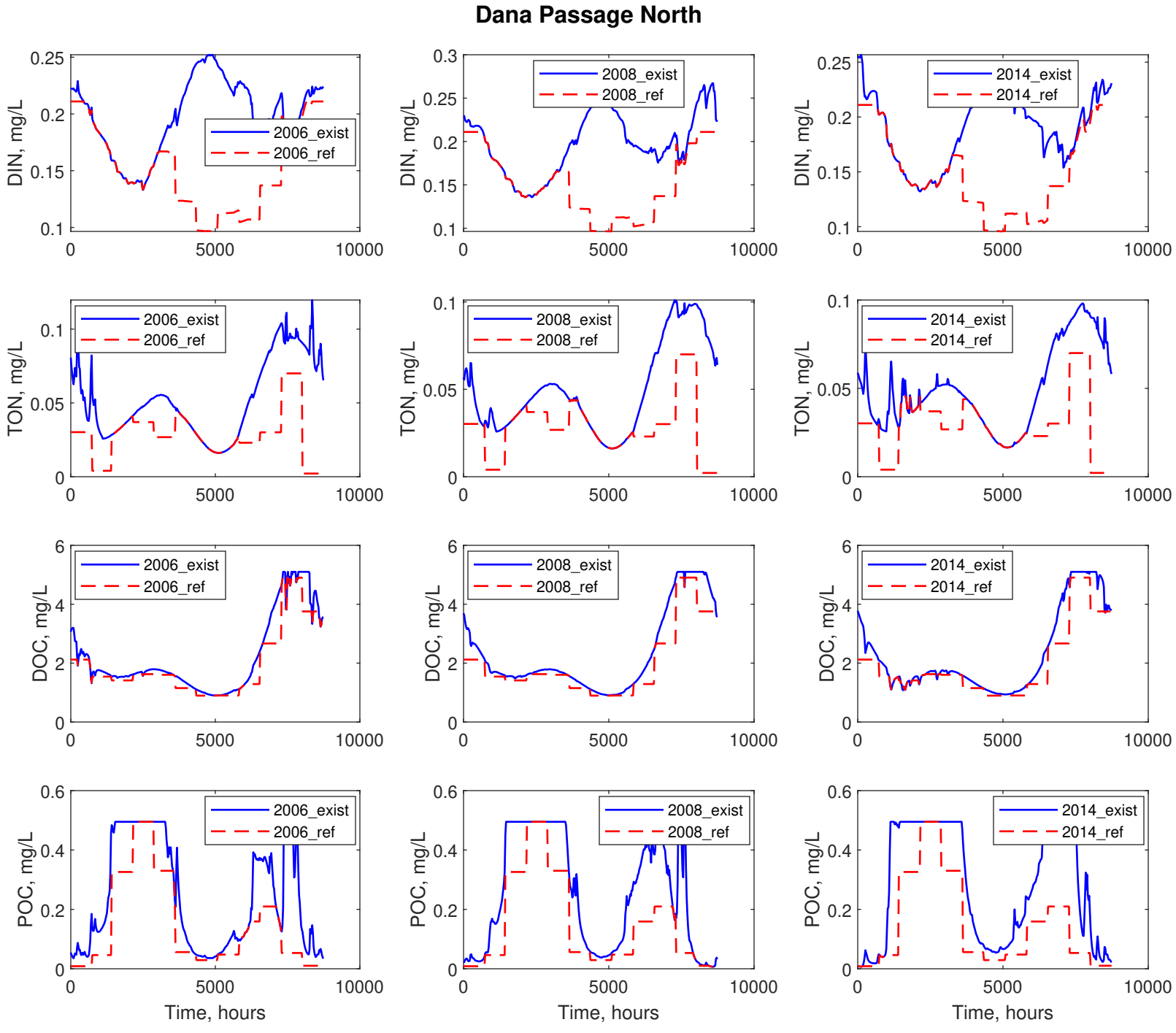

Butler Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

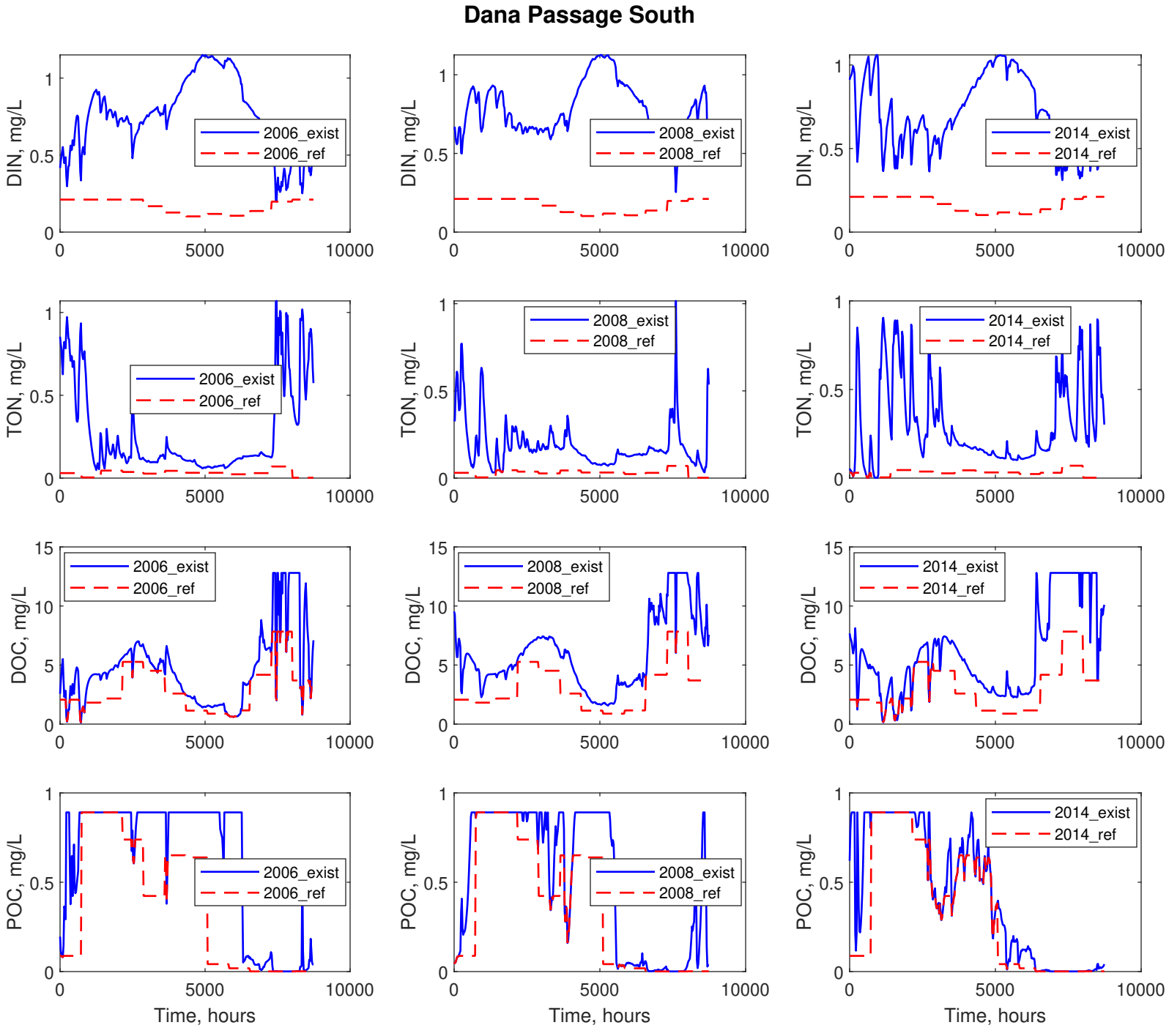

Campbell Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

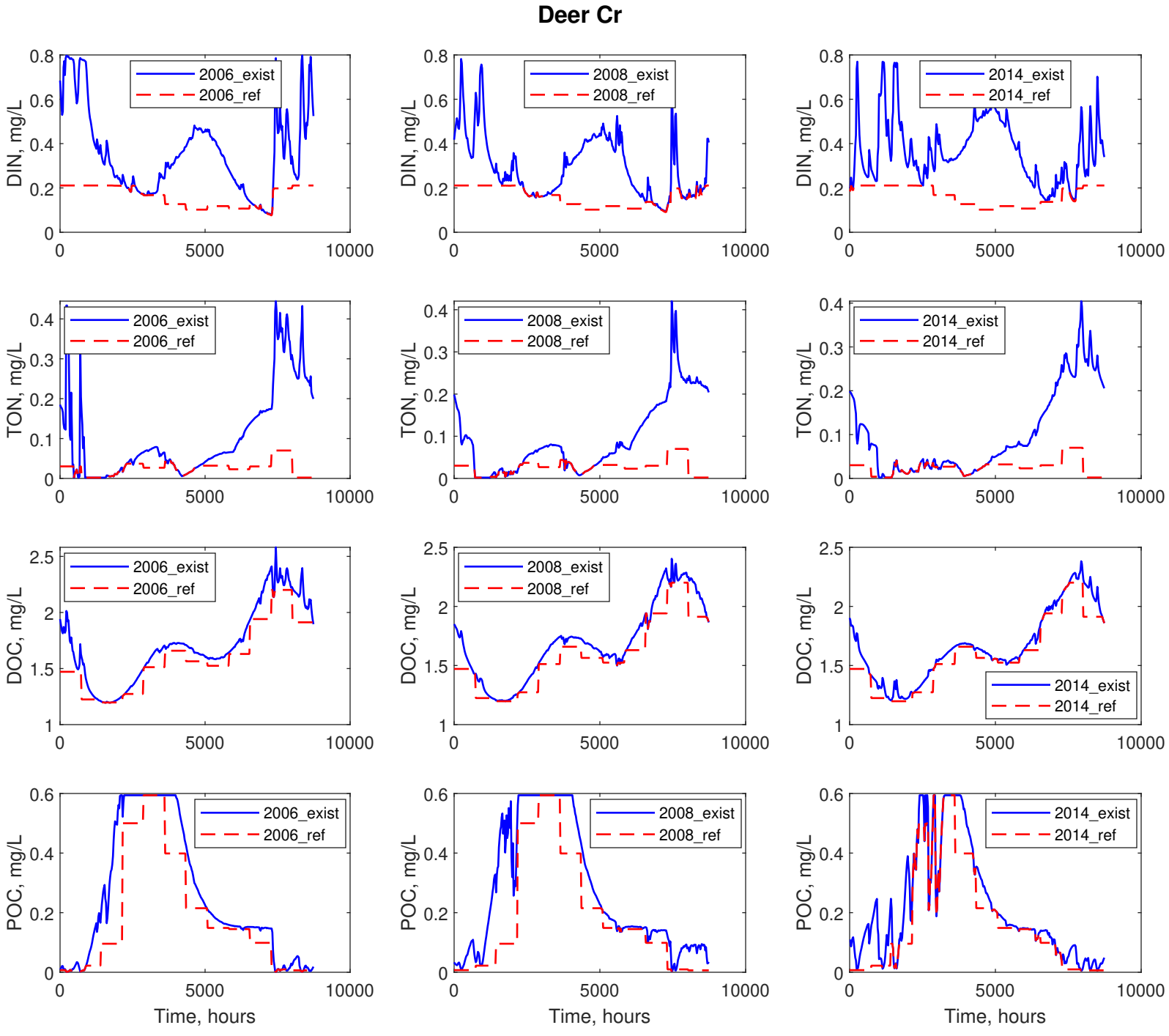

Chambers Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

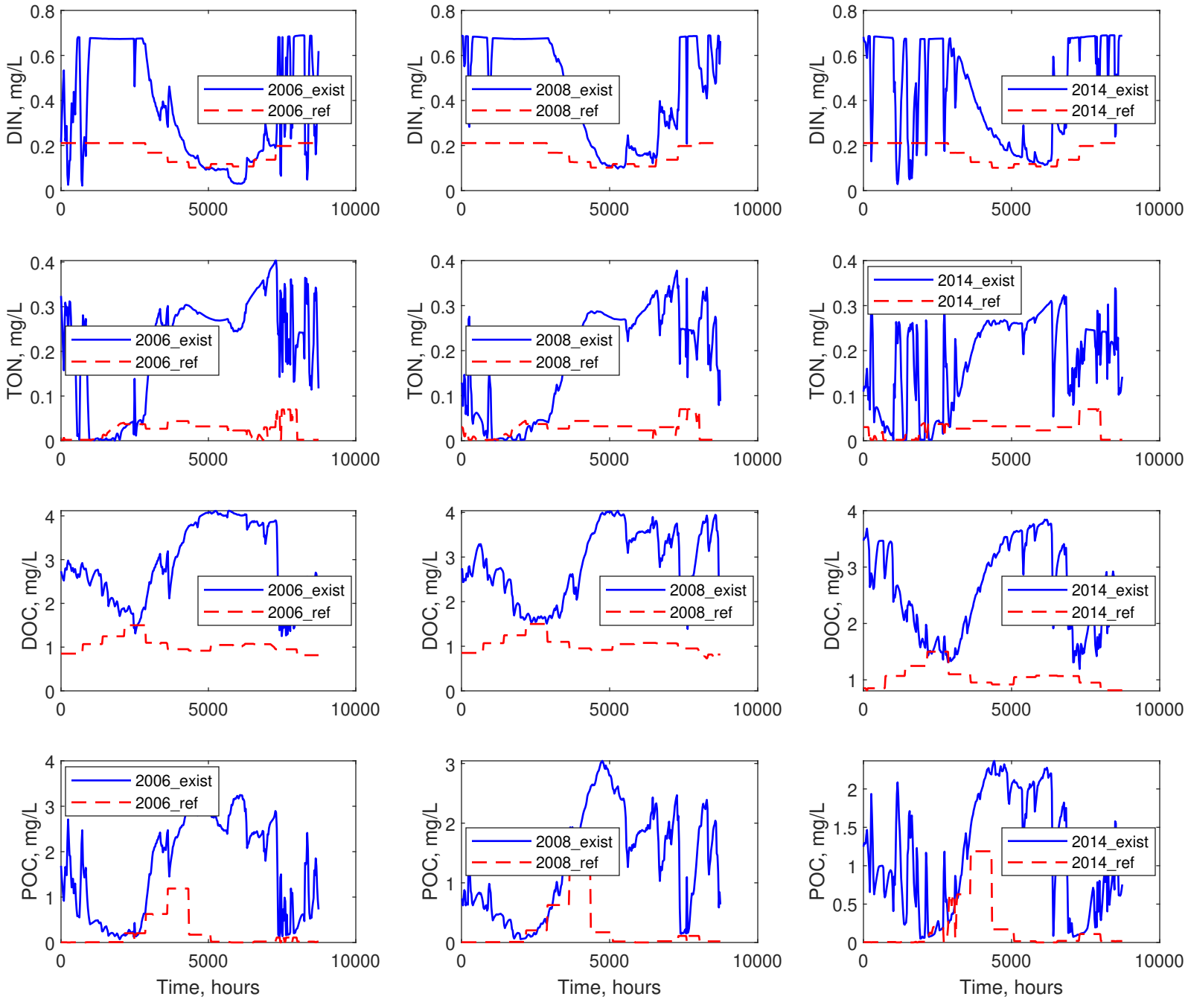

Coulter Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

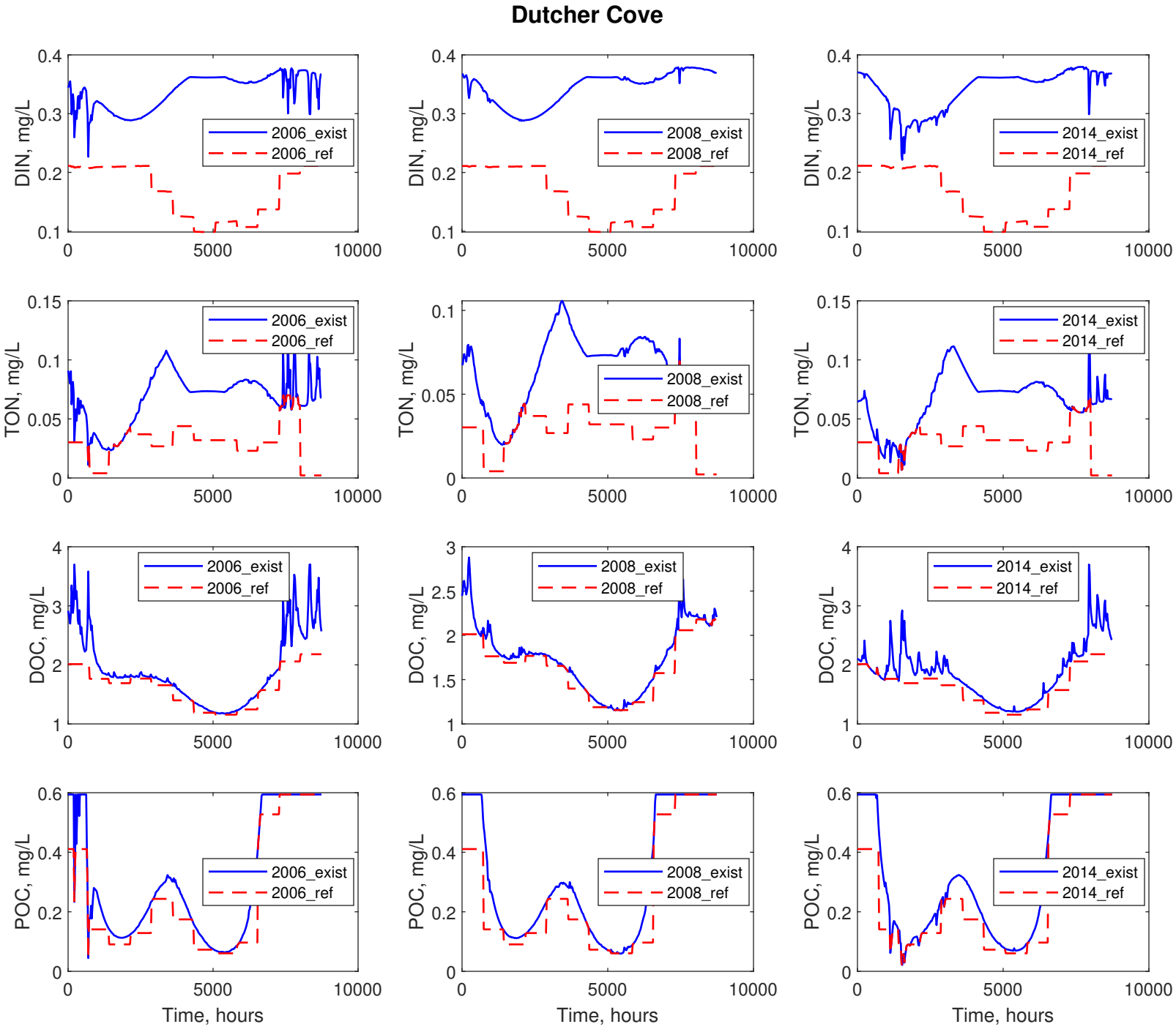

Cranberry Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

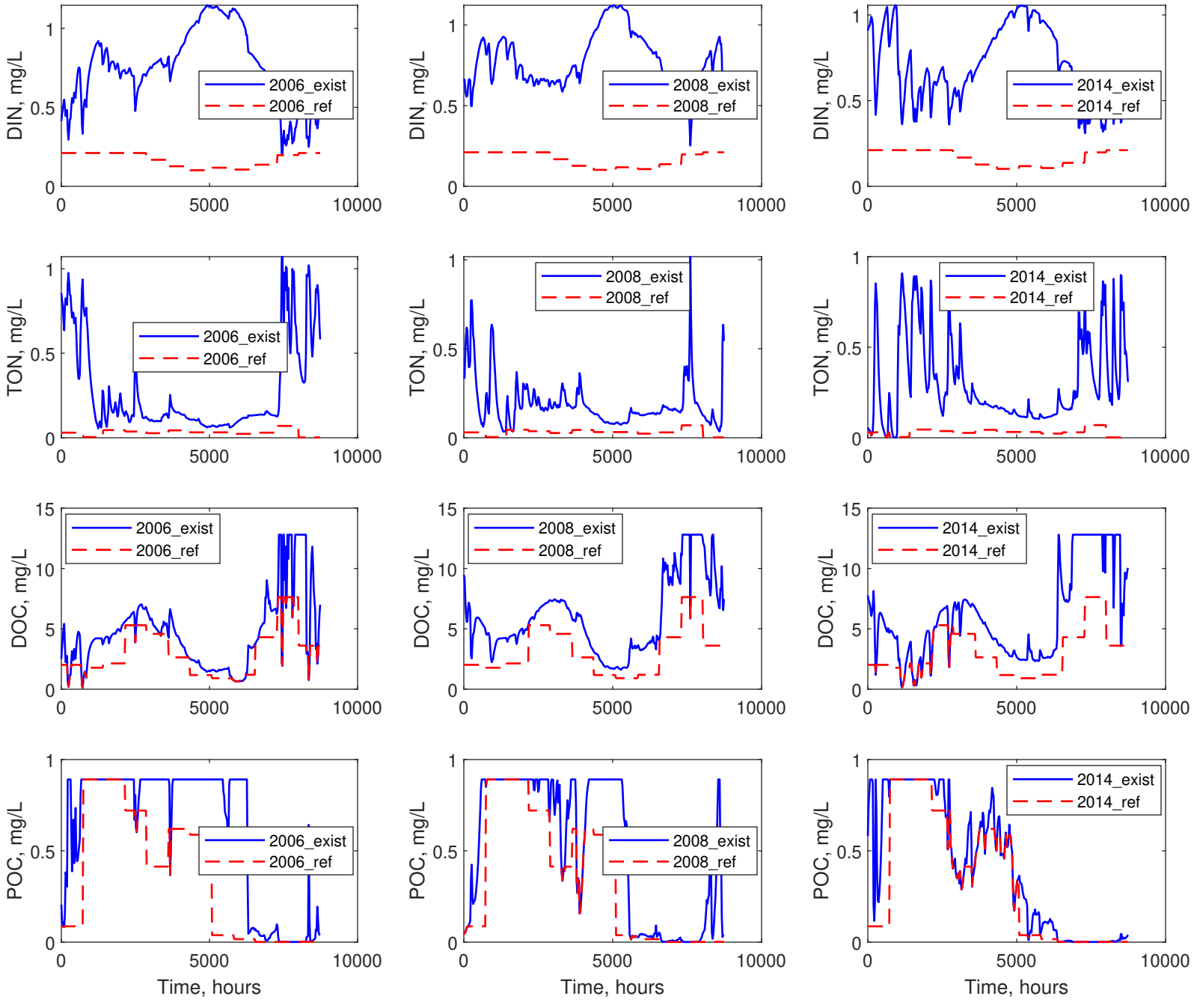

Dana Passage North
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

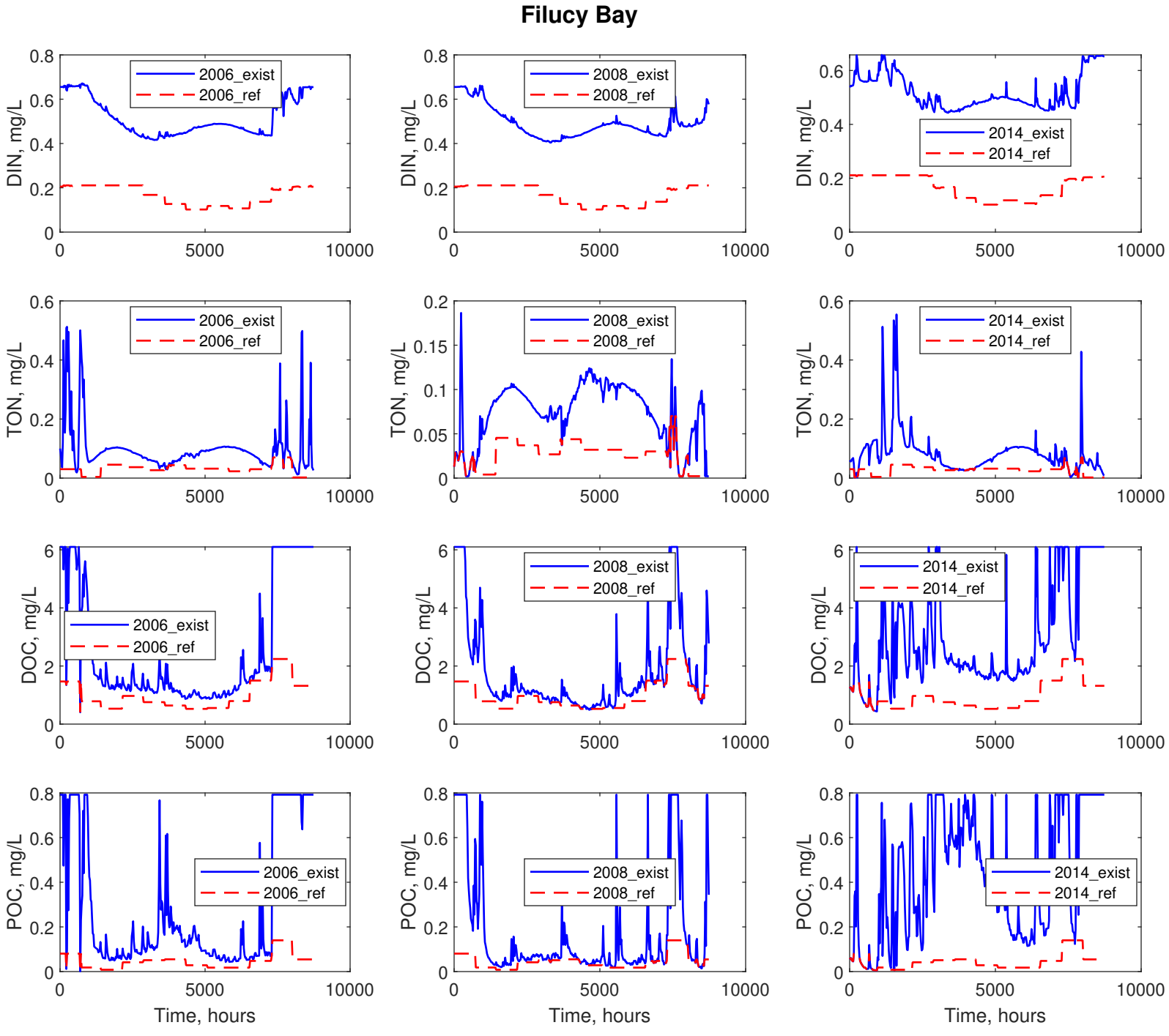

Dana Passage South
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.5
1
5
10
15

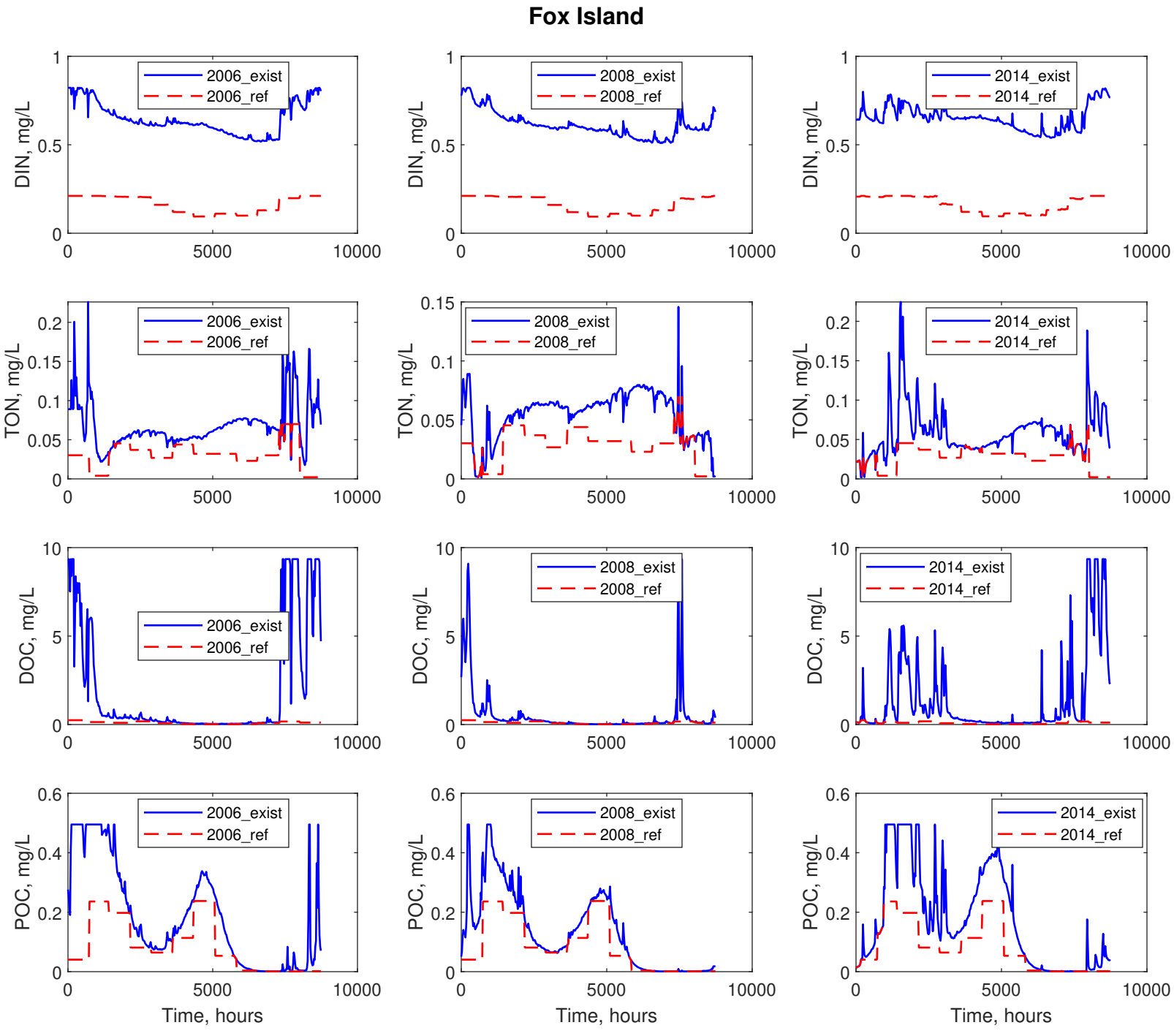

Deer Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

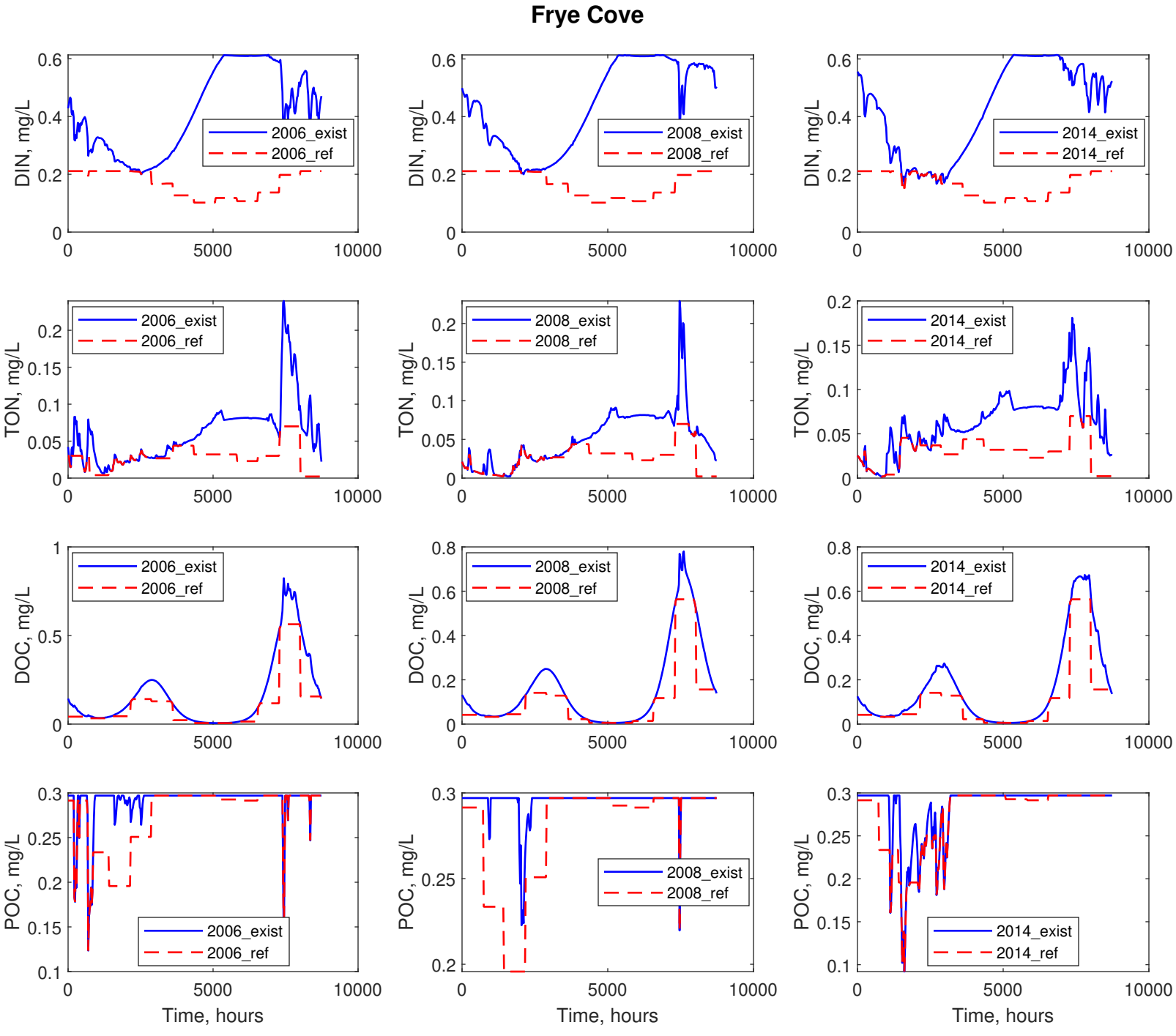

Capitol Lake
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

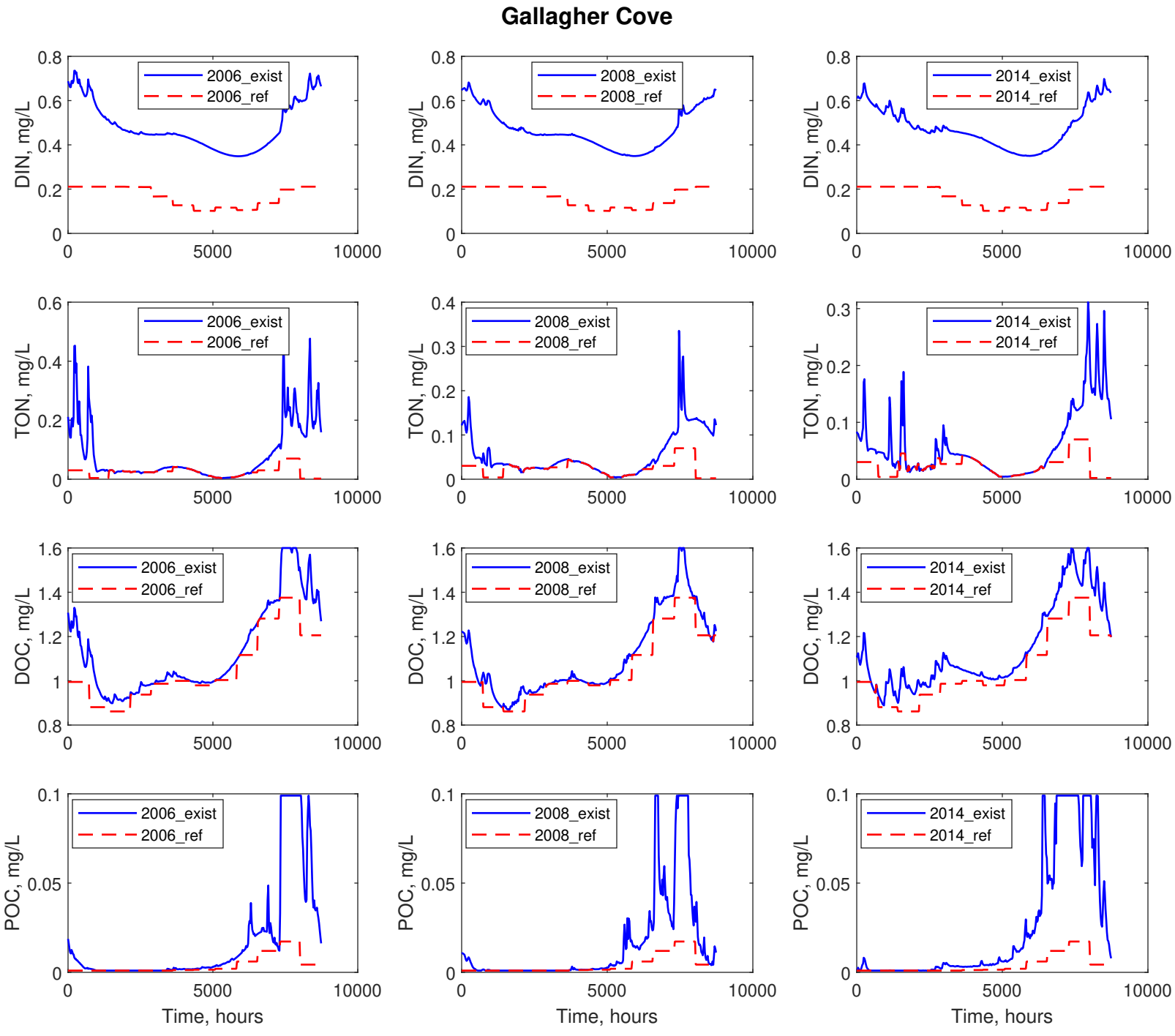

Dutcher Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

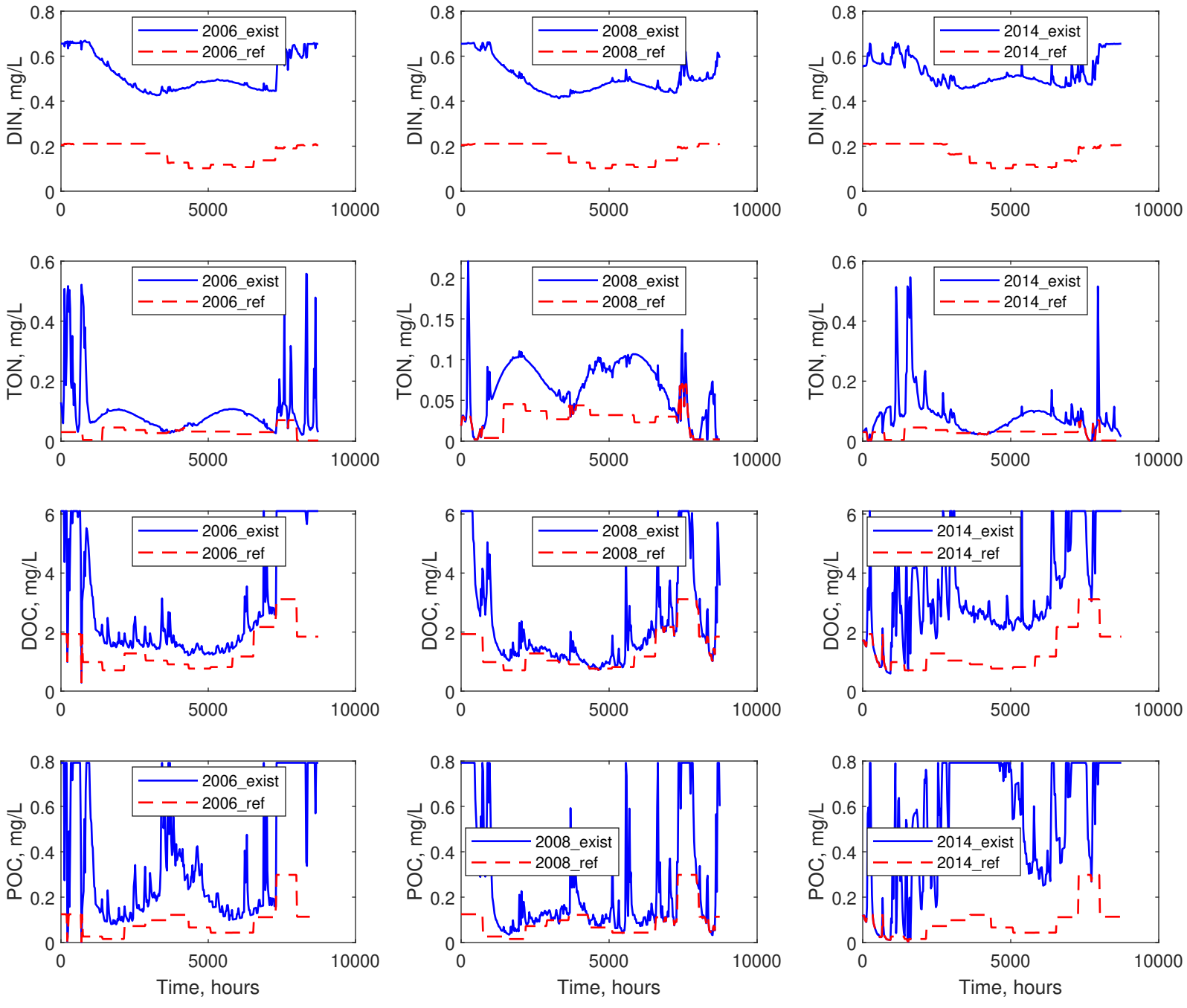

Ellis_Mission Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.5
1
5
10
15

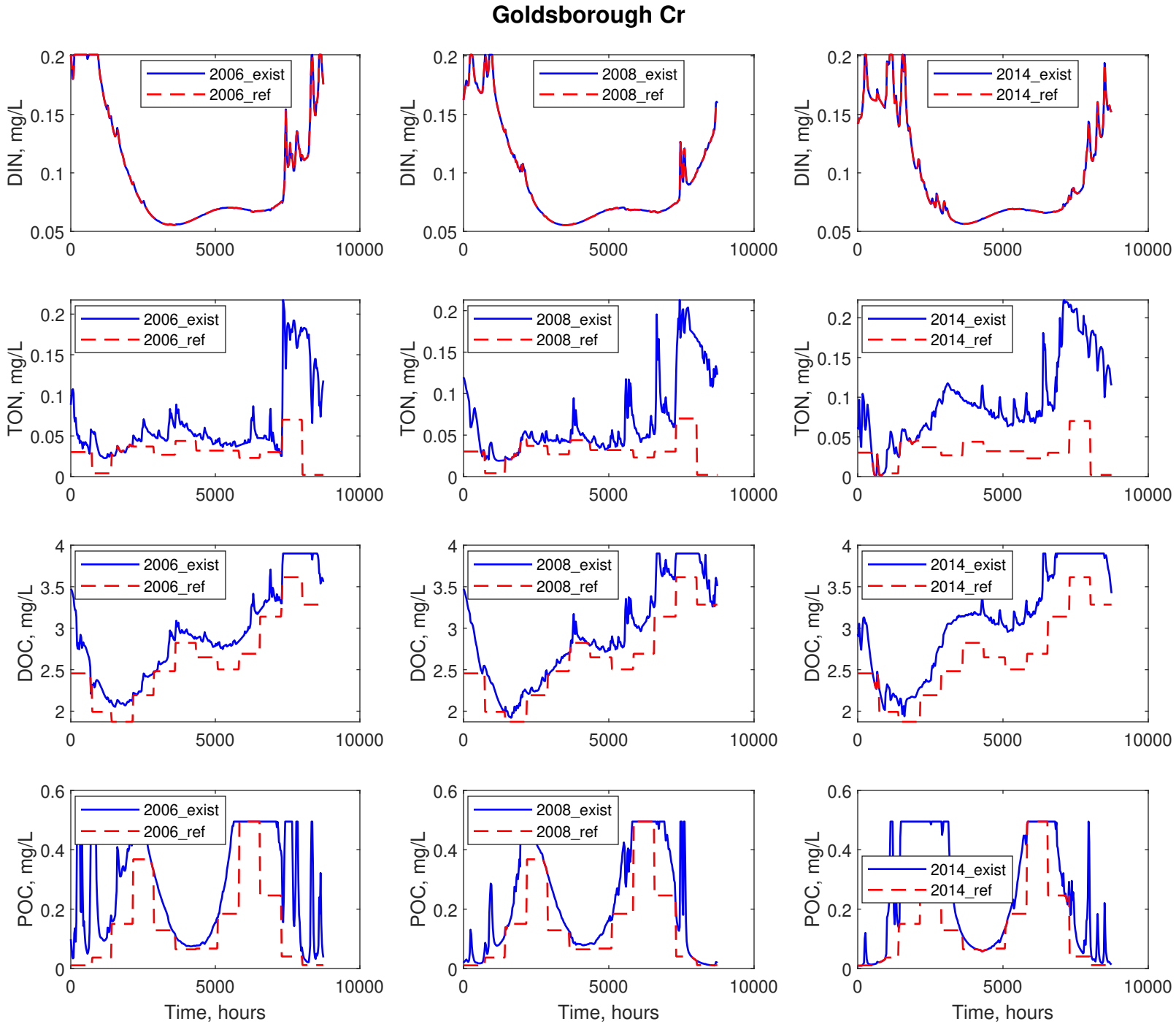

Filucy Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

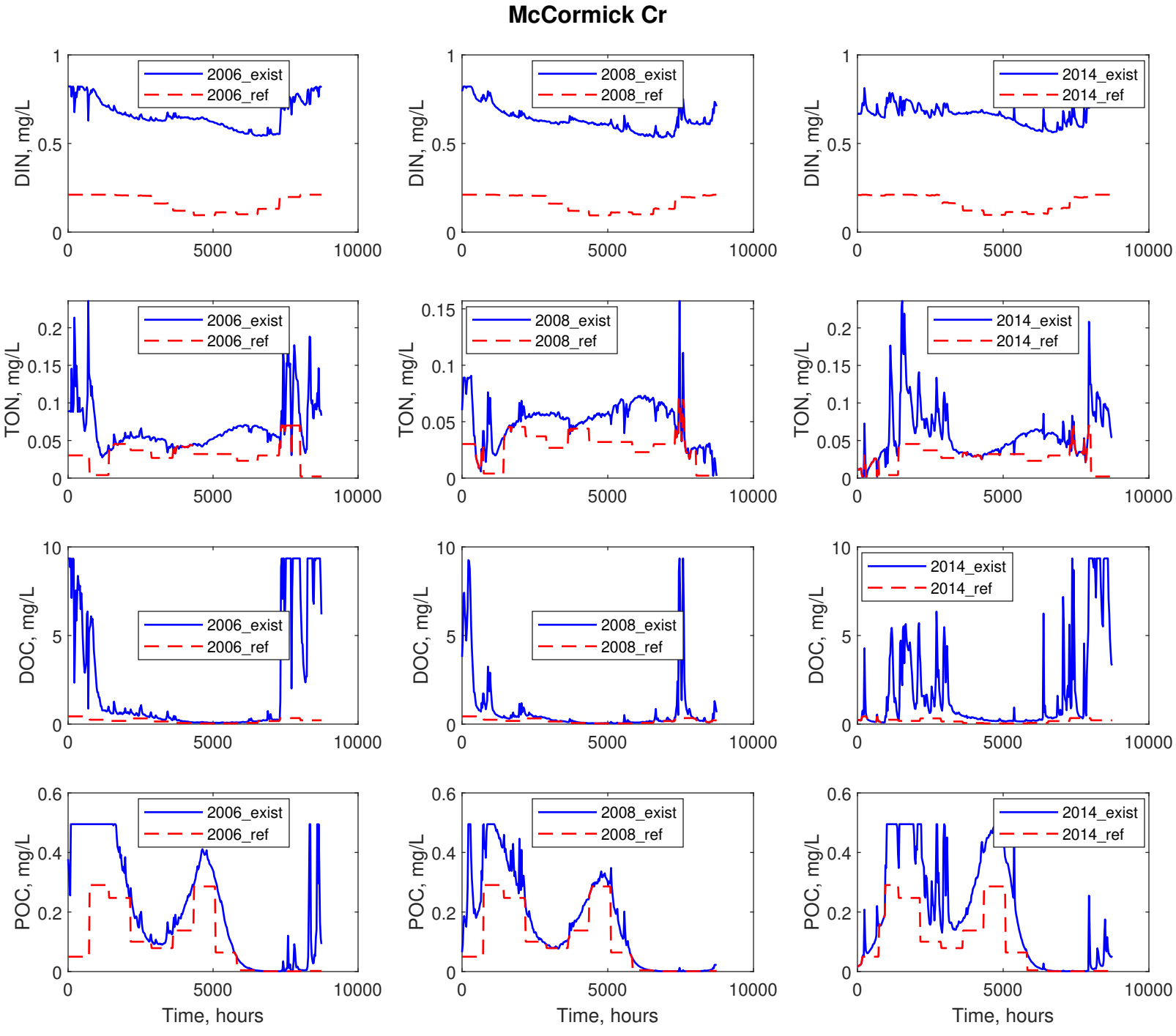

Fox Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

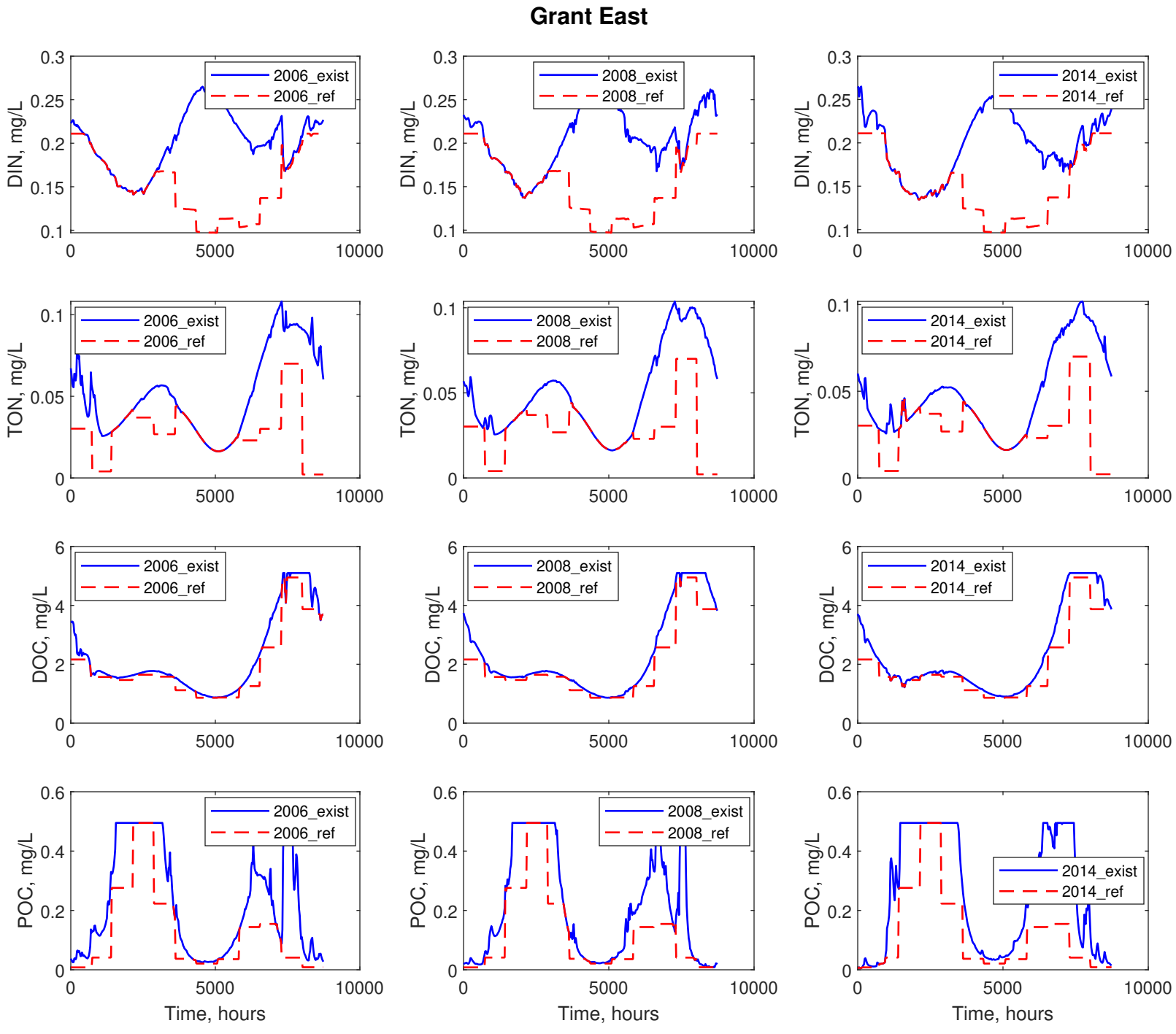

Frye Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

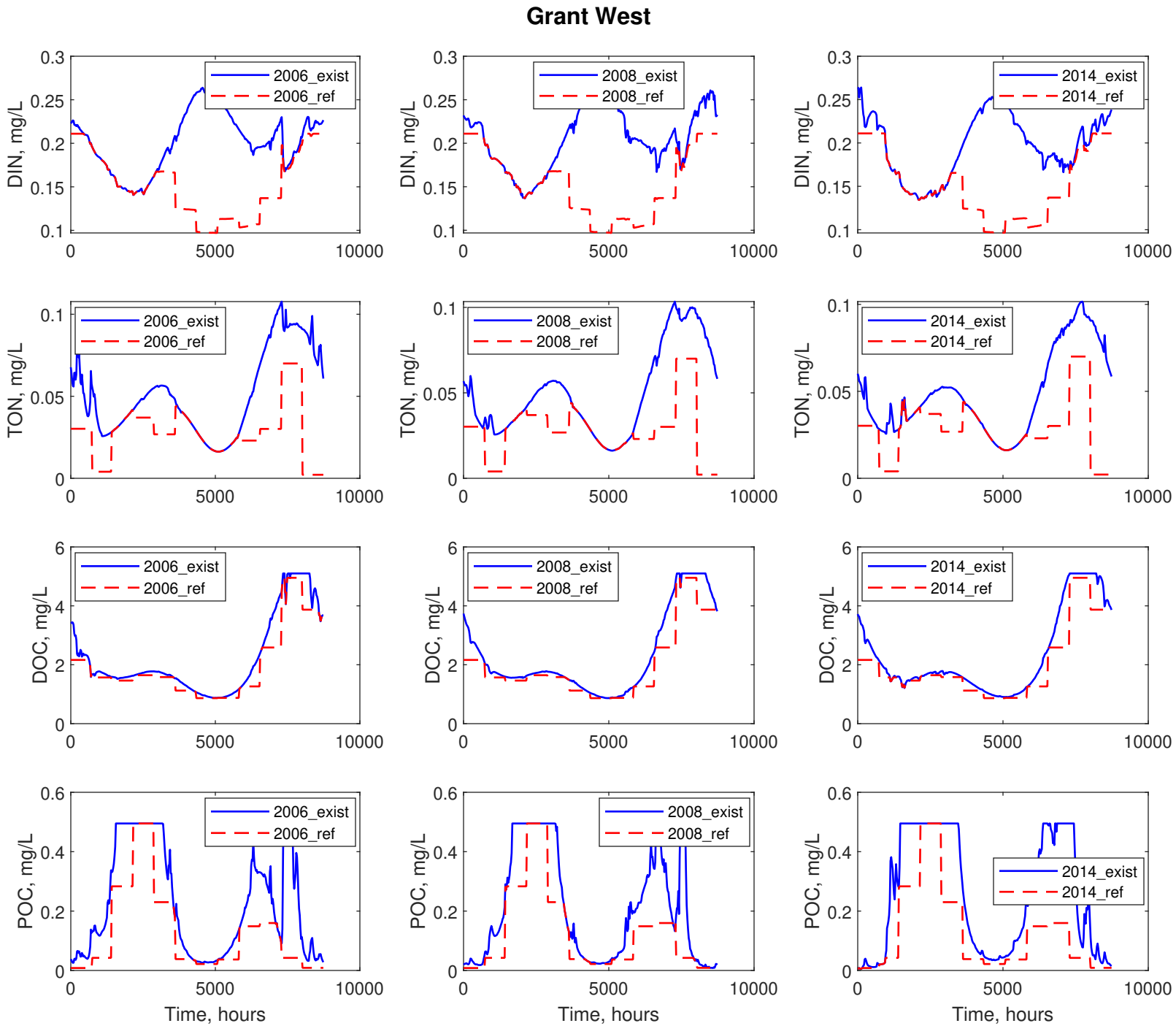

Gallagher Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

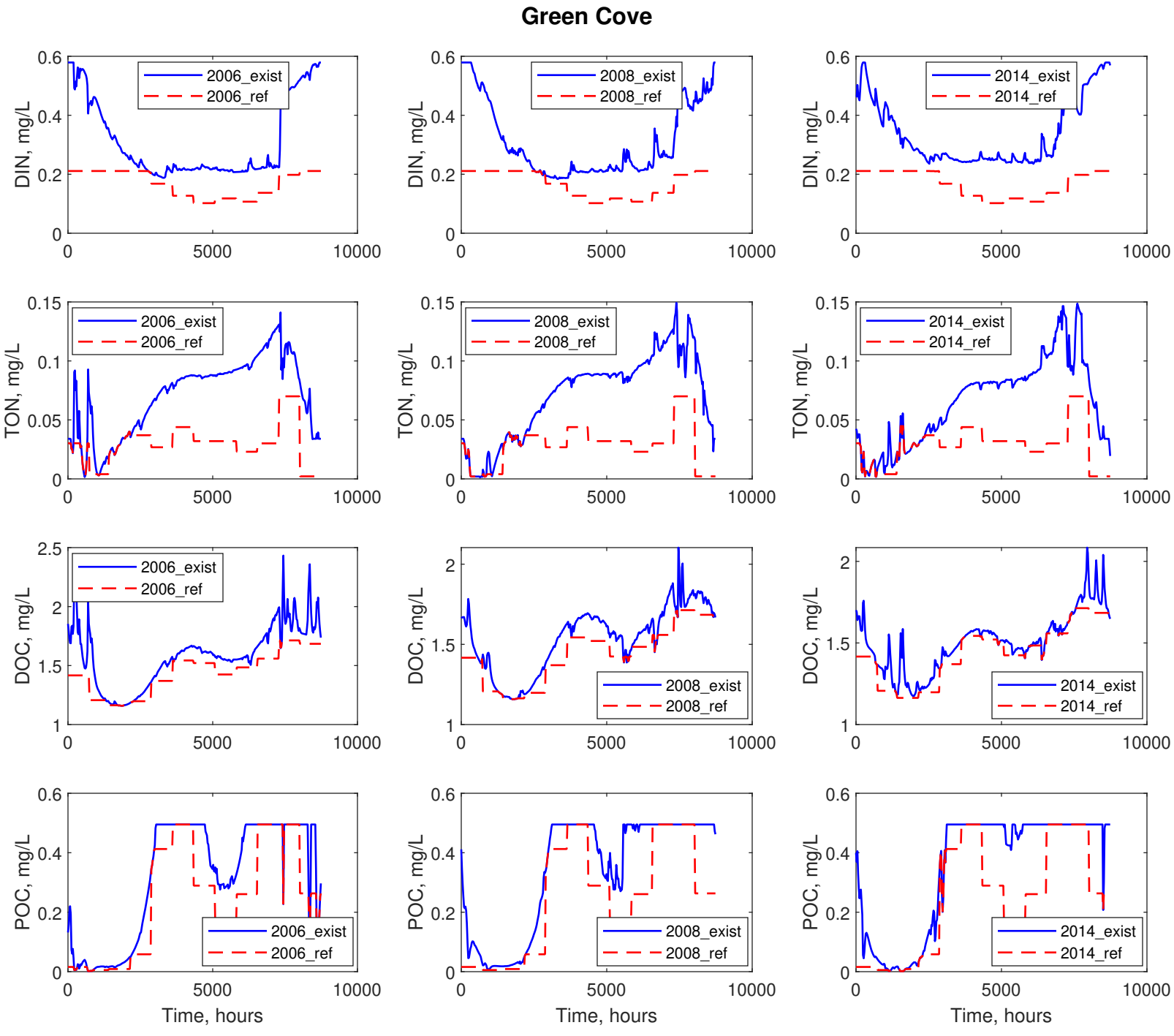

Glen Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

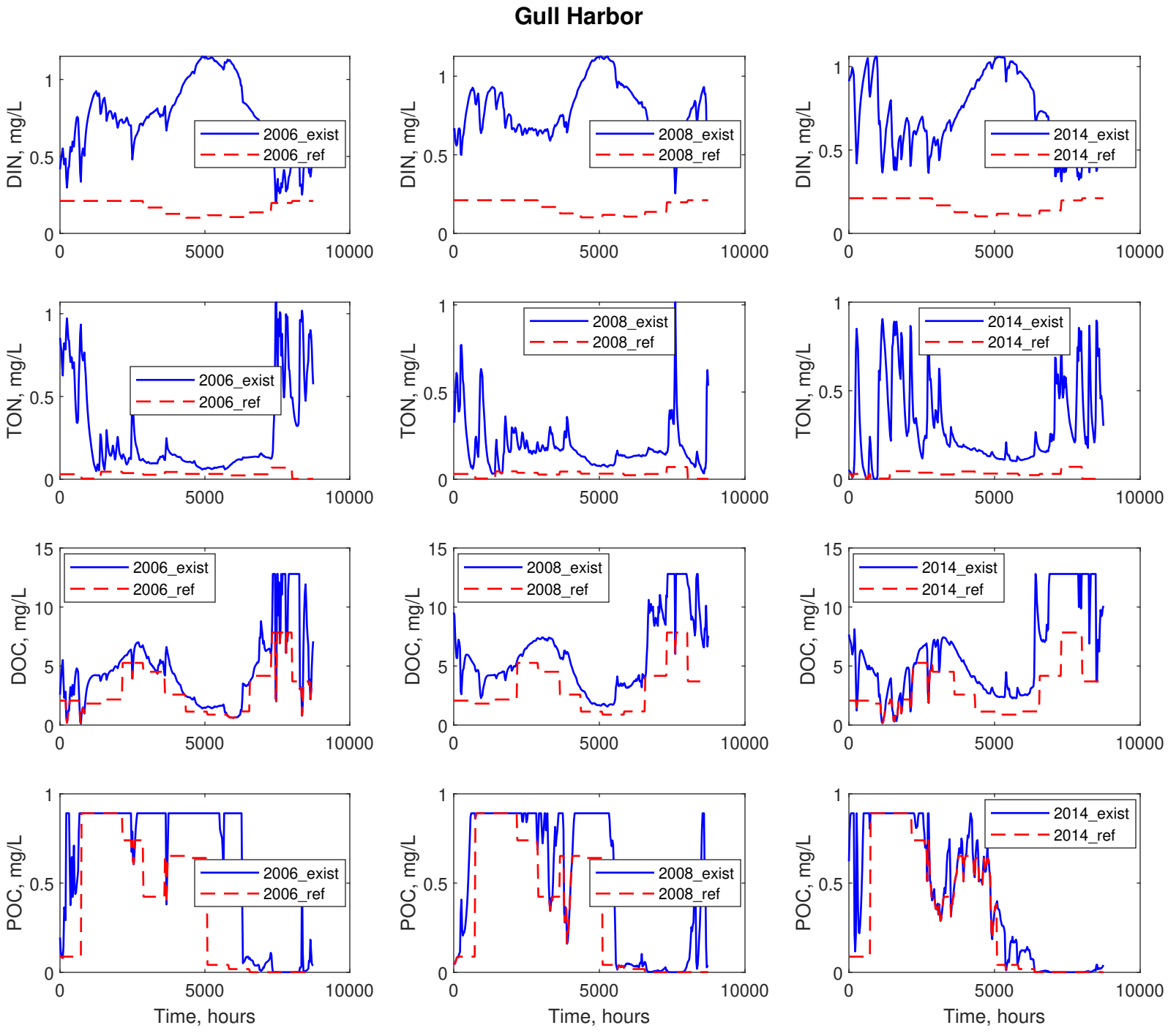

Goldsborough Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

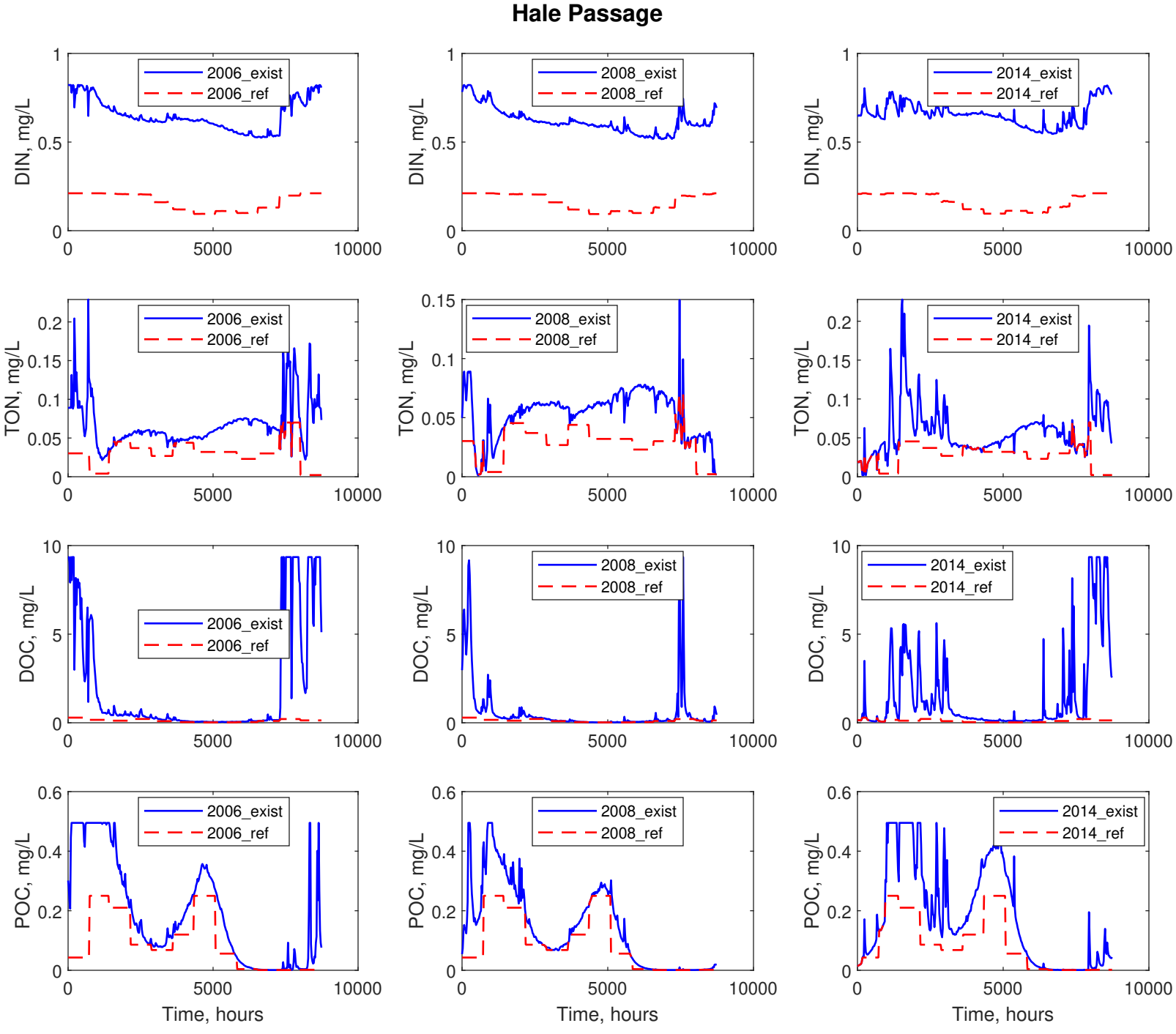

McCormick Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

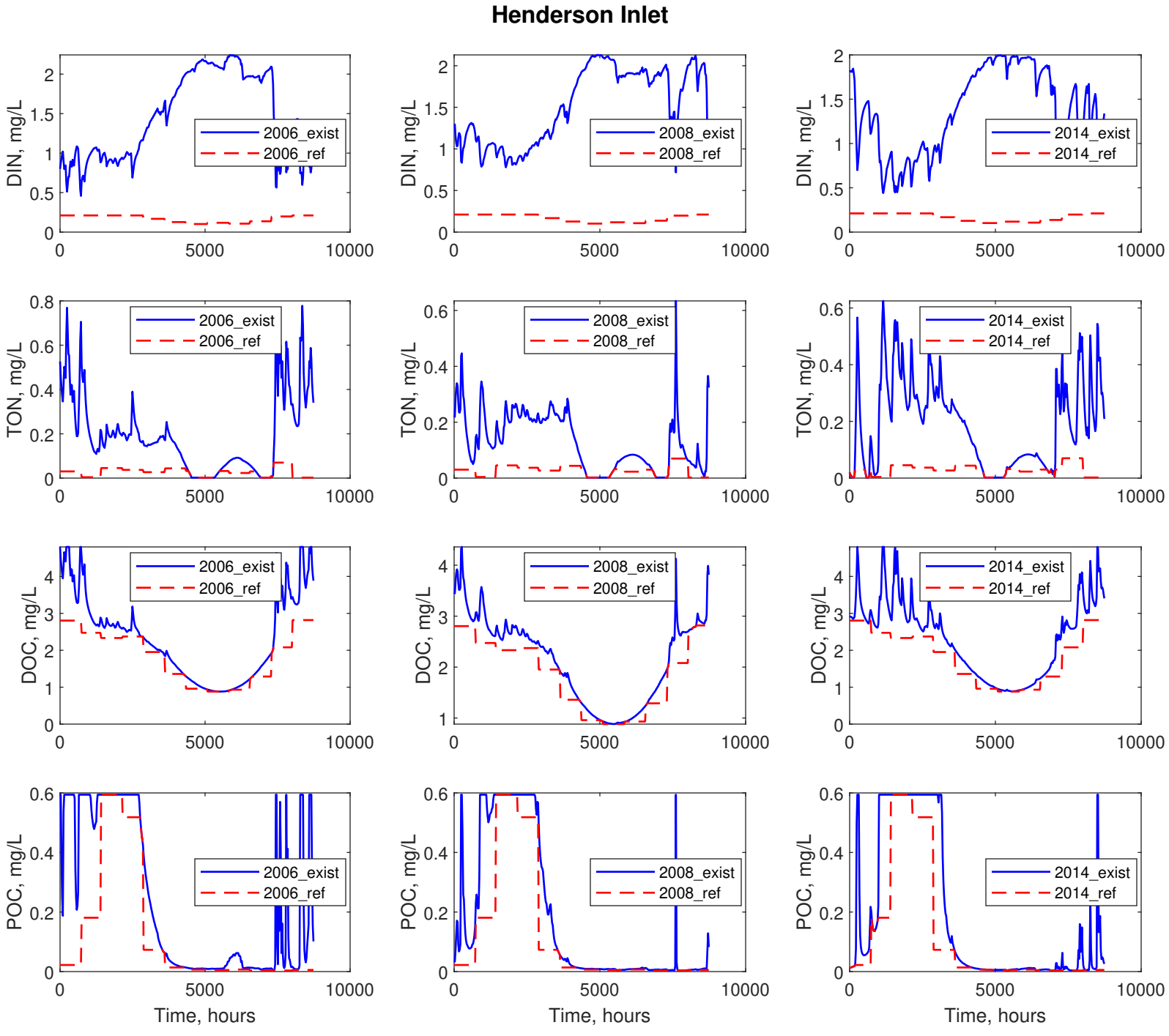

Grant East
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.1
0.15
0.2
0.25
0.3
0.05
2
4
6
0.4
0.6

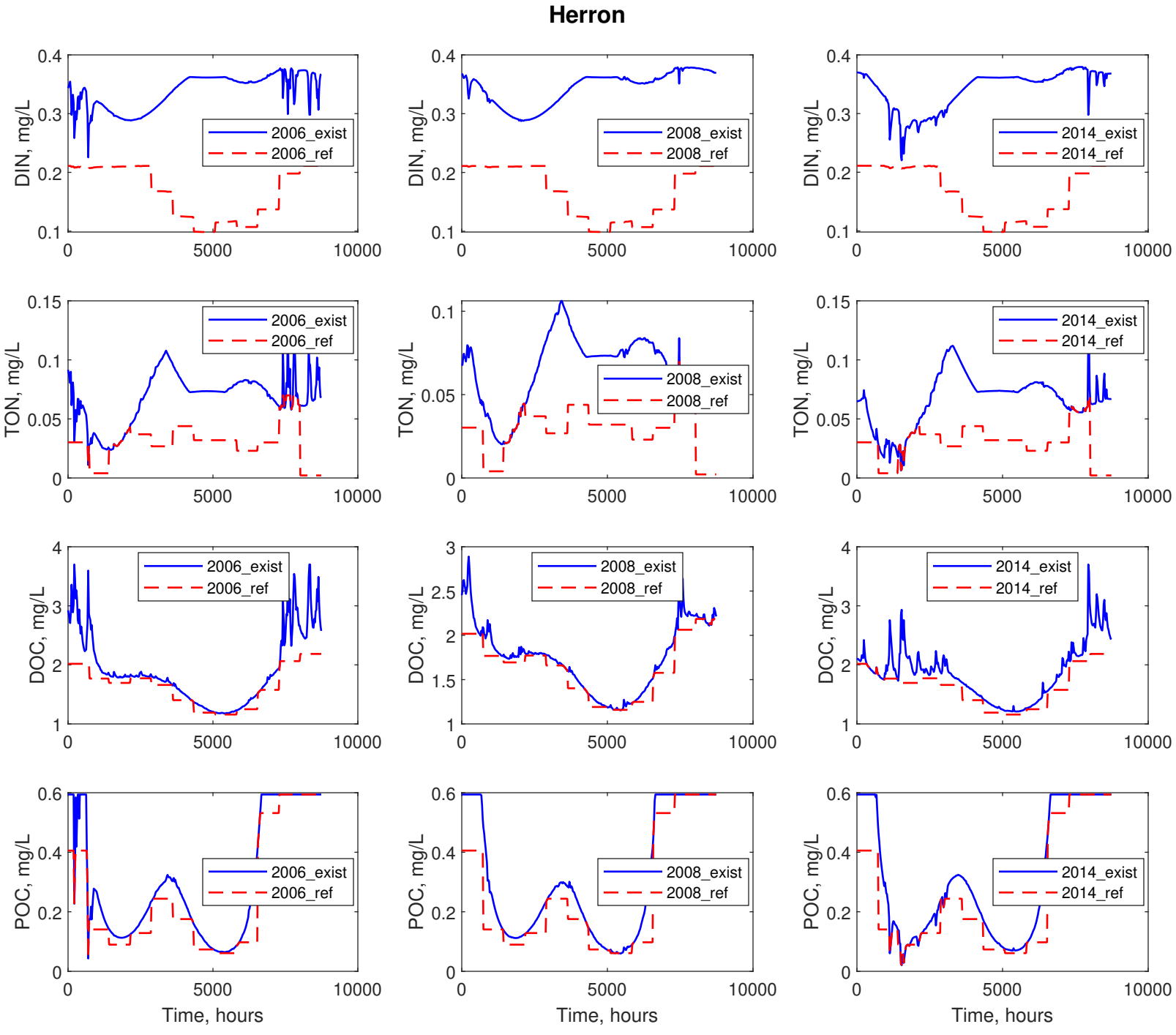

Grant West
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.1
0.15
0.2
0.25
0.3
0.05
2
4
6
0.4
0.6

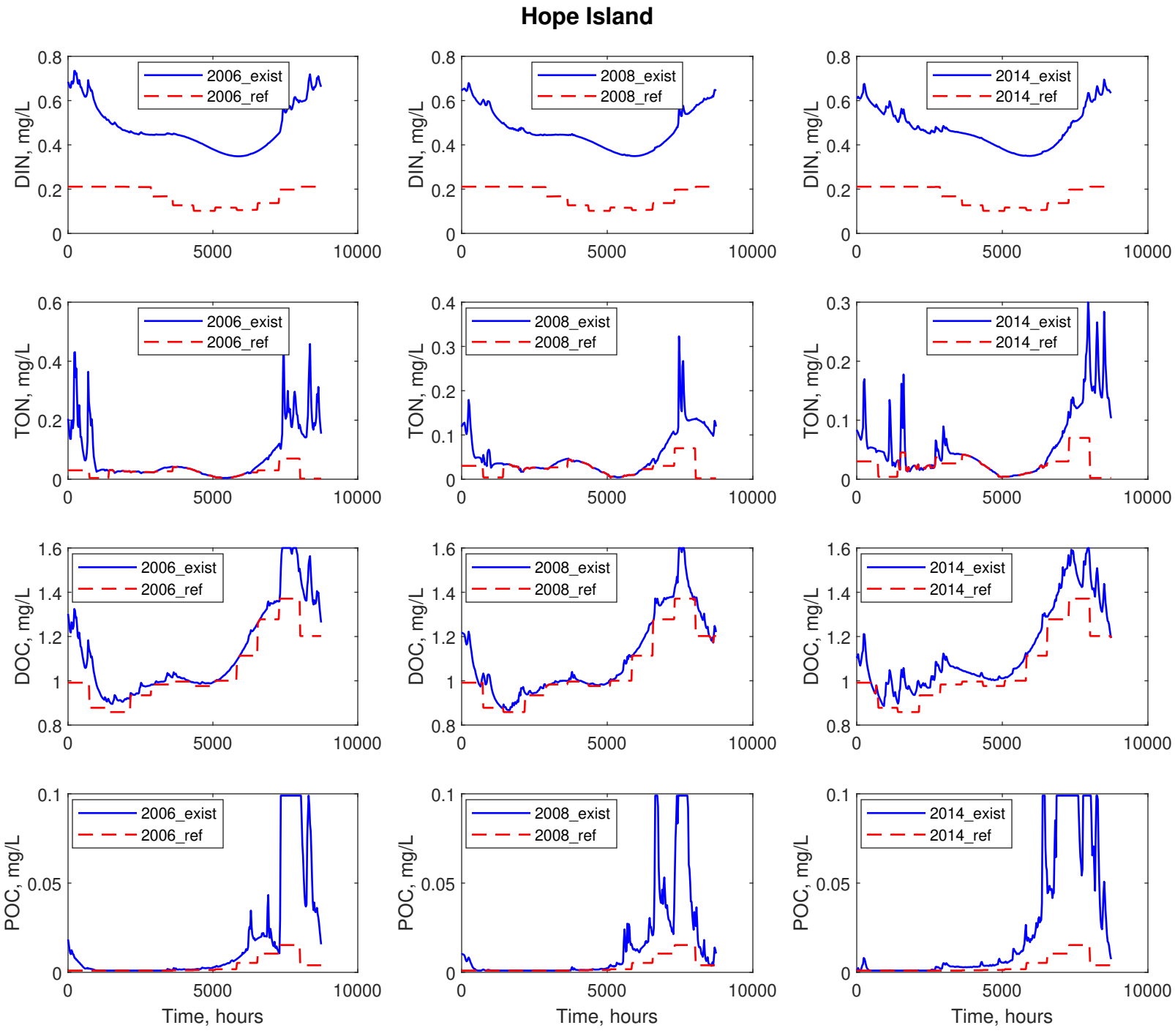

Green Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

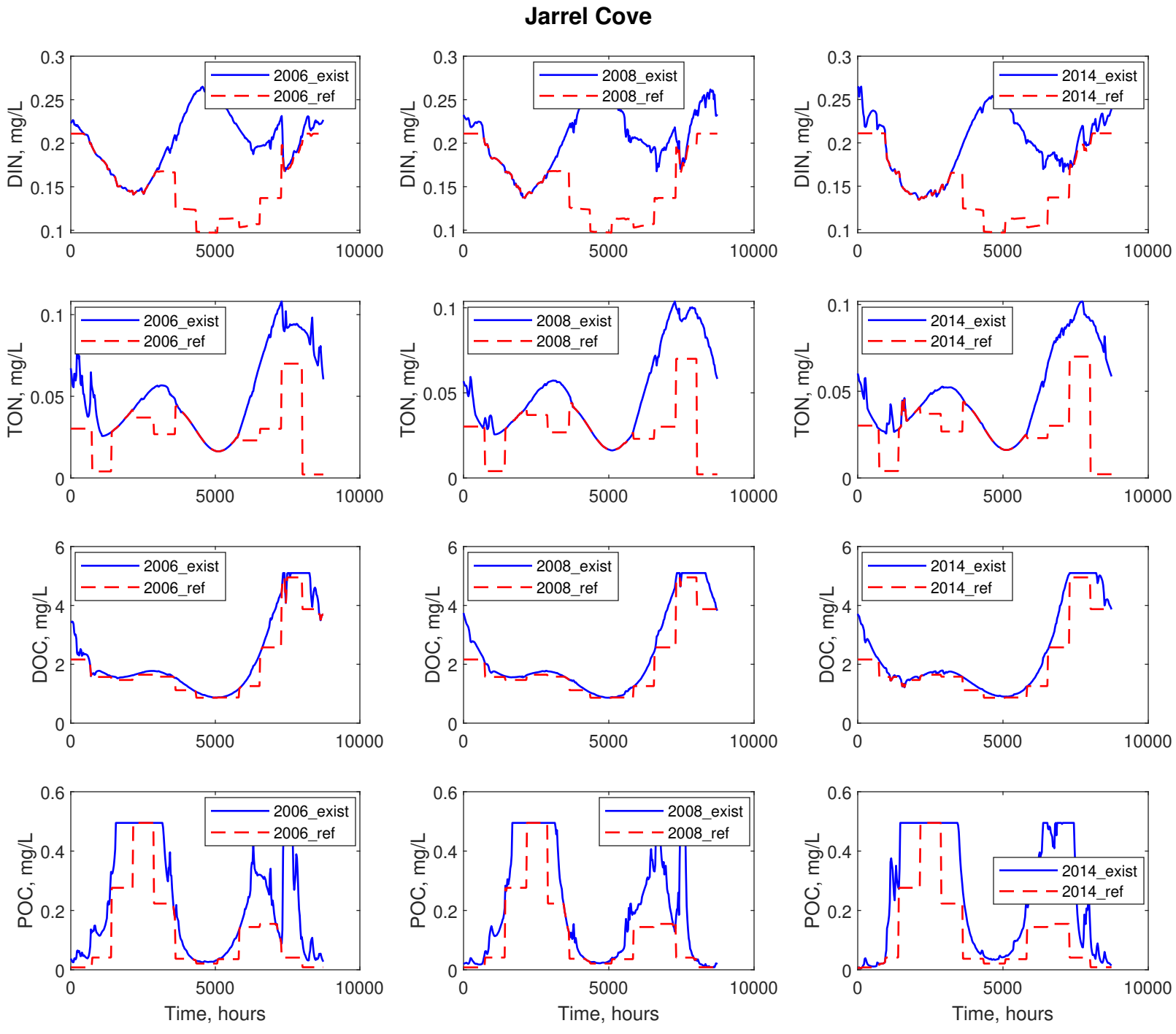

Gull Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.5
1
5
10
15

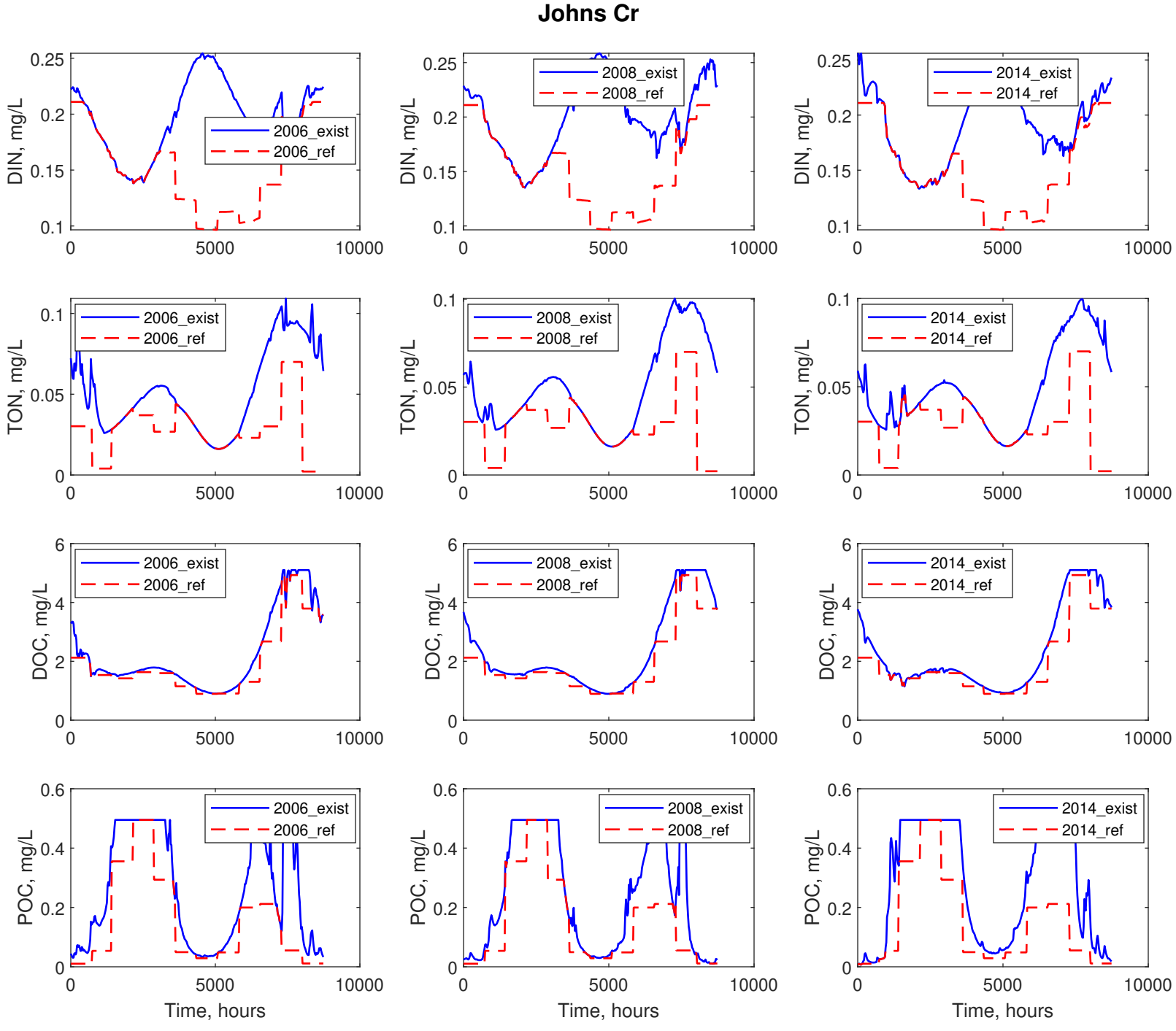

Hale Passage
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

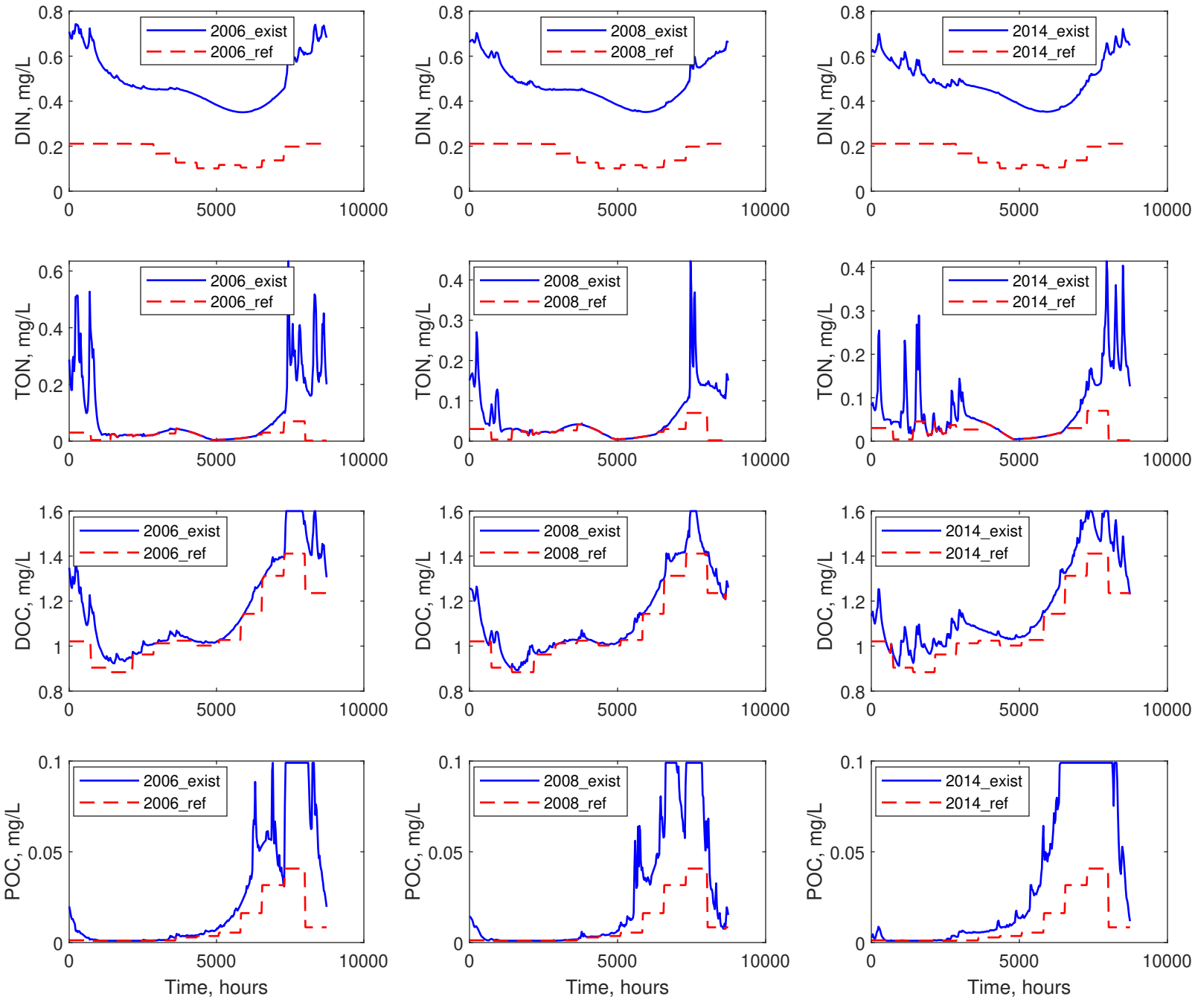

Henderson Inlet
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

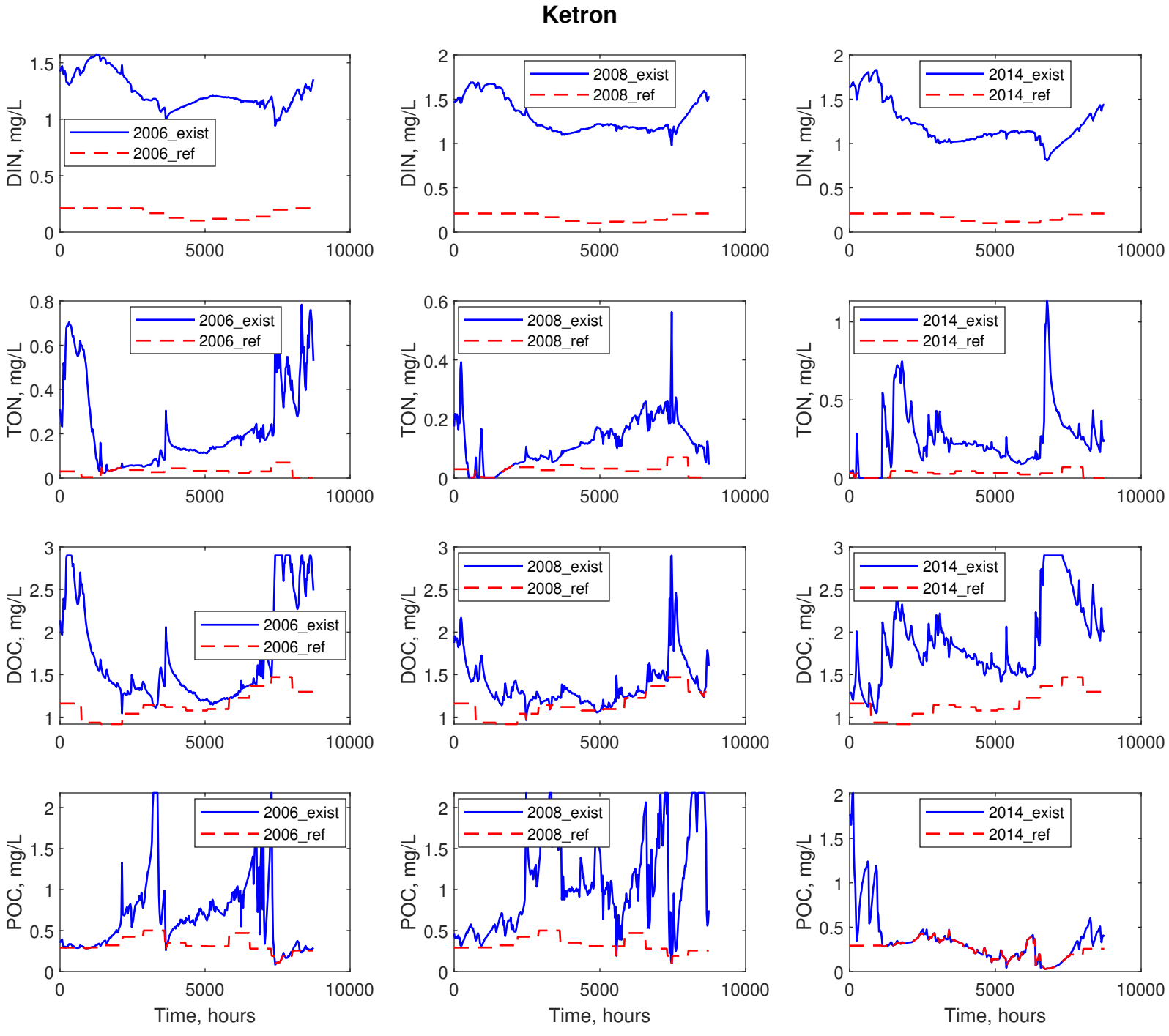

Herron
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

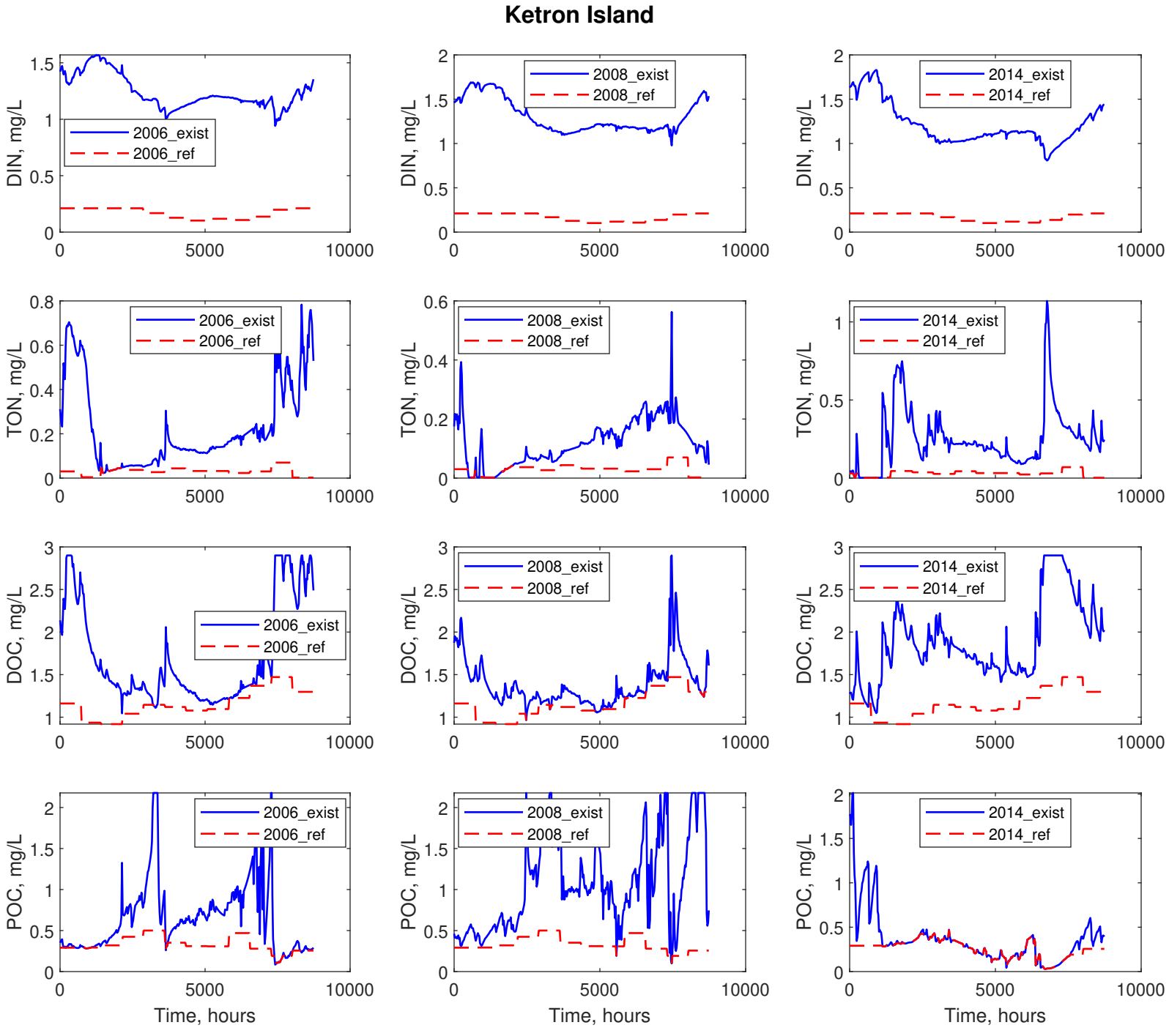

Hope Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

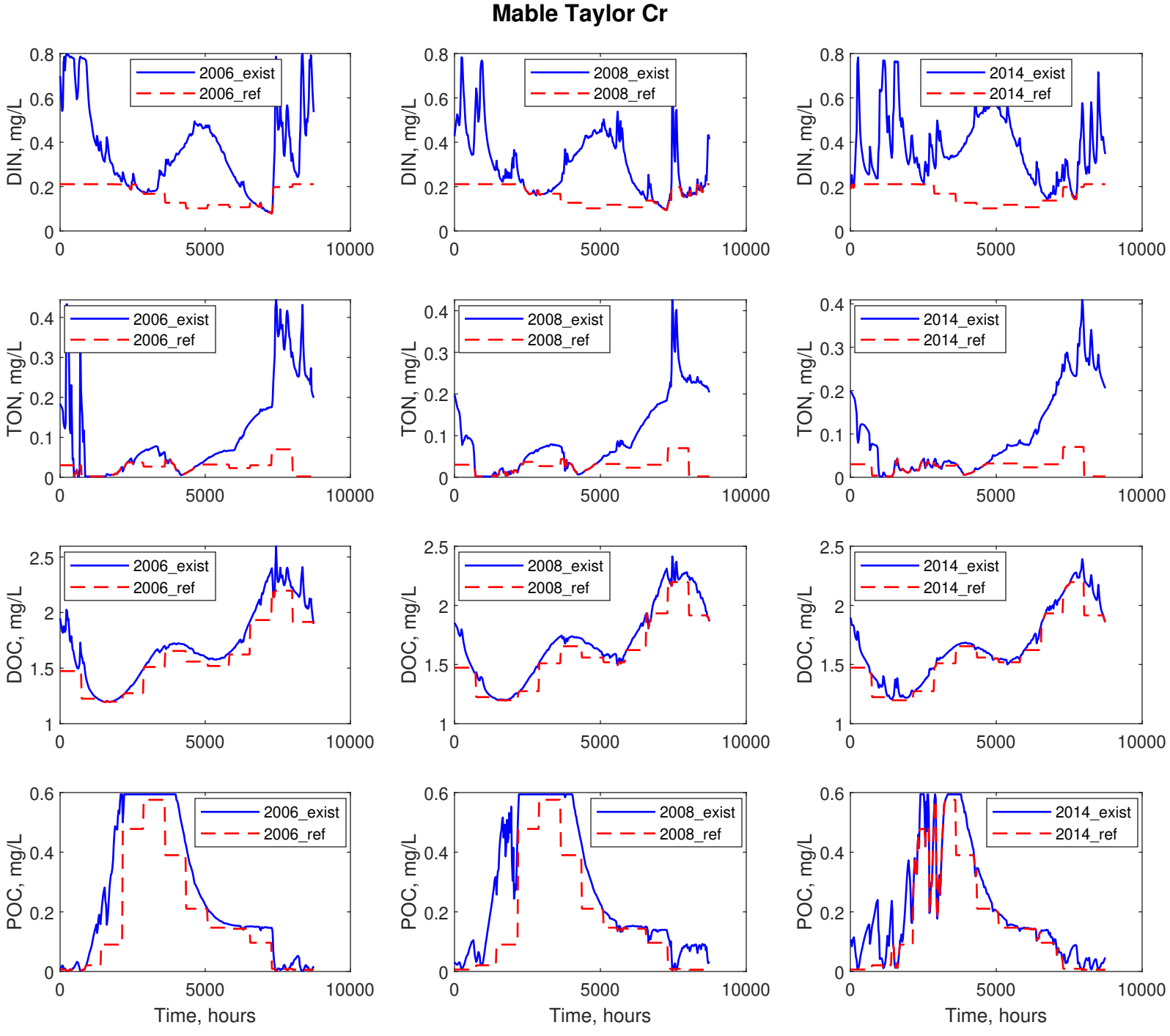

Jarrel Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.1
0.15
0.2
0.25
0.3
0.05
2
4
6
0.4
0.6

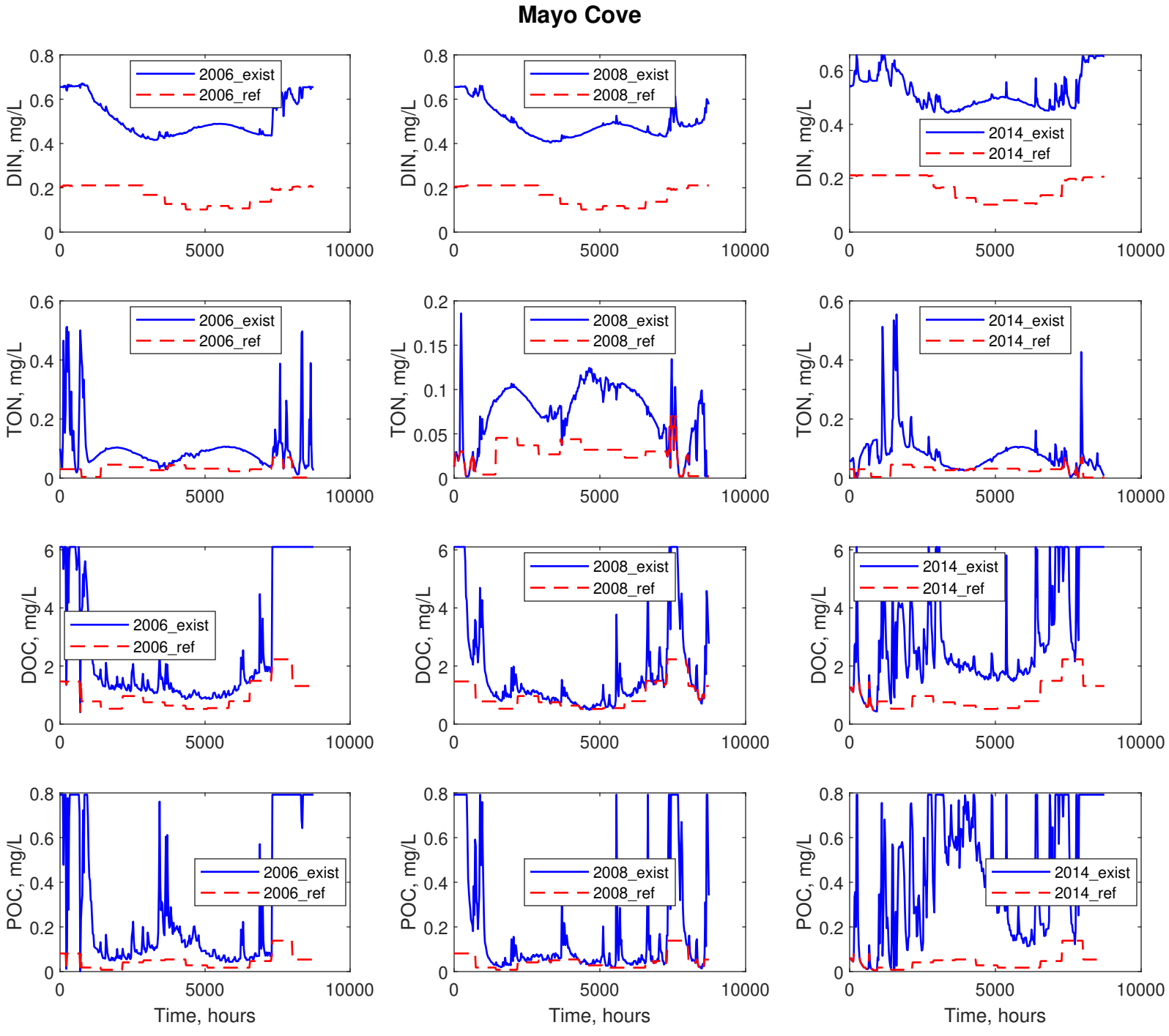

Johns Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

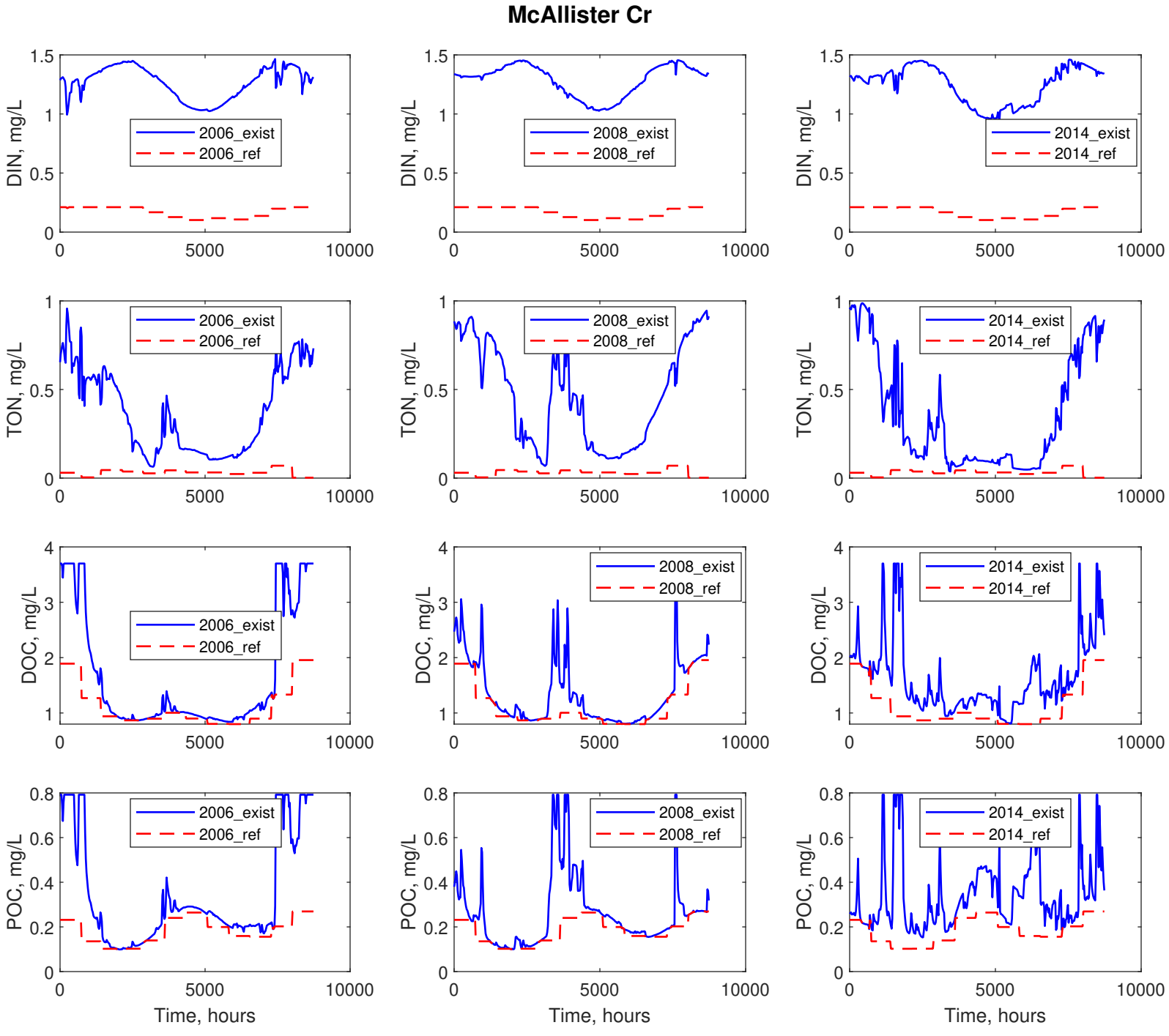

Kennedy_Schneider
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

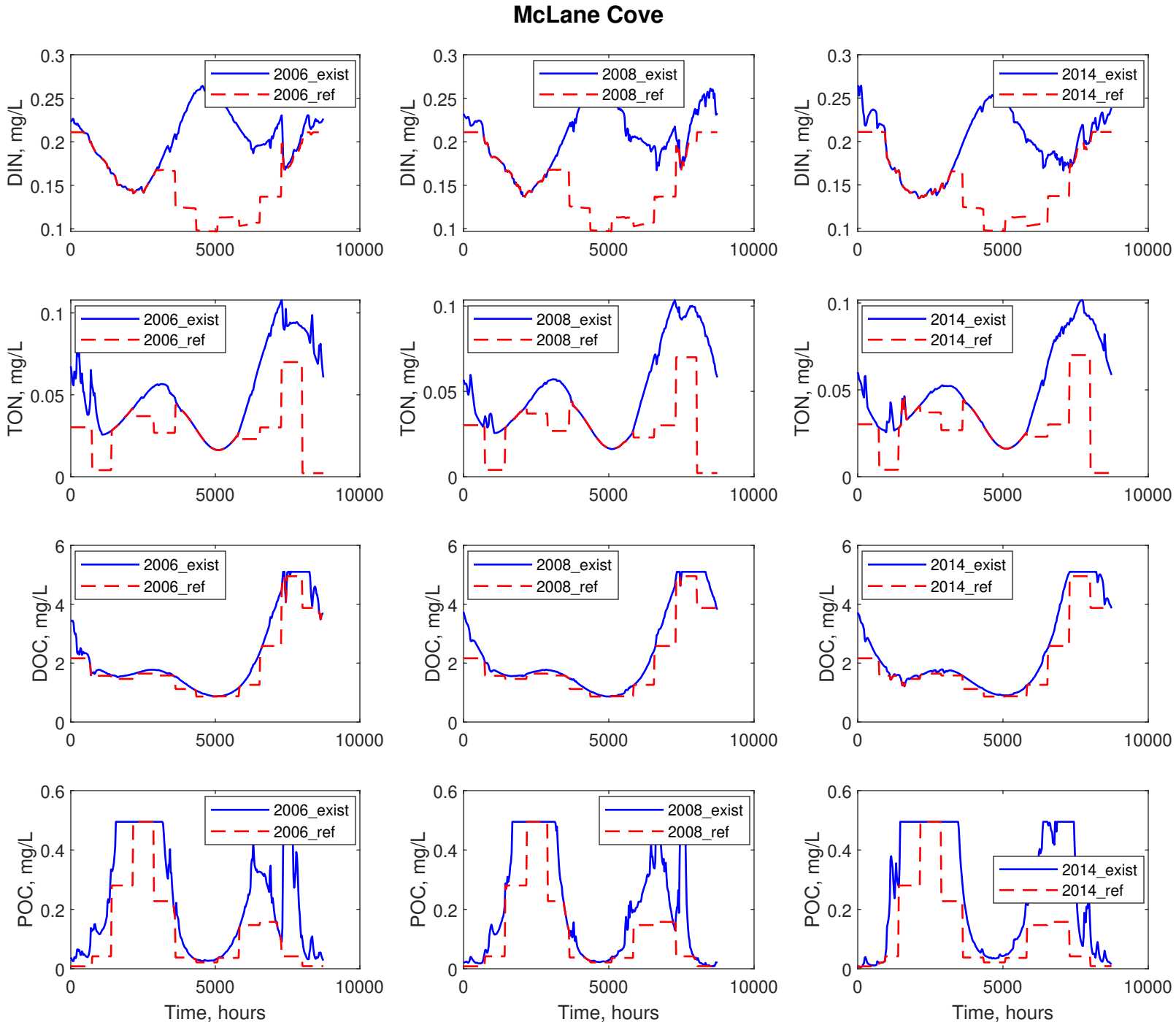

Ketron
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

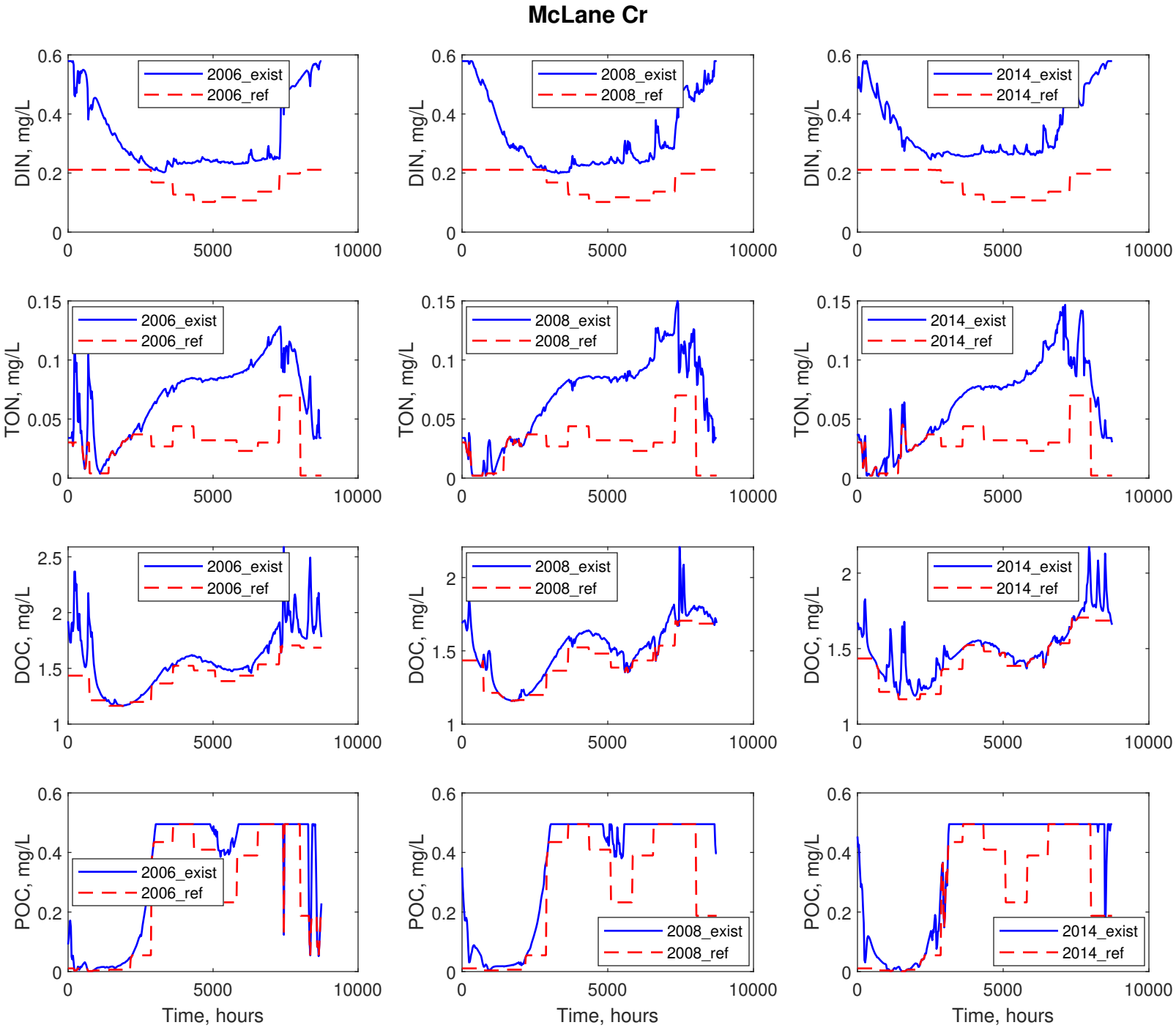

Ketron Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

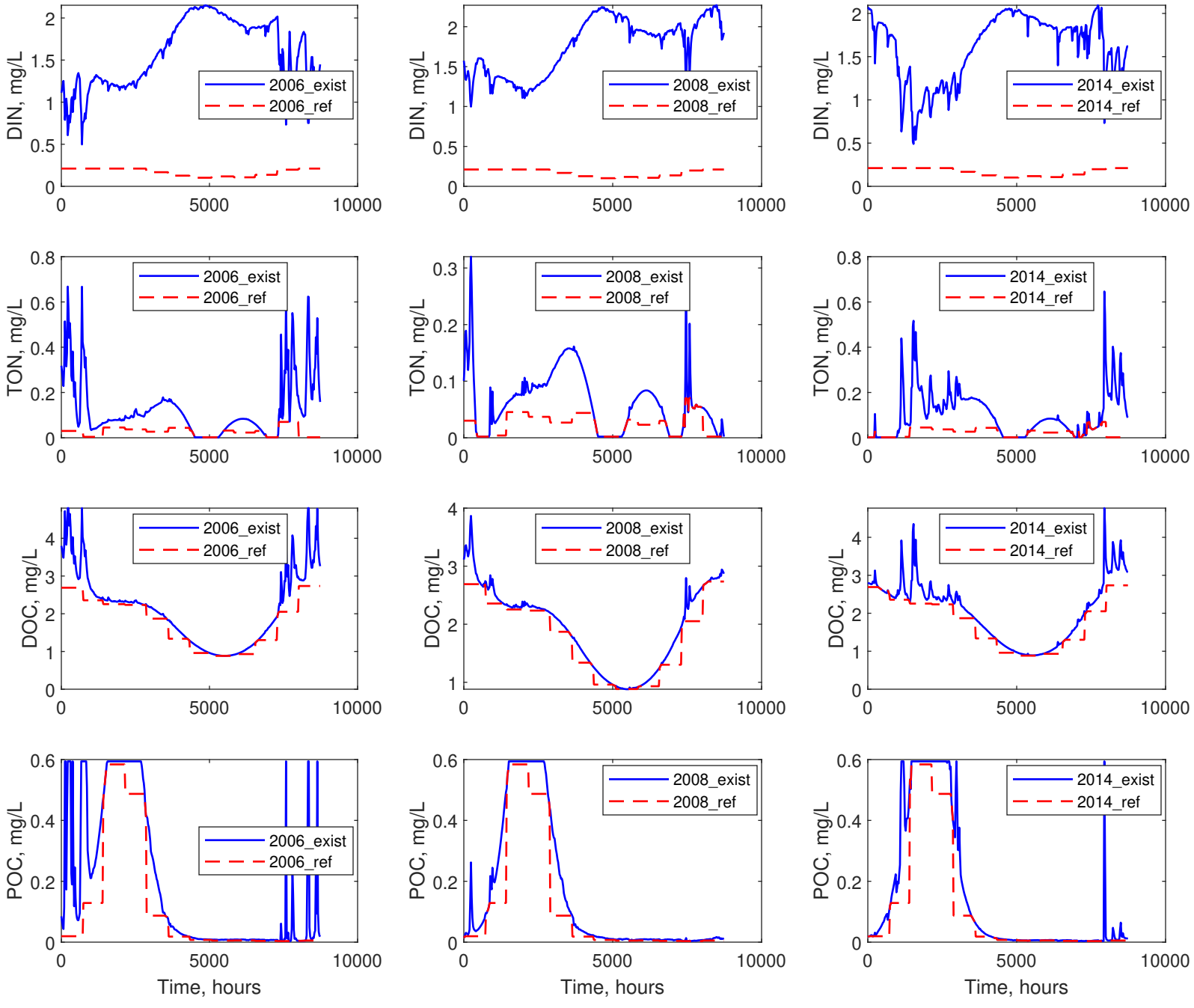

Mable Taylor Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

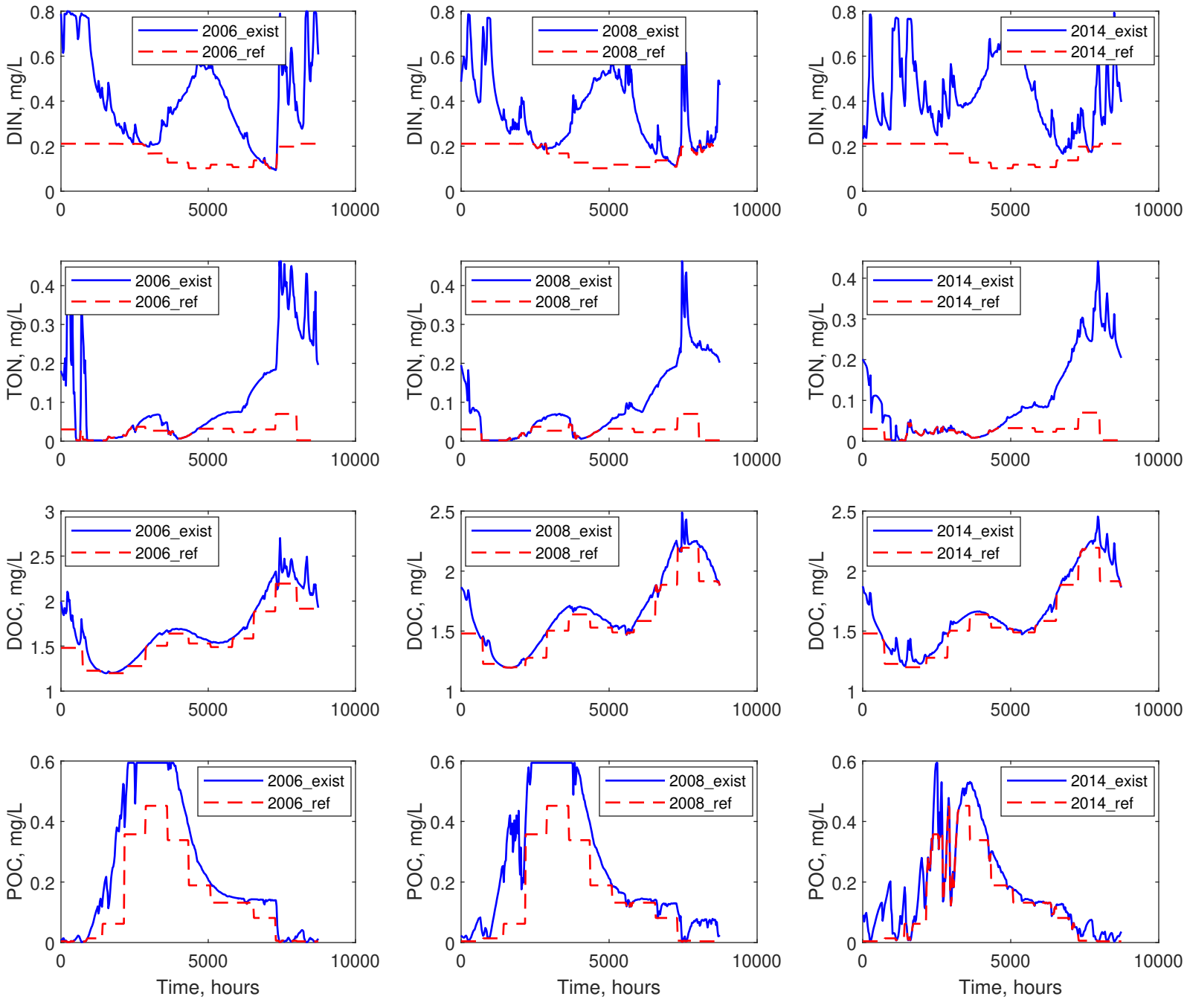

Mayo Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

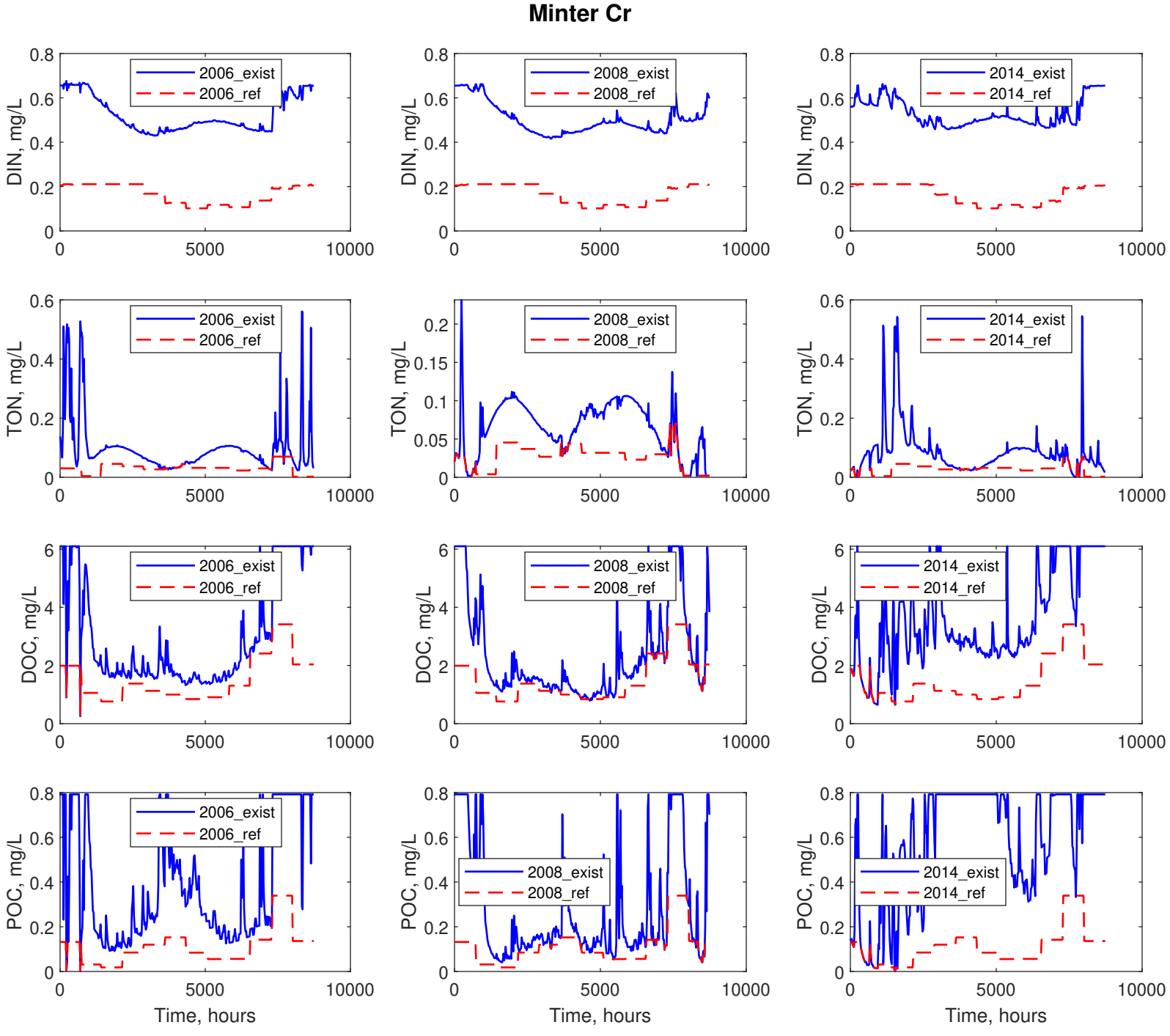

McAllister Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

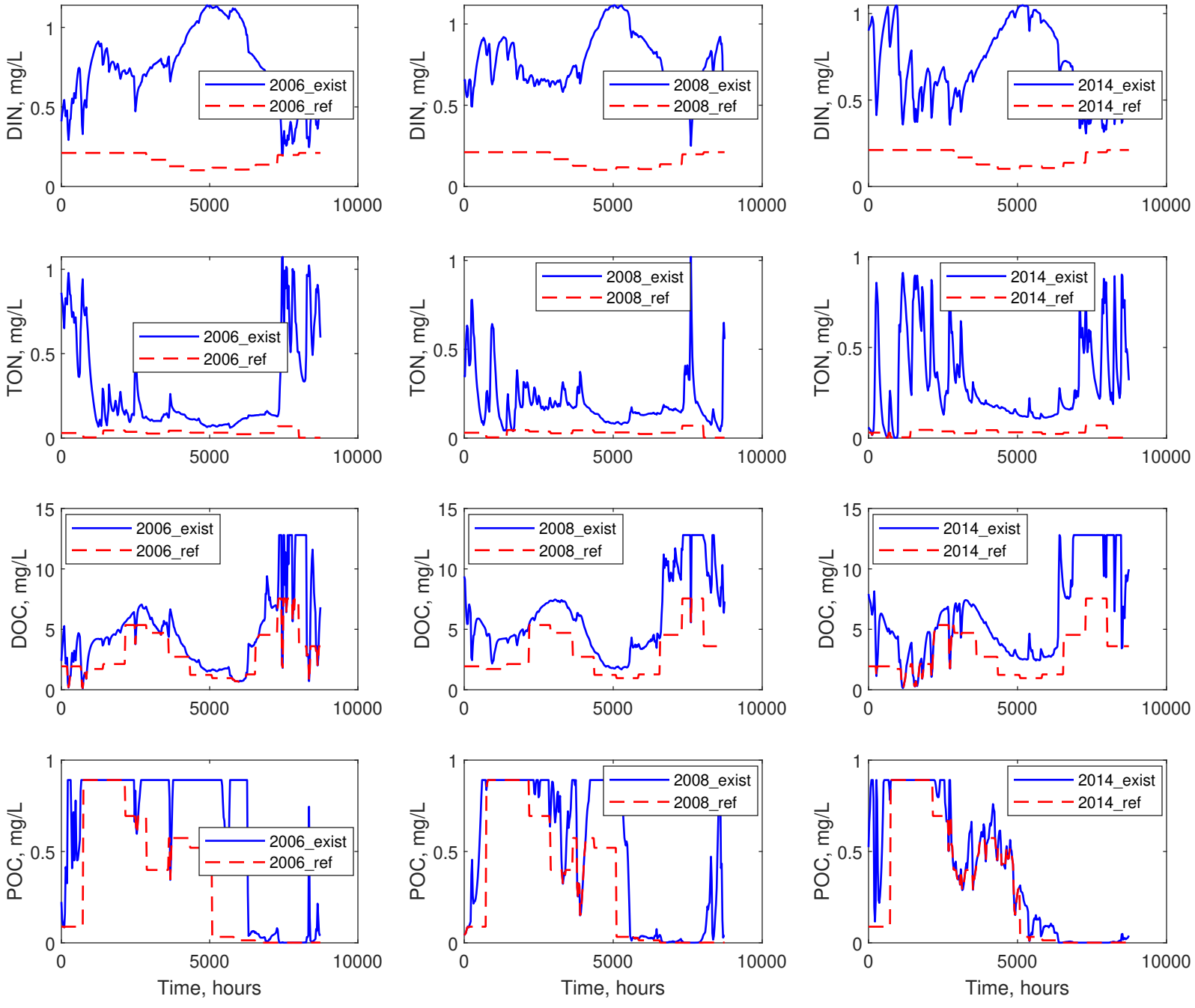

McLane Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

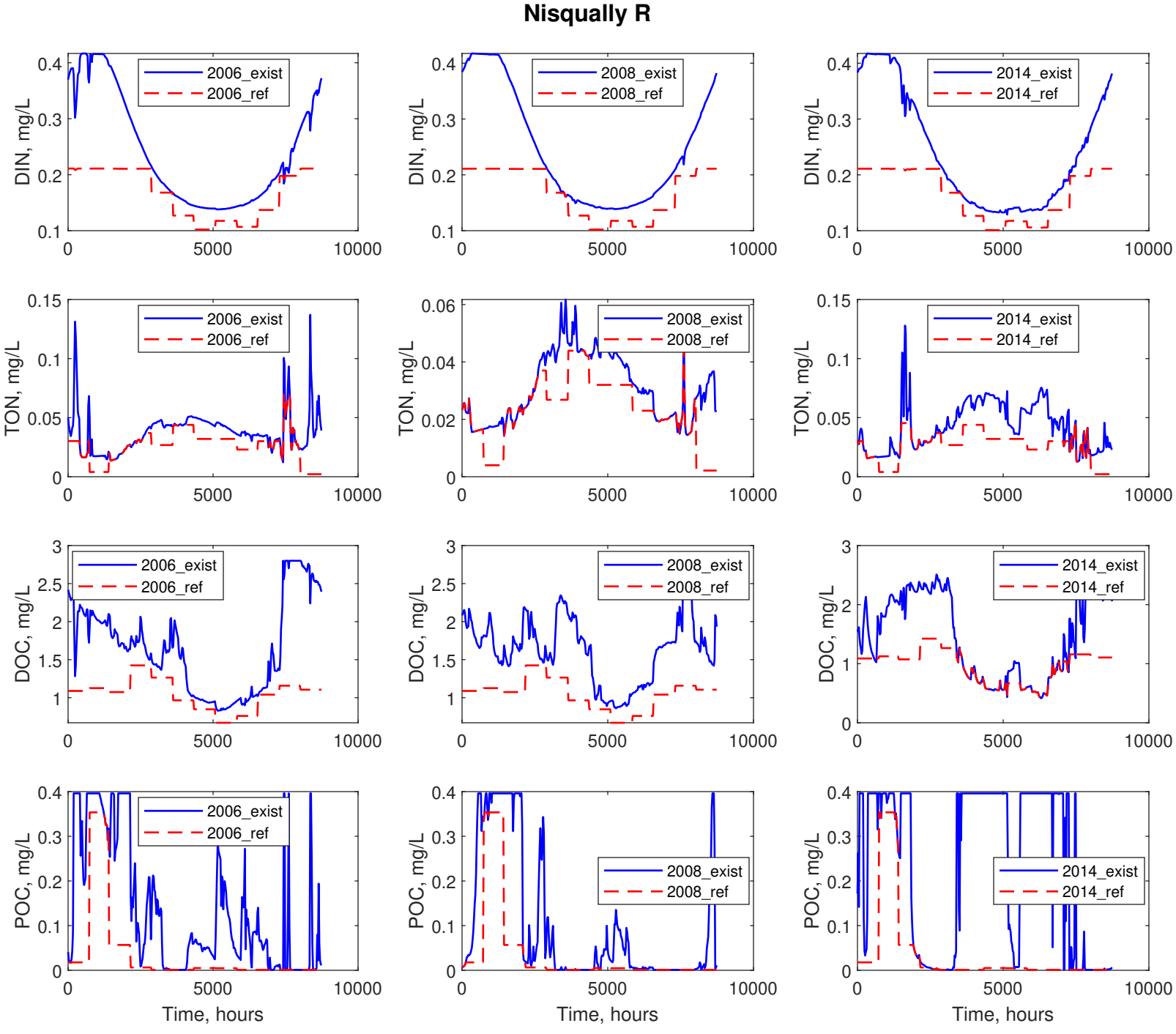

McLane Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

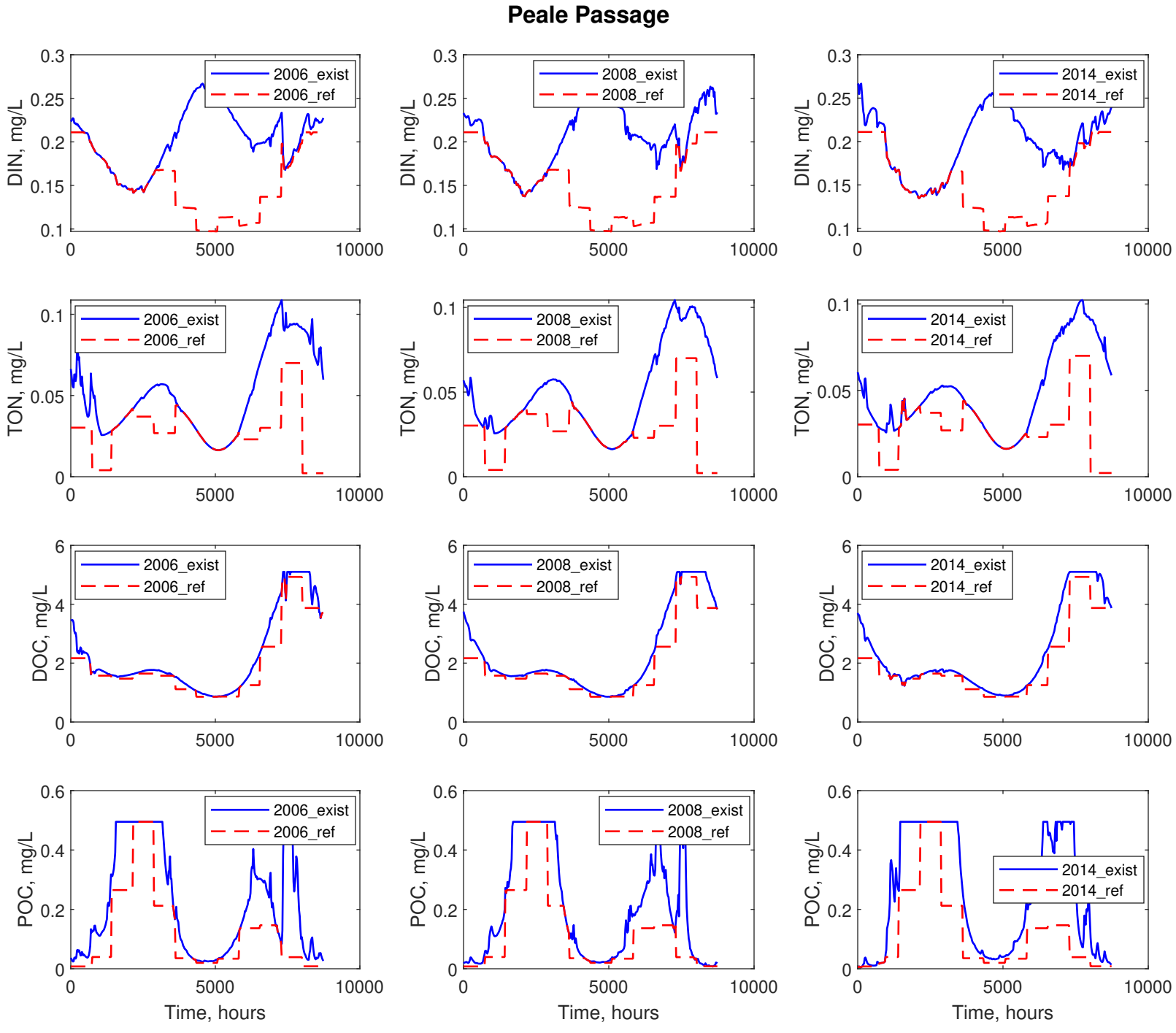

McNeil Isl
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

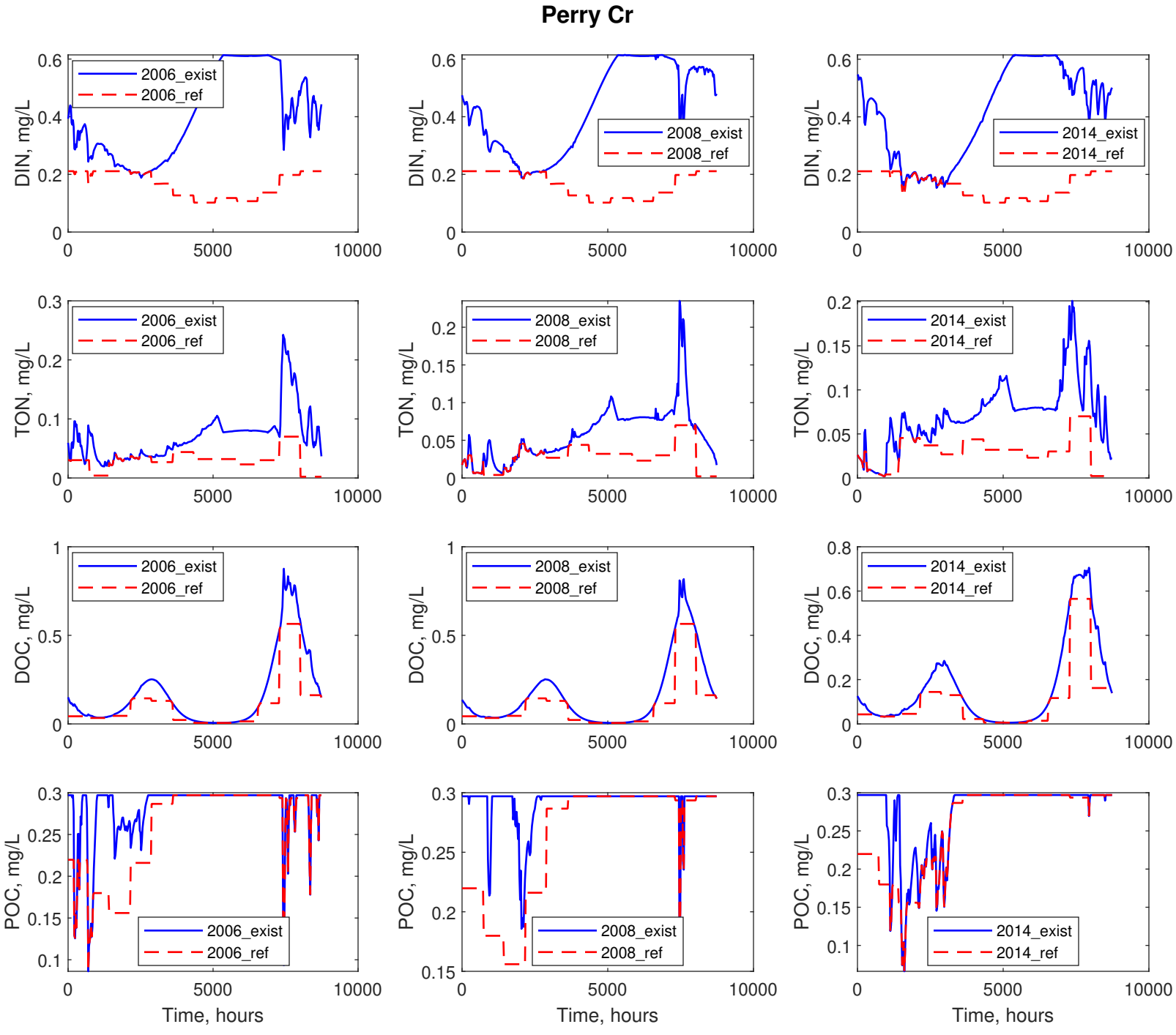

Mill Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

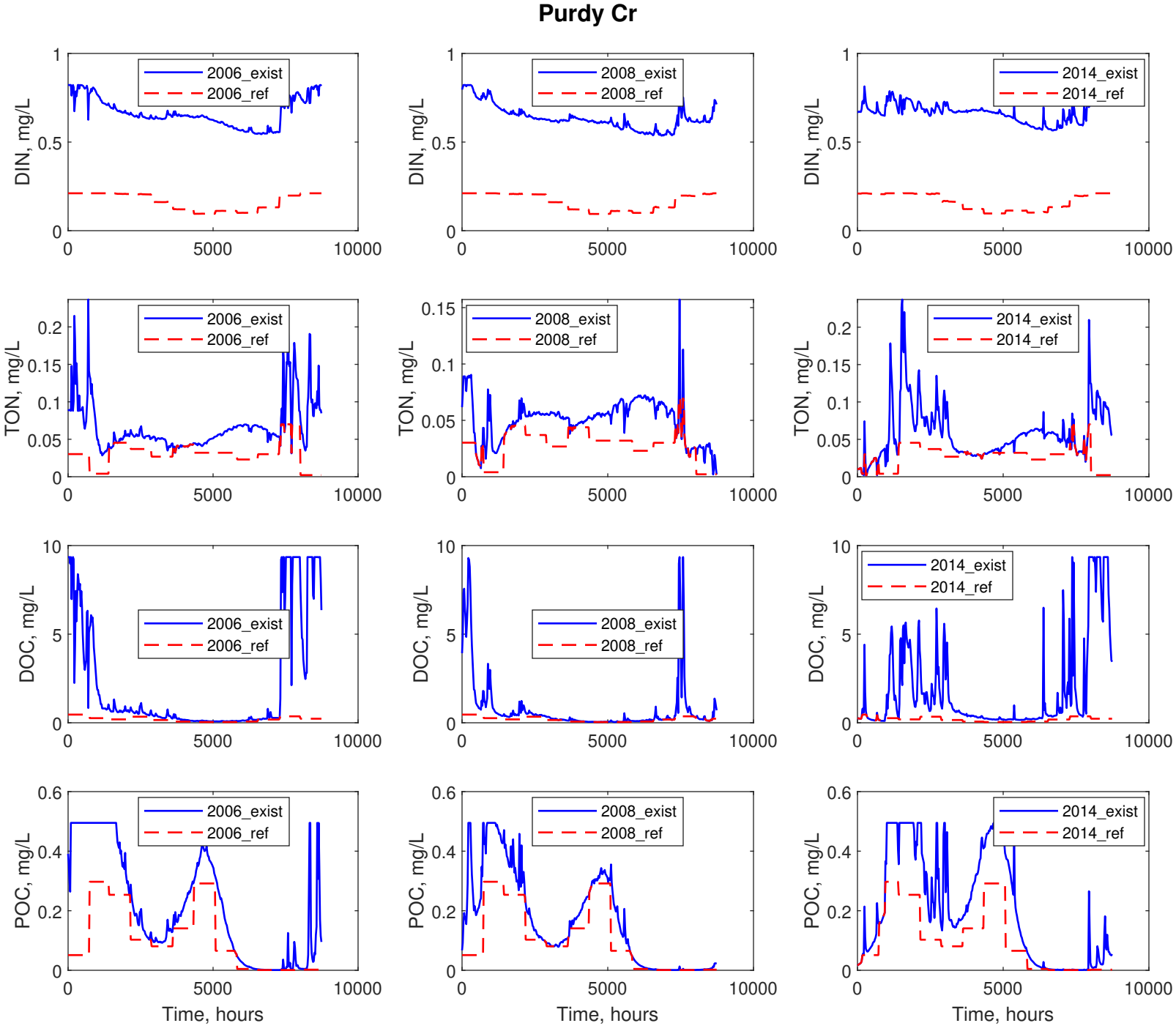

Minter Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

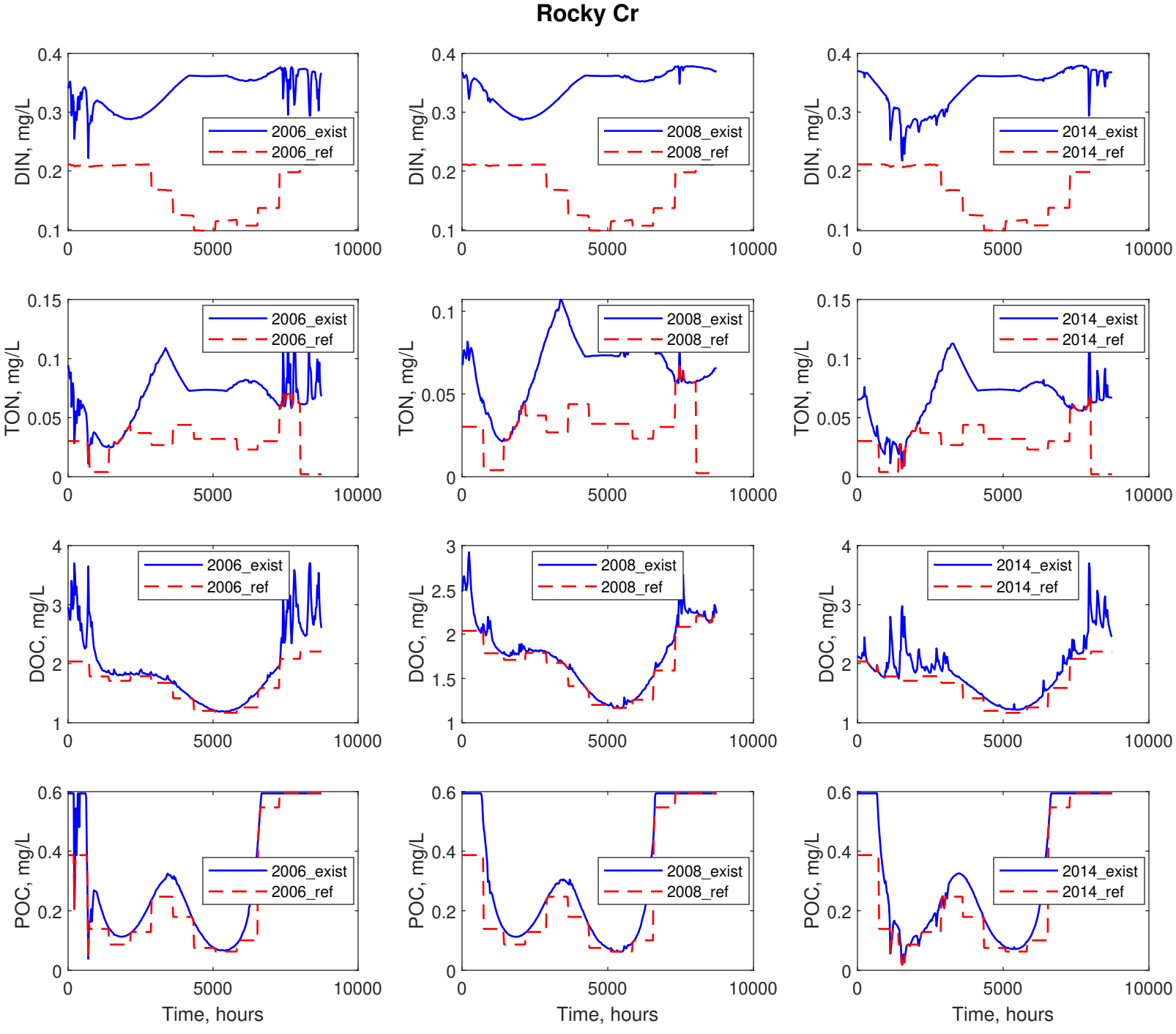

Moxlie Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000
0.5
1
5
10
15

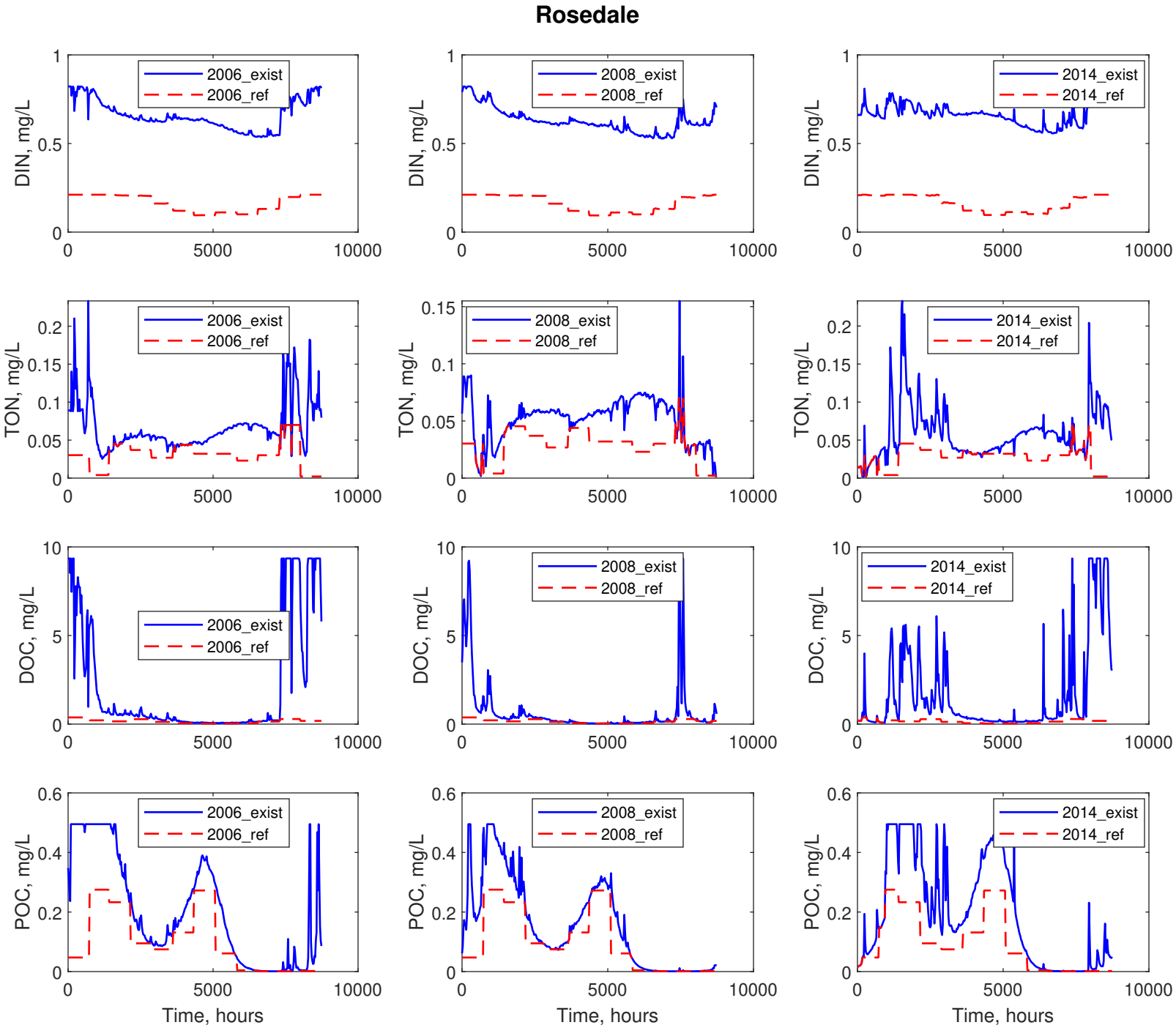

Nisqually R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

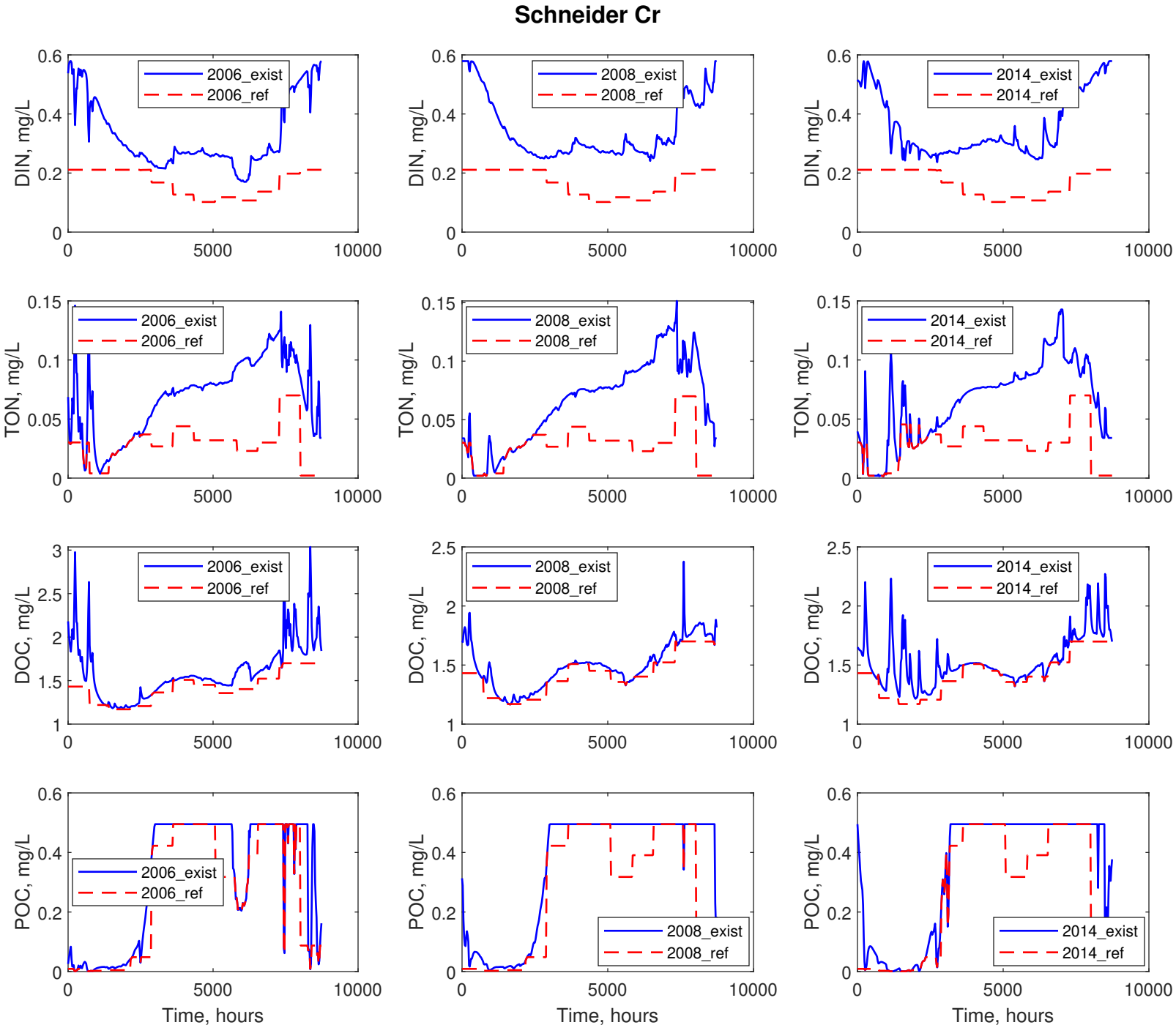

Peale Passage
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

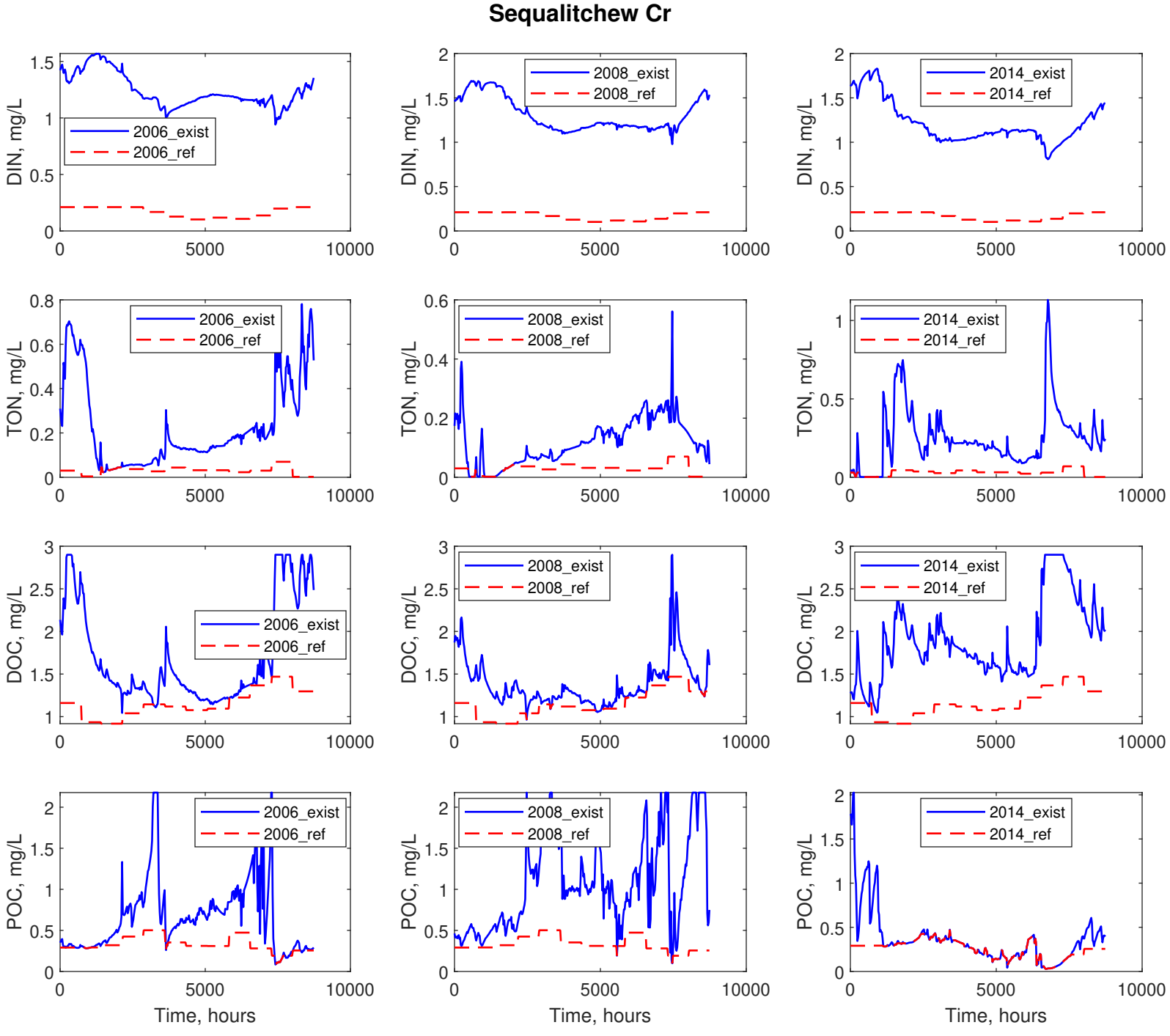

Perry Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

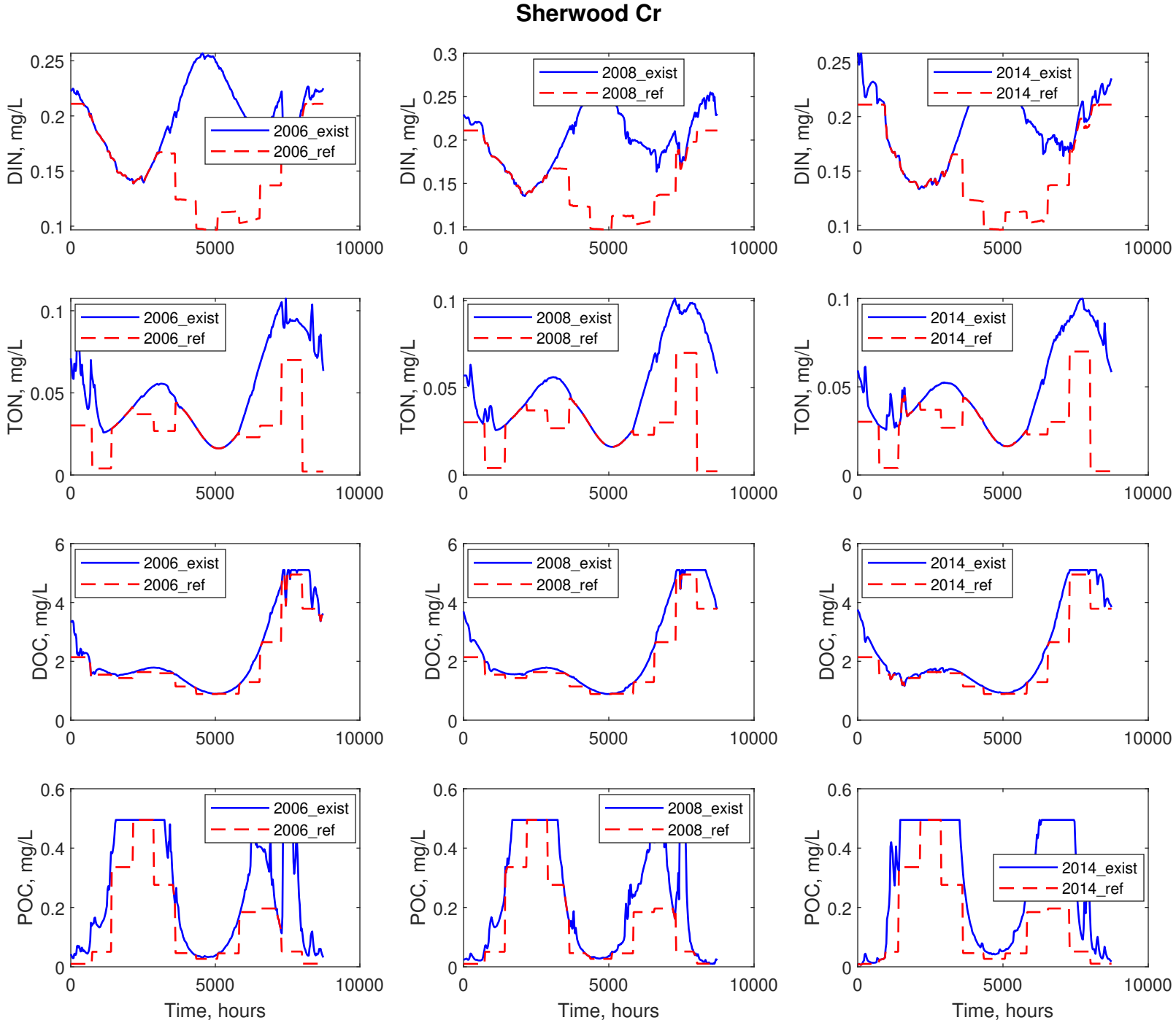

Purdy Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

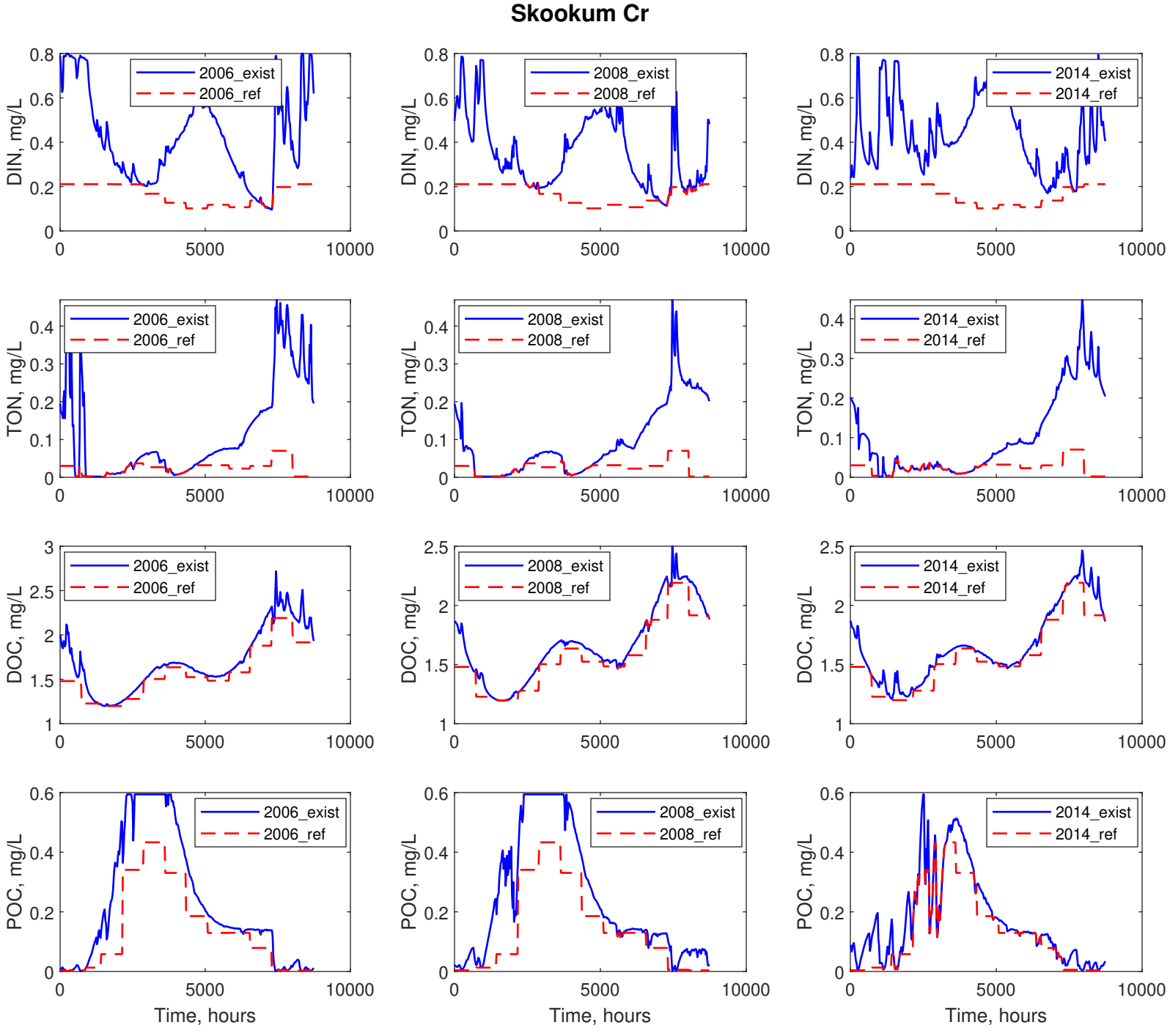

Rocky Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

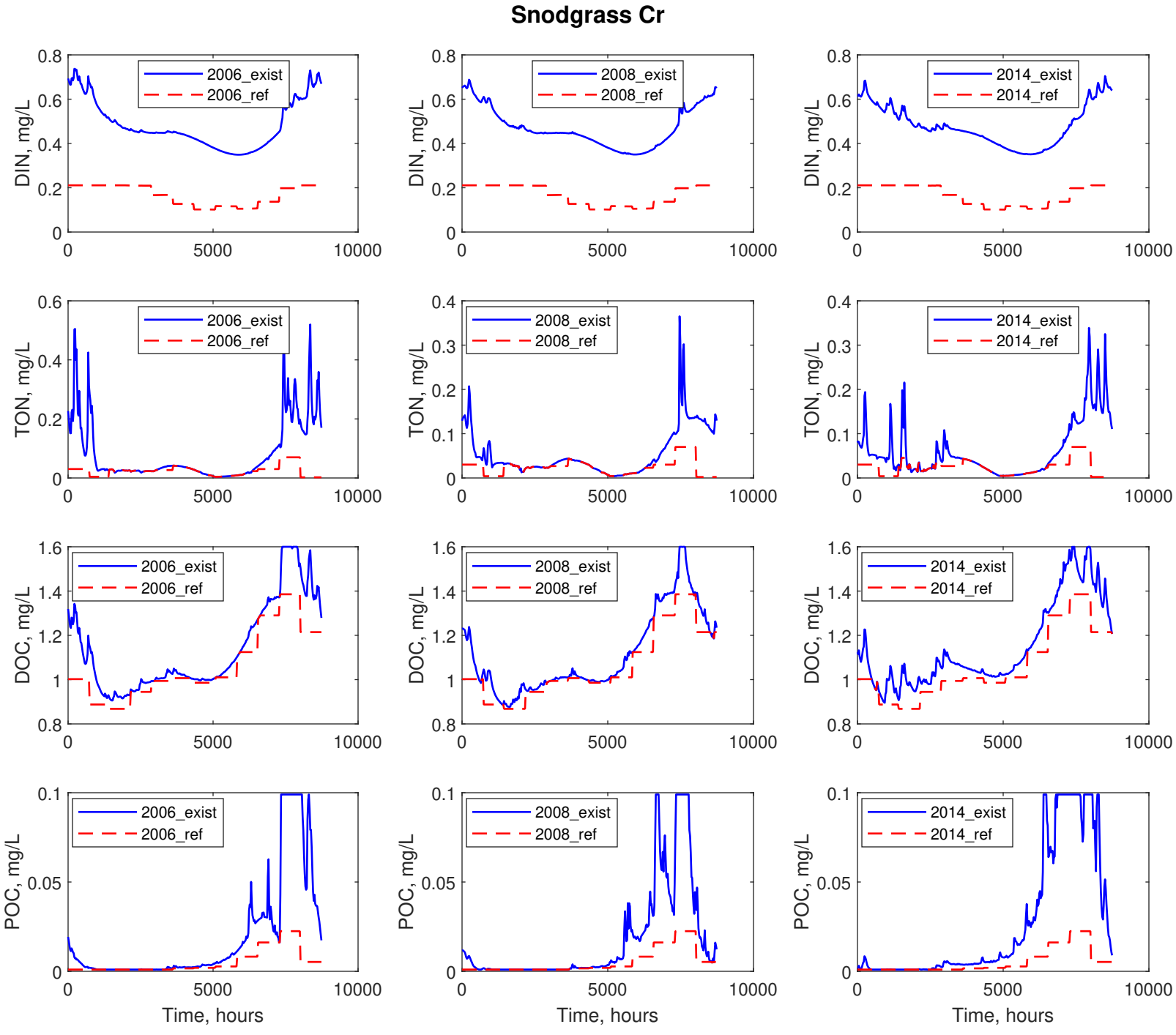

Rosedale
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

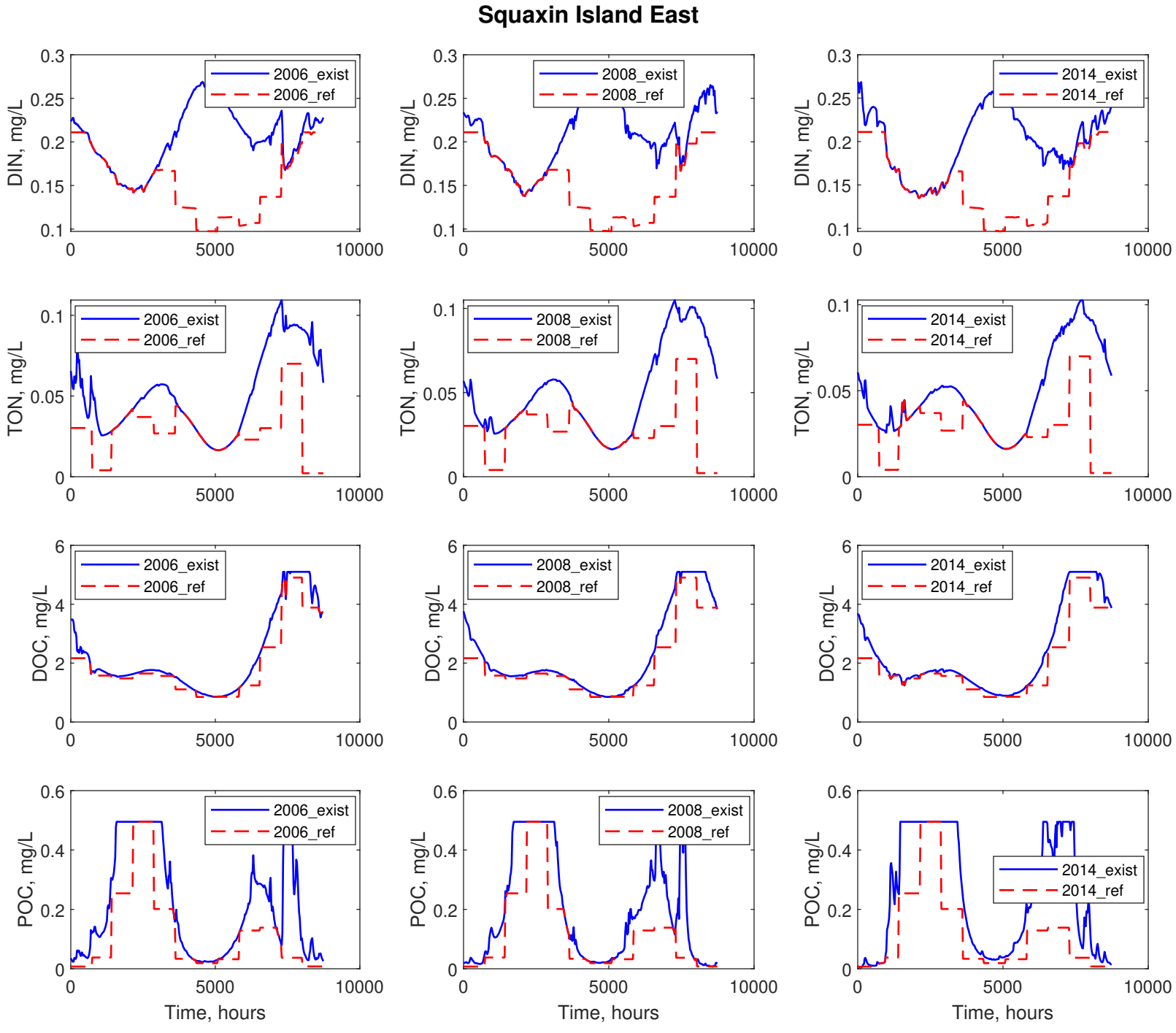

Schneider Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

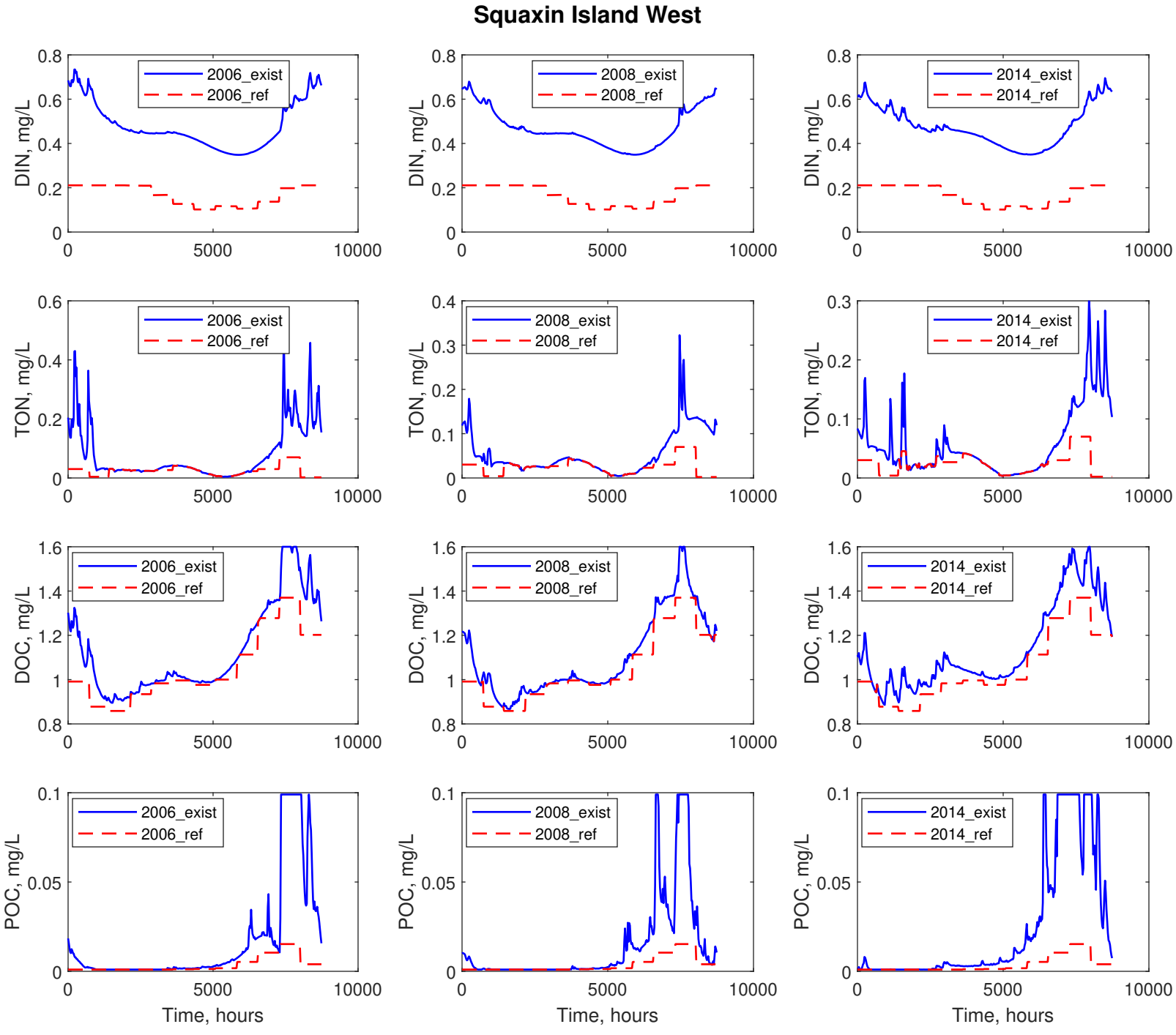

Sequalitchew Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

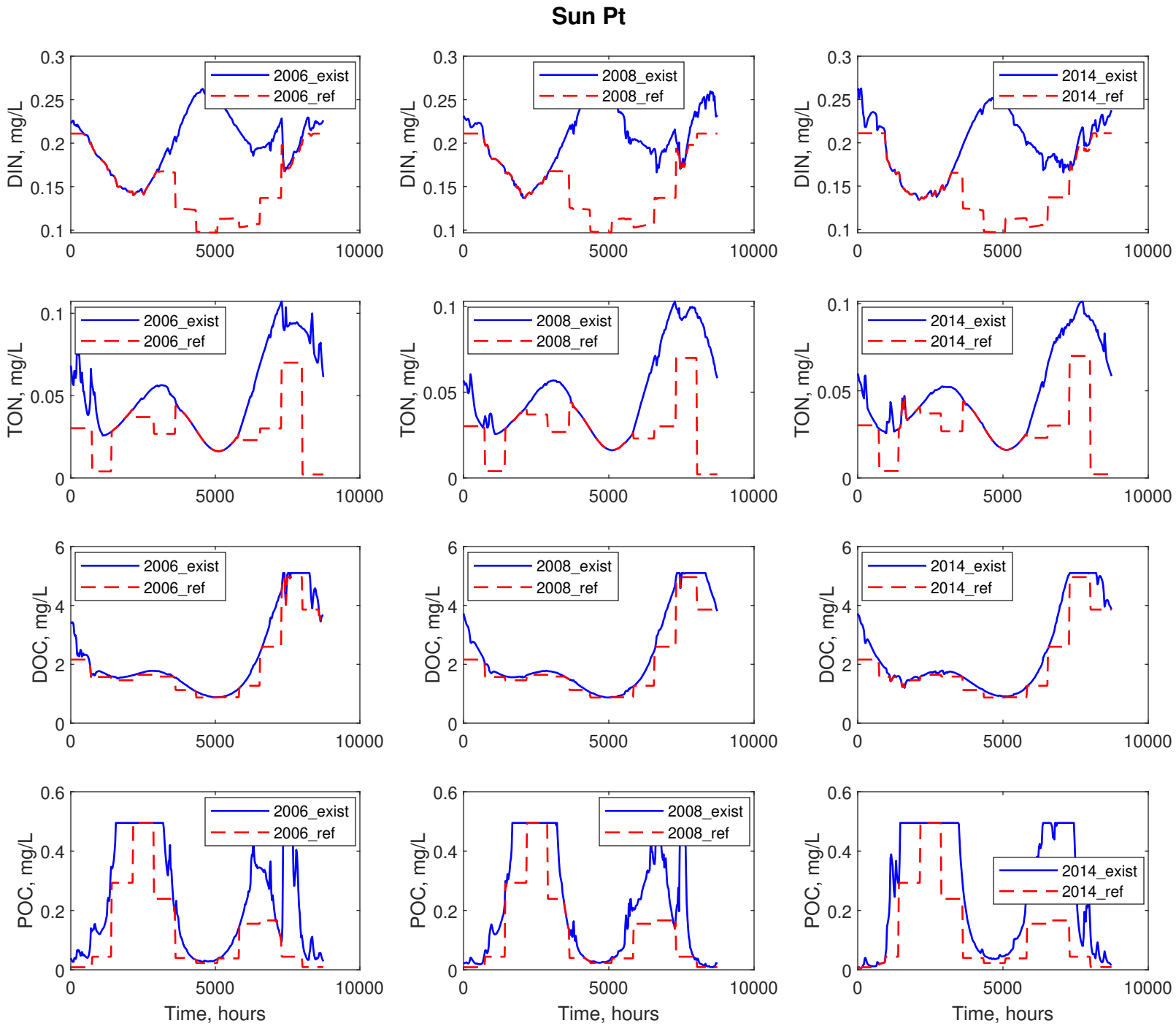

Sherwood Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

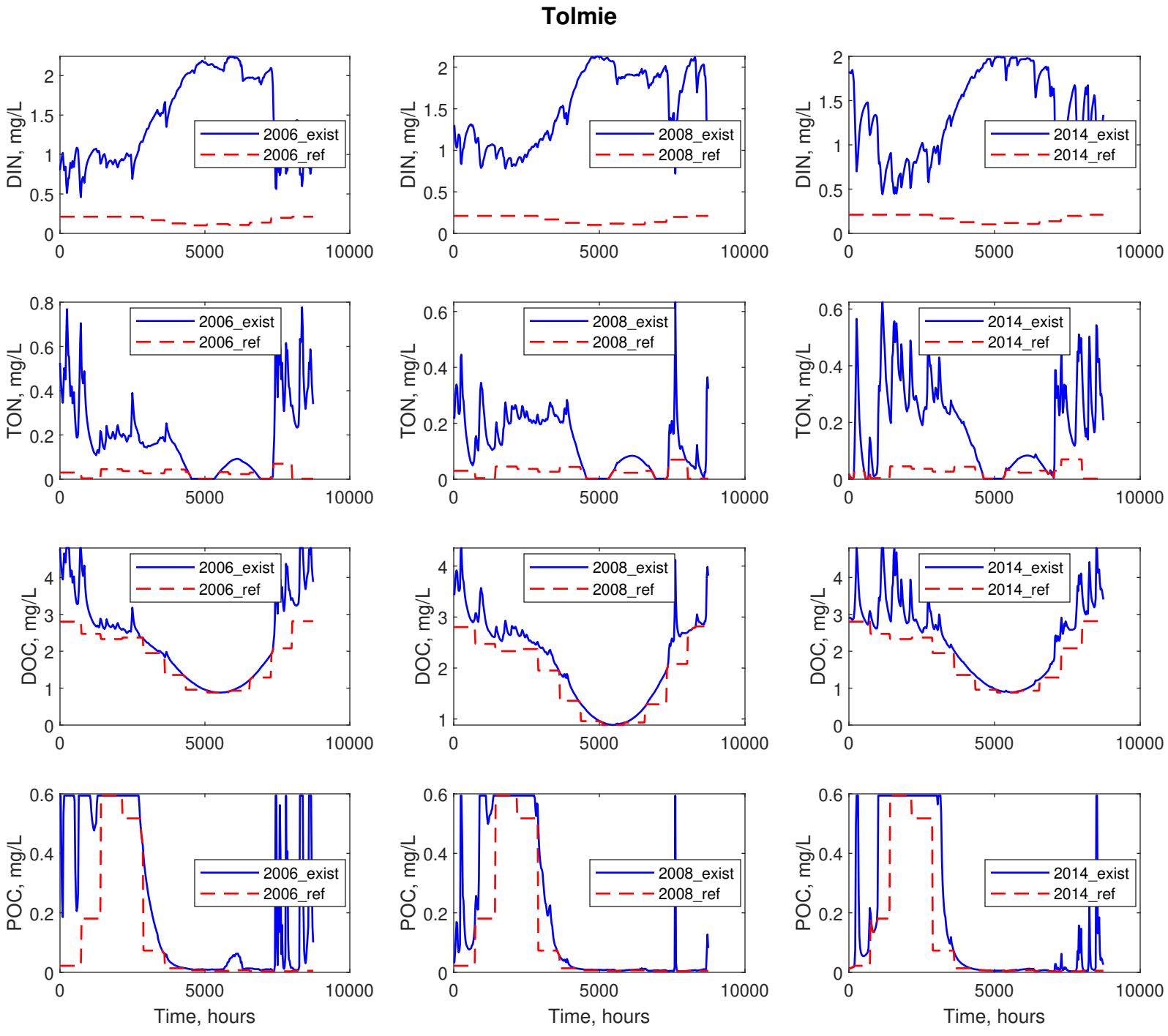

Skookum Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

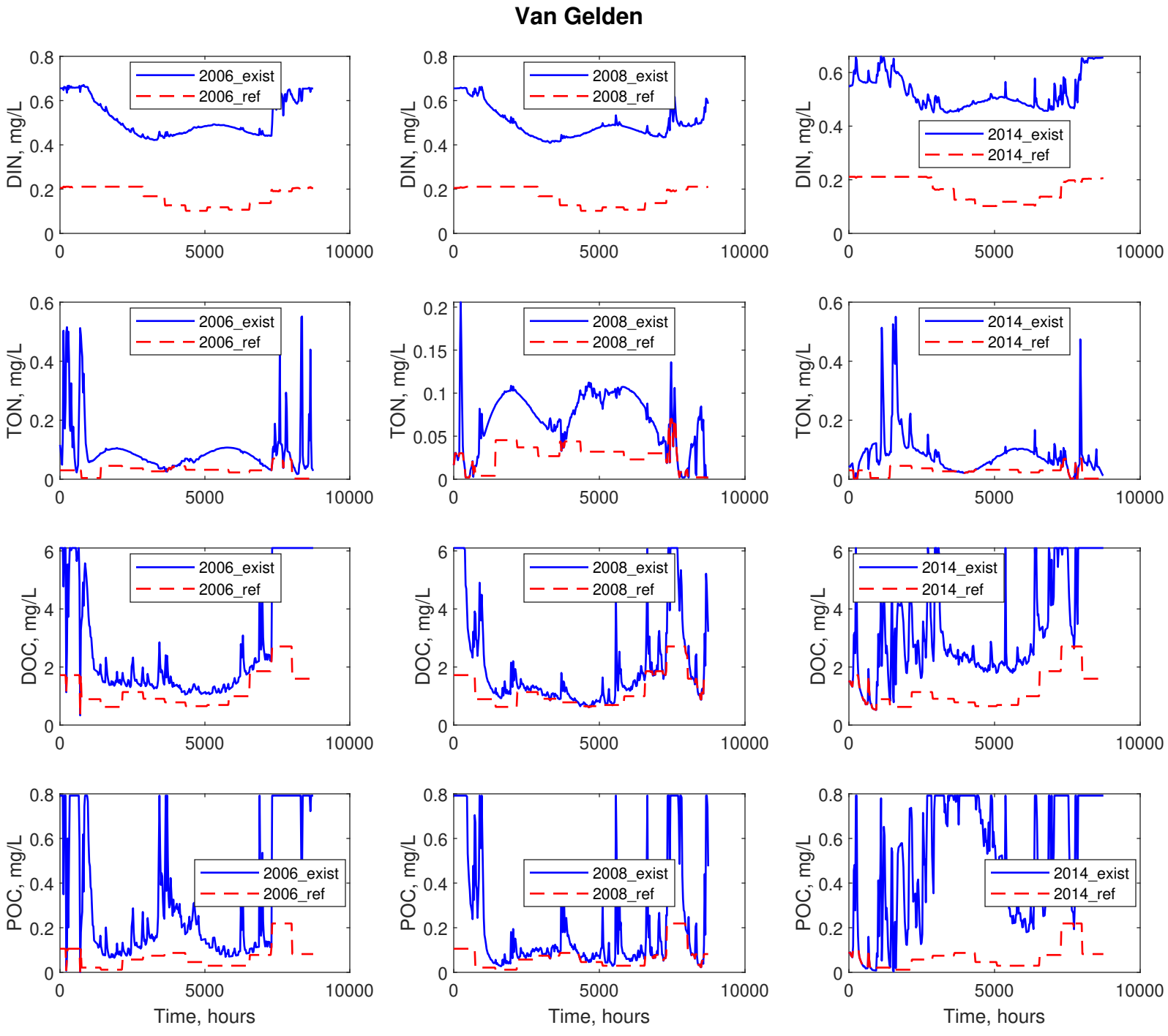

Snodgrass Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

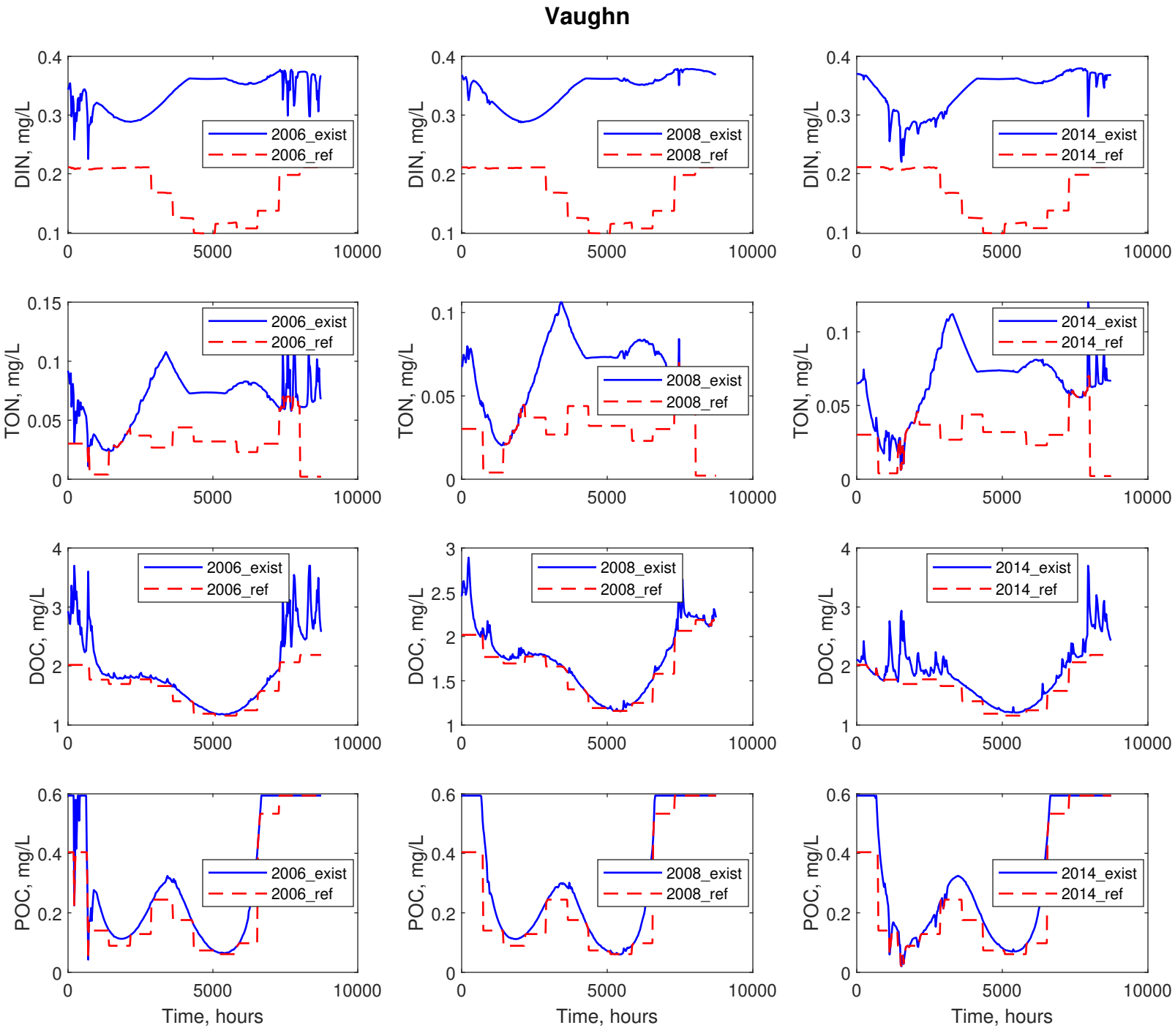

Squaxin Island East
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

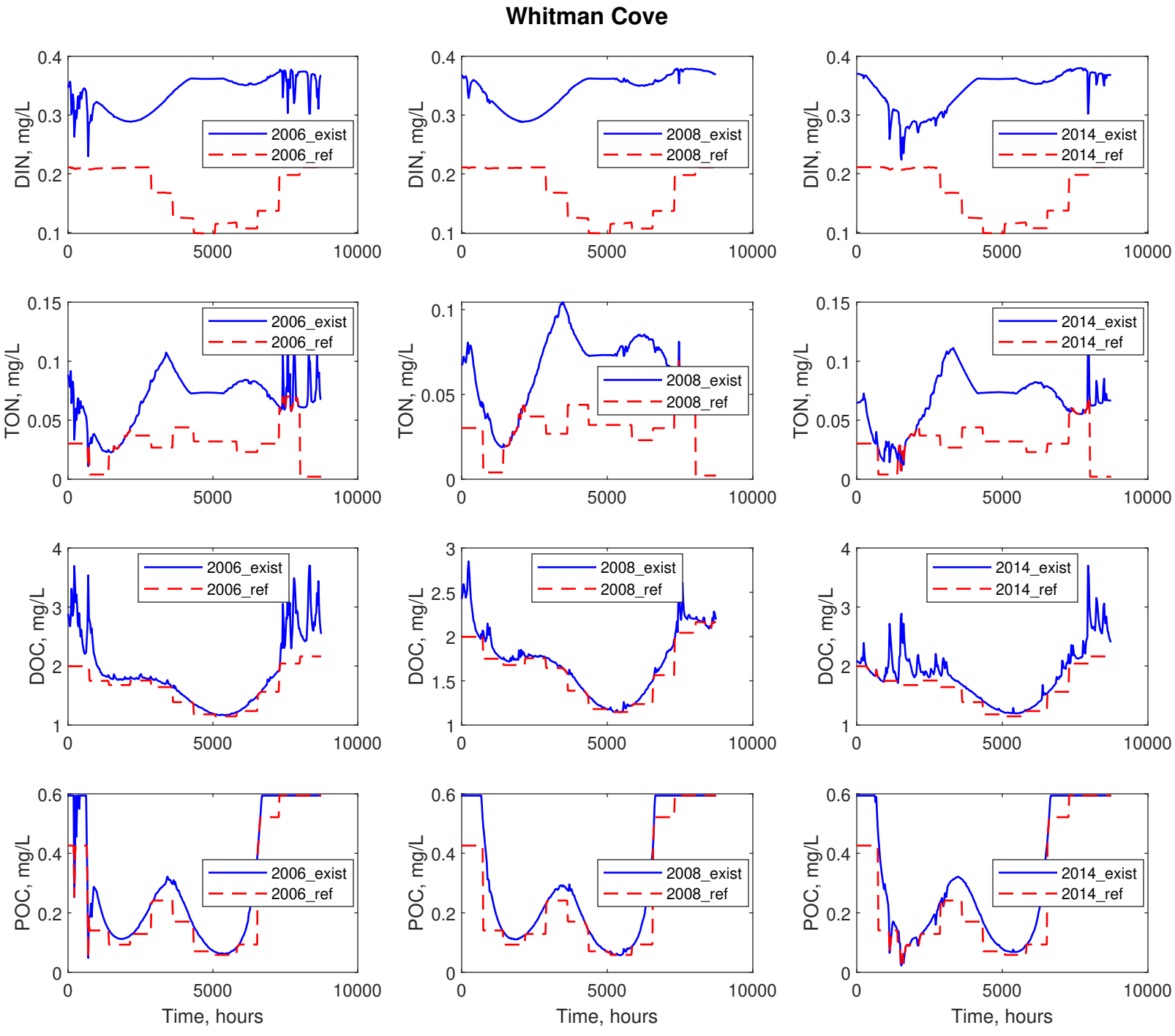

Squaxin Island West
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

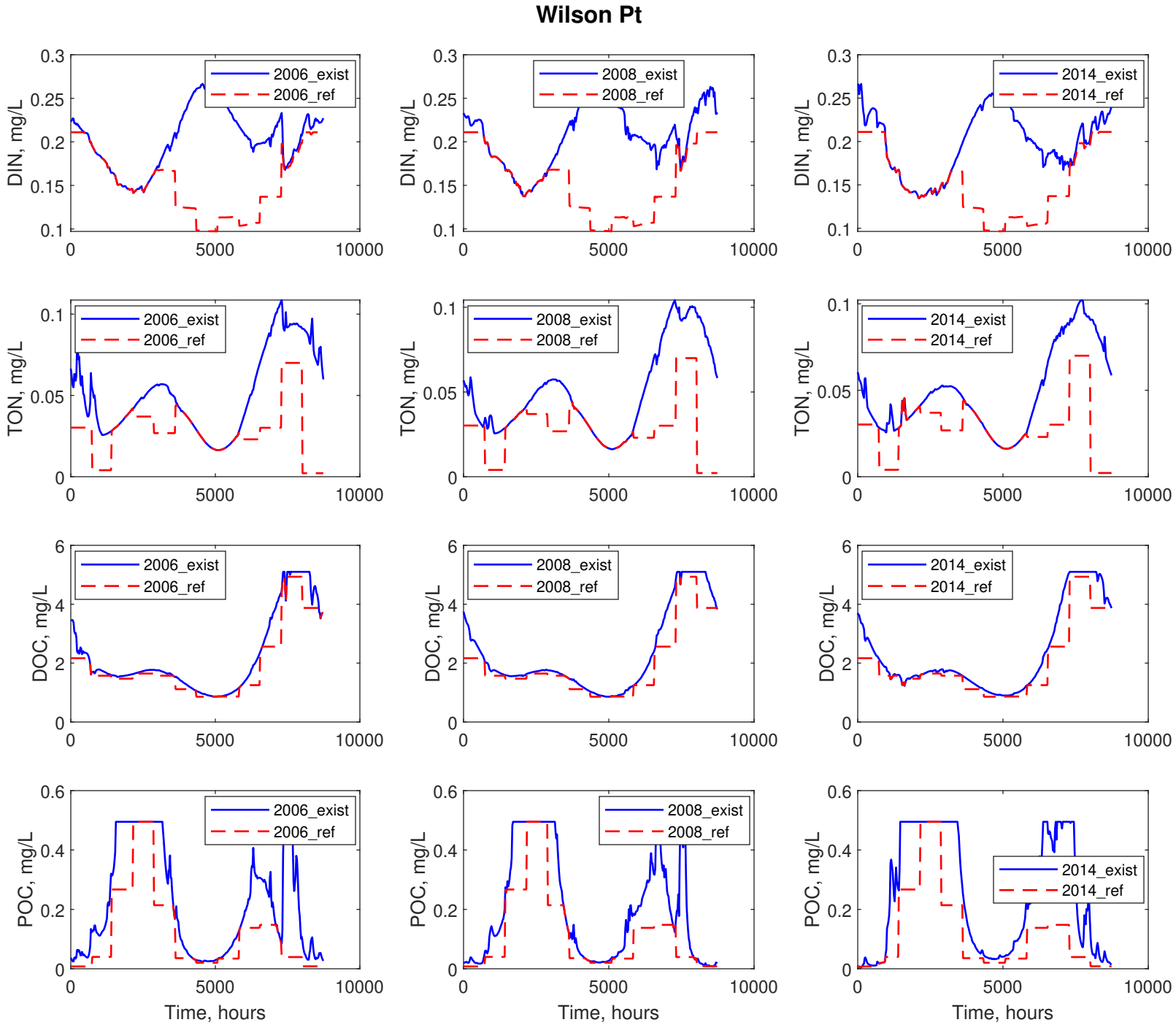

Sun Pt
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.1
0.15
0.2
0.25
0.3
0.05
2
4
6
0.4
0.6

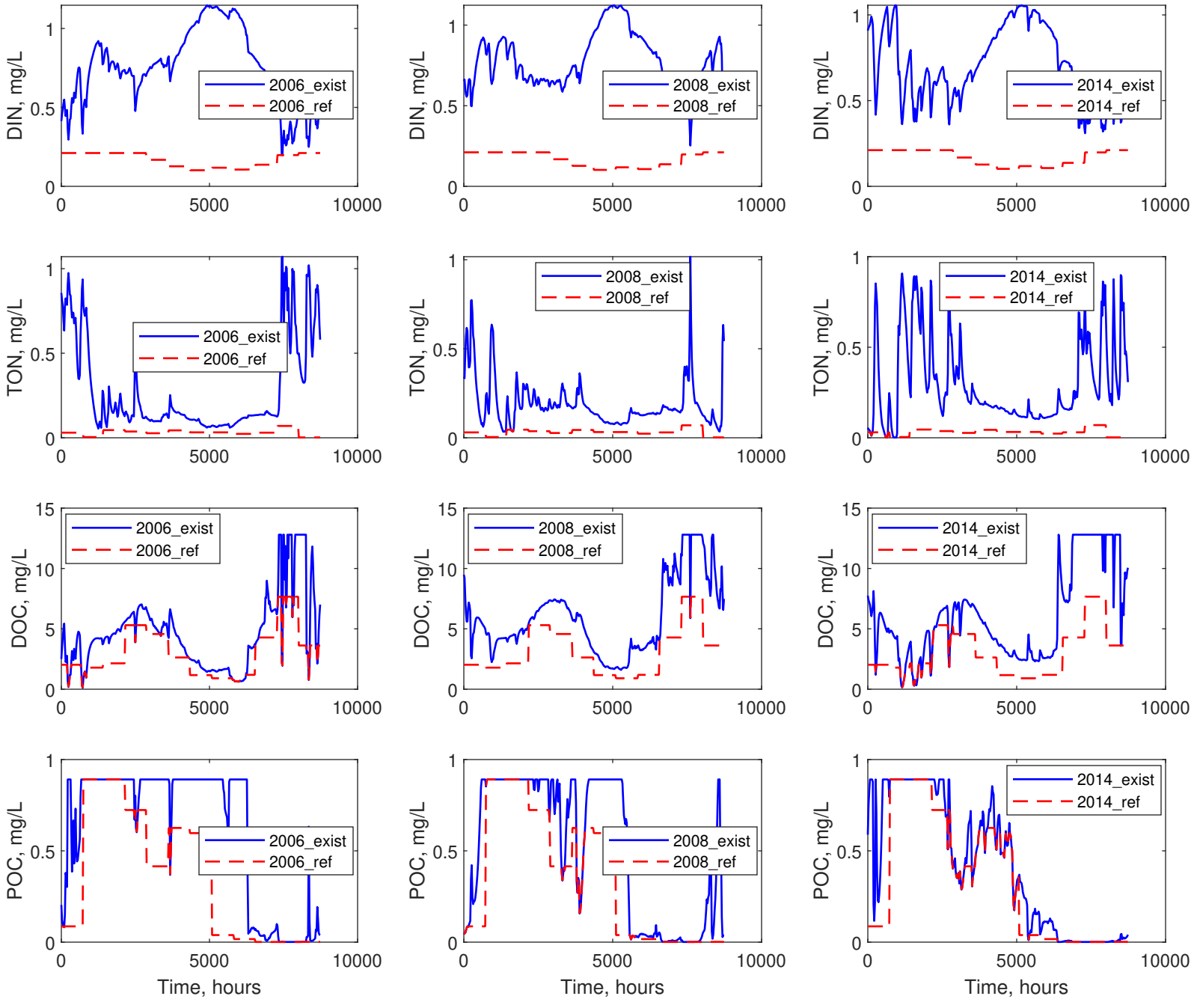

Tolmie
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

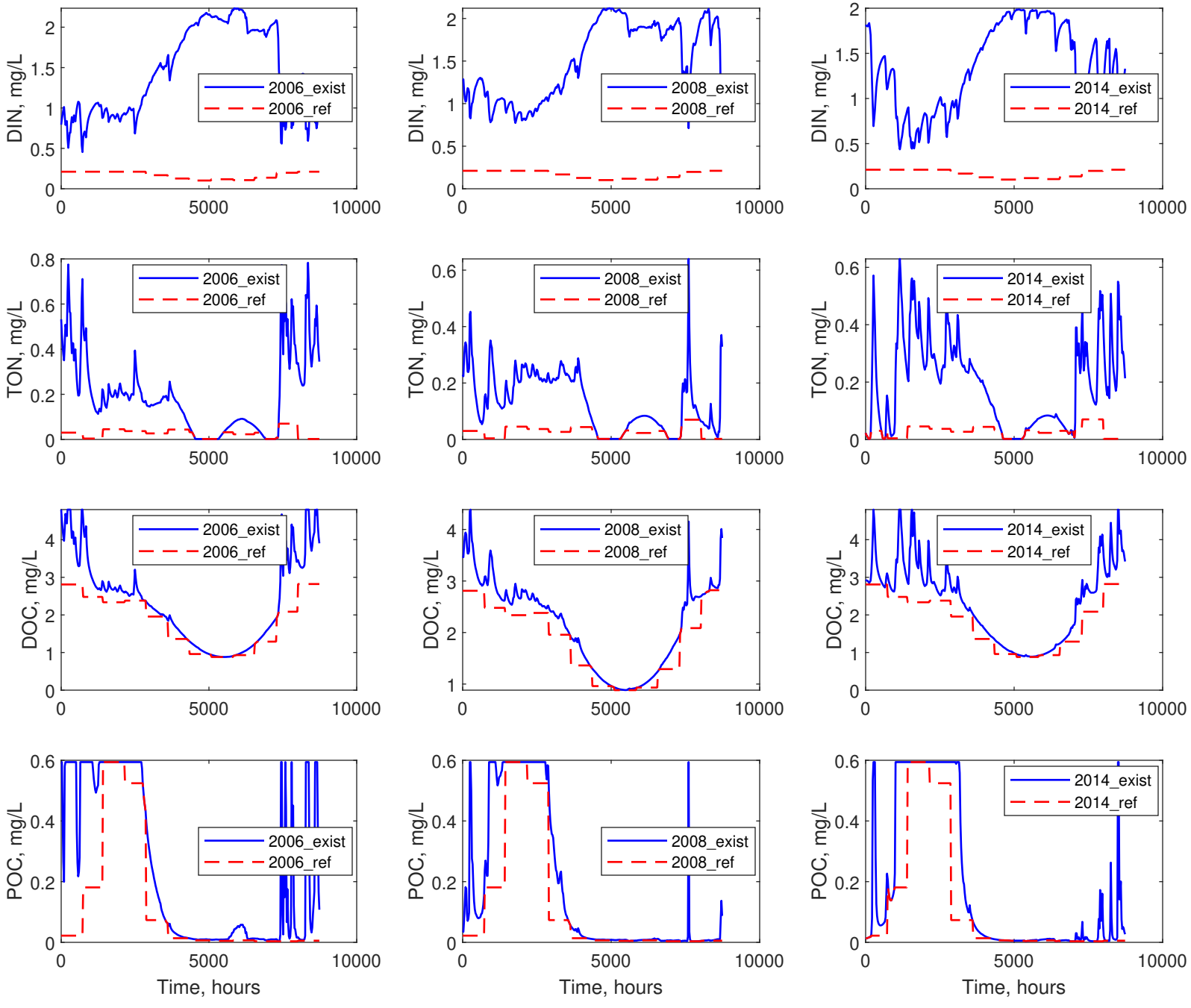

Van Gelden
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

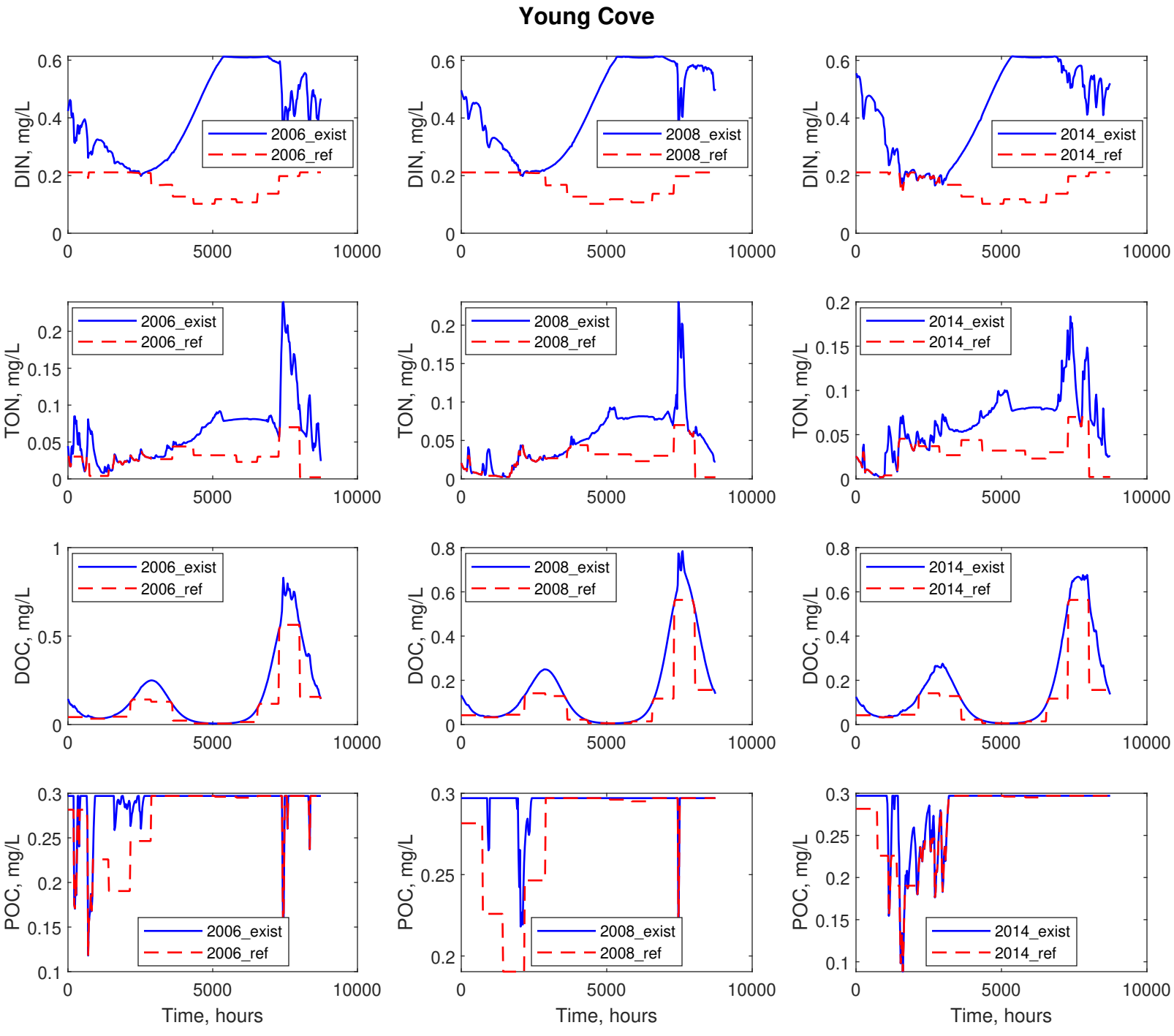

Vaughn
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

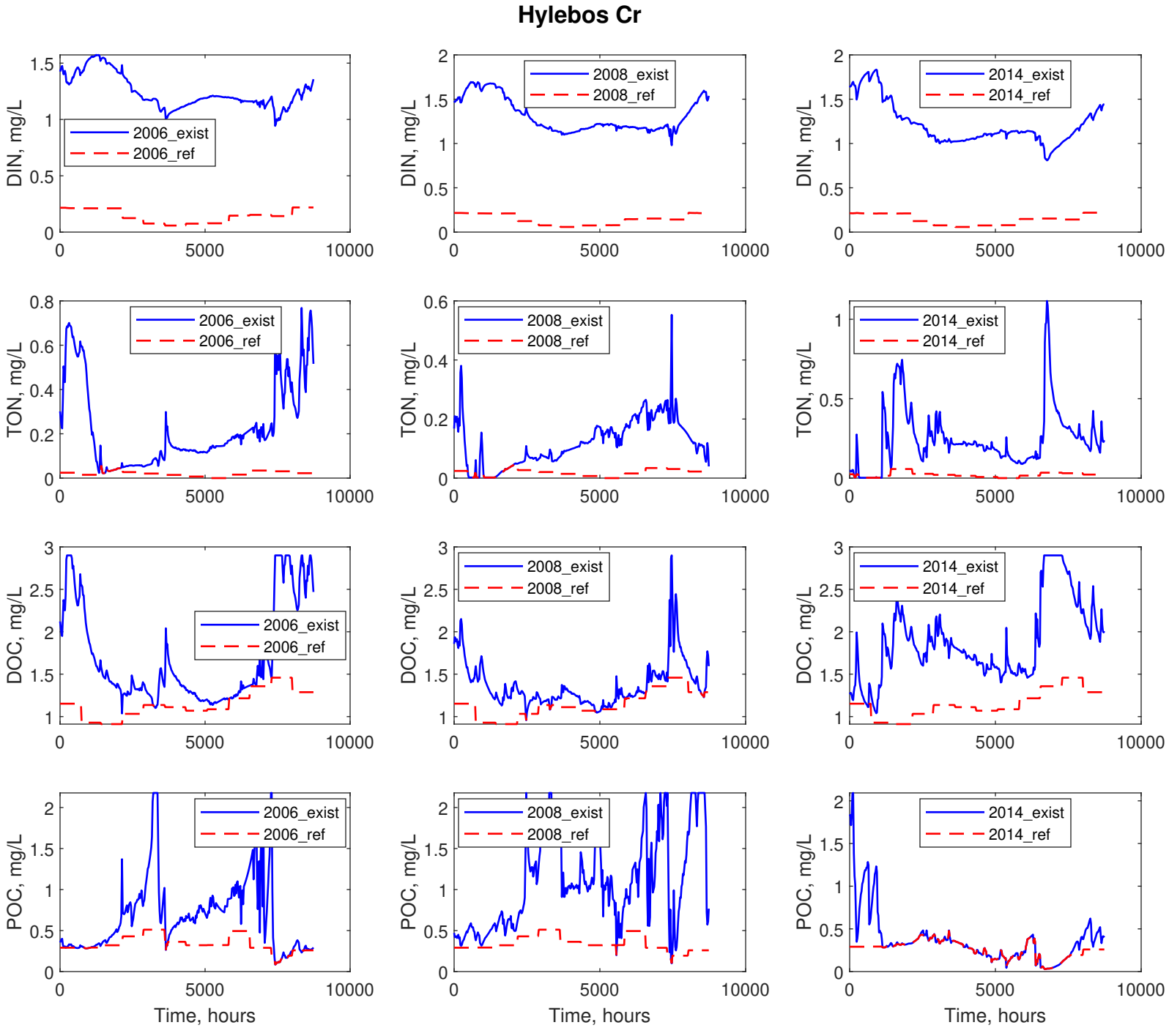

Whitman Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

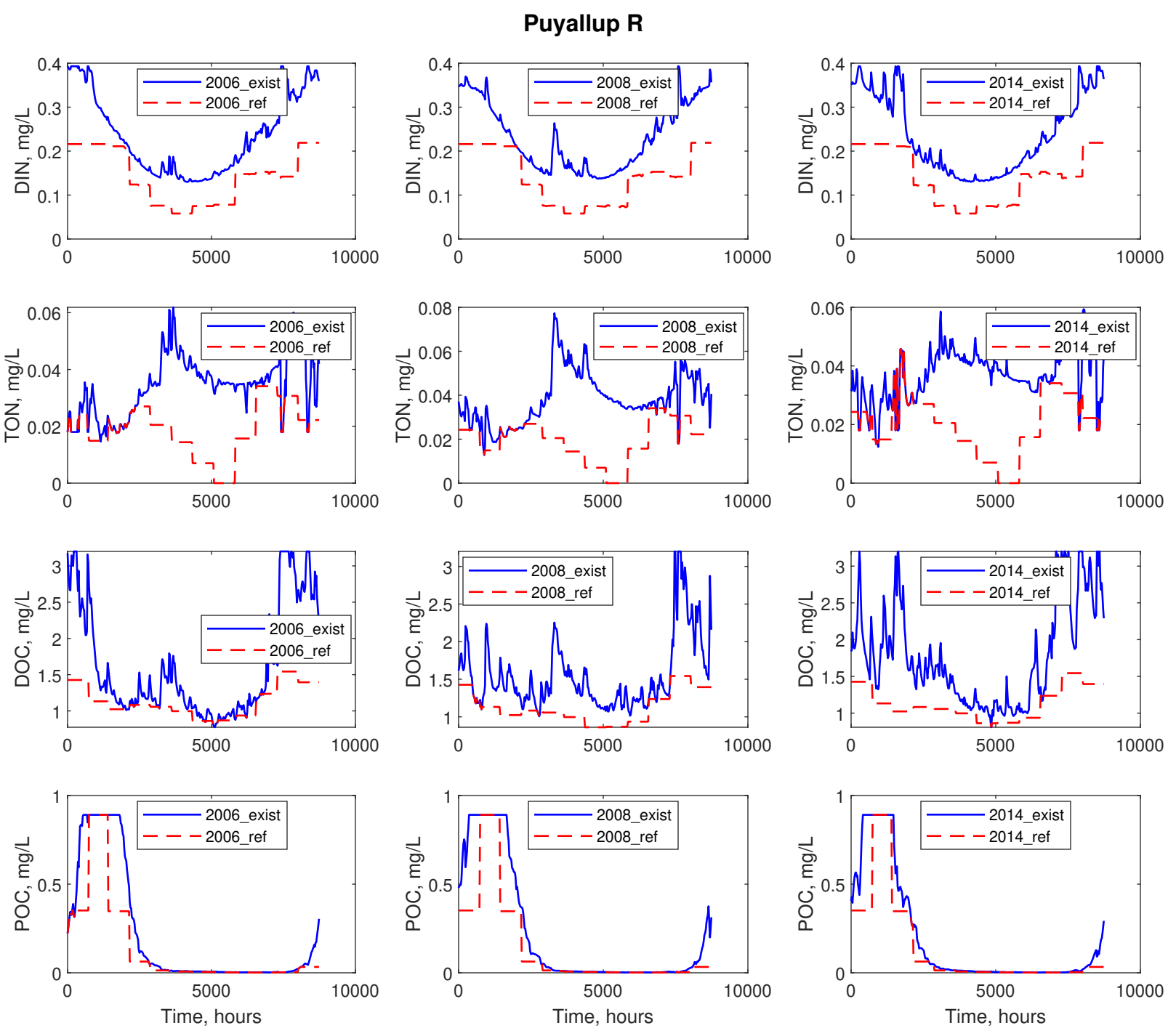

Wilson Pt
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
0.1
0.15
0.2
0.25
0.3
0.05
2
4
6
0.4
0.6

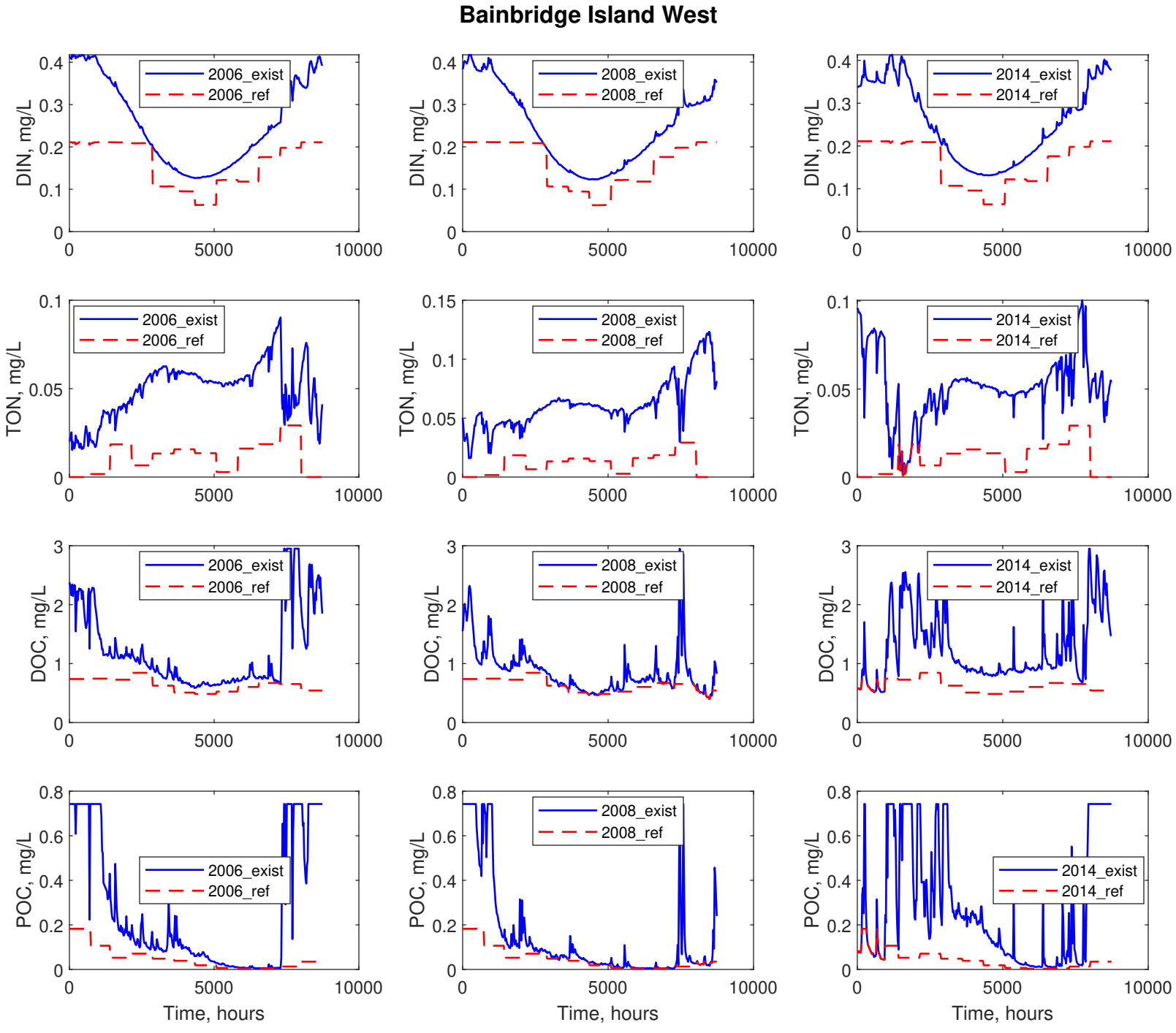

Woodard Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
Time, hours

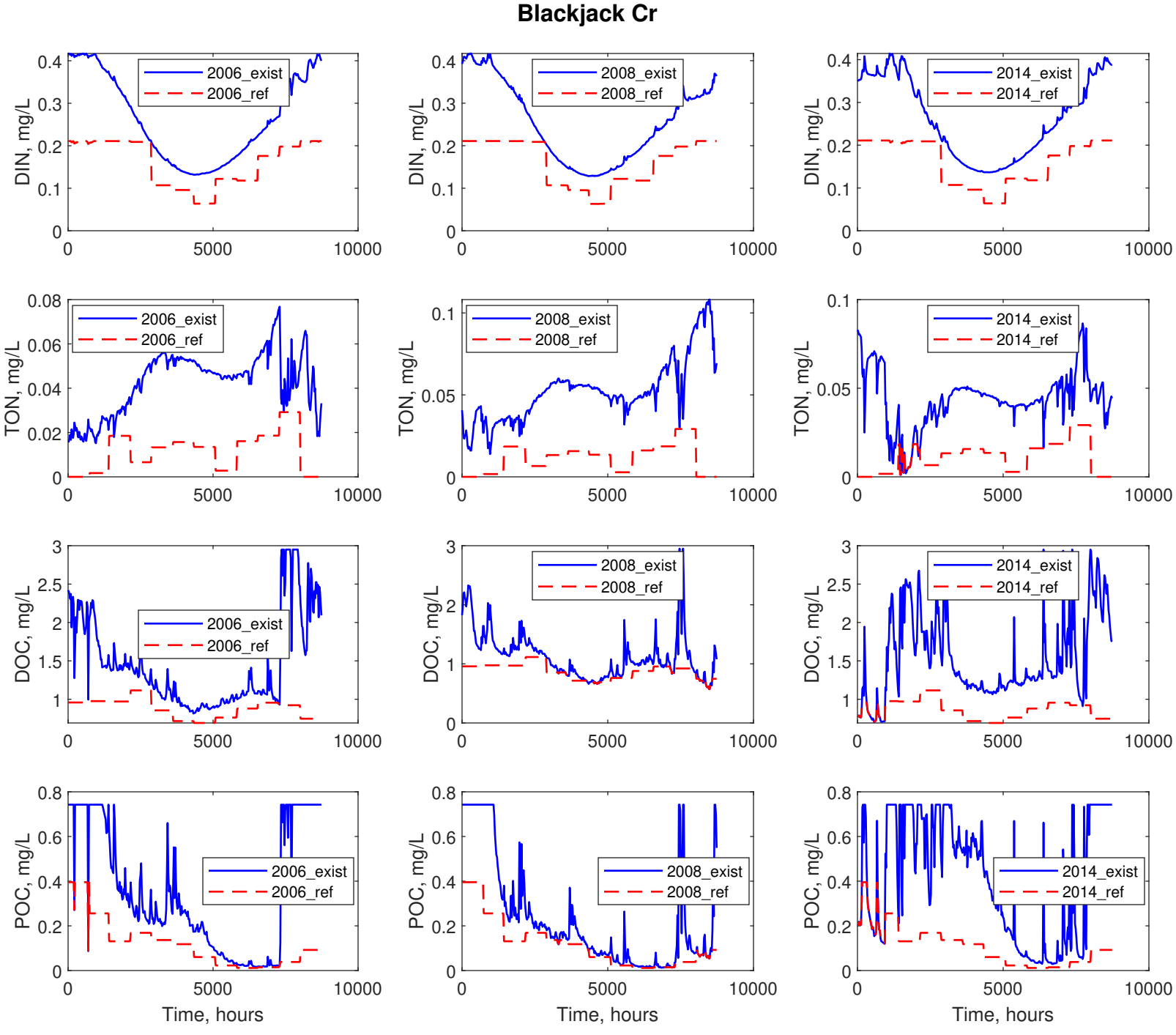

Woodland Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

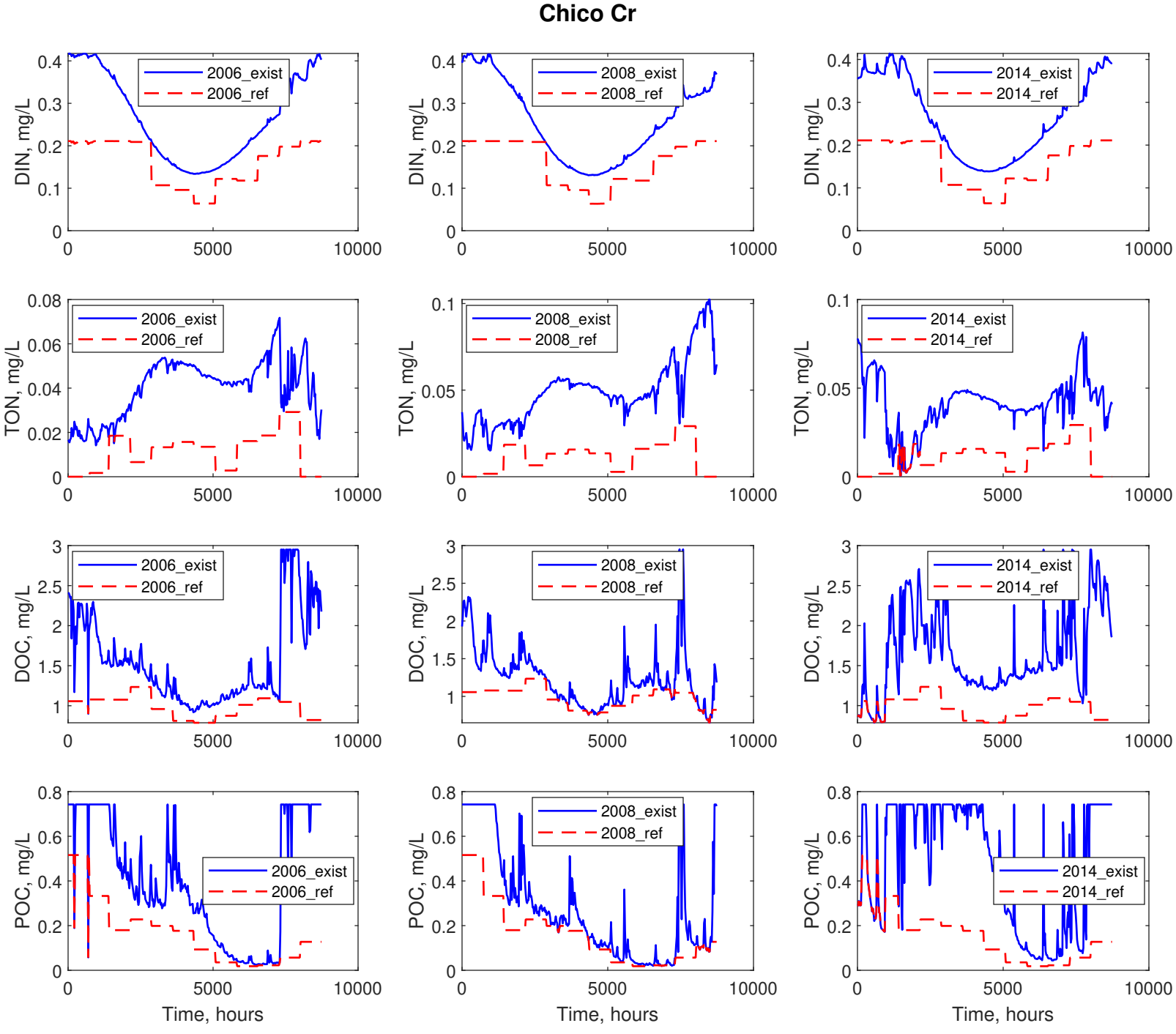

Young Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

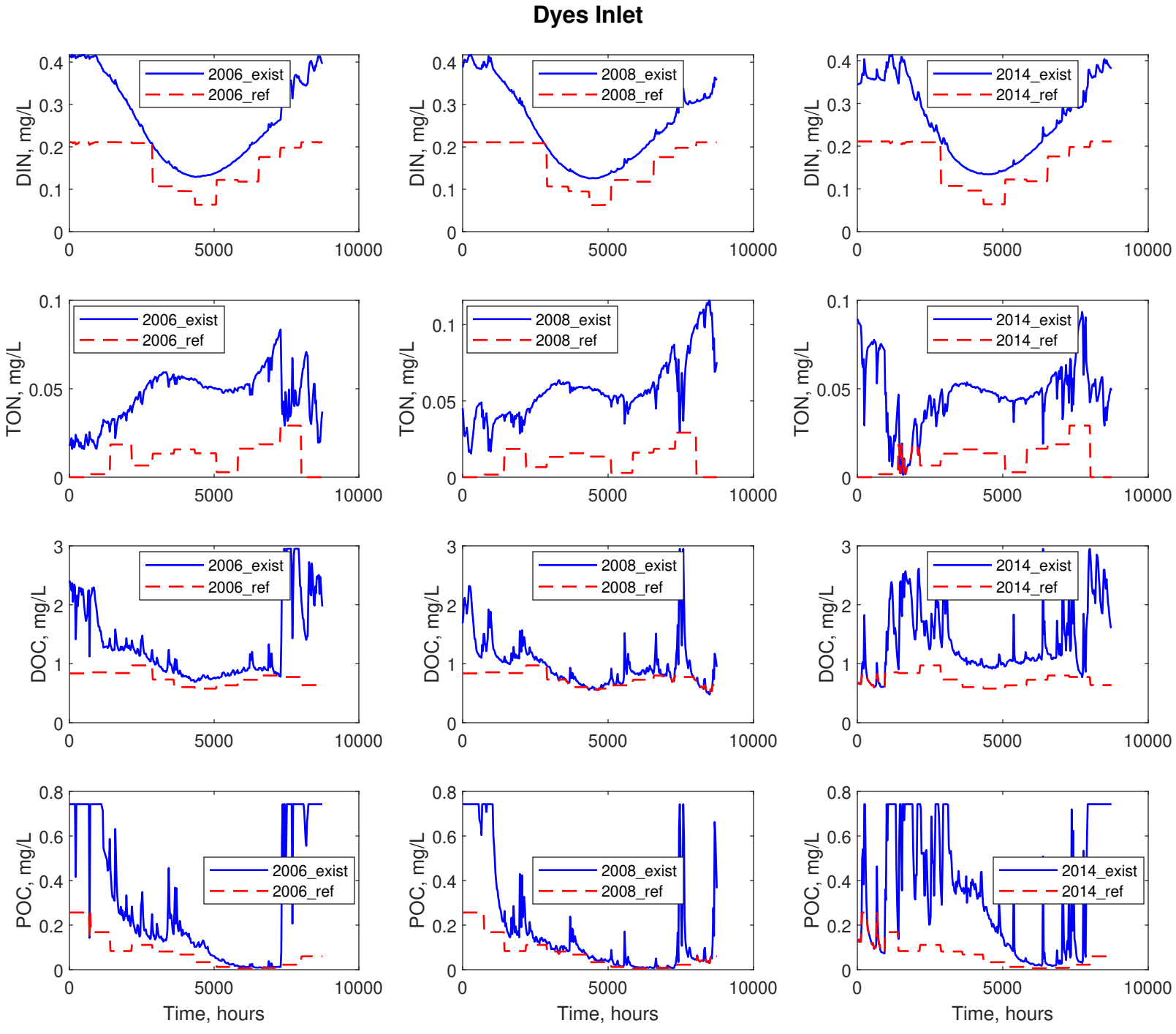

Hylebos Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

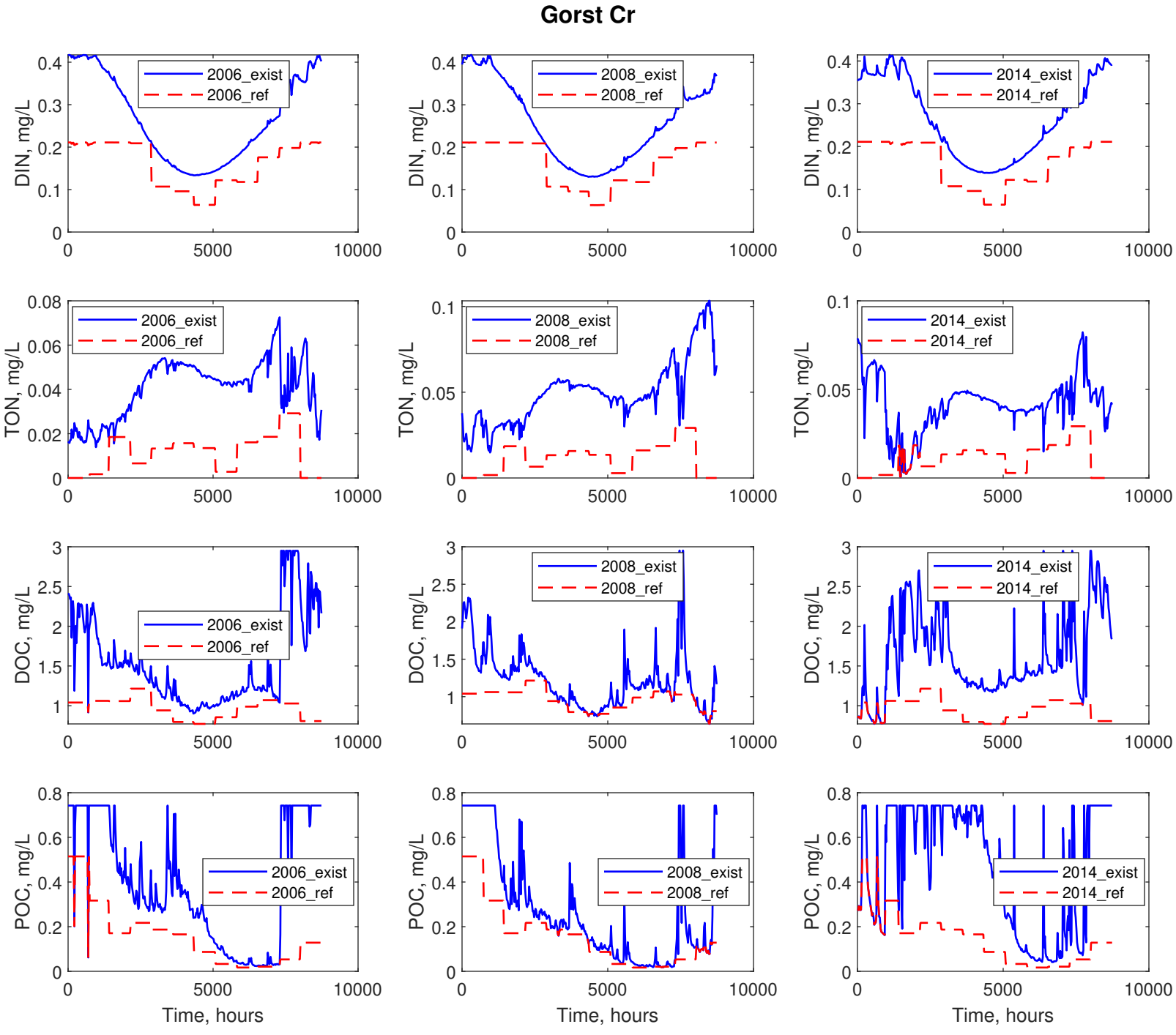

Puyallup R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

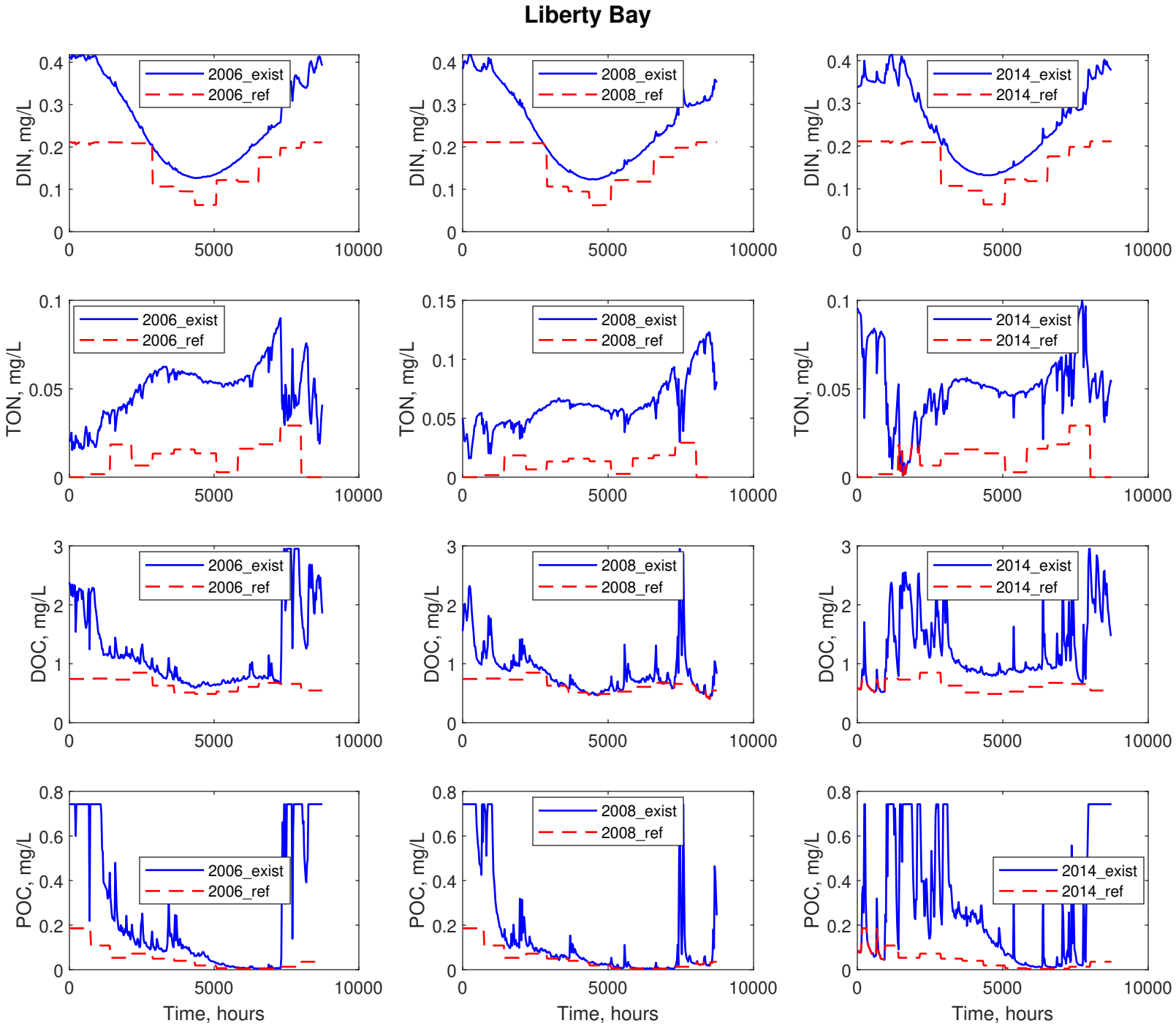

Bainbridge Island West
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

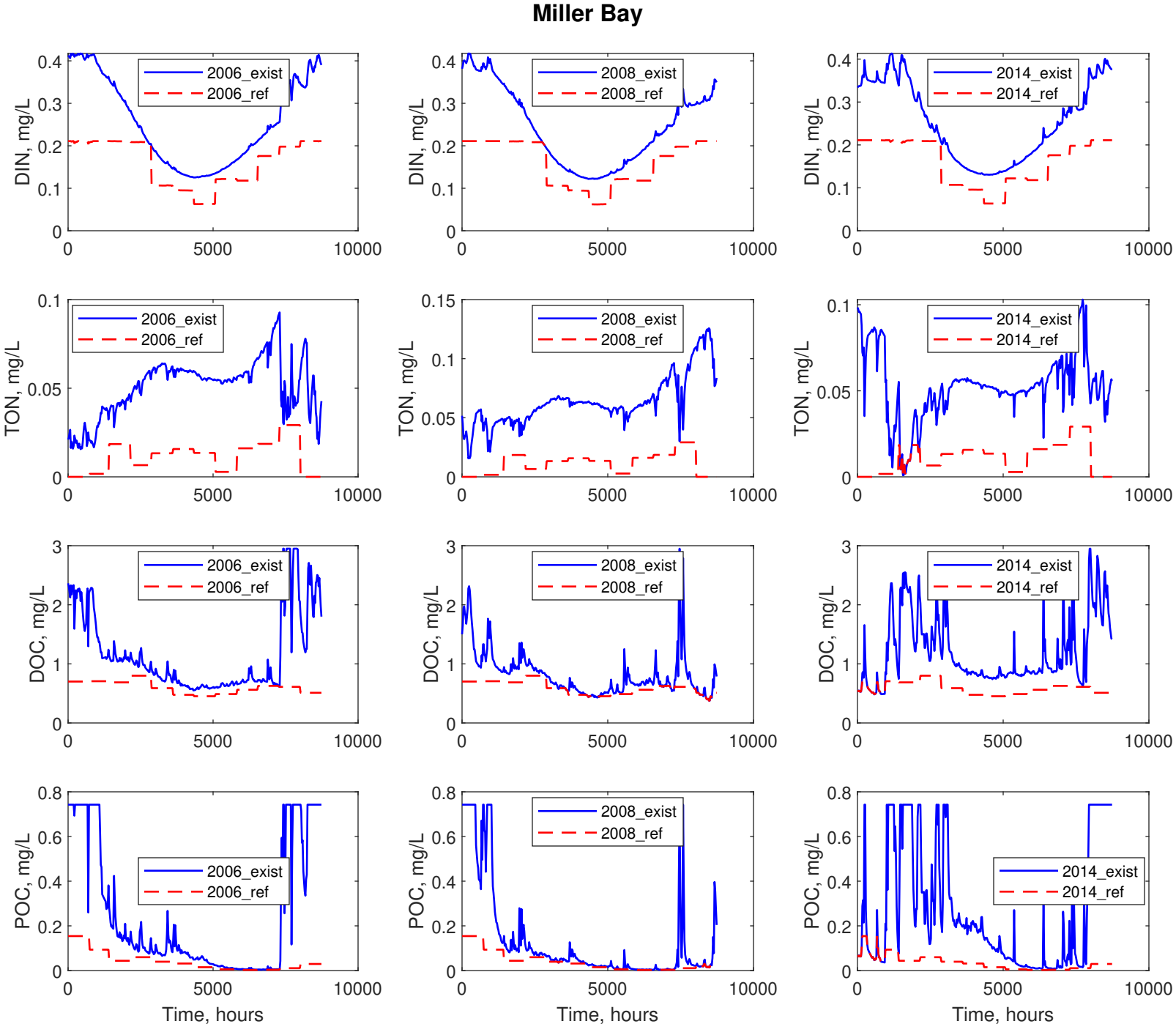

Blackjack Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

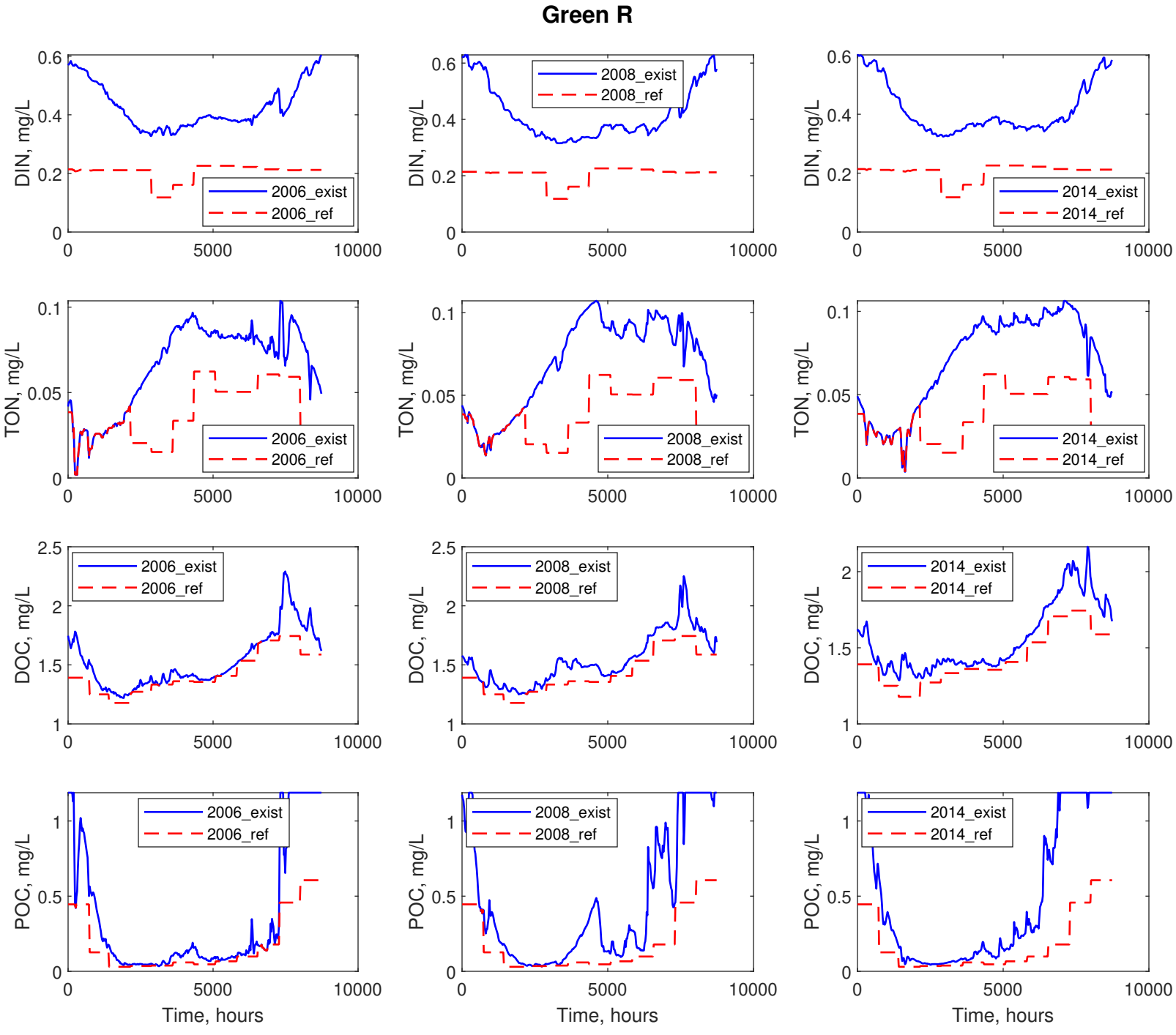

Chico Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

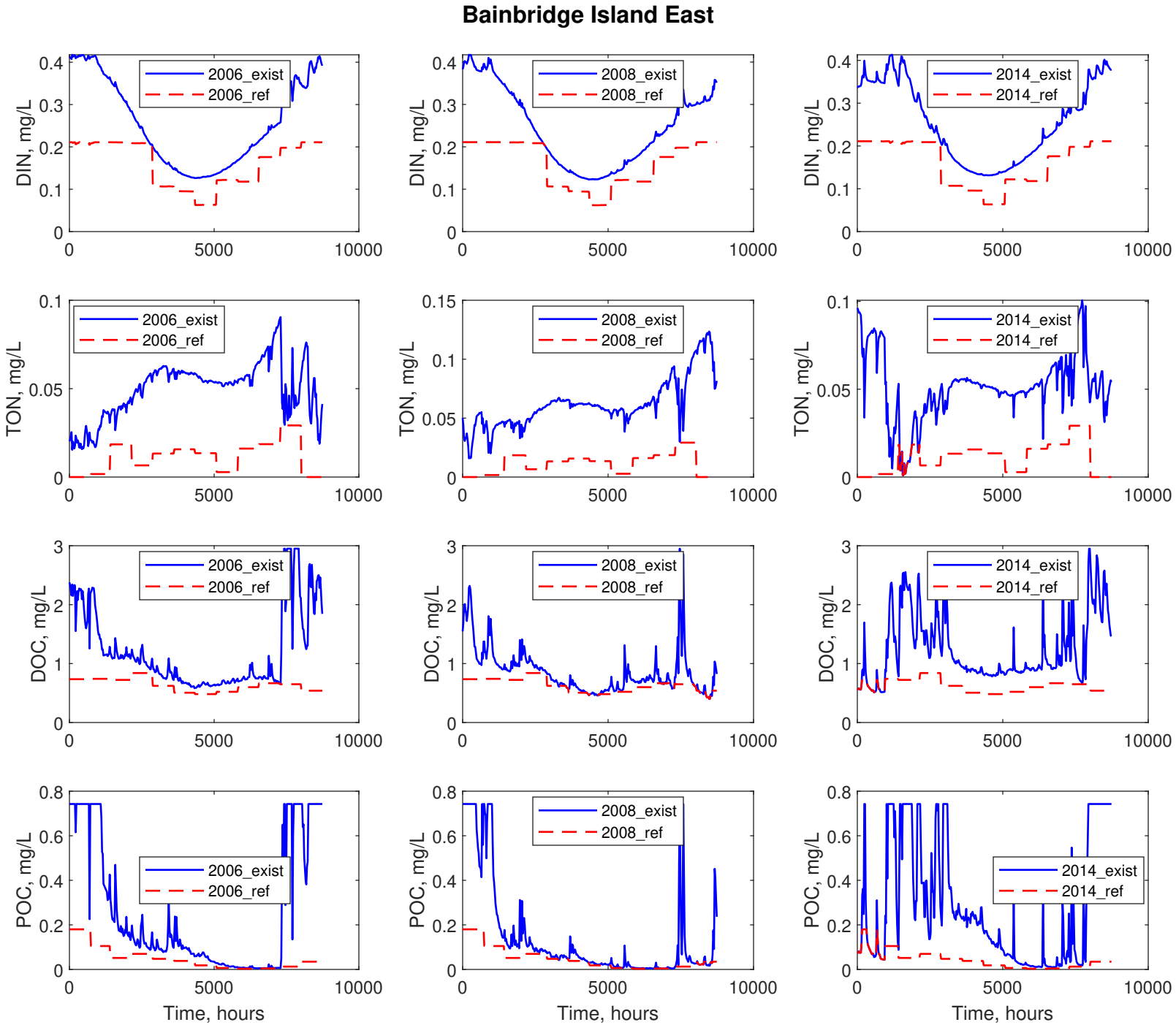

Dyes Inlet
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

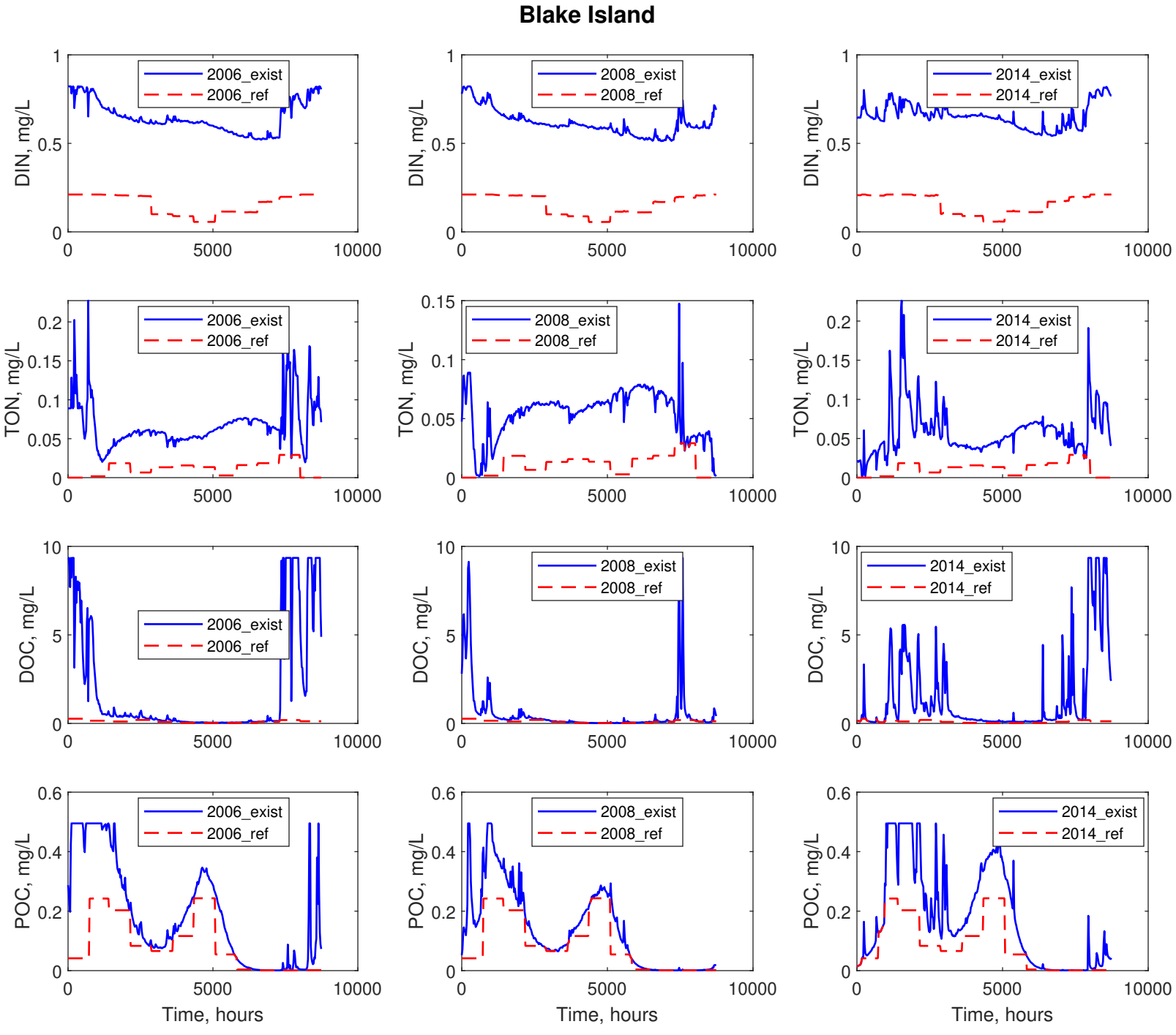

Gorst Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

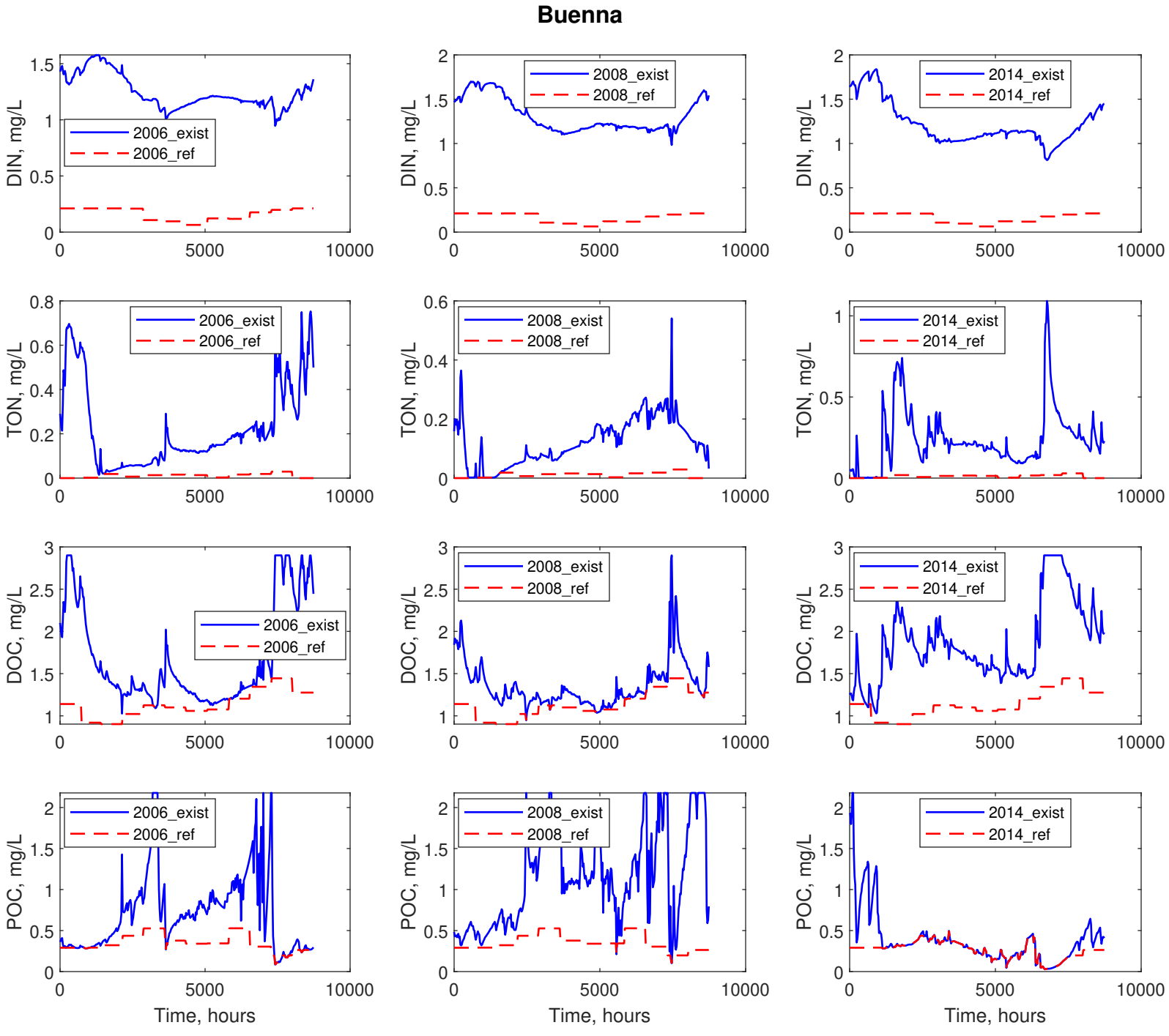

Liberty Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

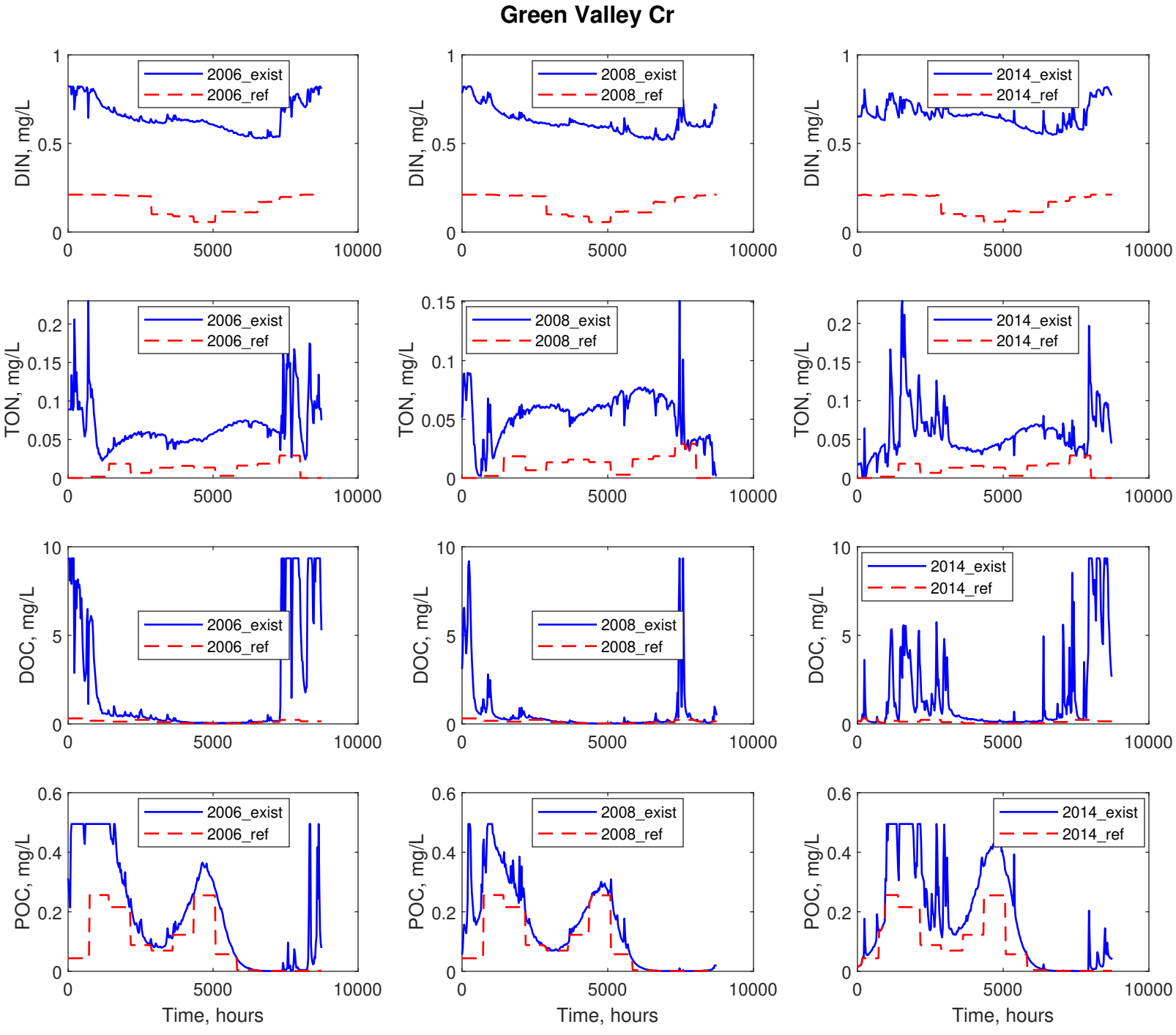

Miller Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

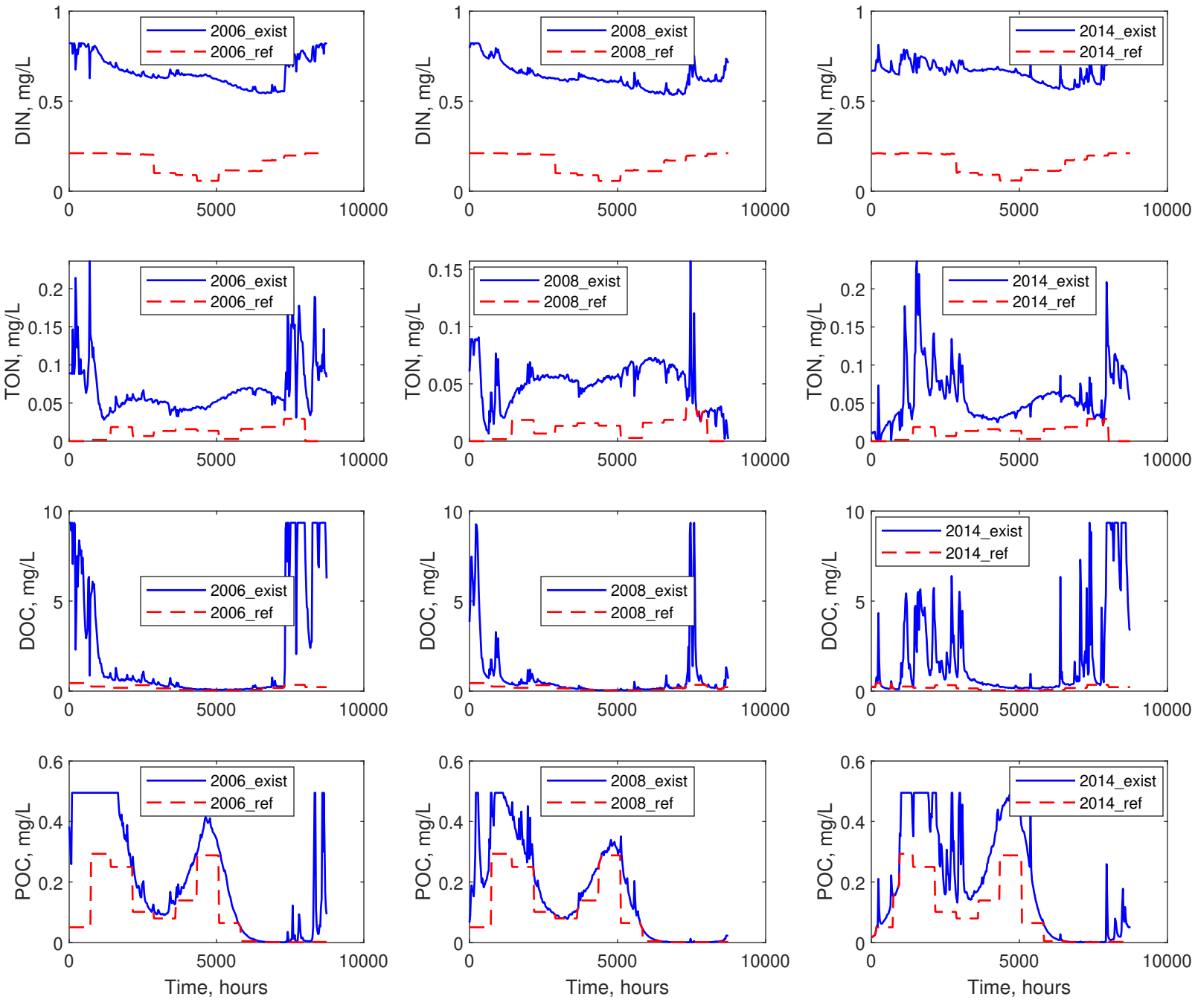

Green R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

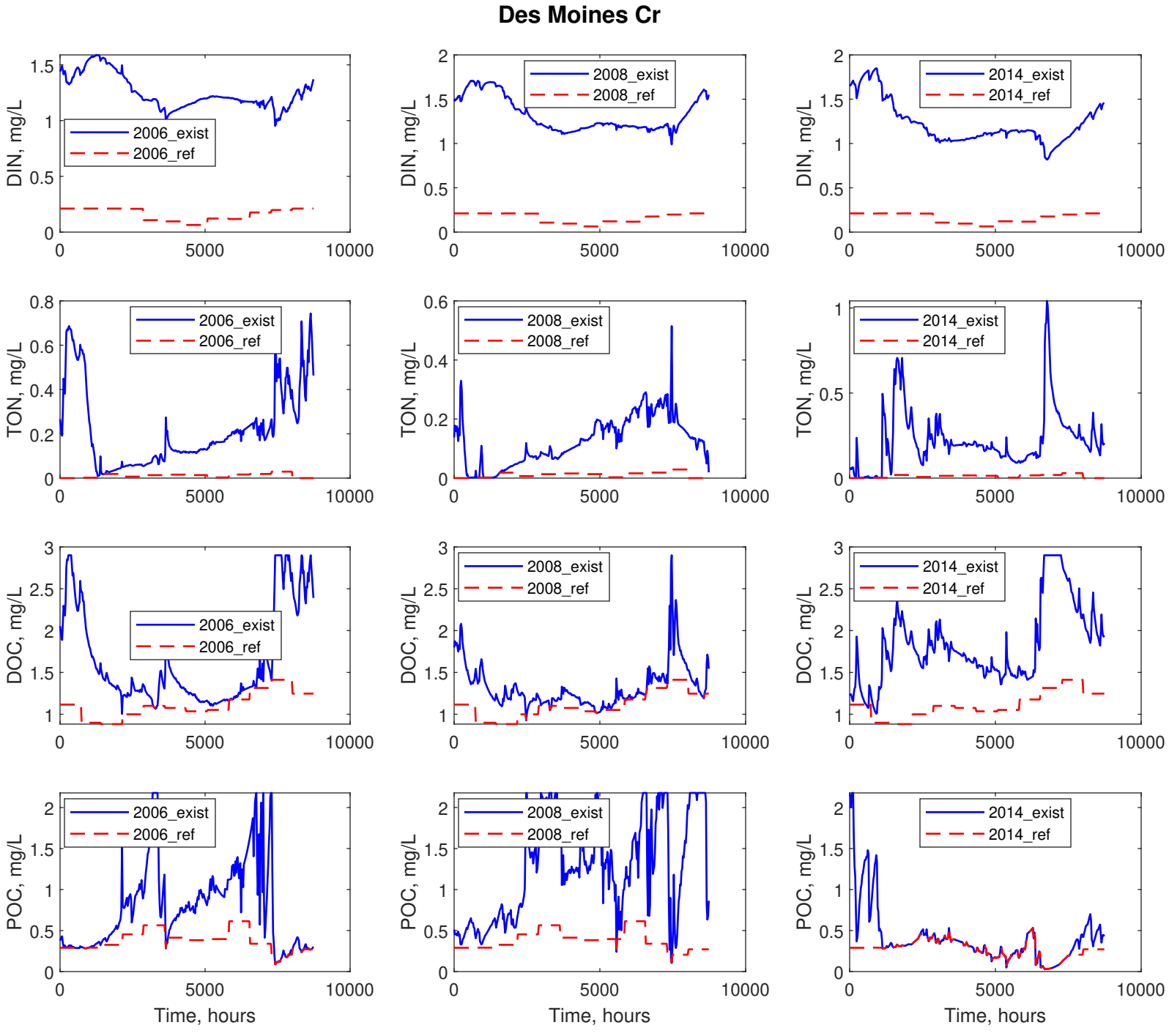

Bainbridge Island East
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

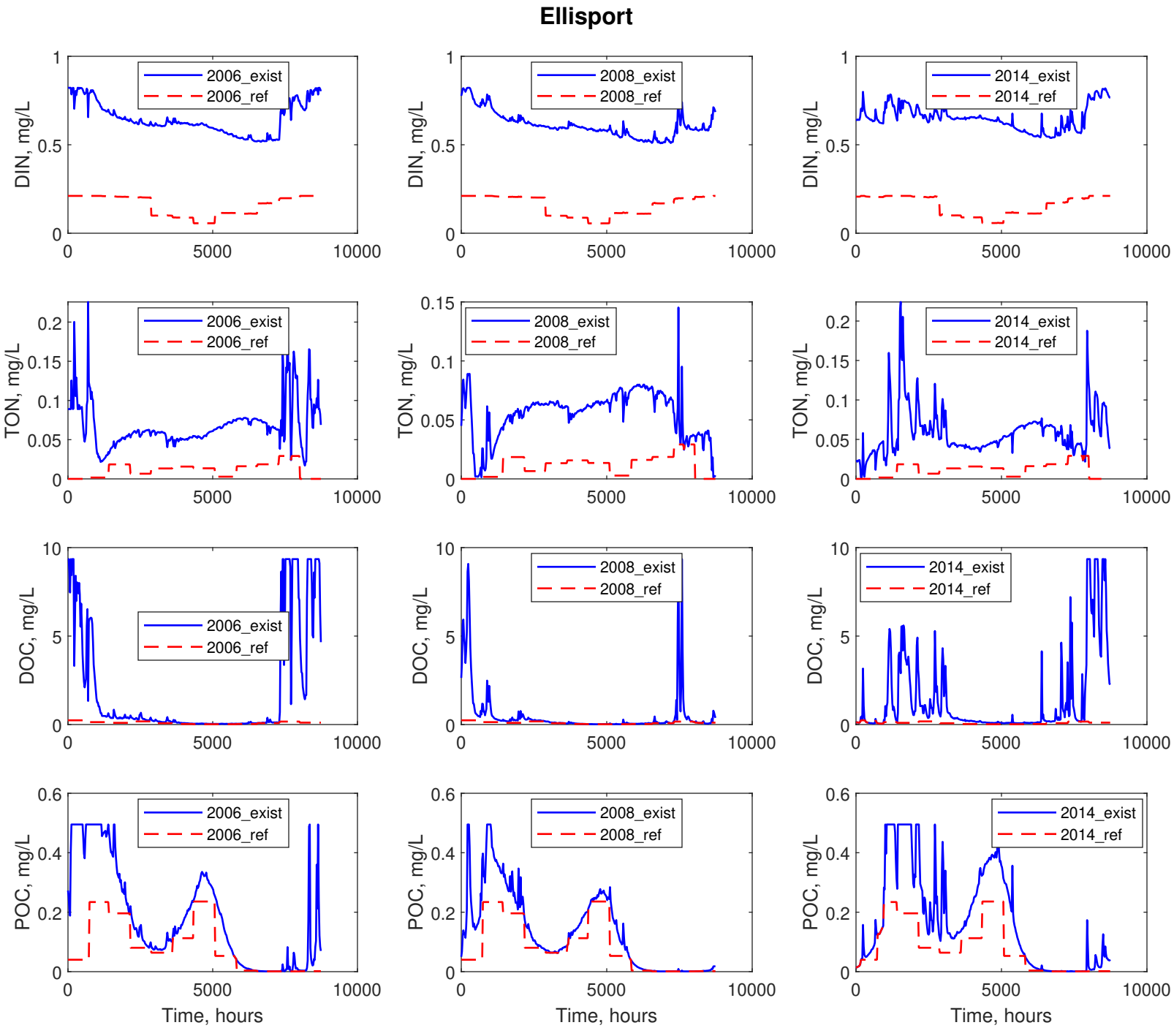

Blake Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

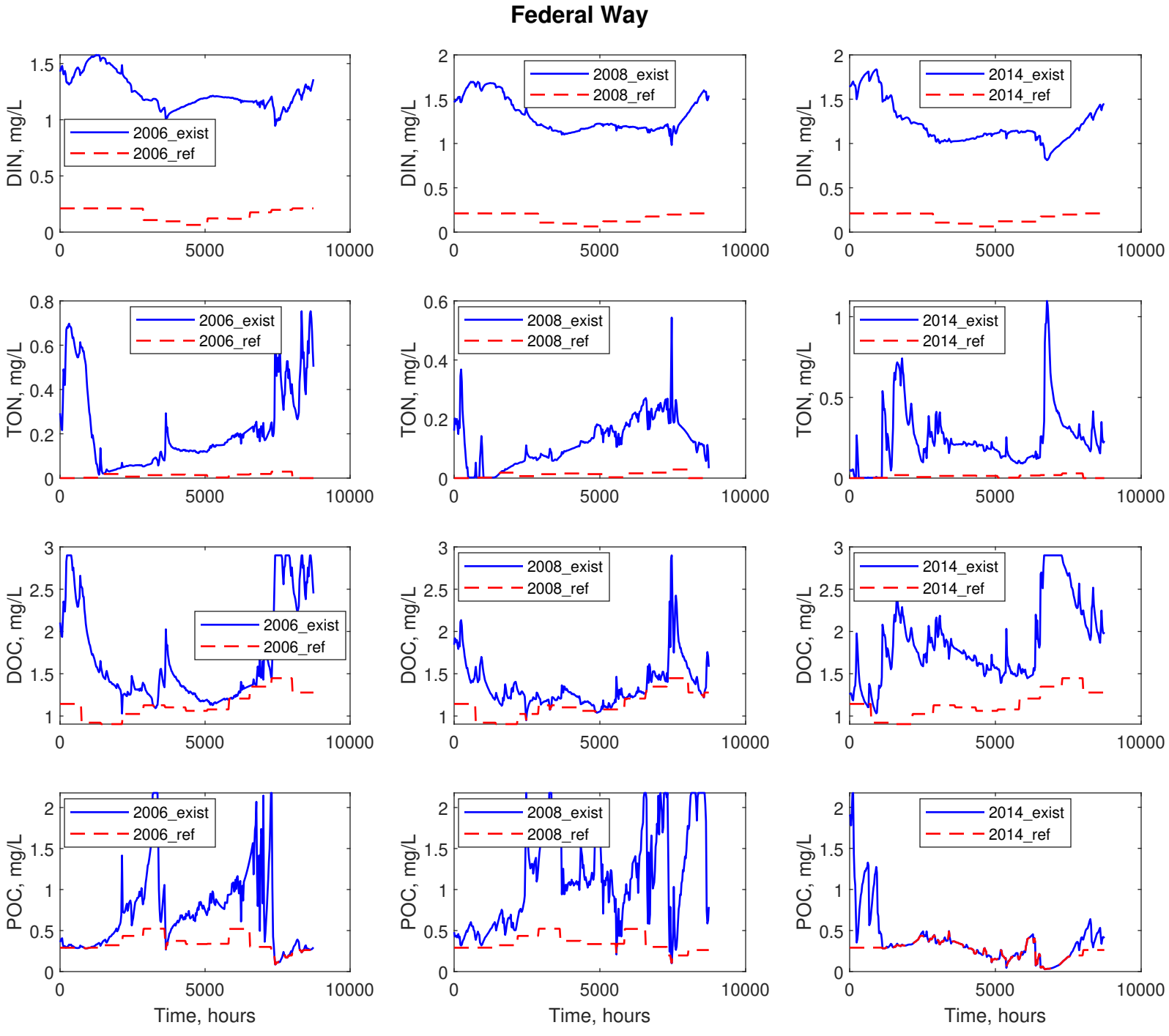

Buenna
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

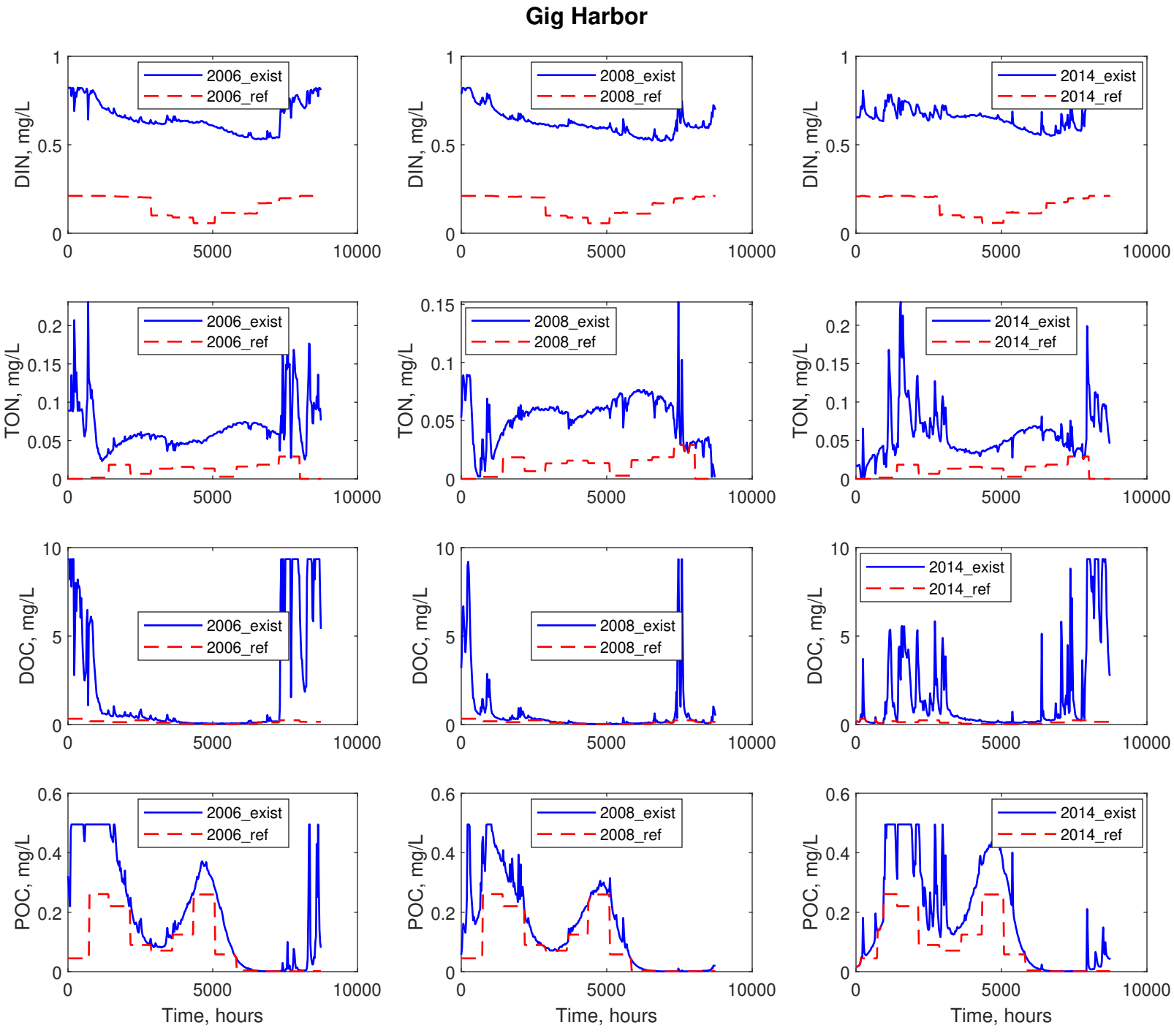

Green Valley Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

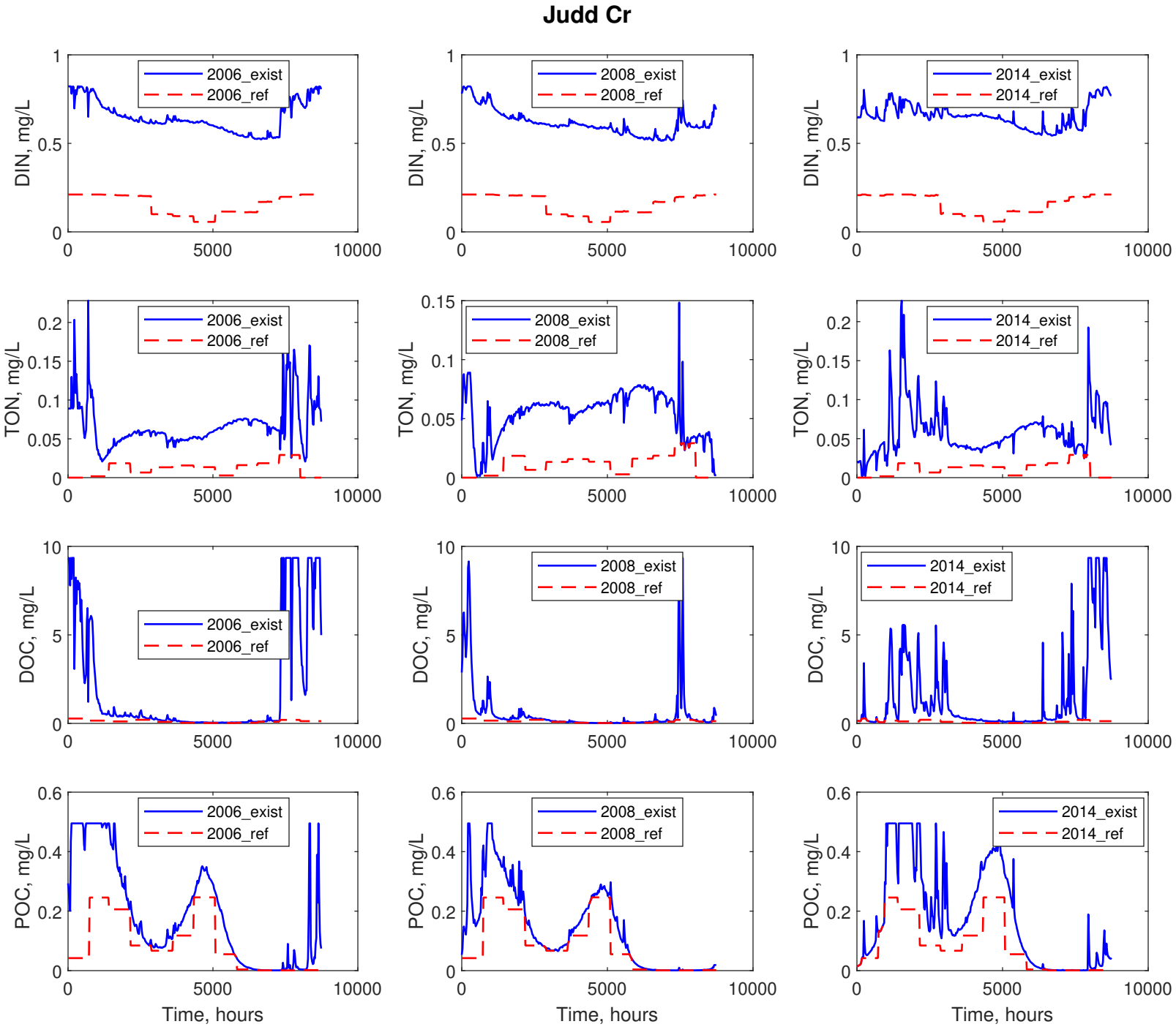

Curley Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

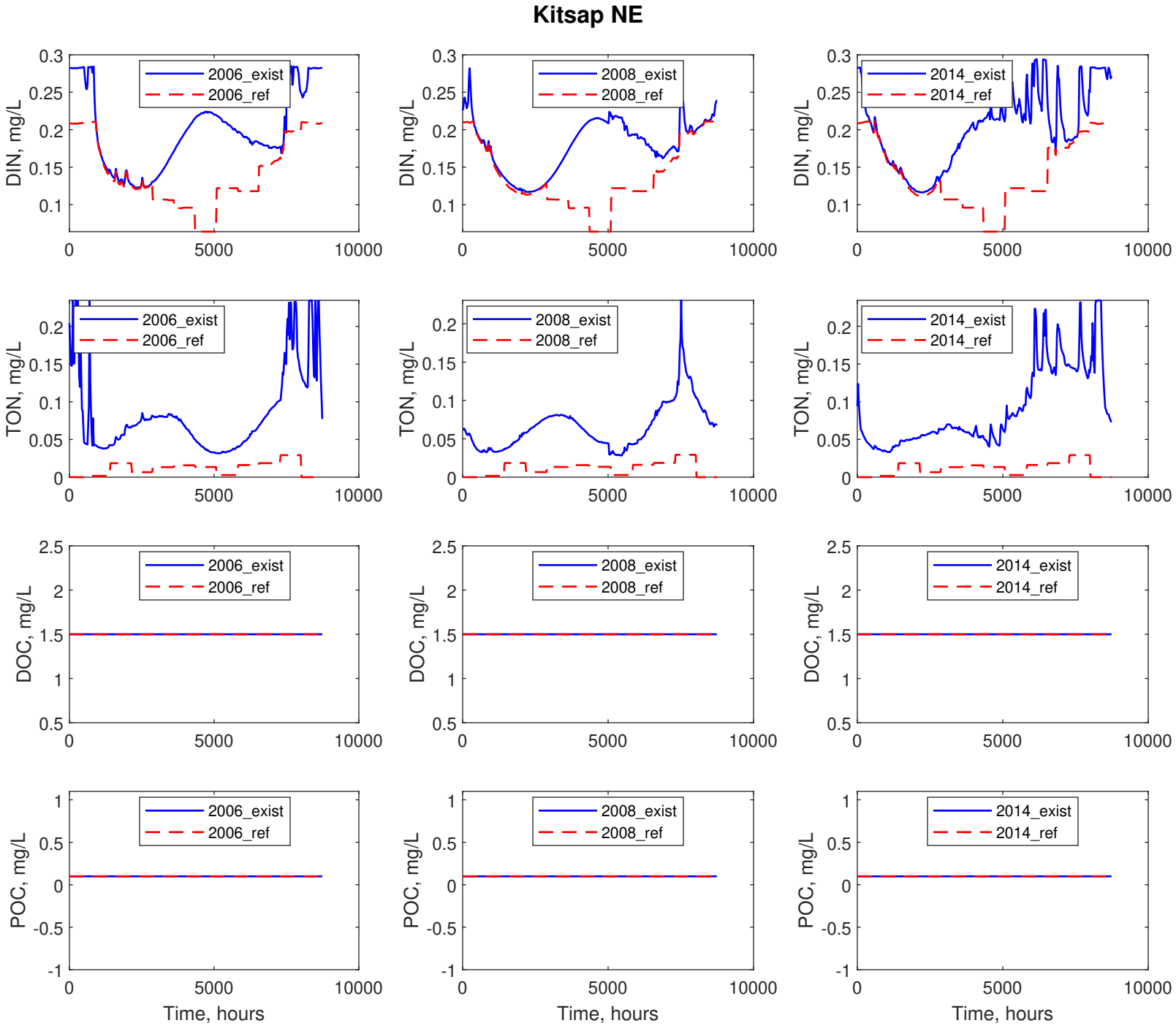

Des Moines Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

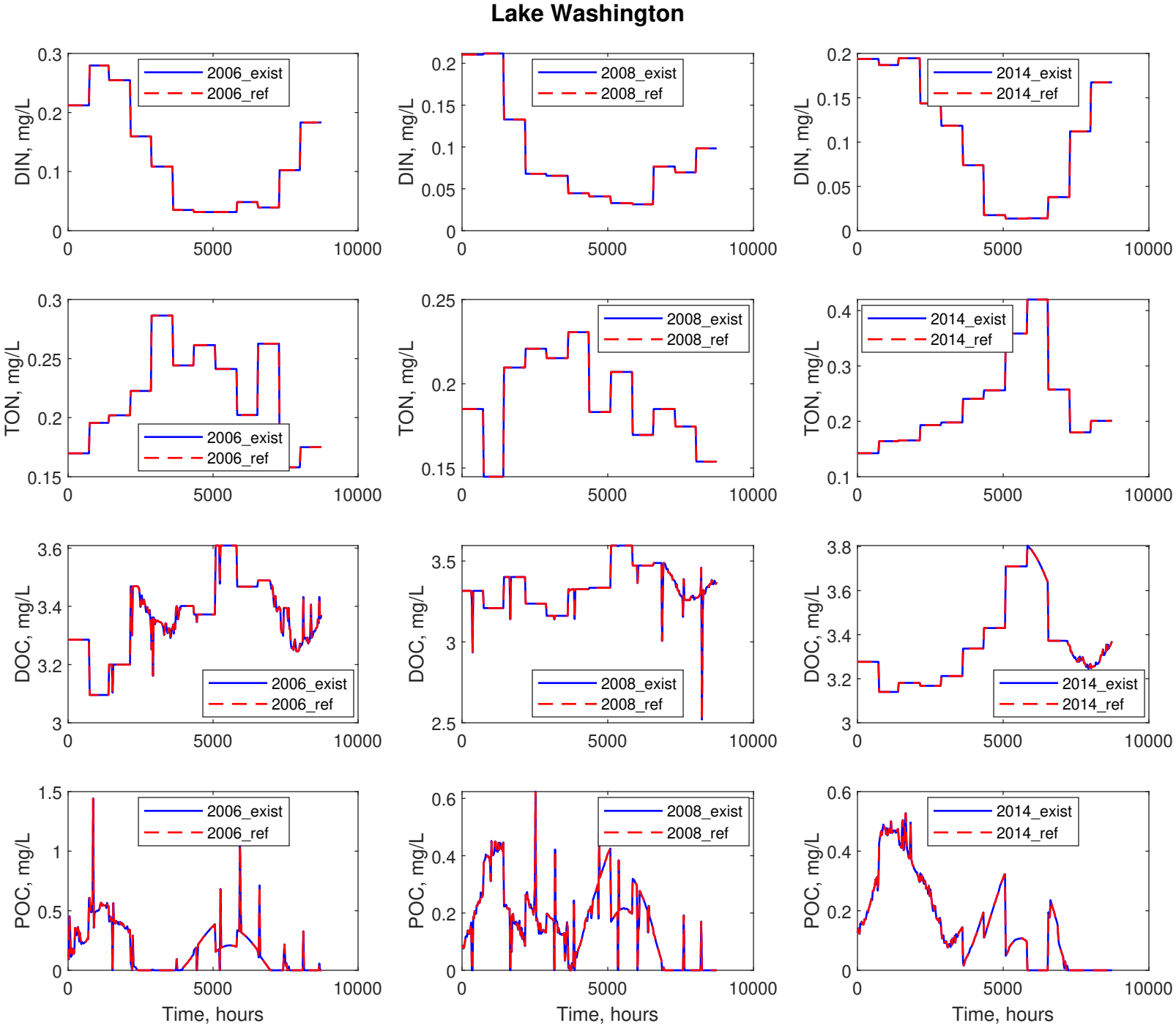

Ellisport
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

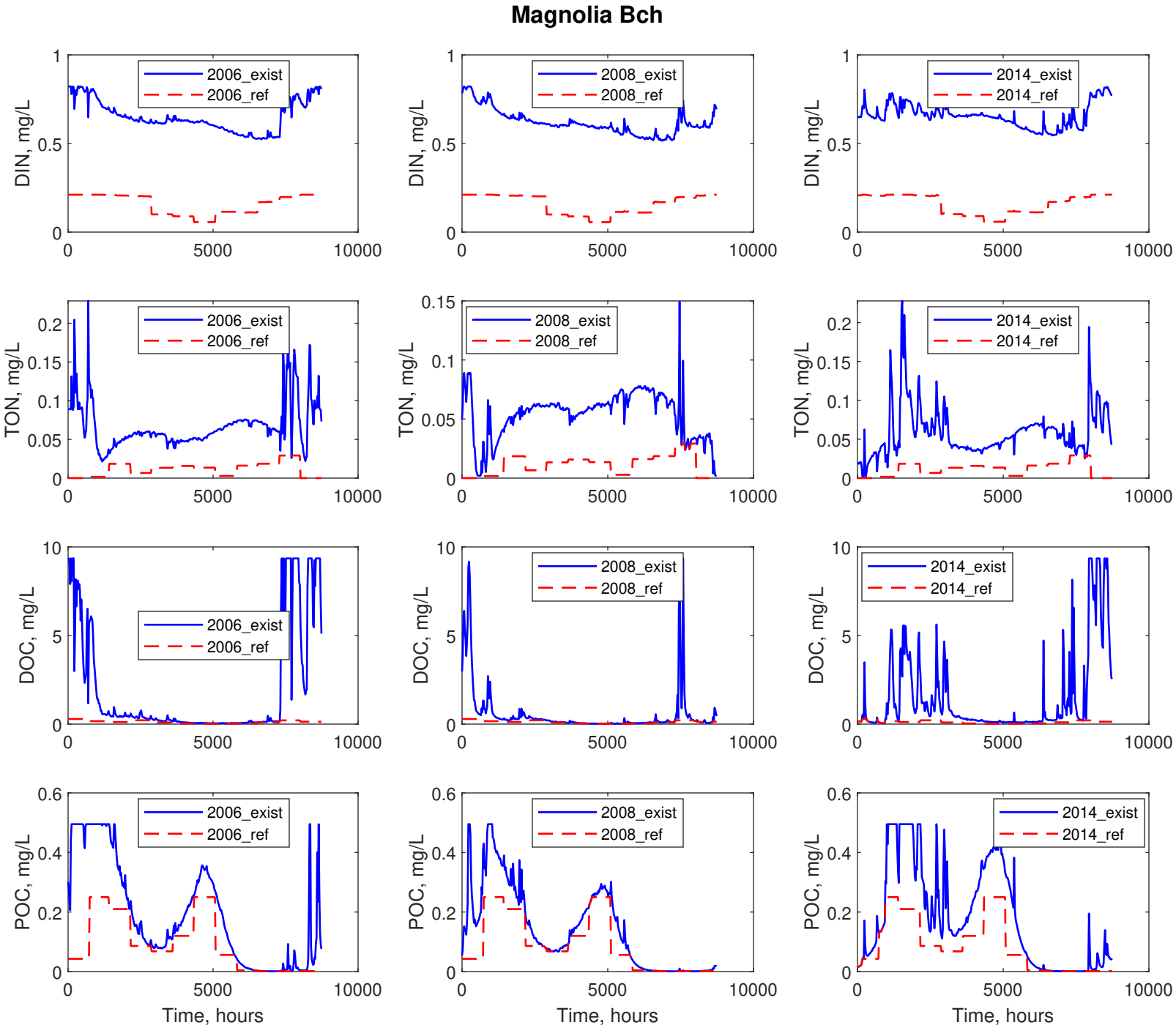

Federal Way
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

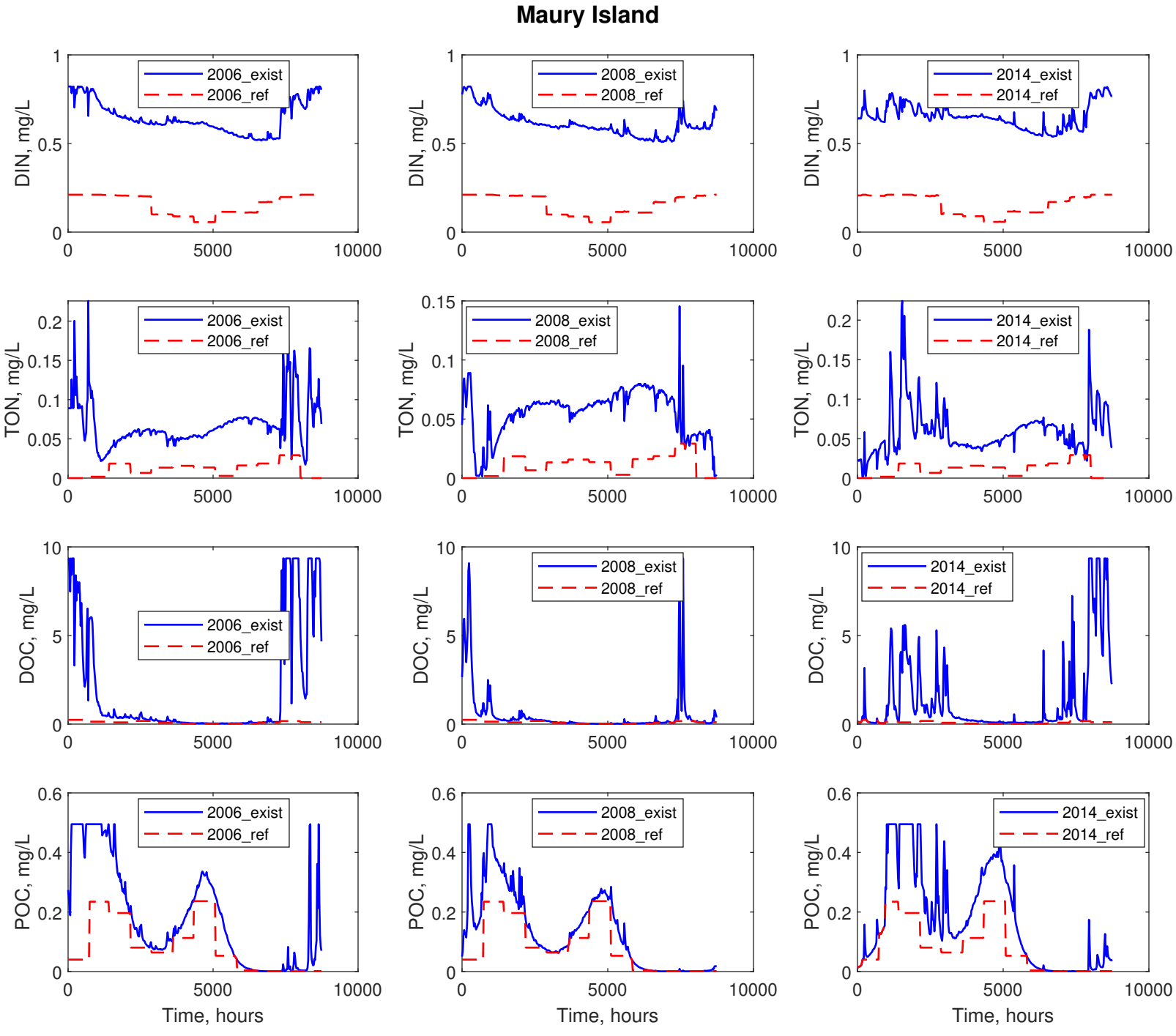

Gig Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

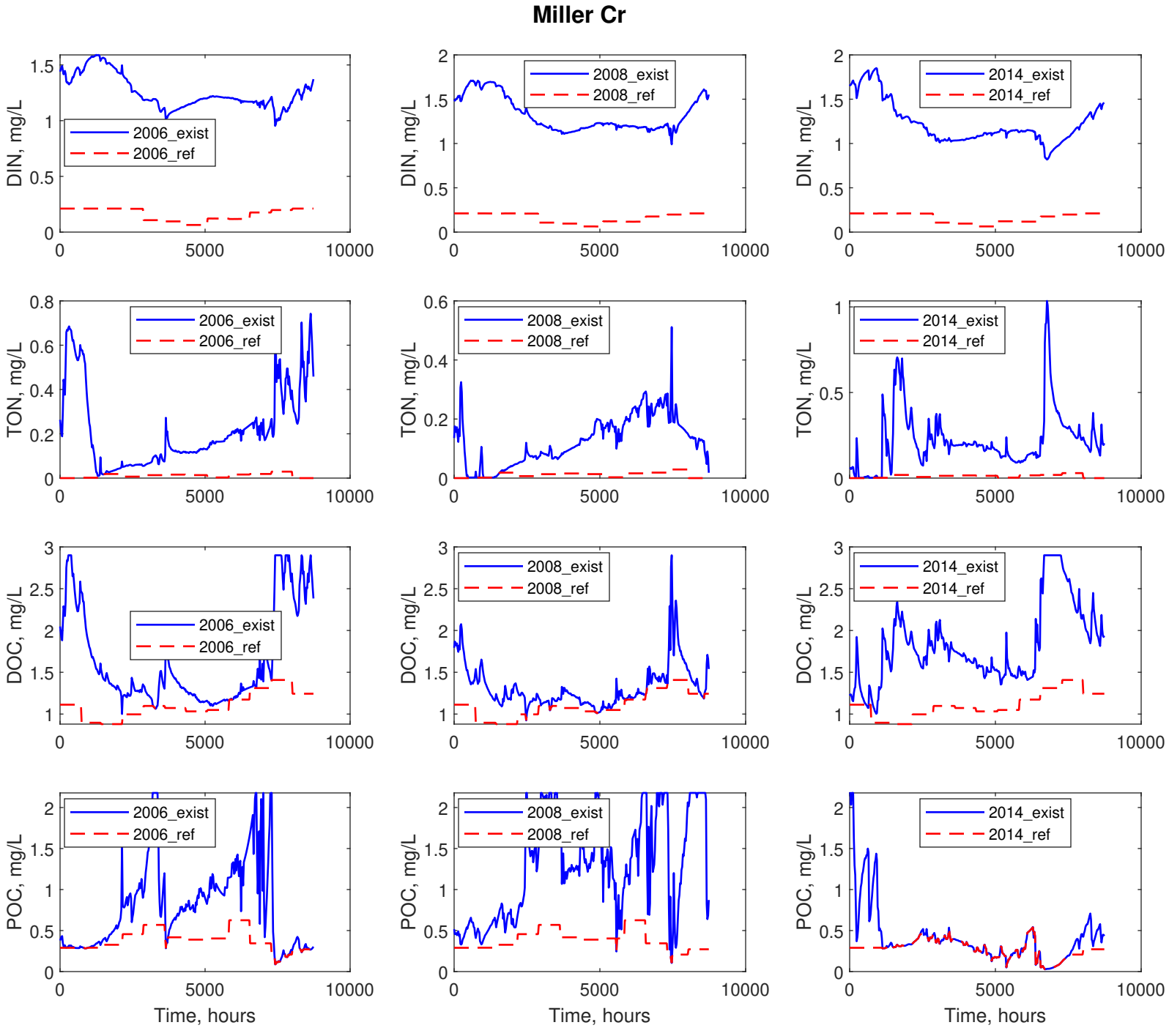

Judd Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

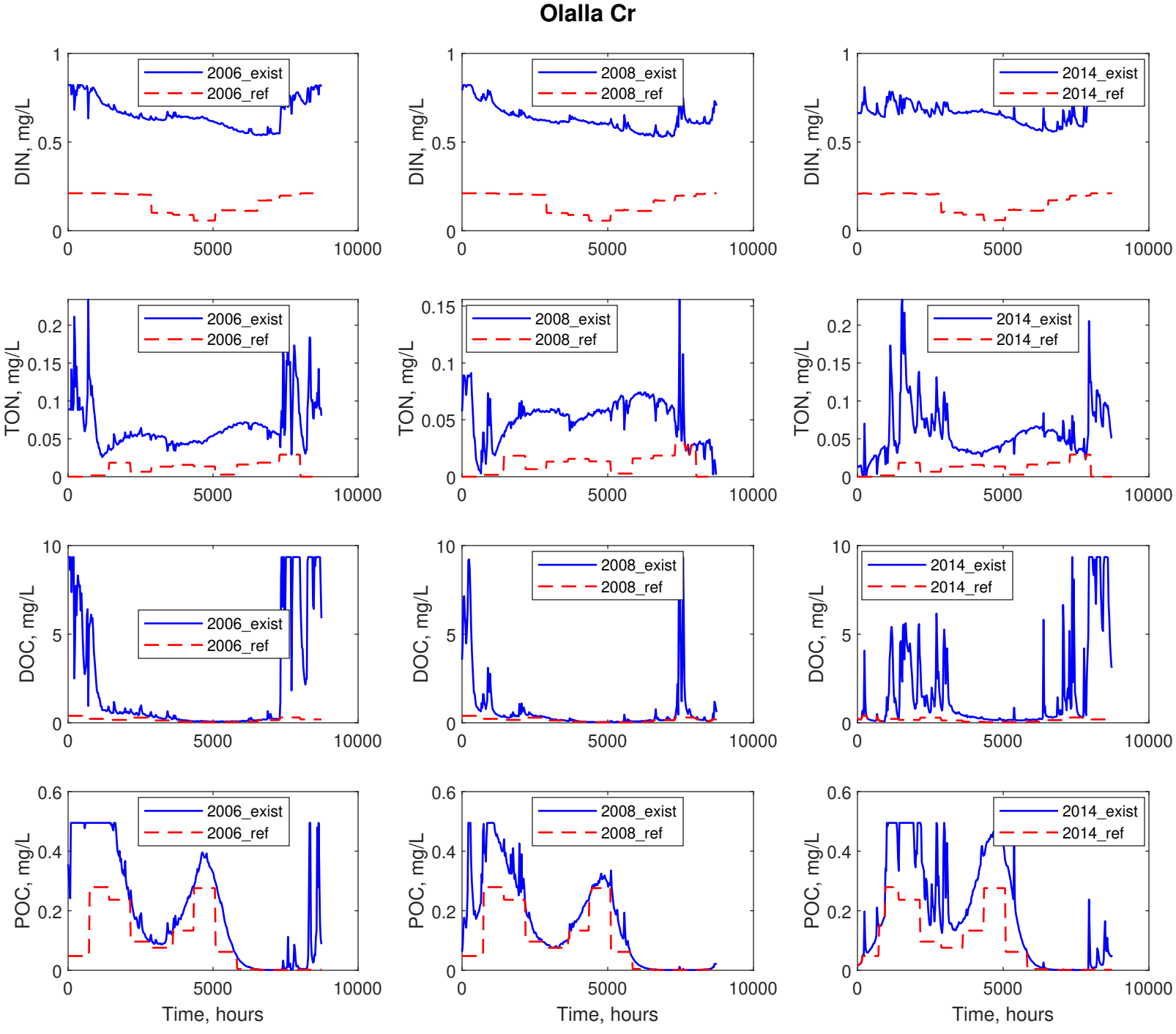

Kitsap NE
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

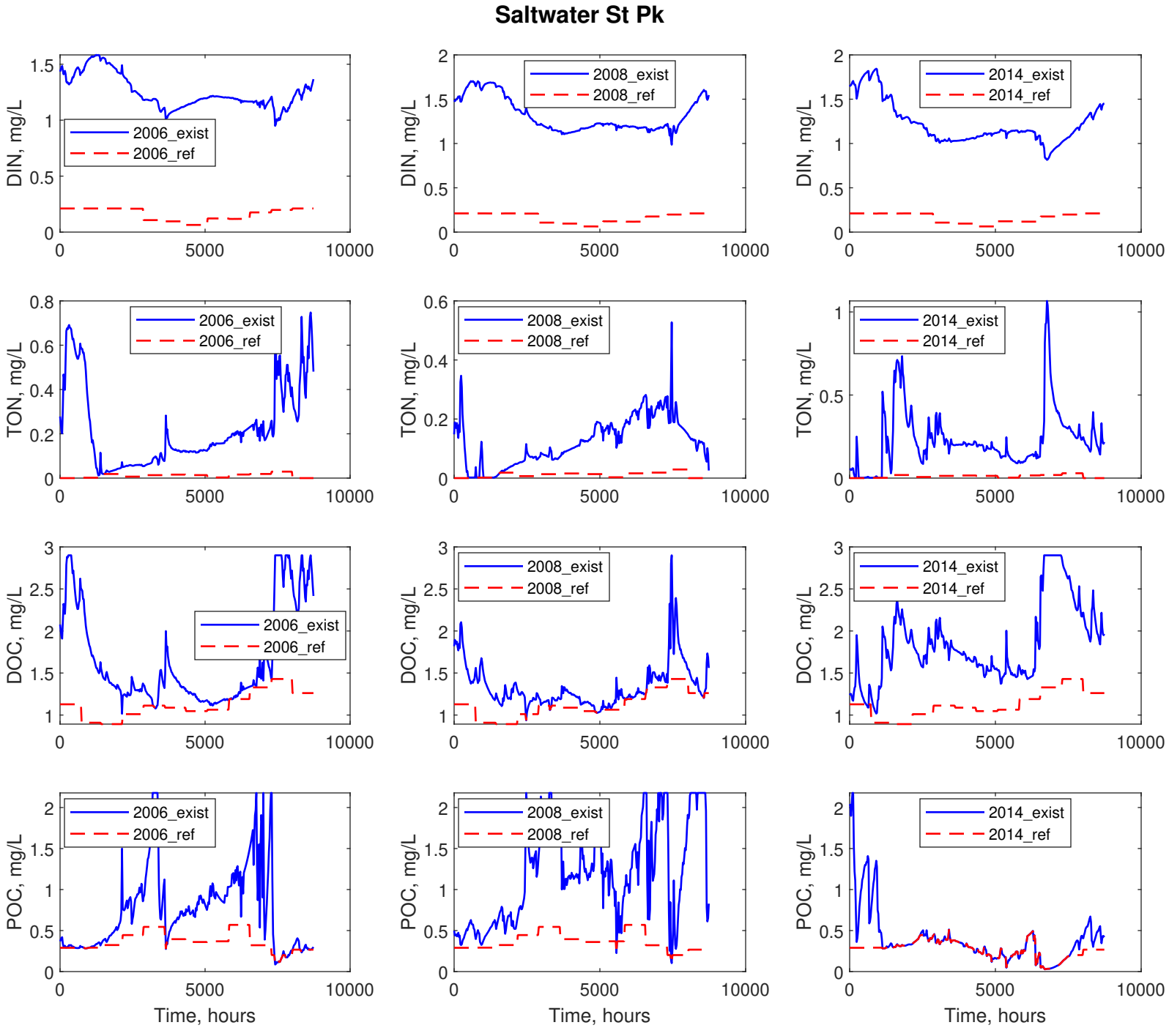

Lake Washington
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

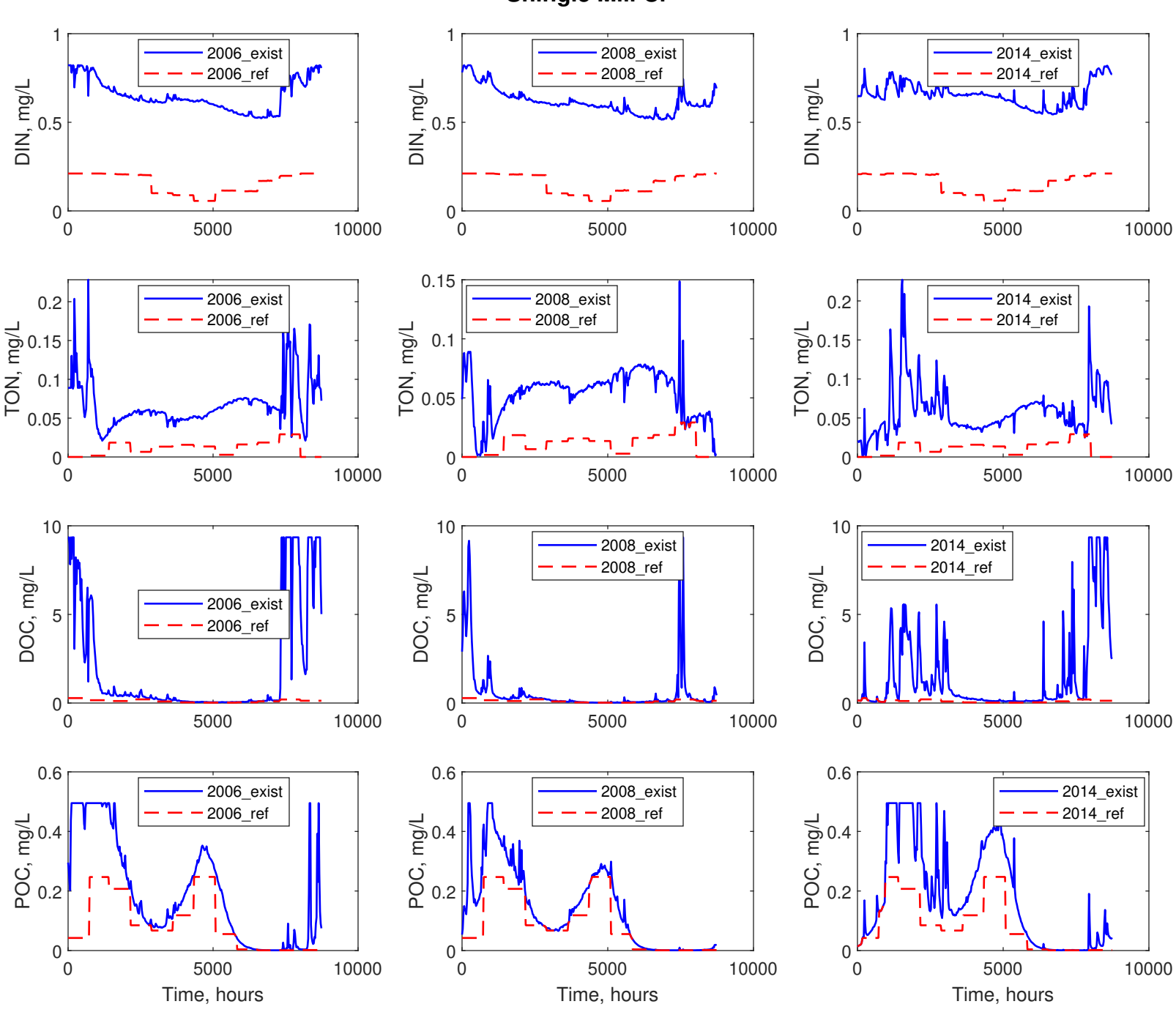

Magnolia Bch
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

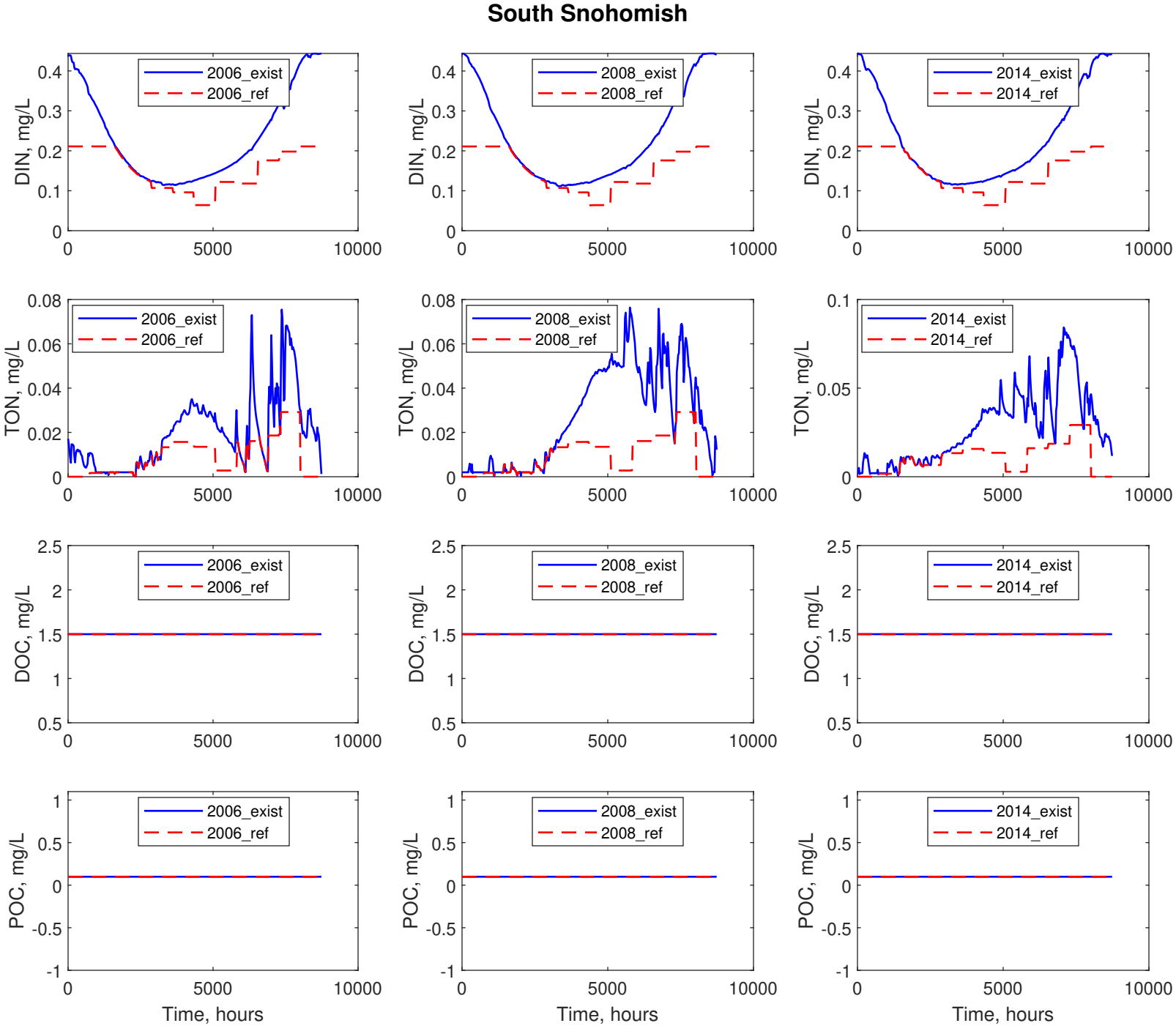

Maury Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

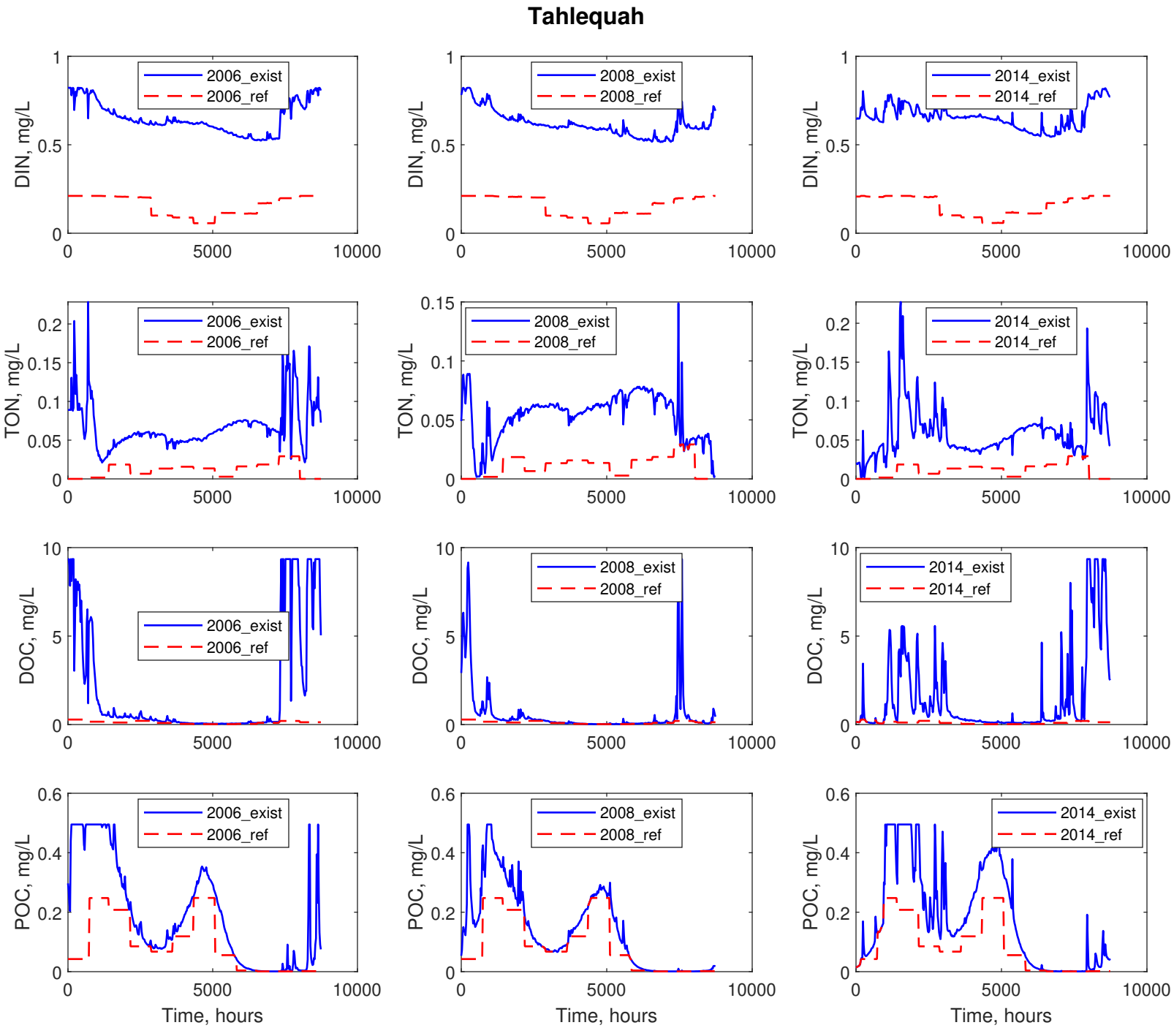

Miller Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

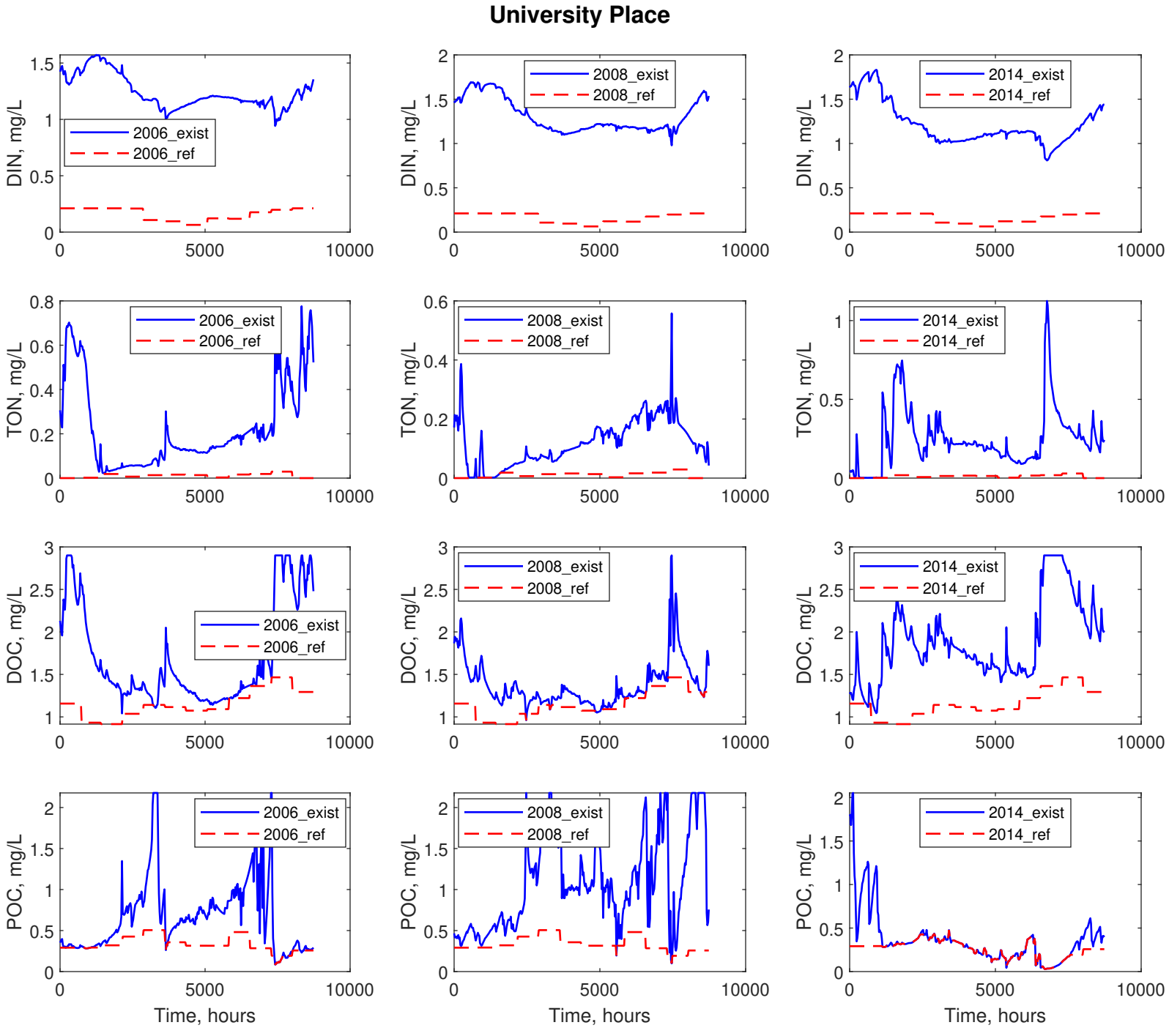

Olalla Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

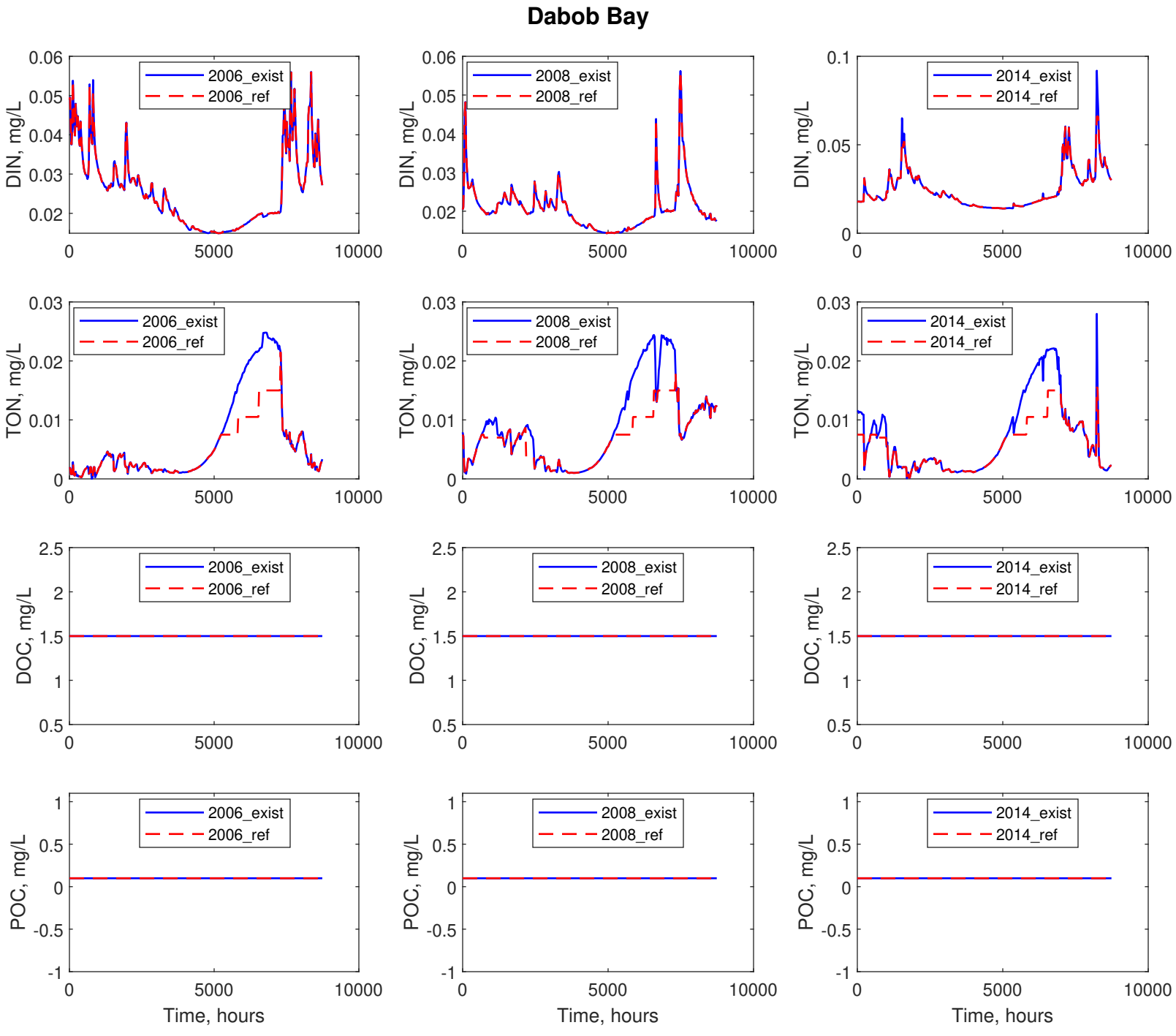

Saltwater St Pk
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

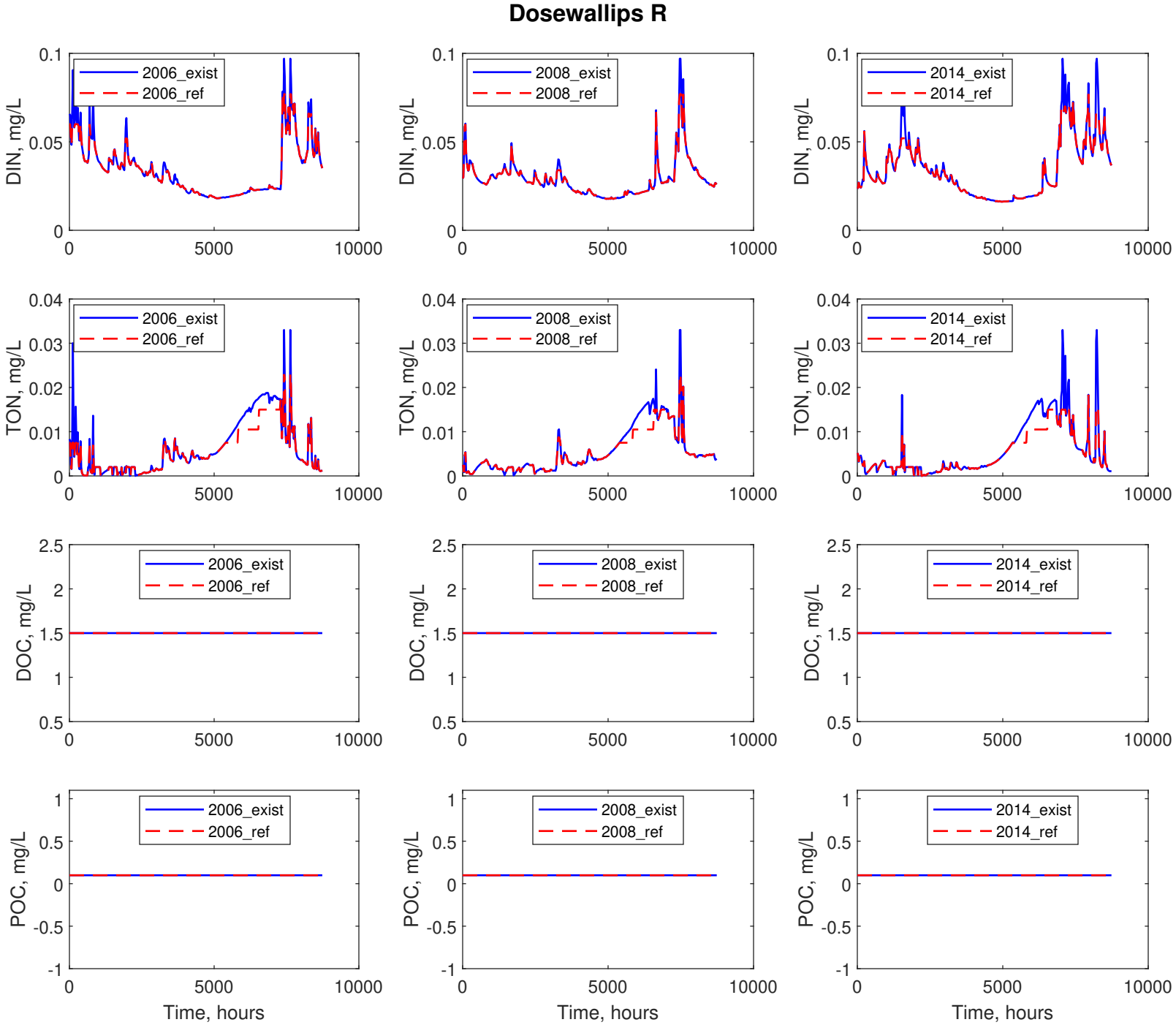

Shingle Mill Cr
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

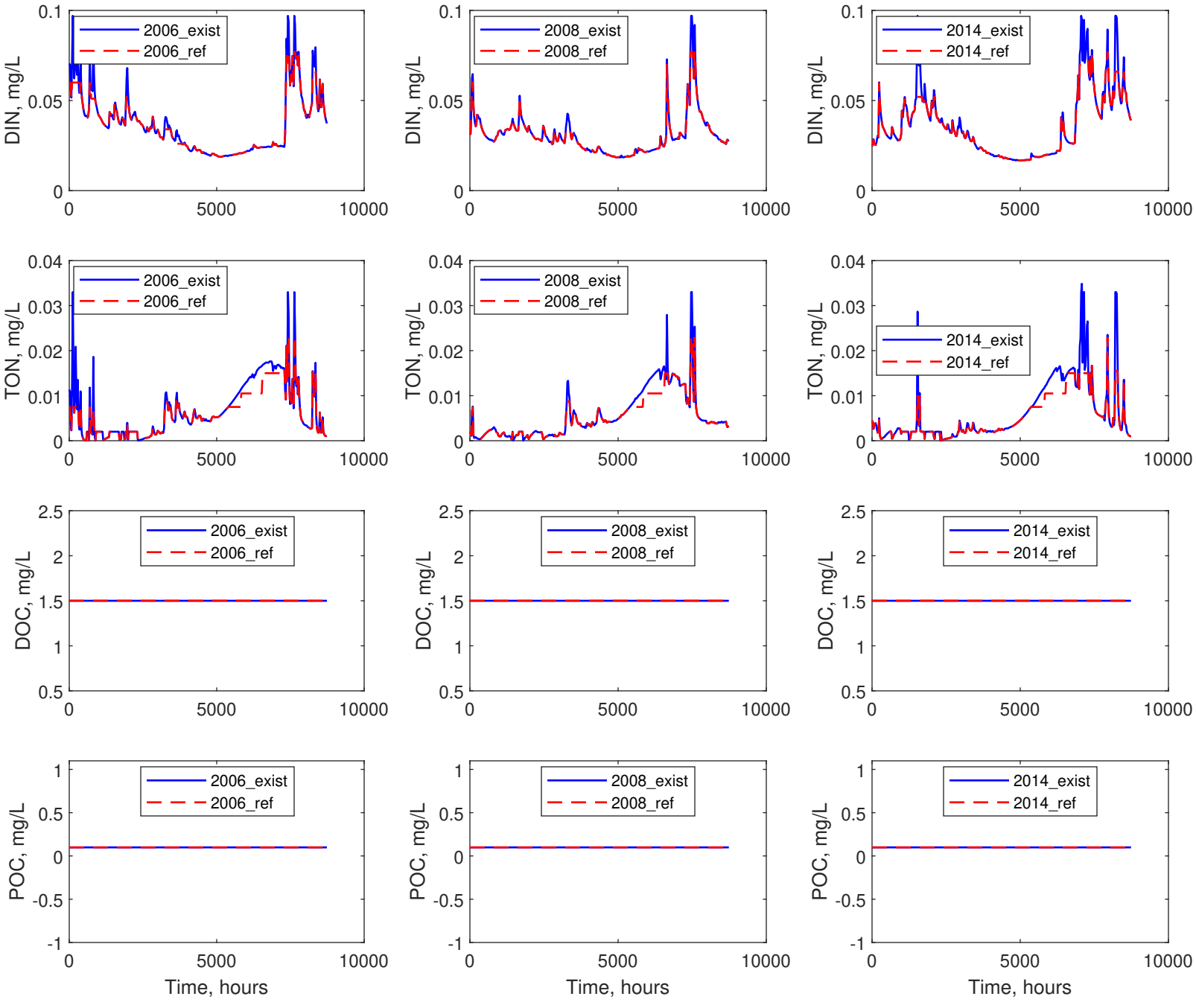

South Snohomish
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

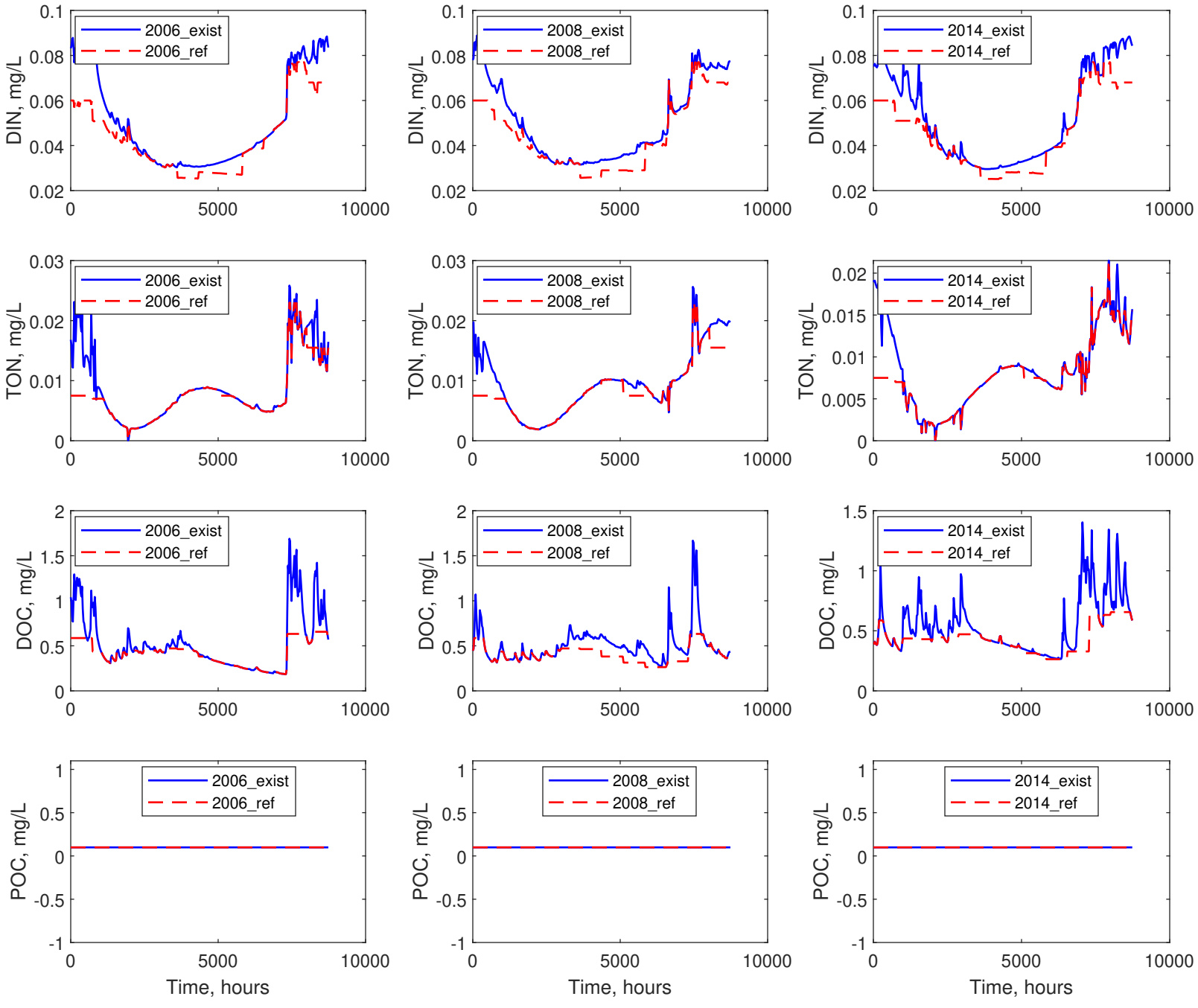

Tahlequah
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

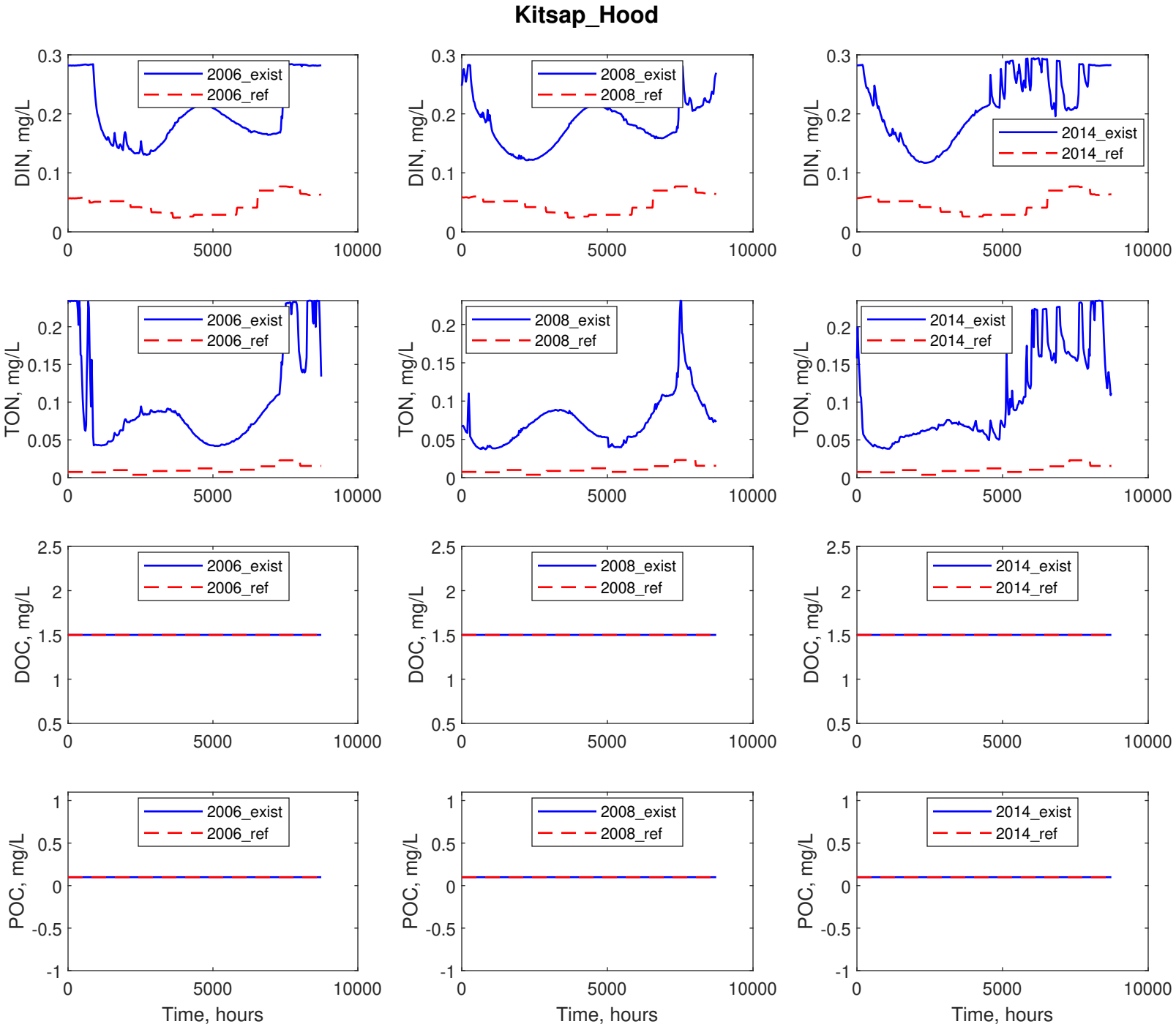

University Place
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

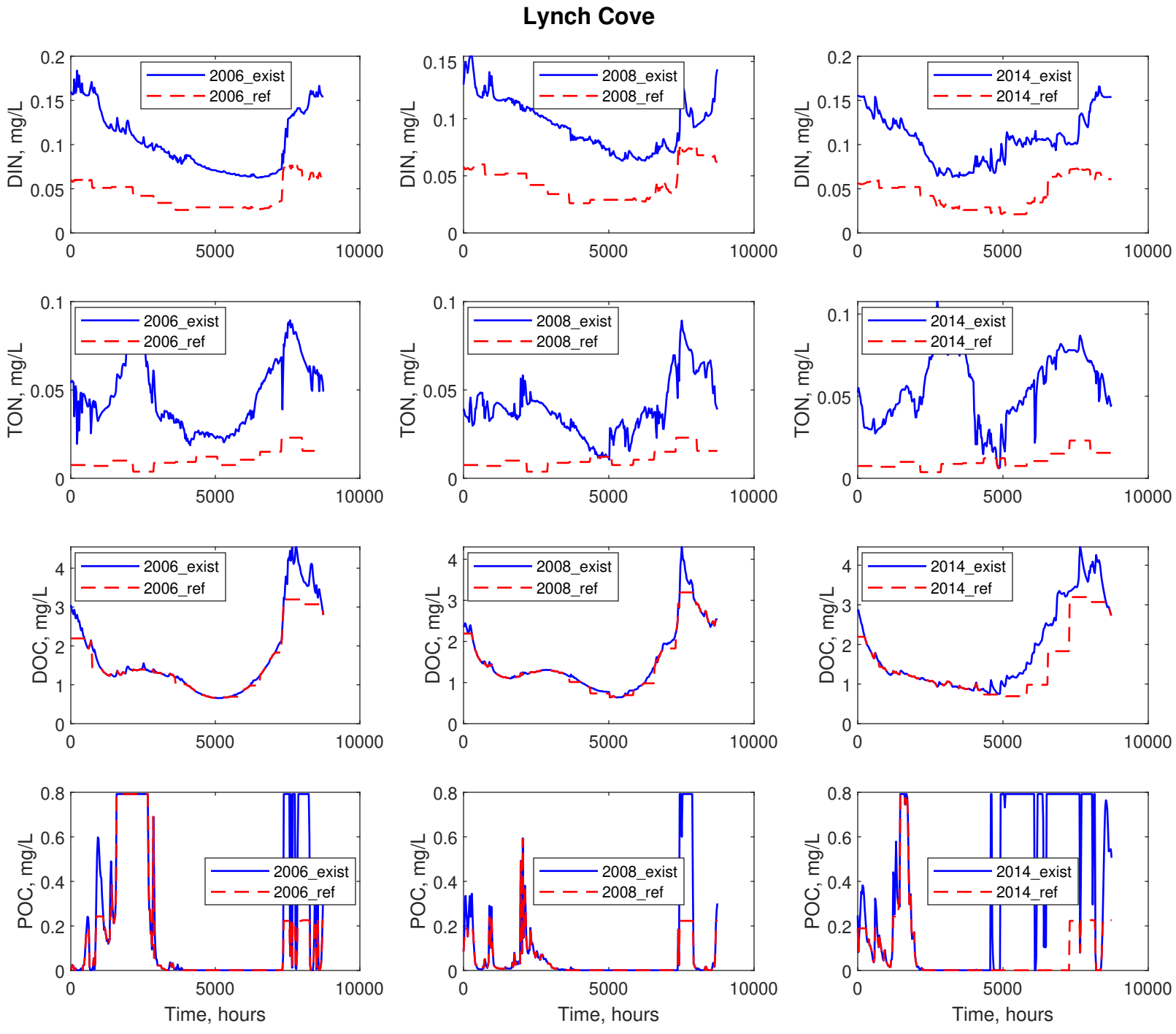

Dabob Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

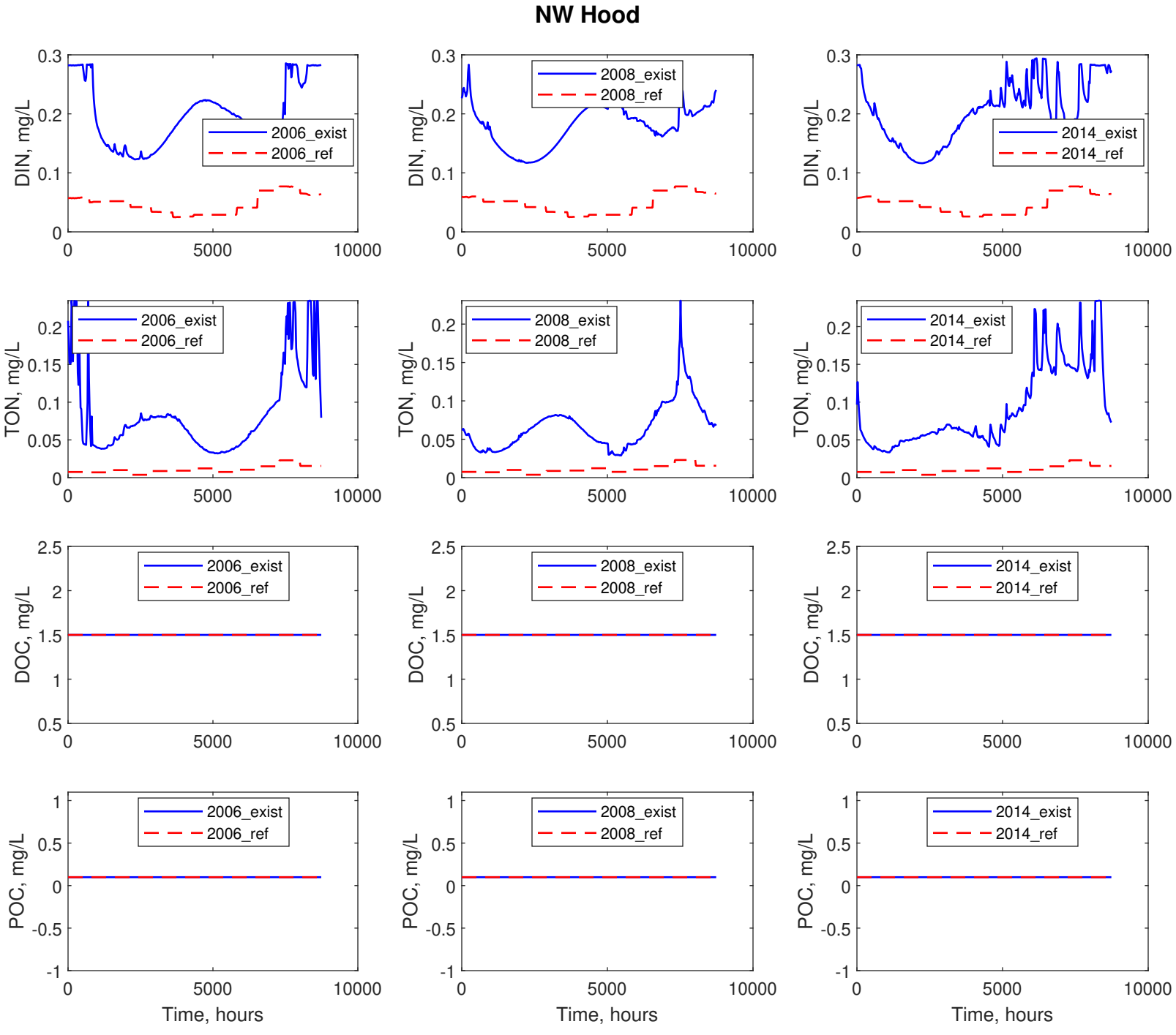

Dosewallips R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

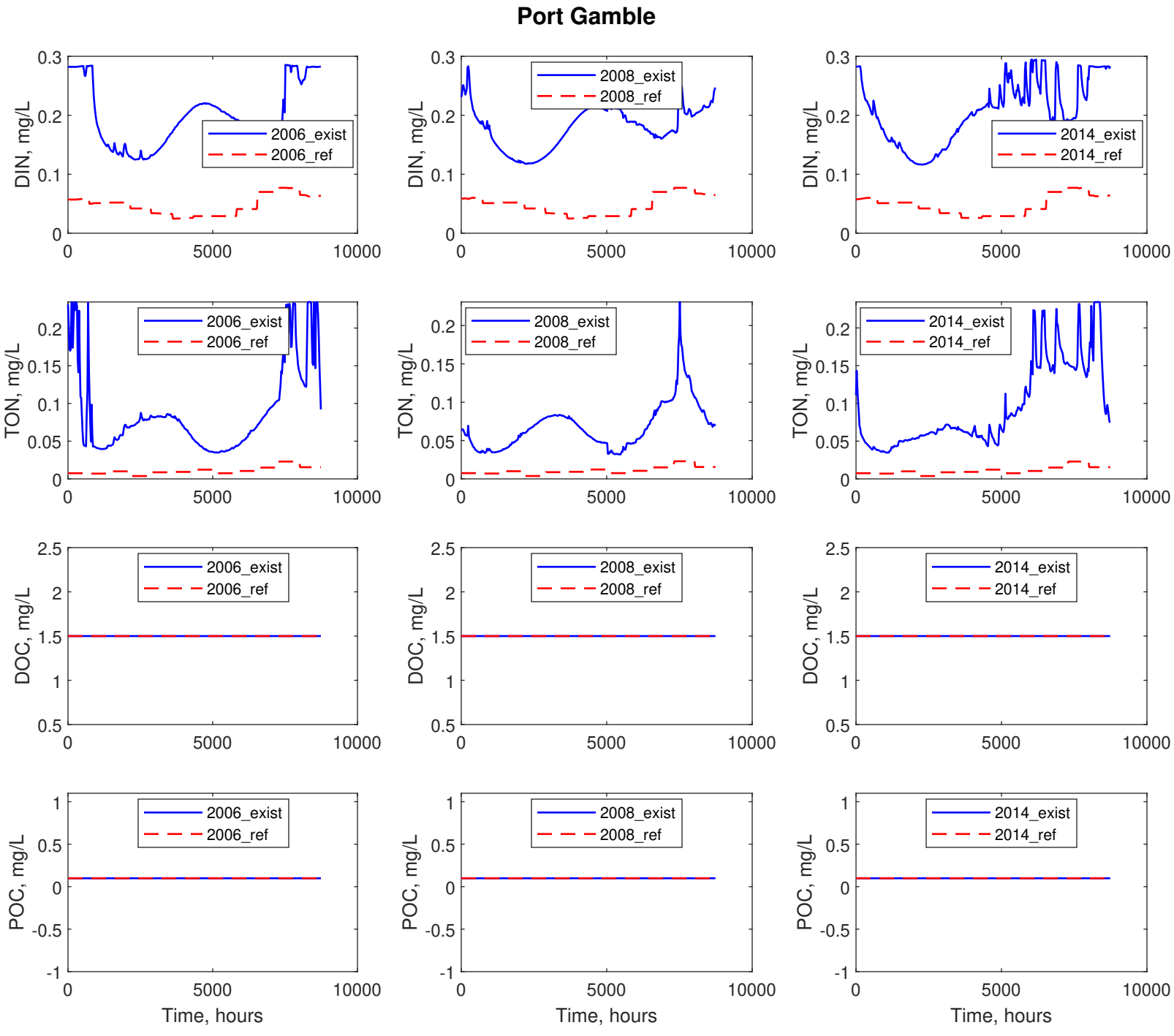

Duckabush R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

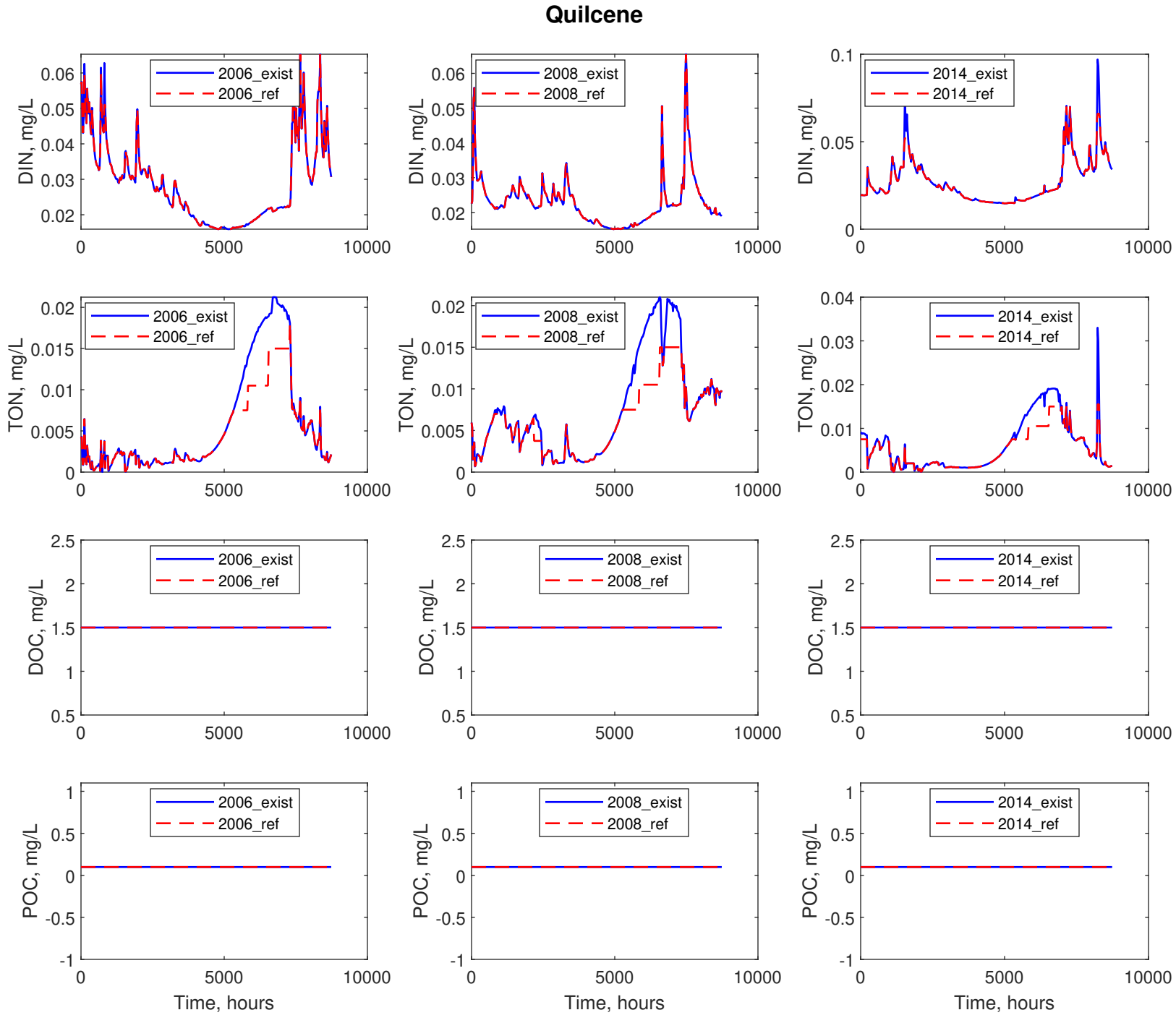

Hamma Hamma R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

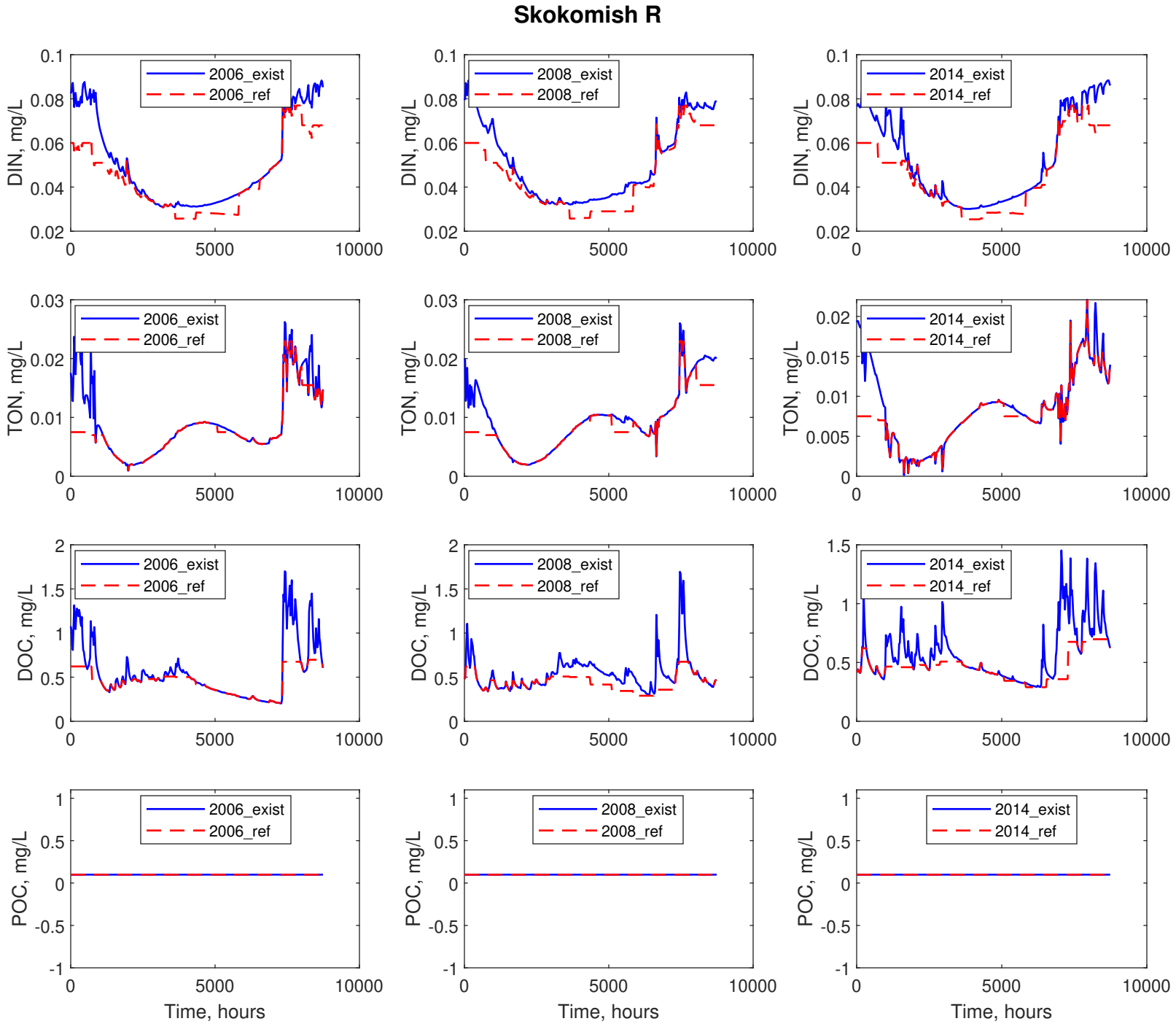

Kitsap_Hood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

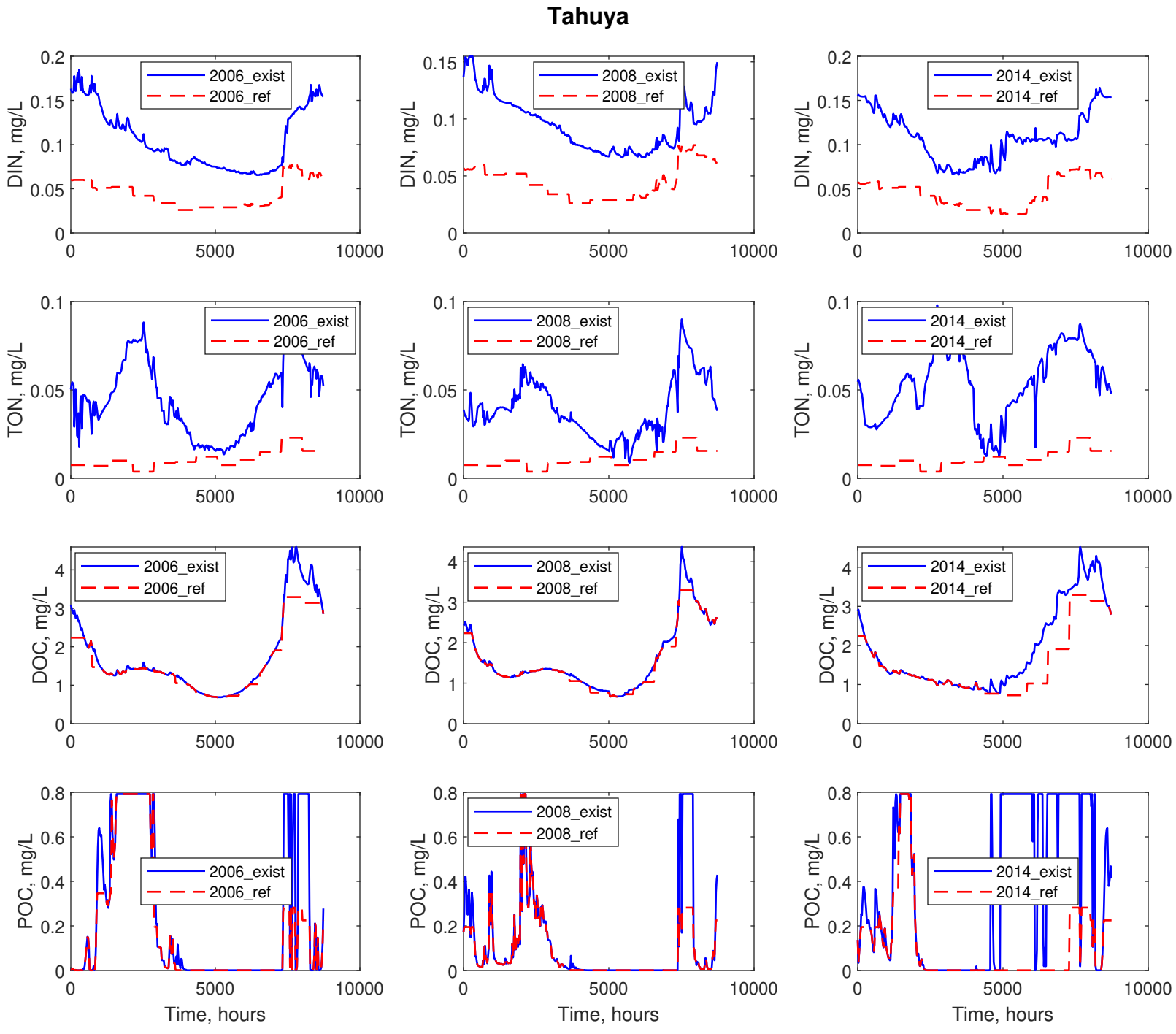

Lynch Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

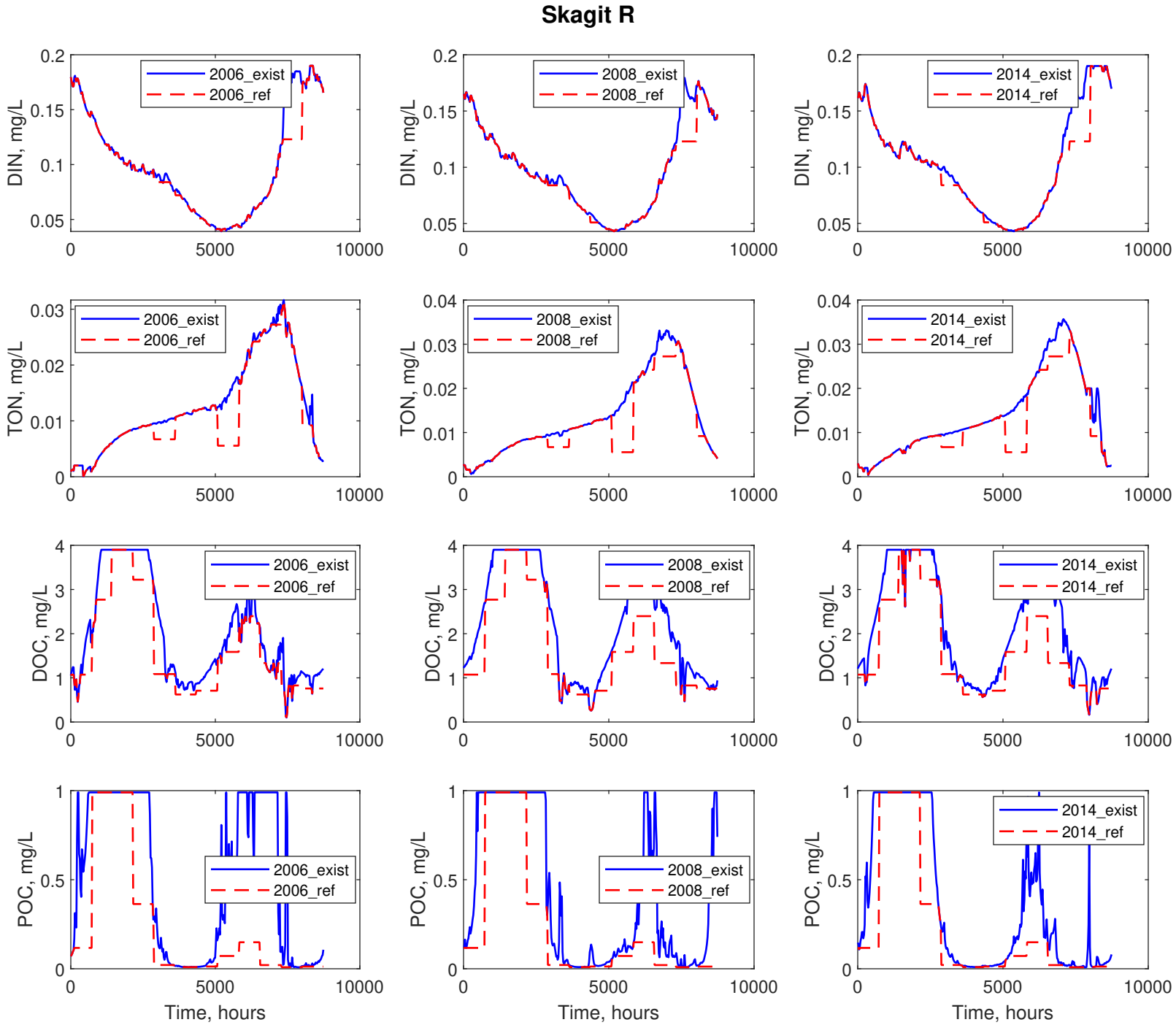

NW Hood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

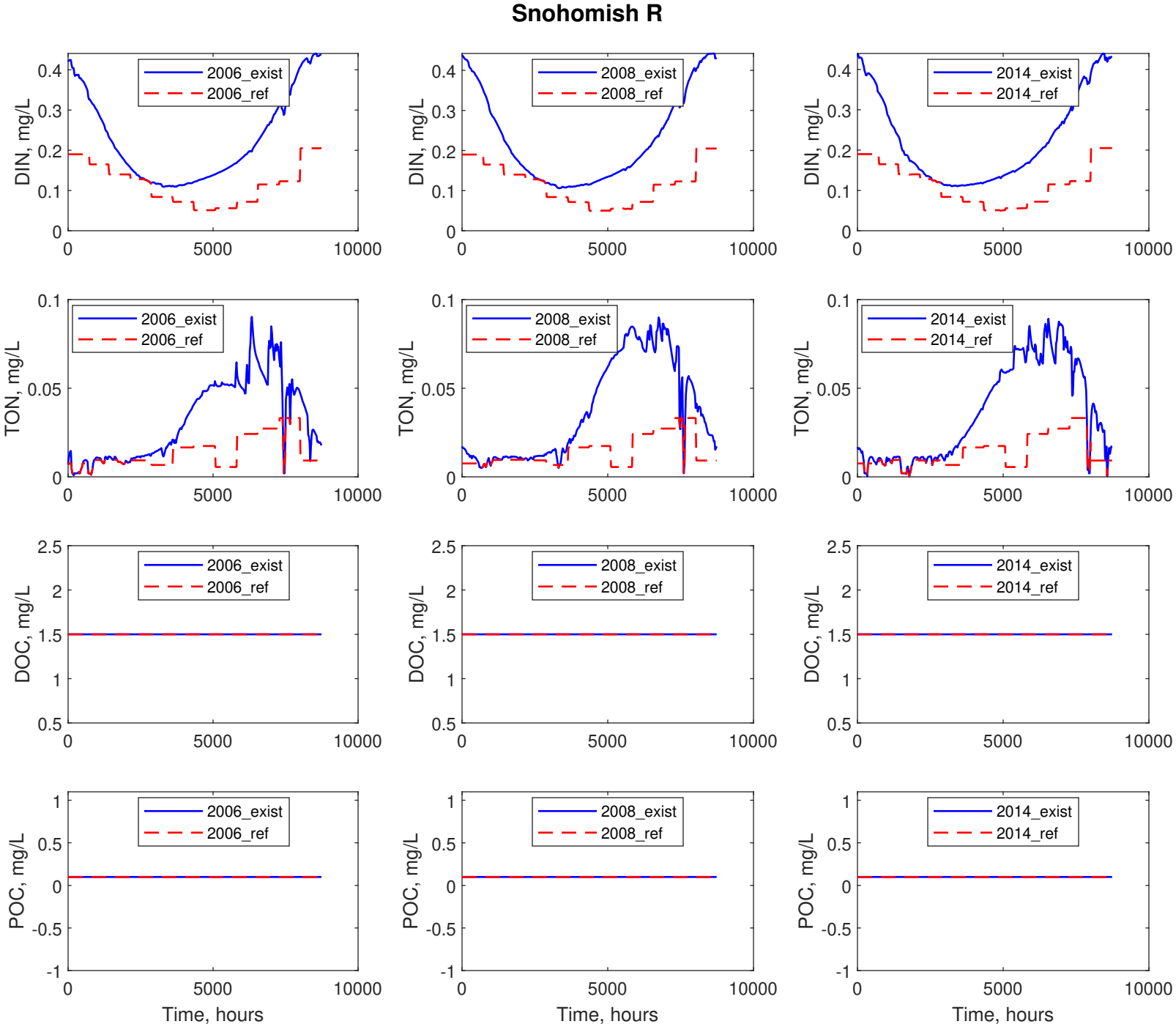

Port Gamble
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

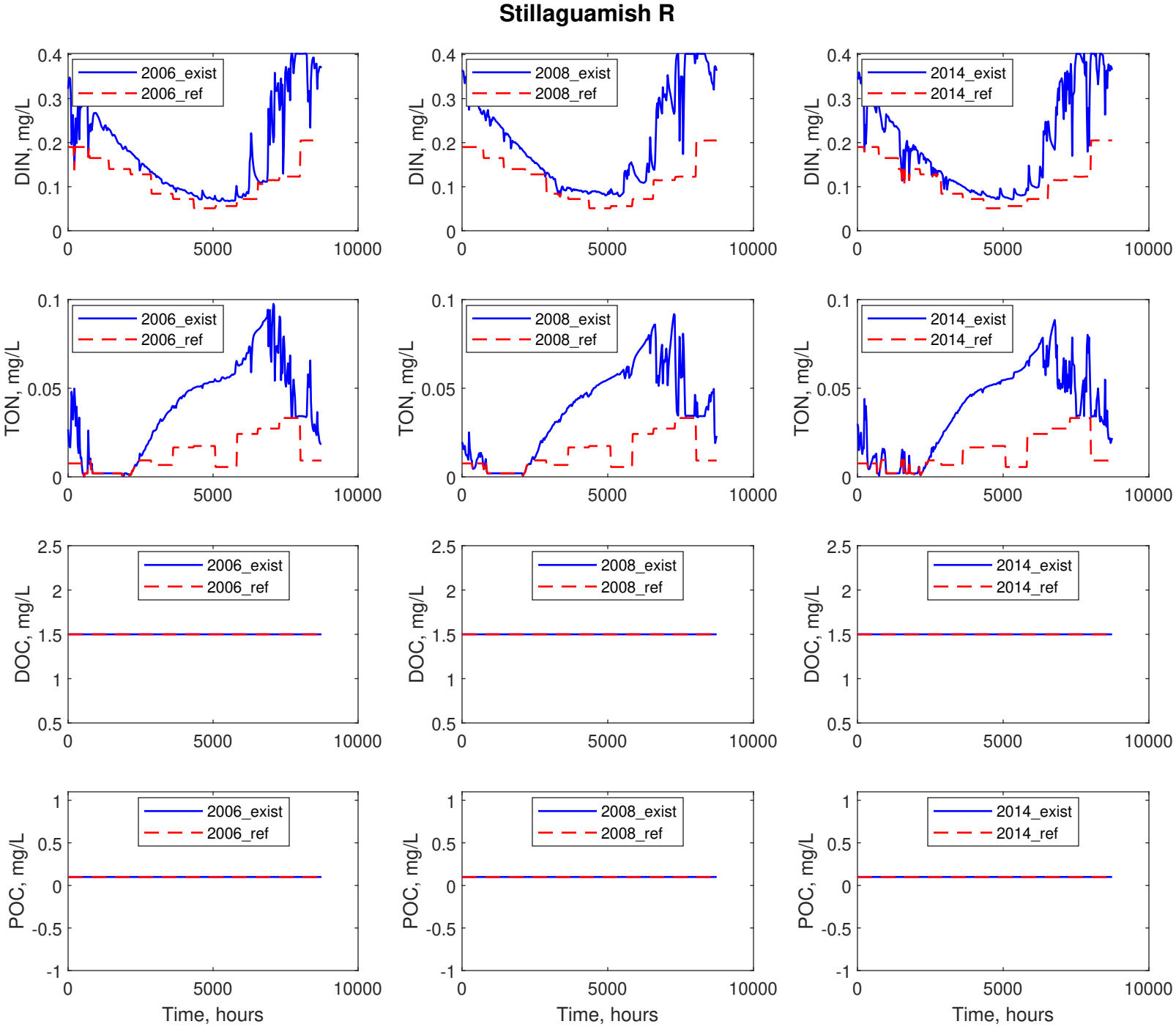

Quilcene
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

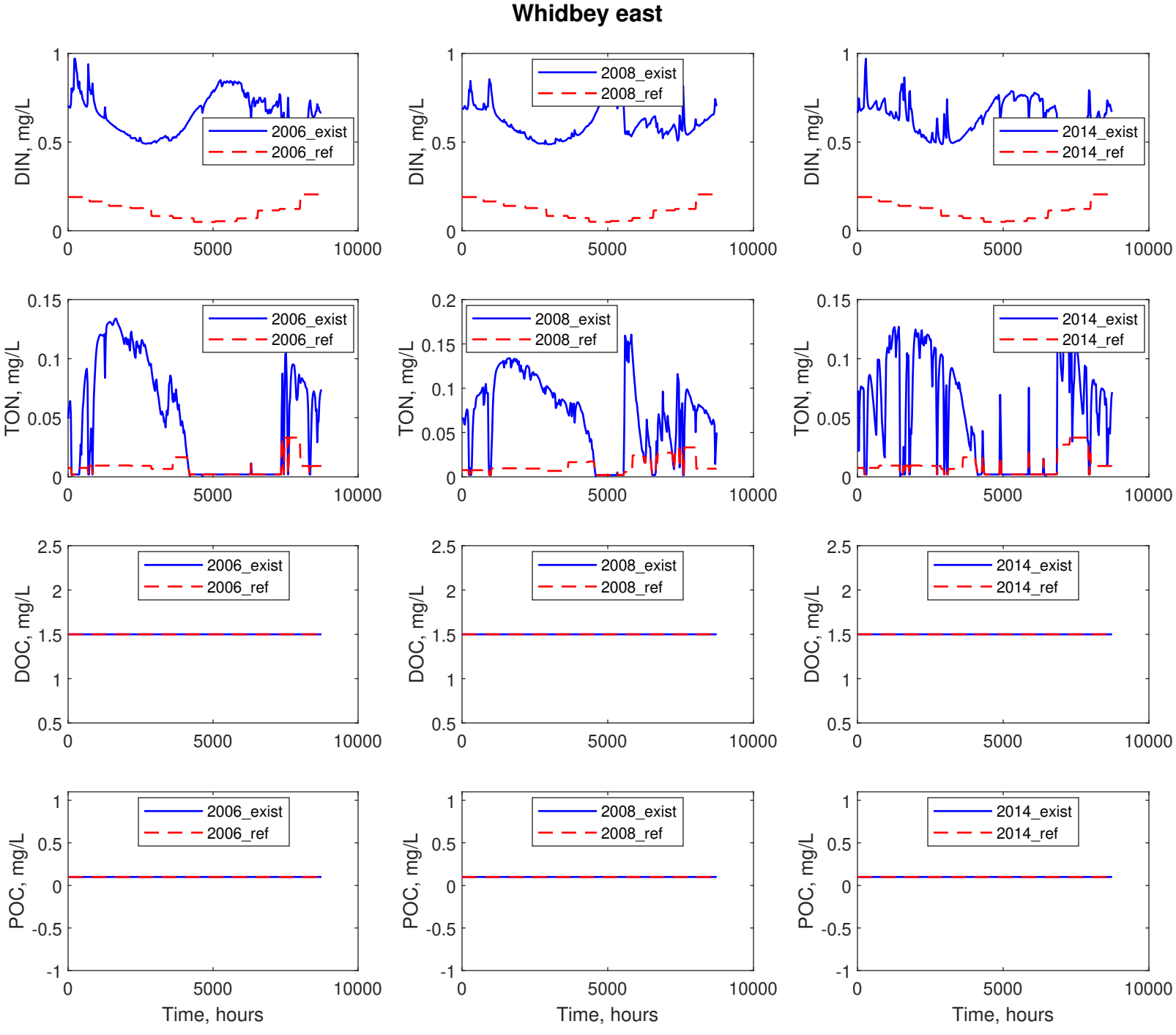

Skokomish R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

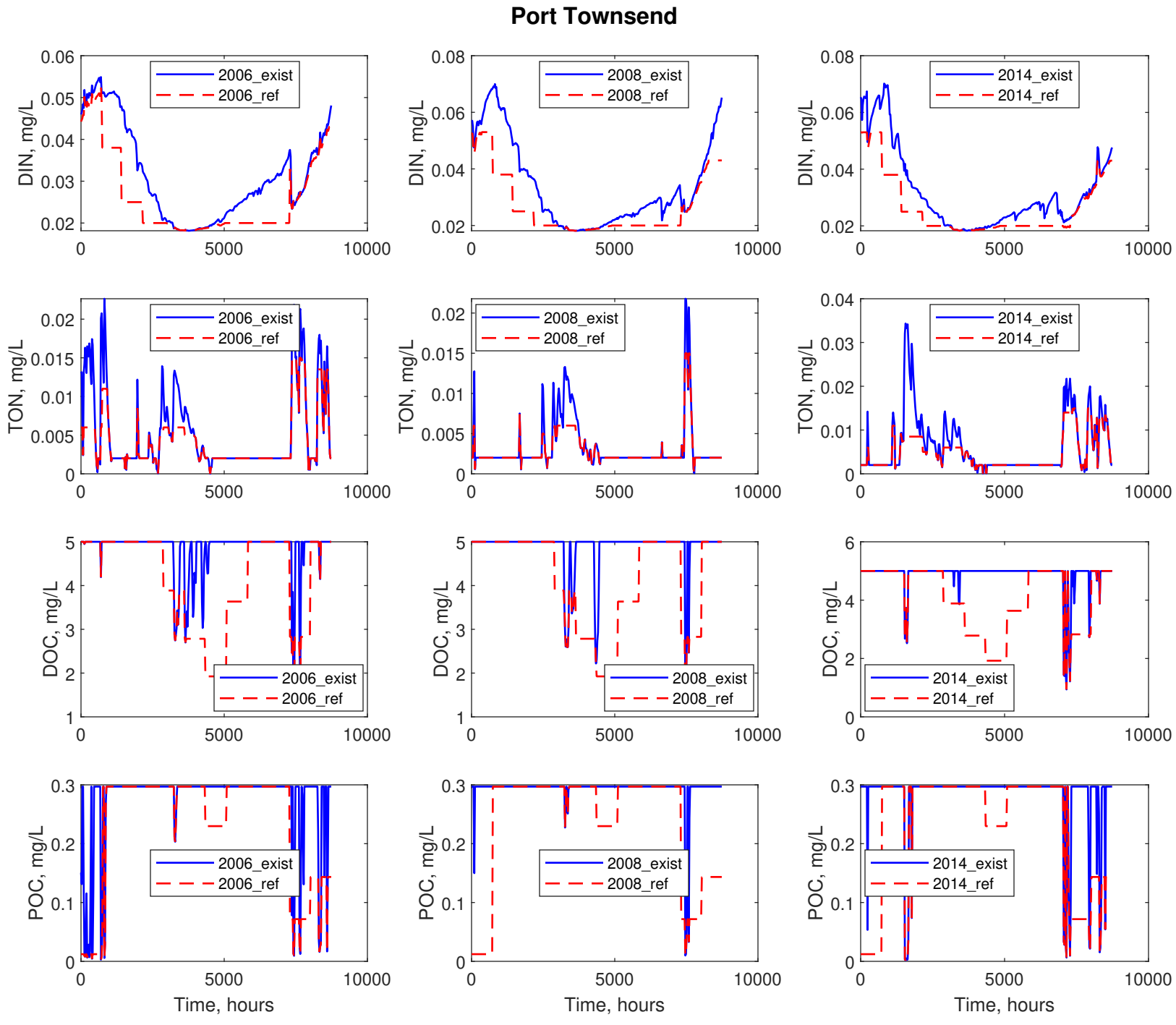

Tahuya
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

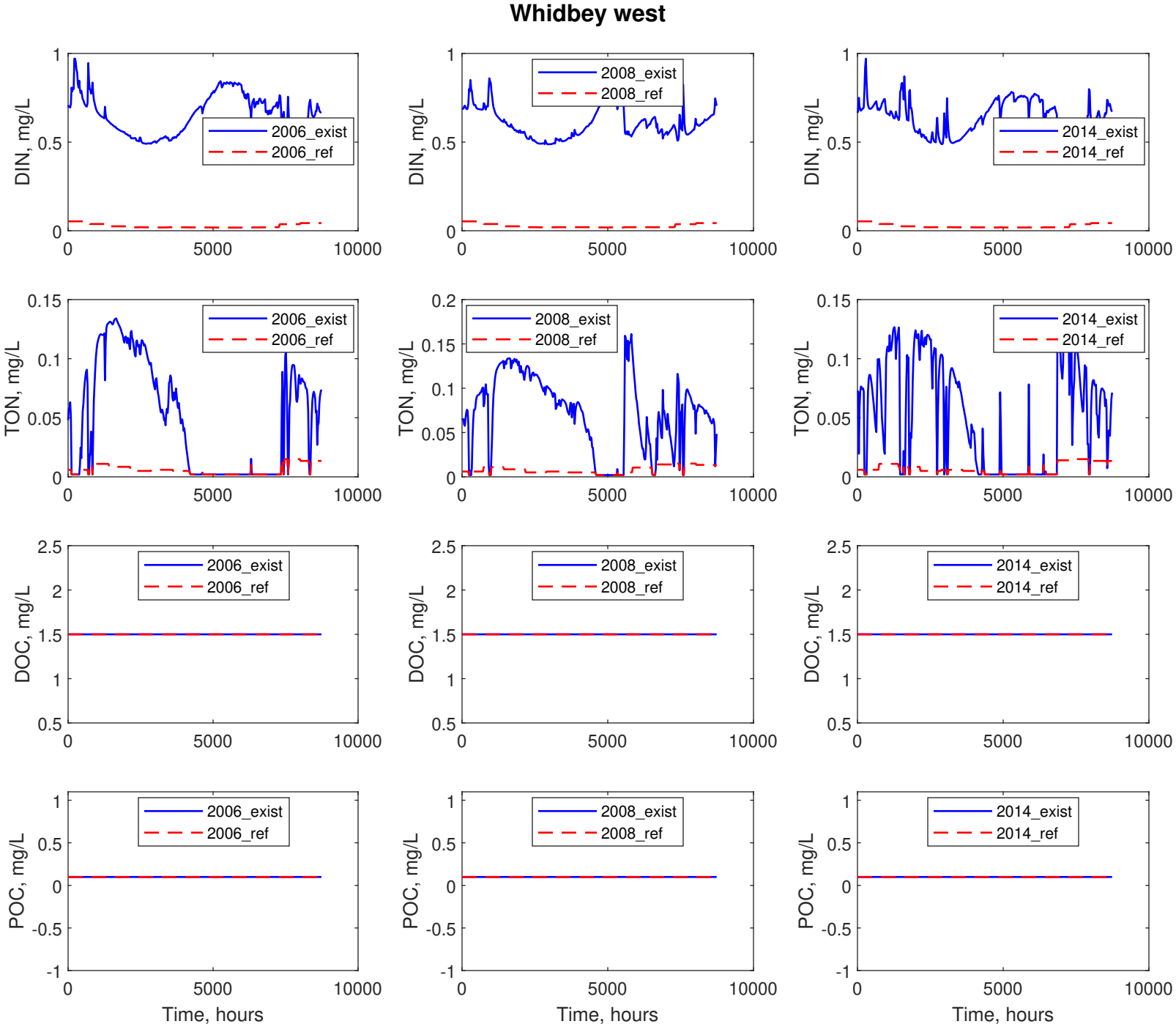

Skagit R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

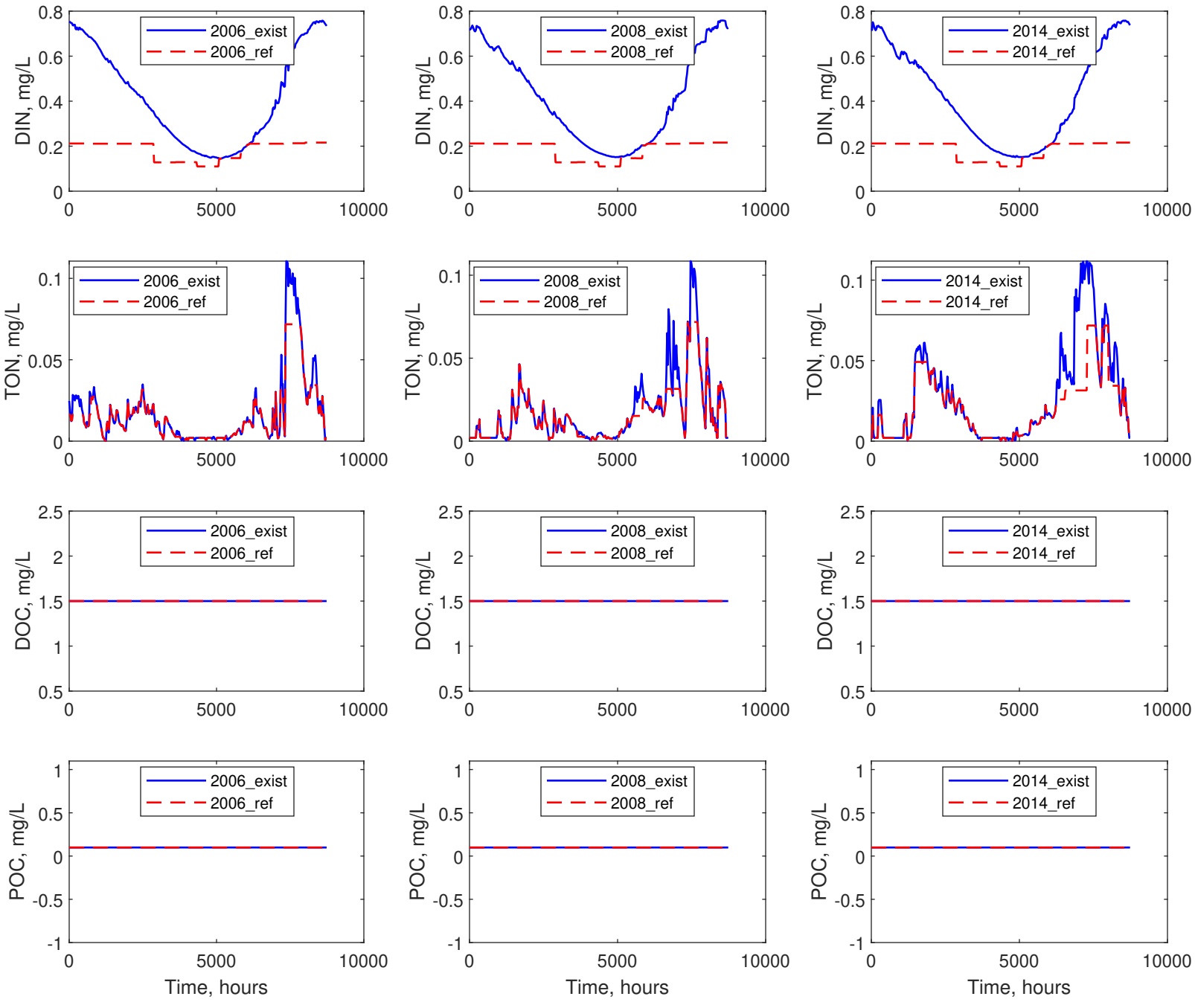

Snohomish R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

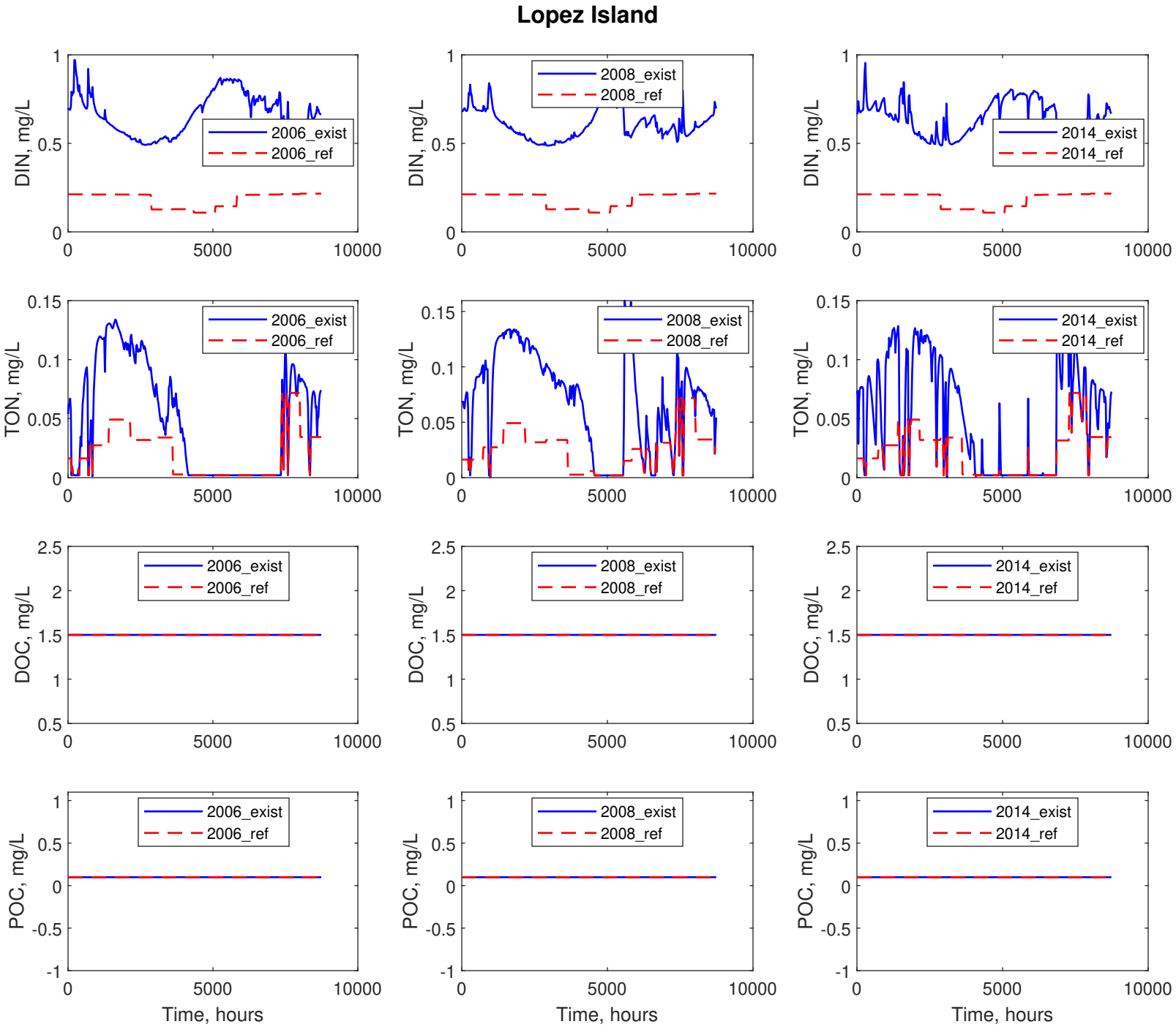

Stillaguamish R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

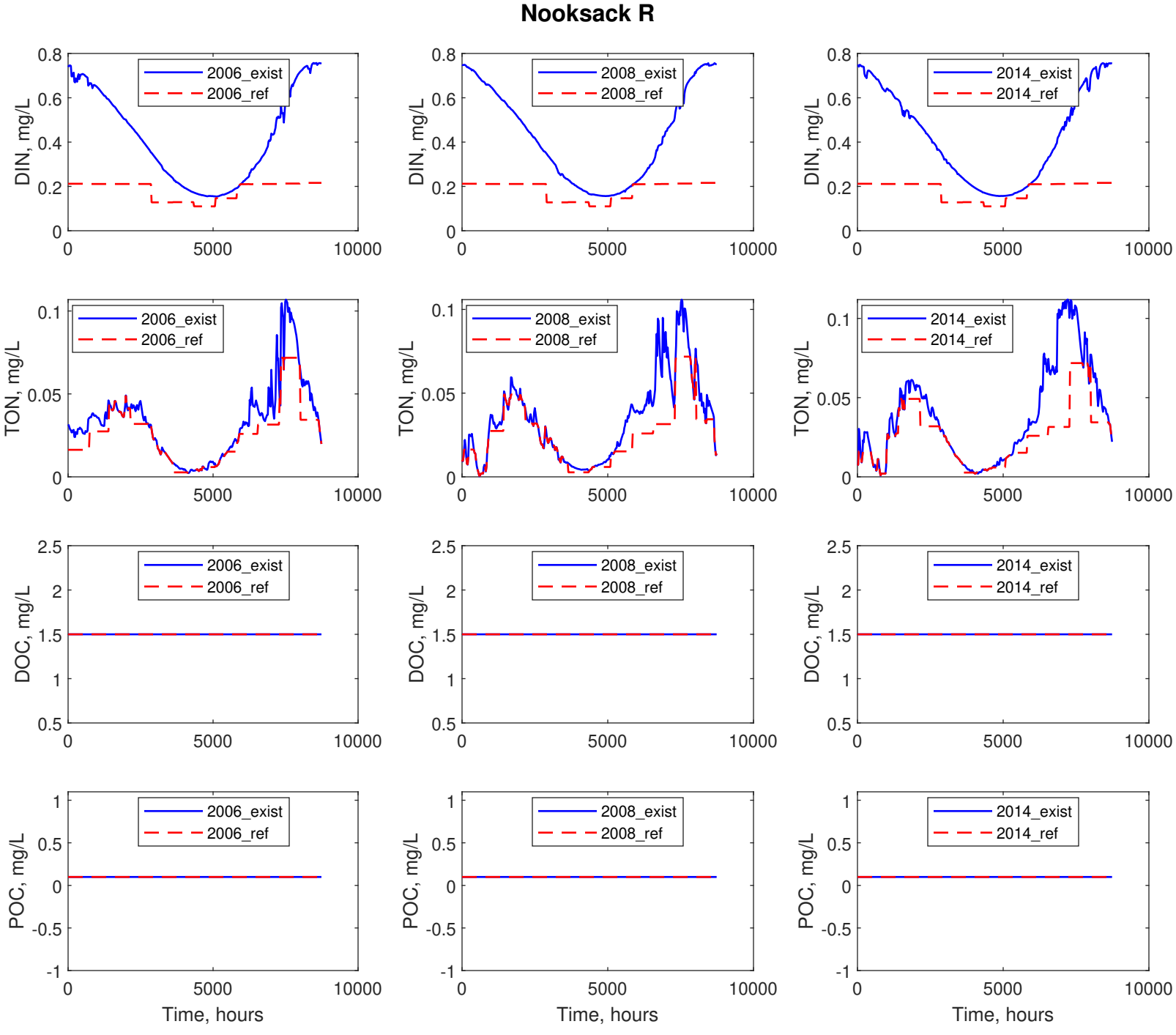

Whidbey east
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

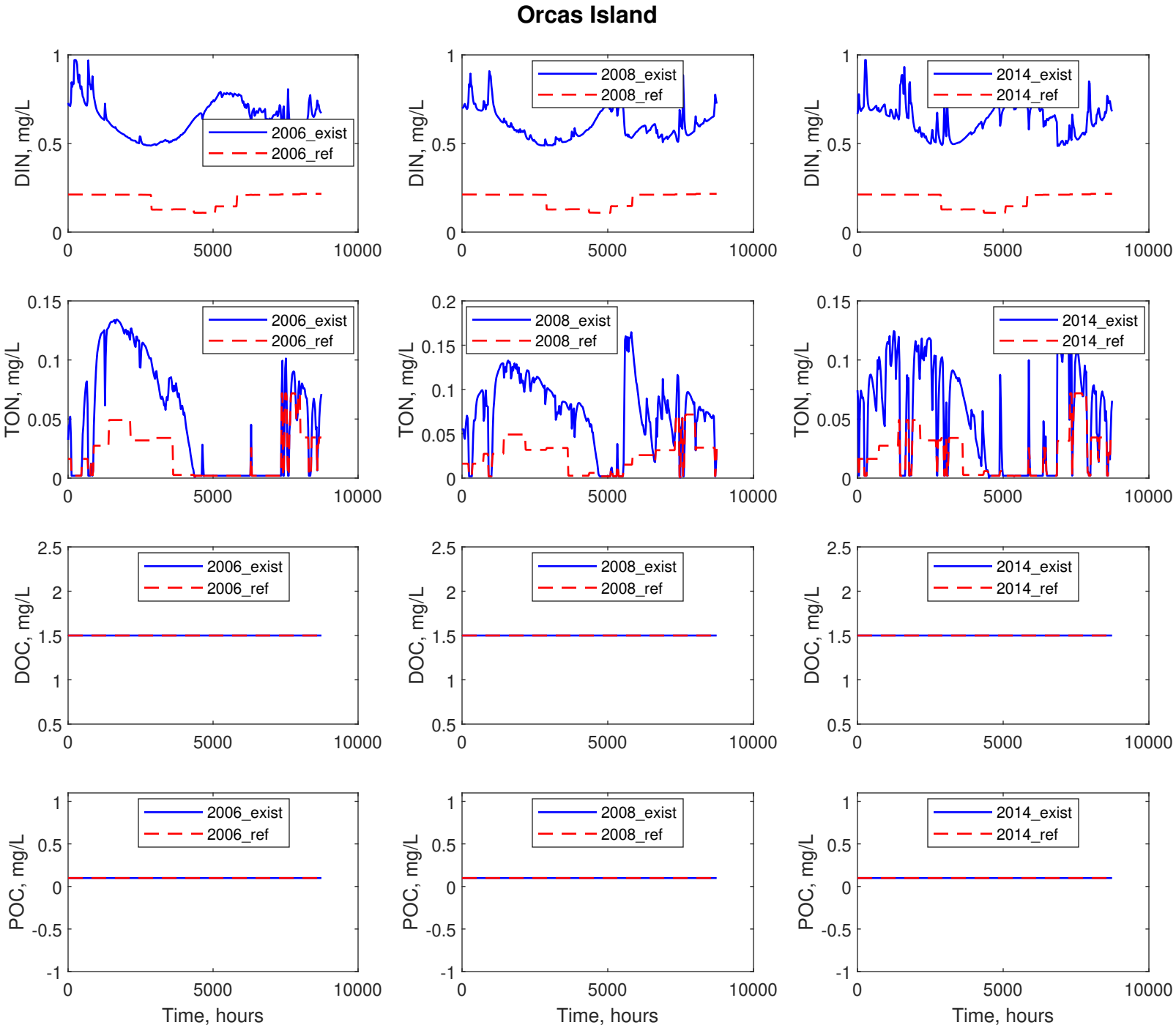

Port Townsend
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

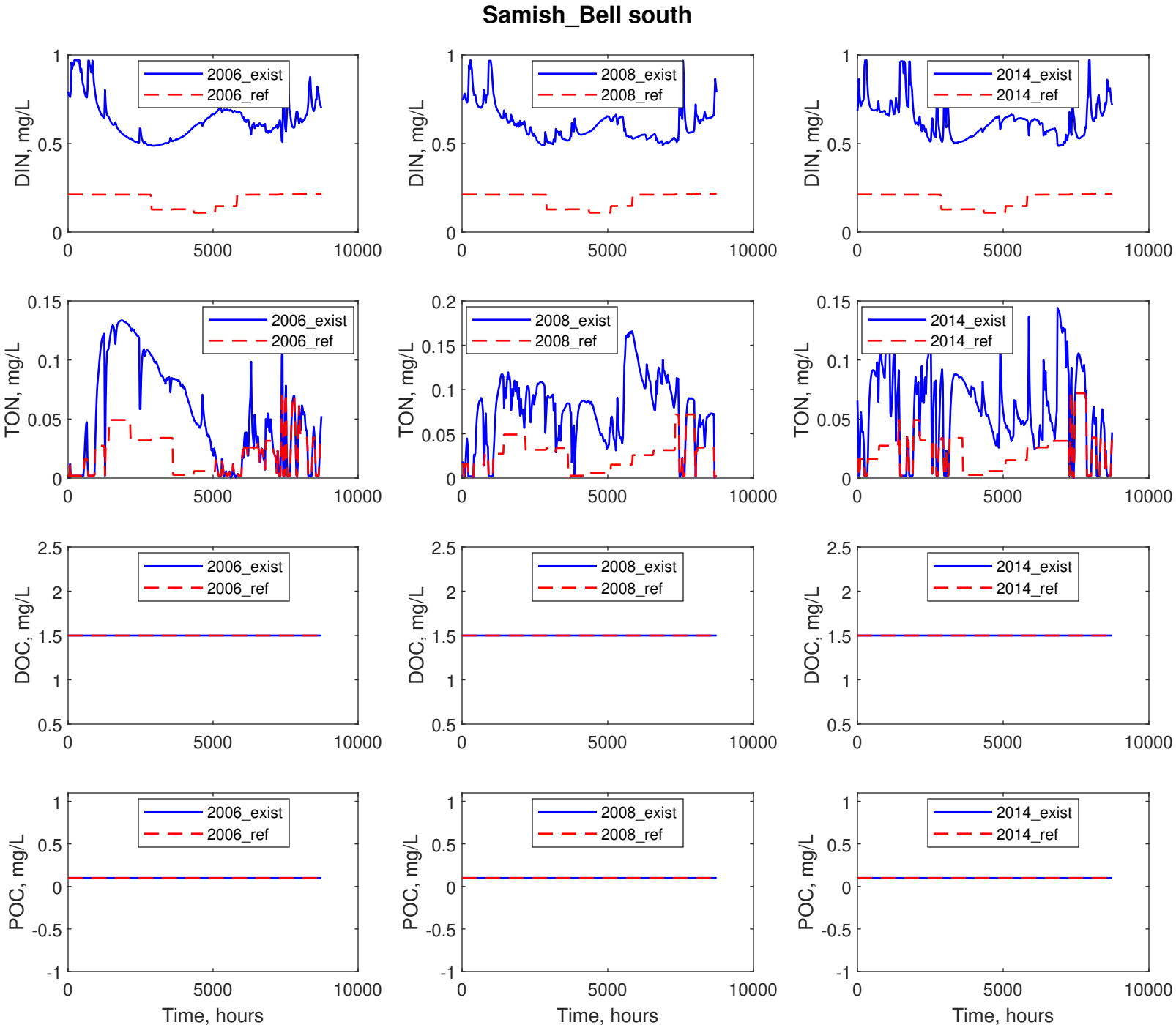

Whidbey west
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

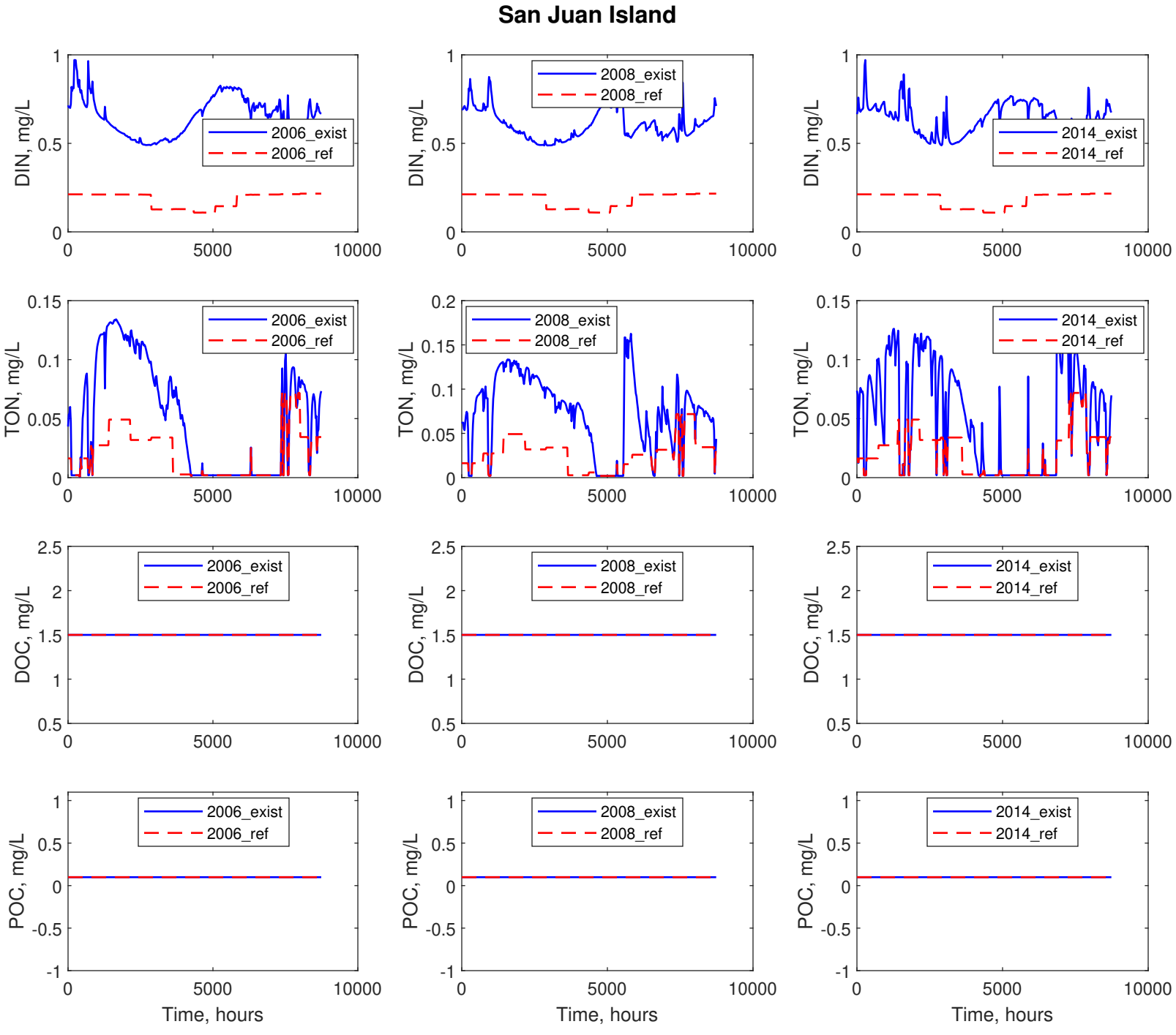

Birch Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

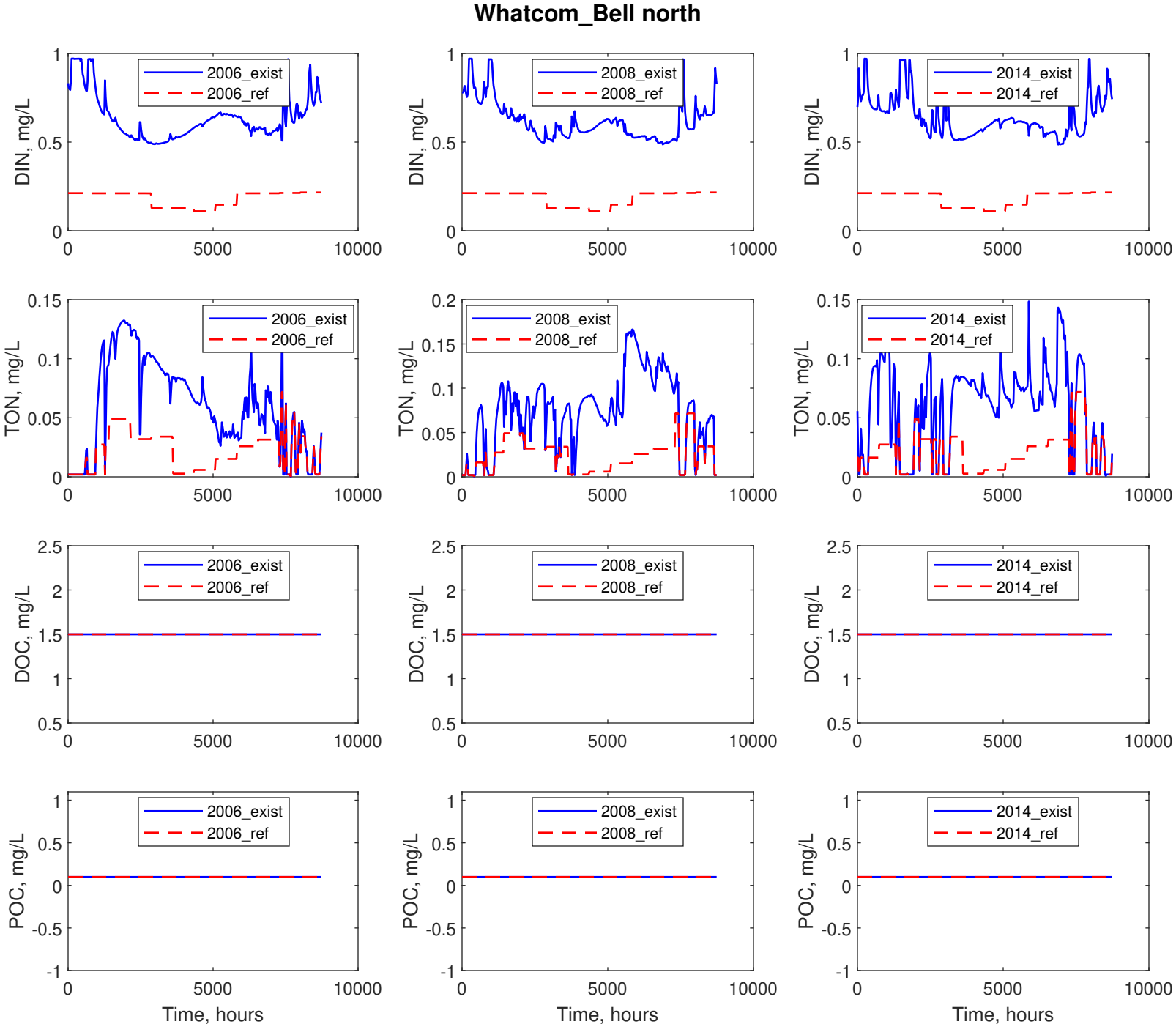

Lopez Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

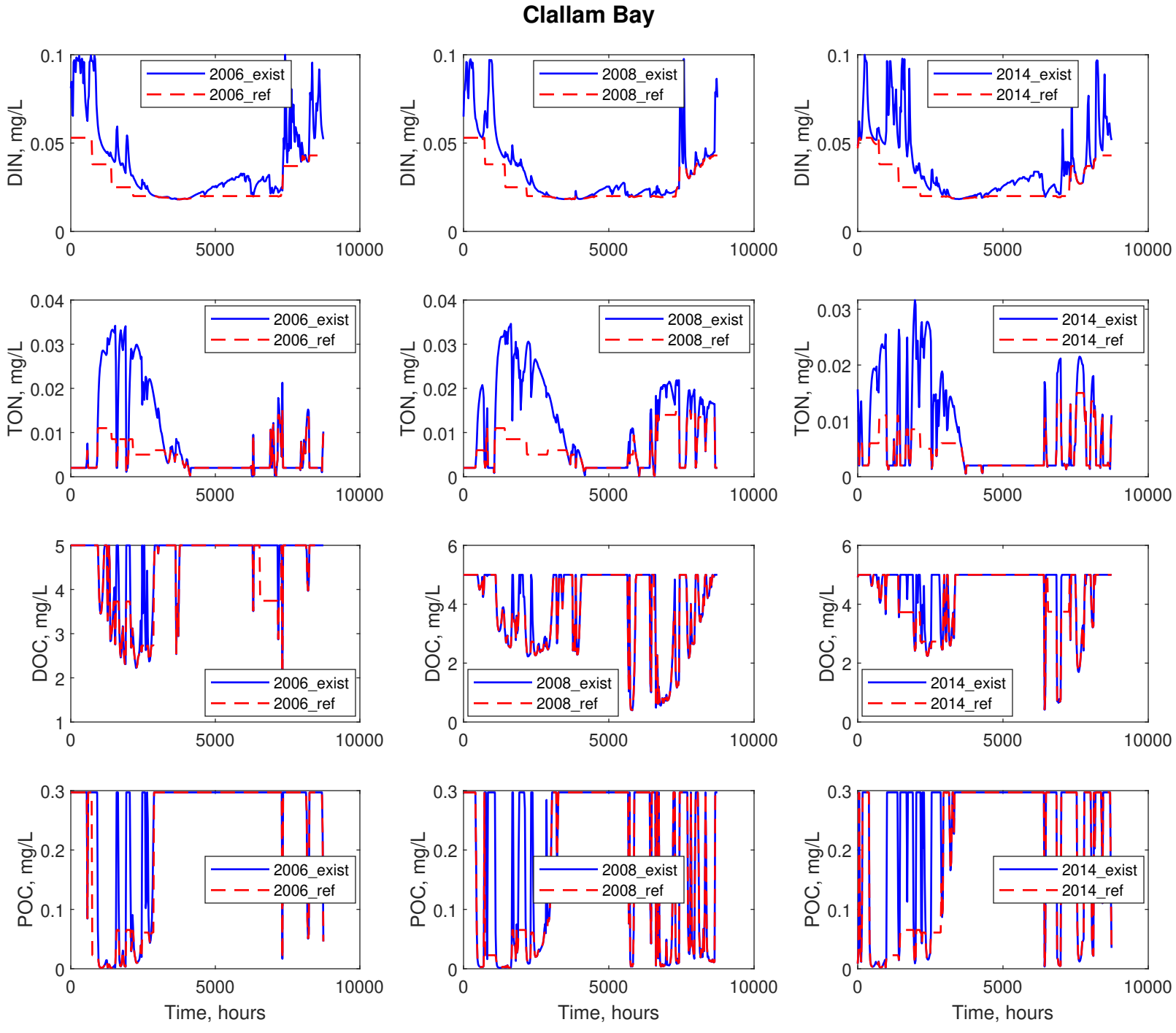

Nooksack R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

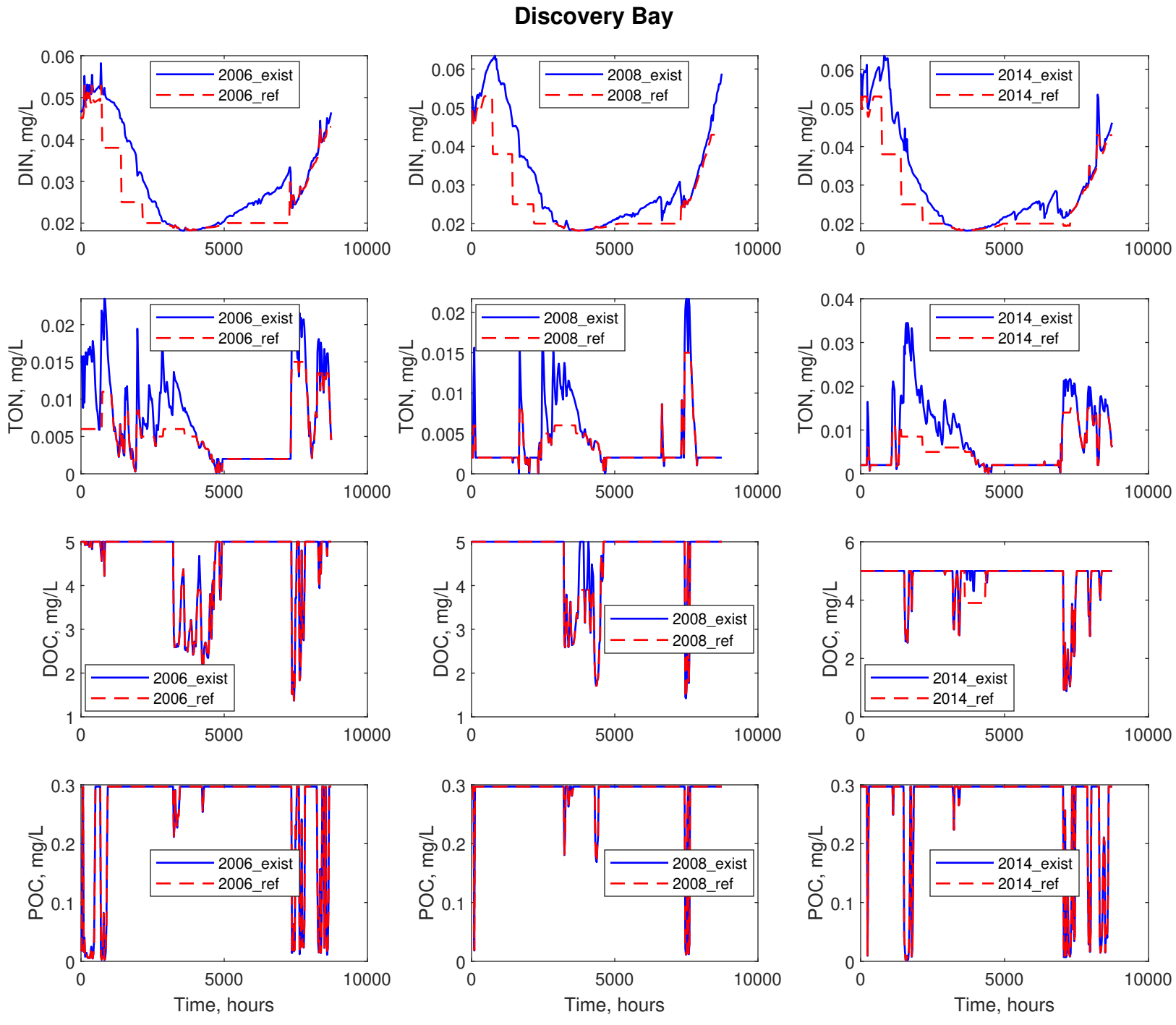

Orcas Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

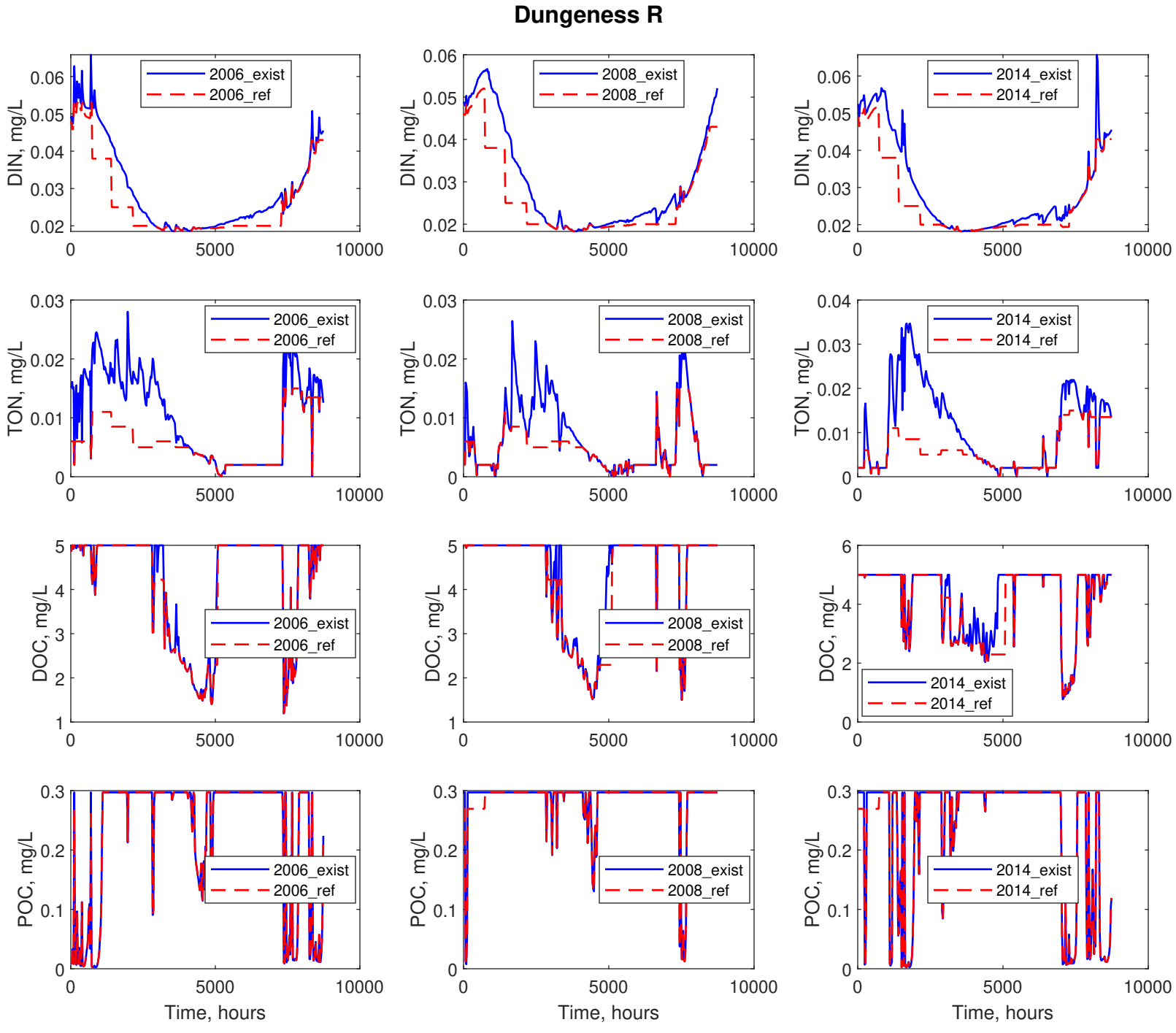

Samish_Bell south
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

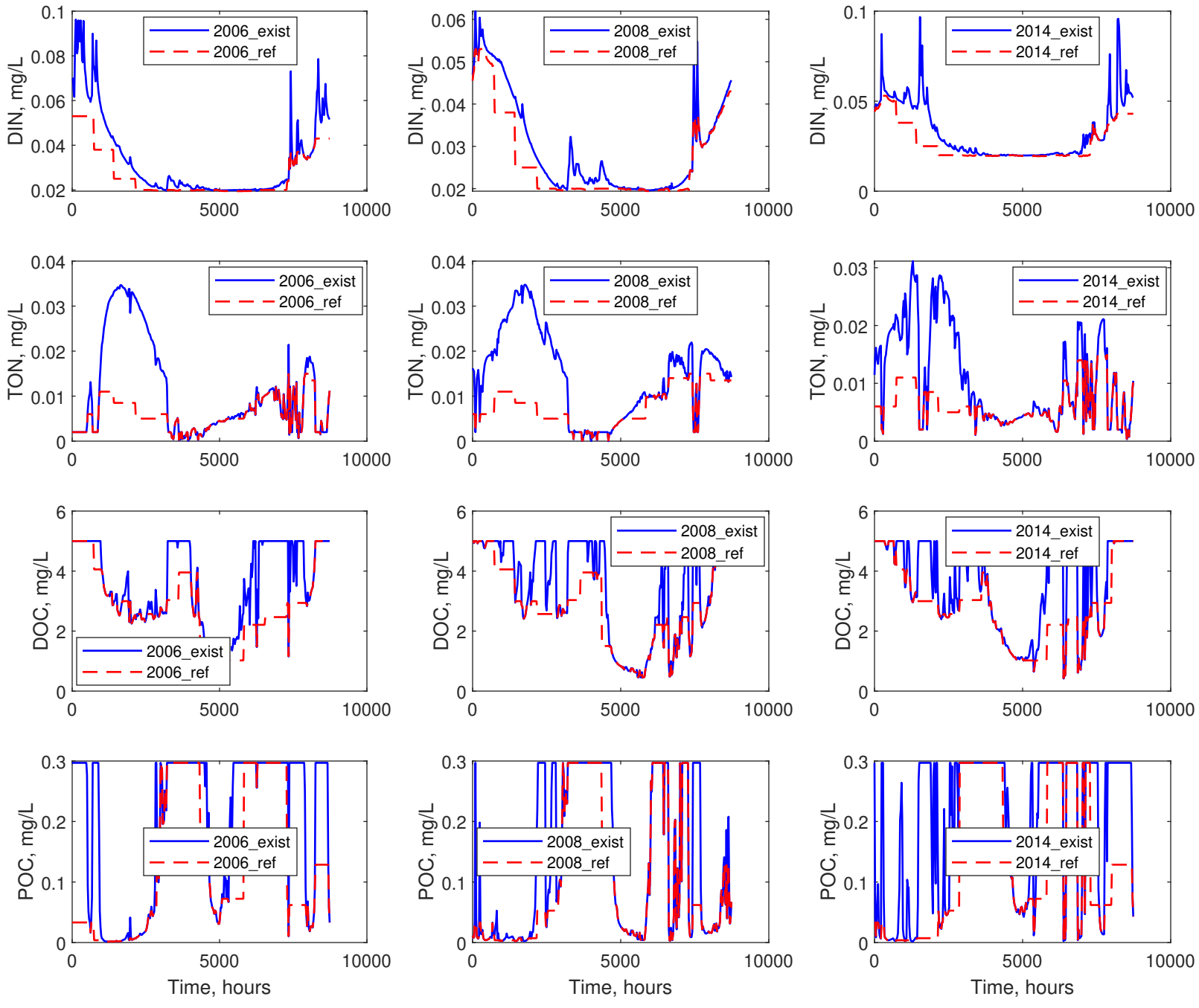

San Juan Island
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

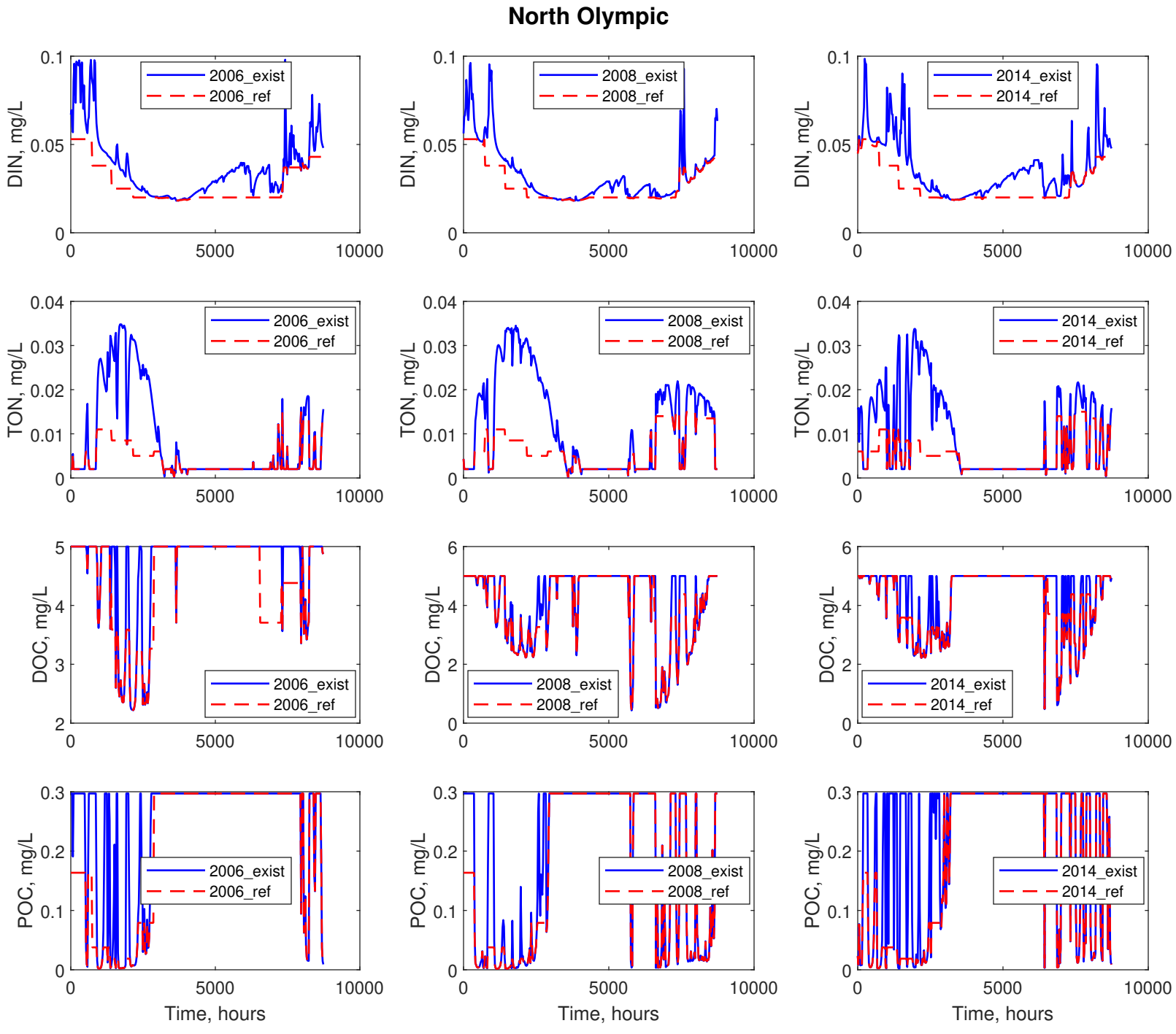

Whatcom_Bell north
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

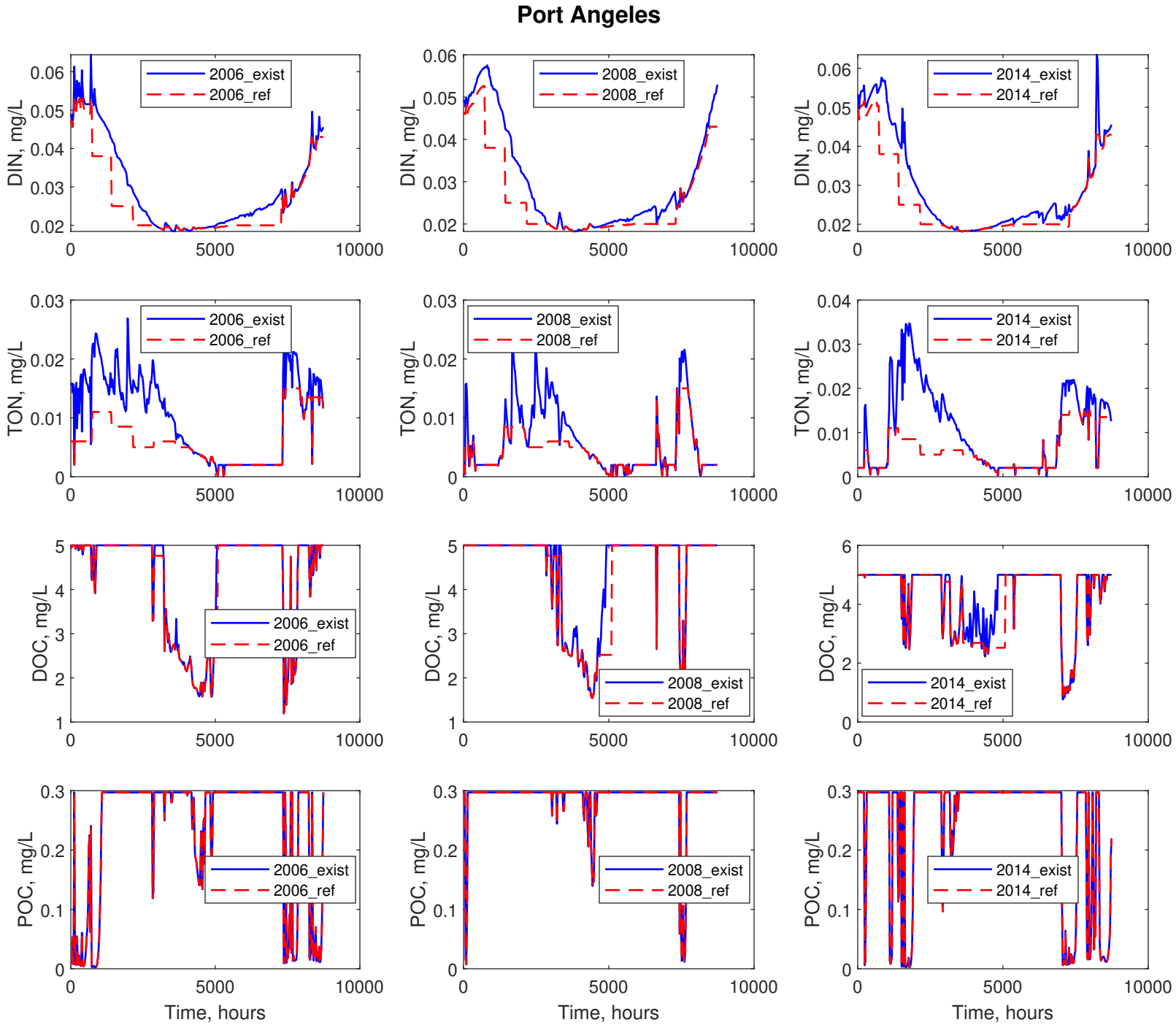

Clallam Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

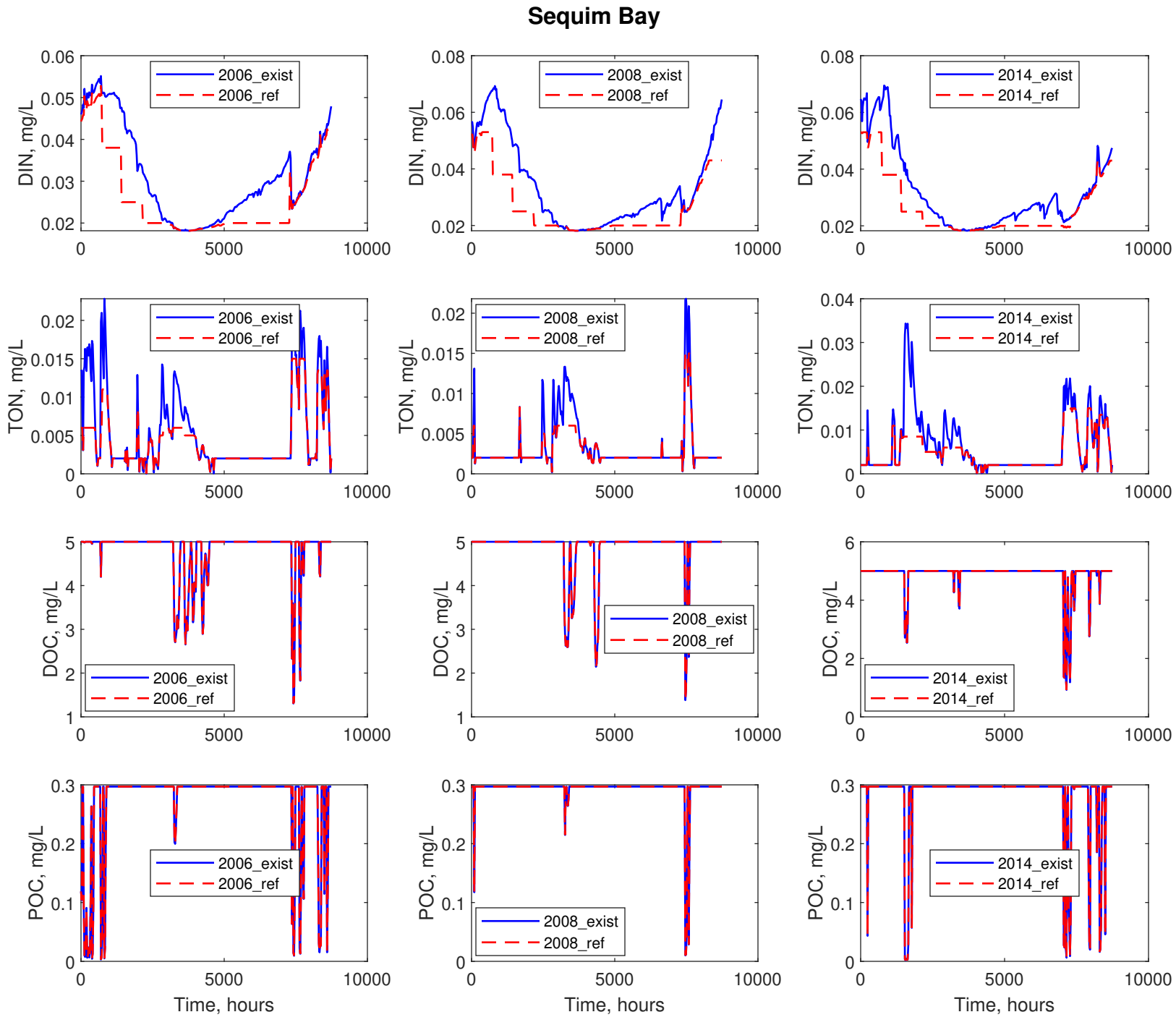

Discovery Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

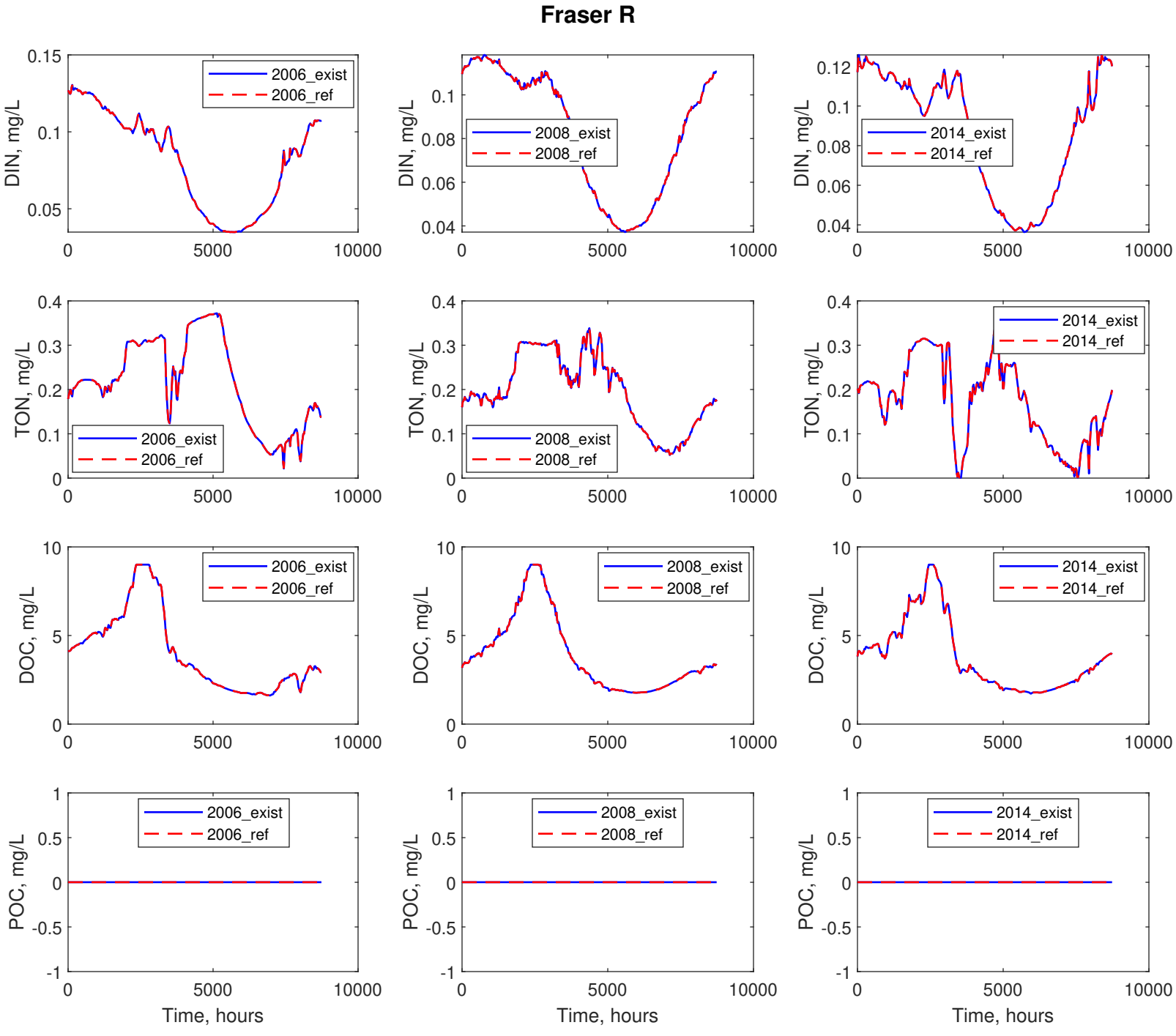

Dungeness R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

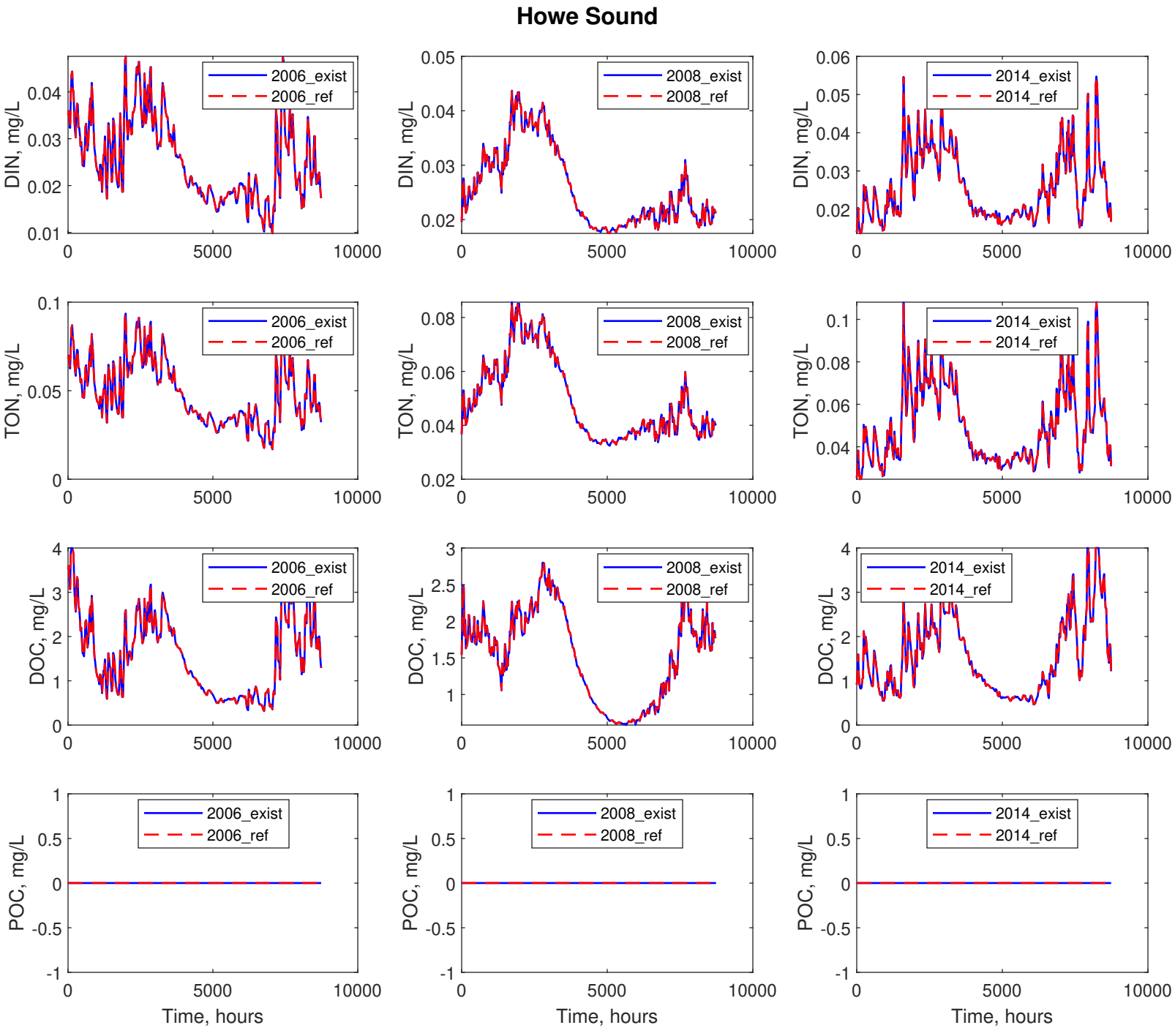

Elwha R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

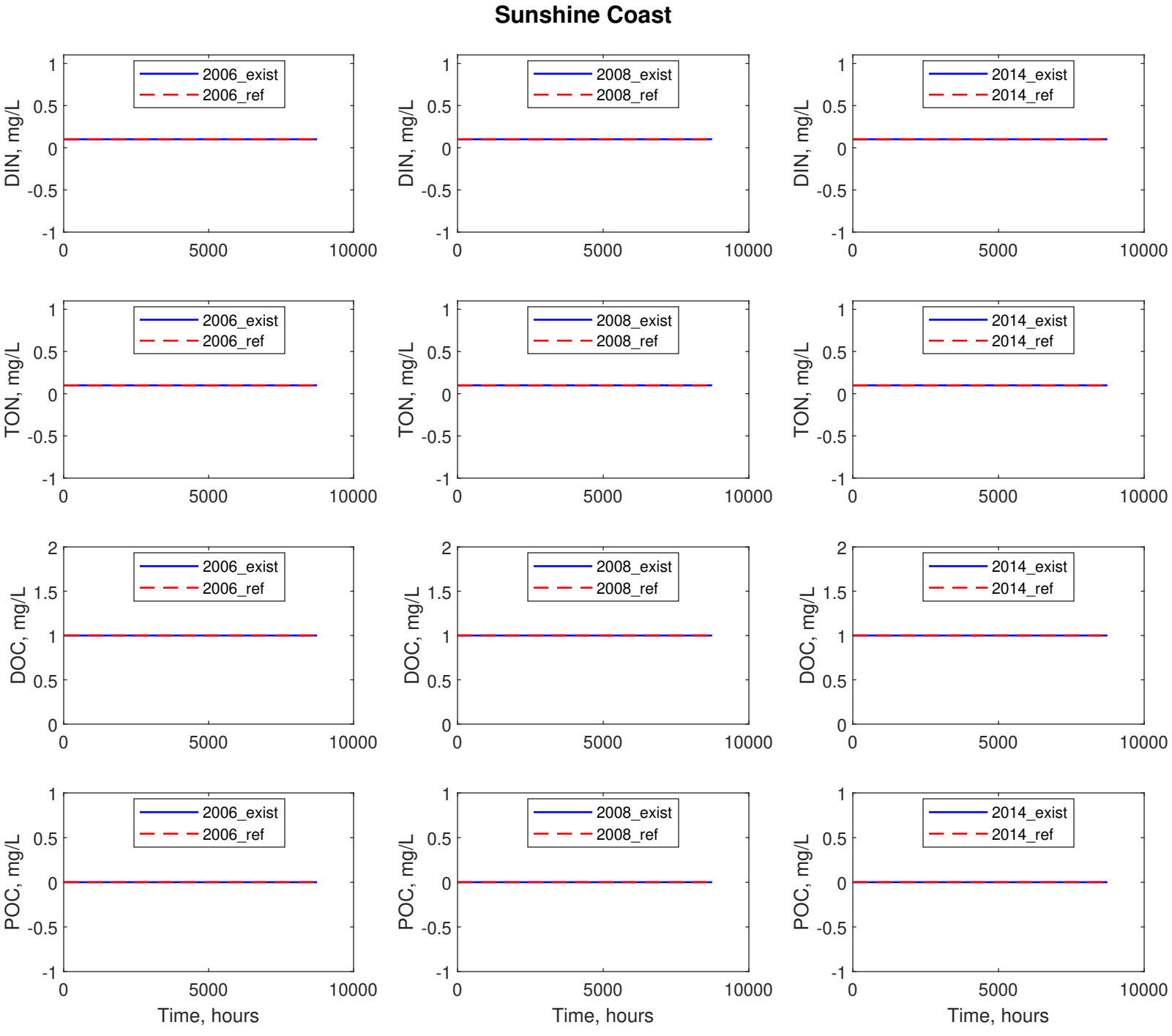

North Olympic
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

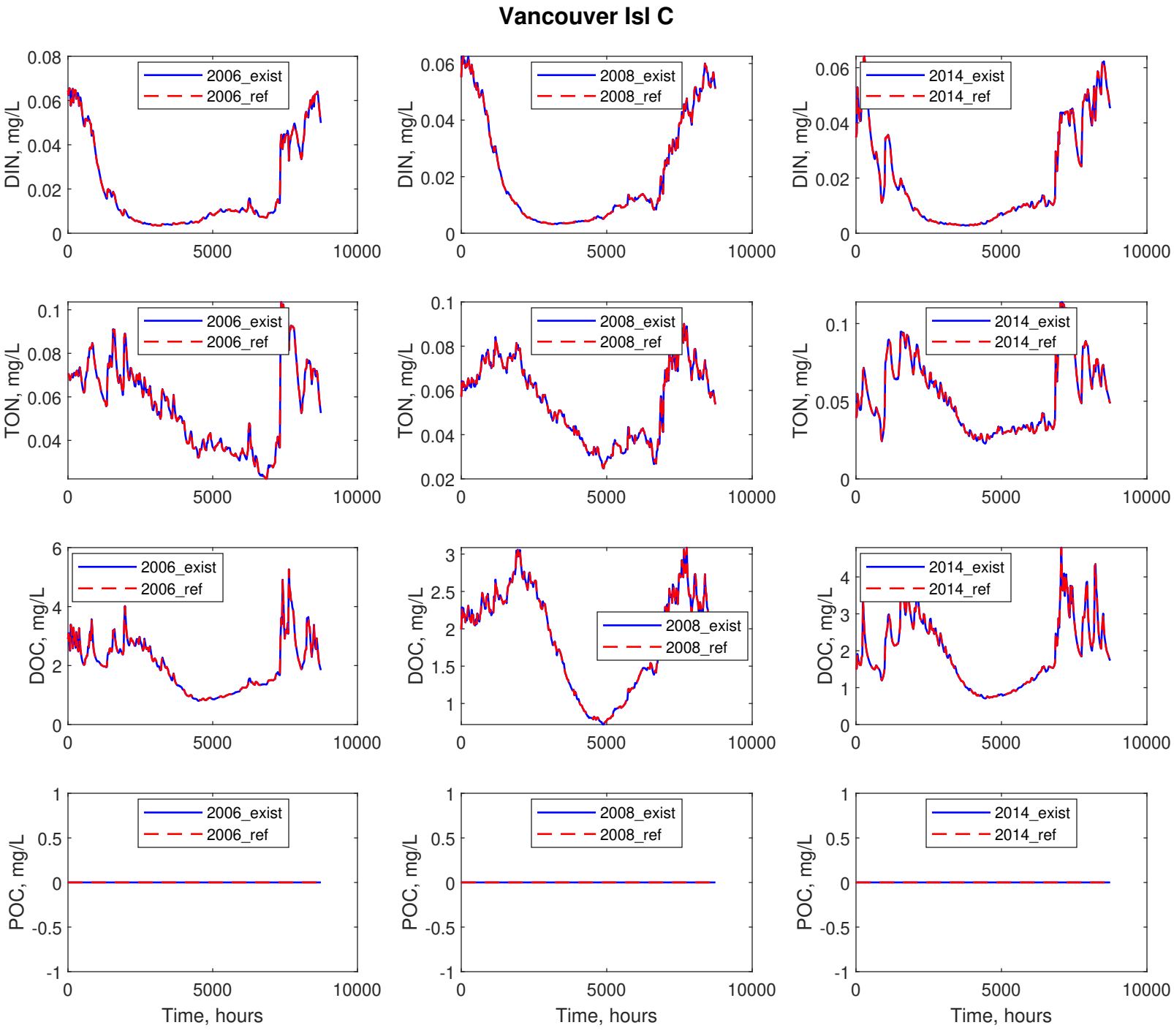

Port Angeles
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

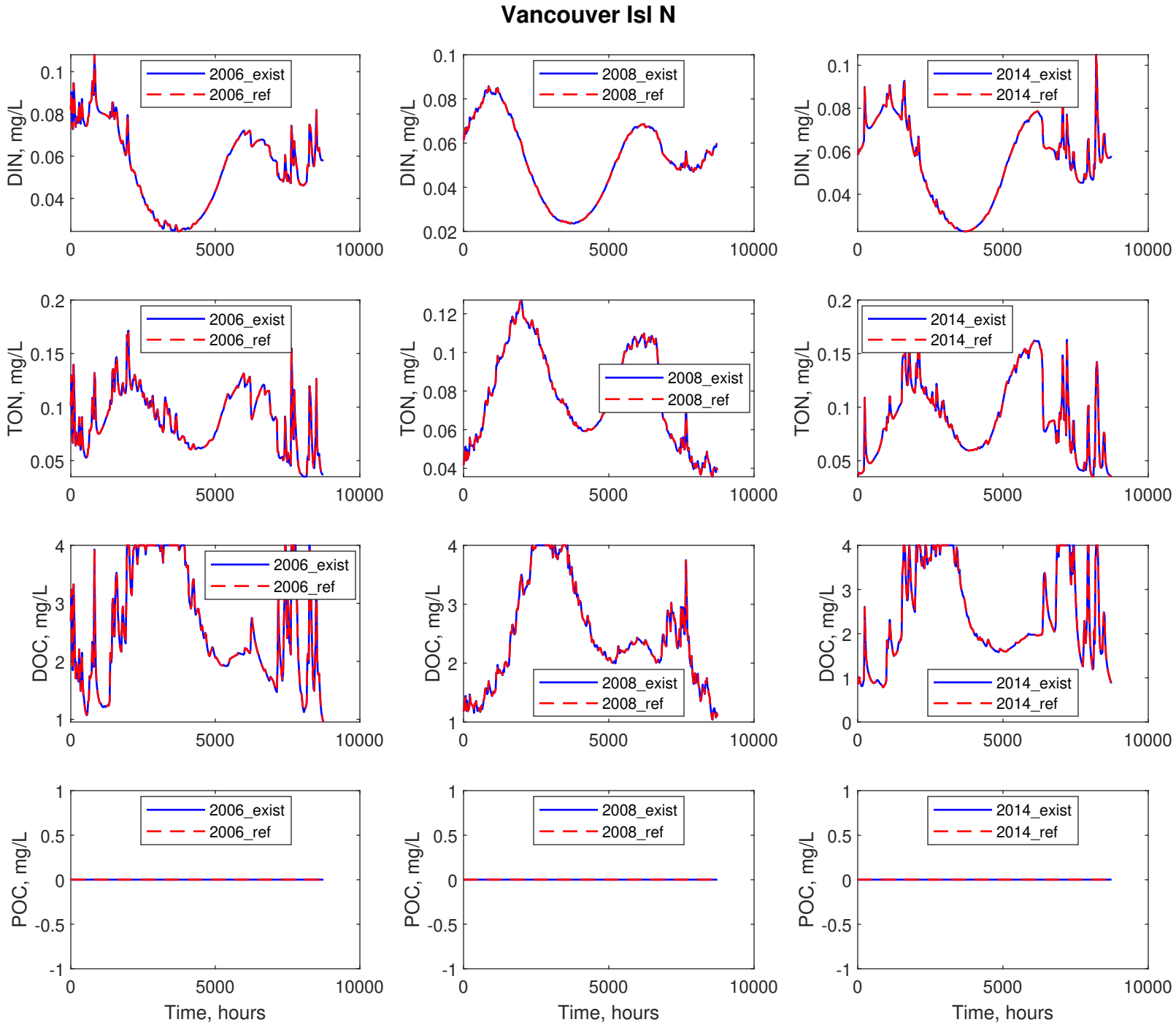

Sequim Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

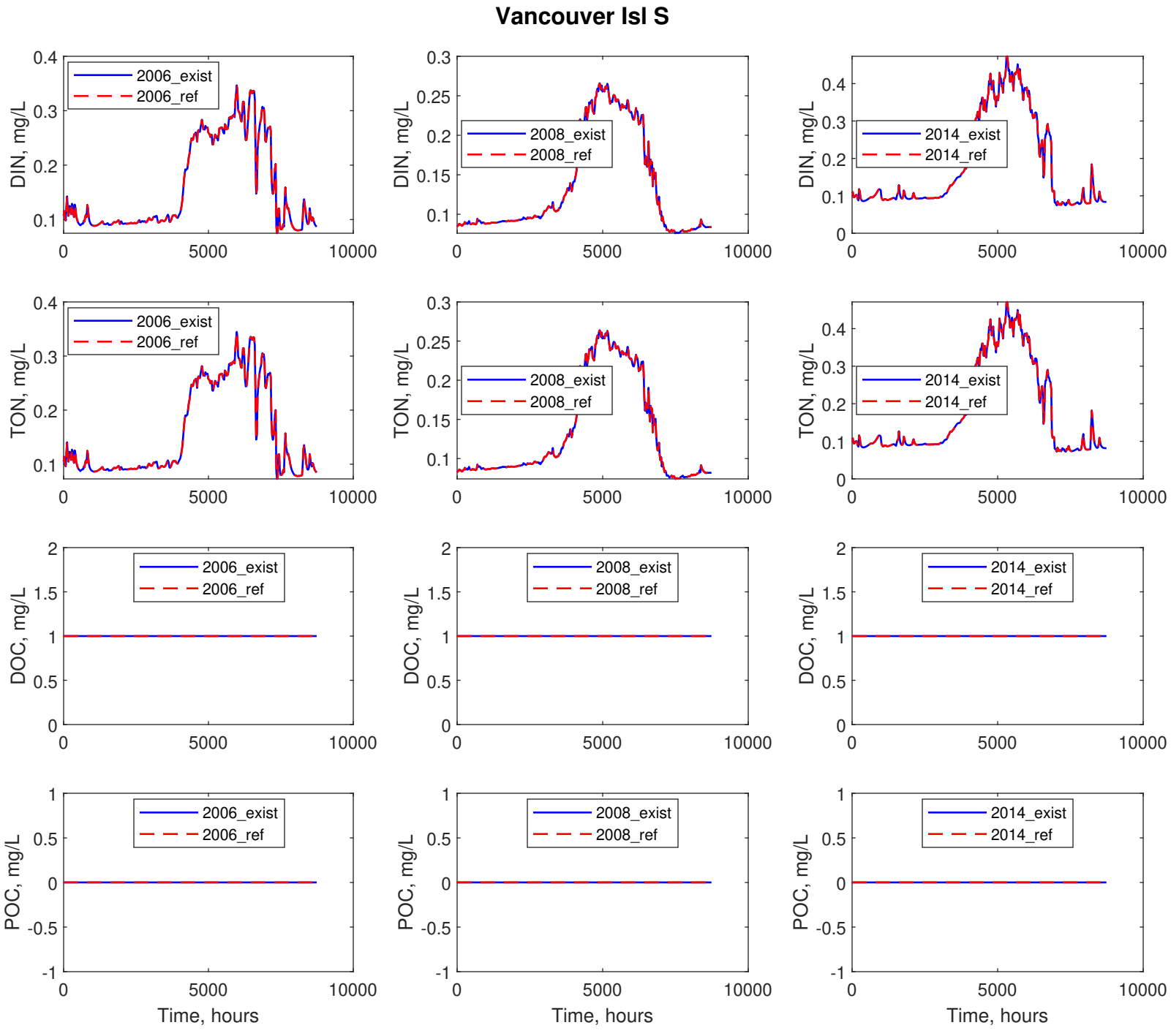

Fraser R
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

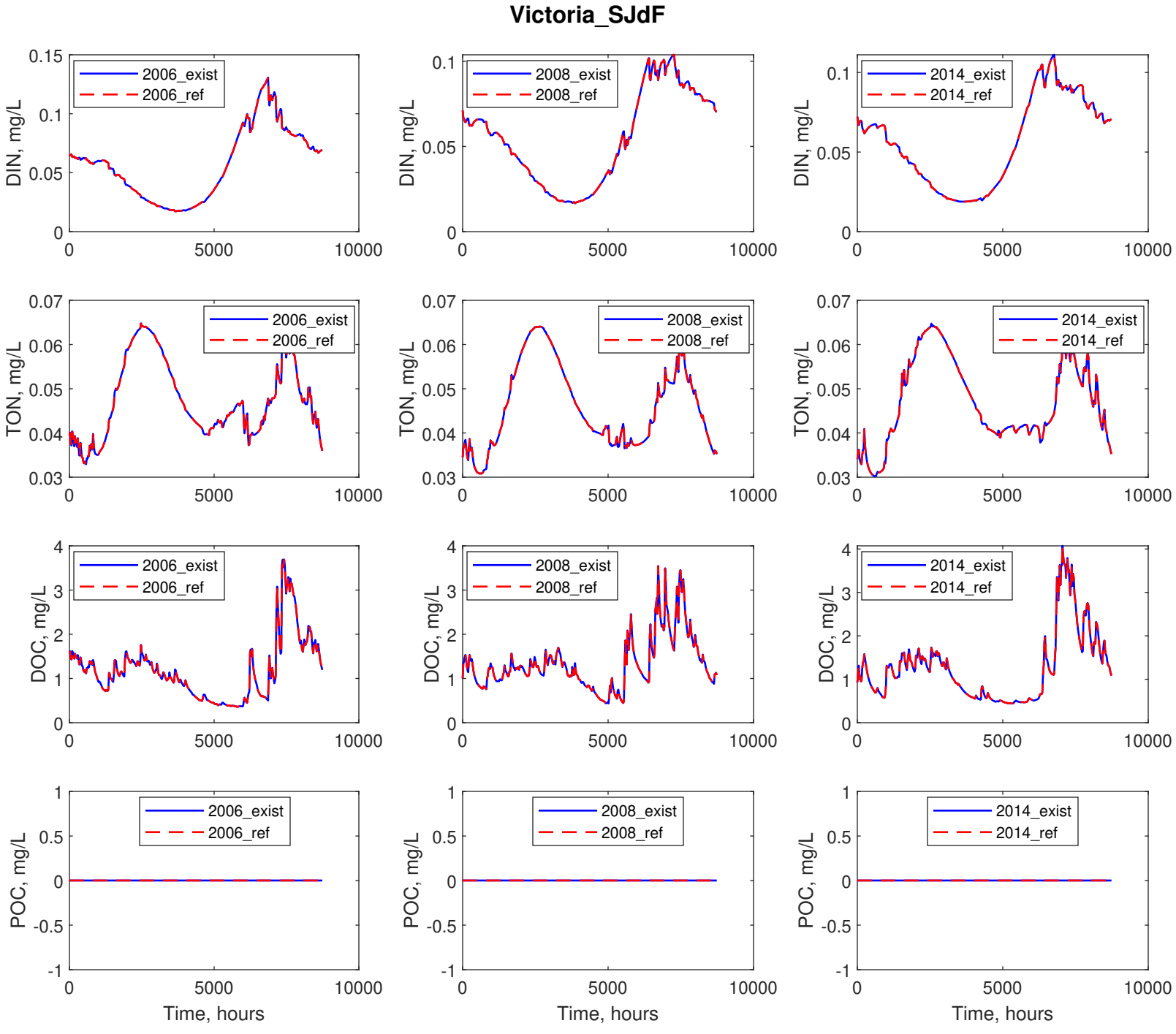

Howe Sound
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

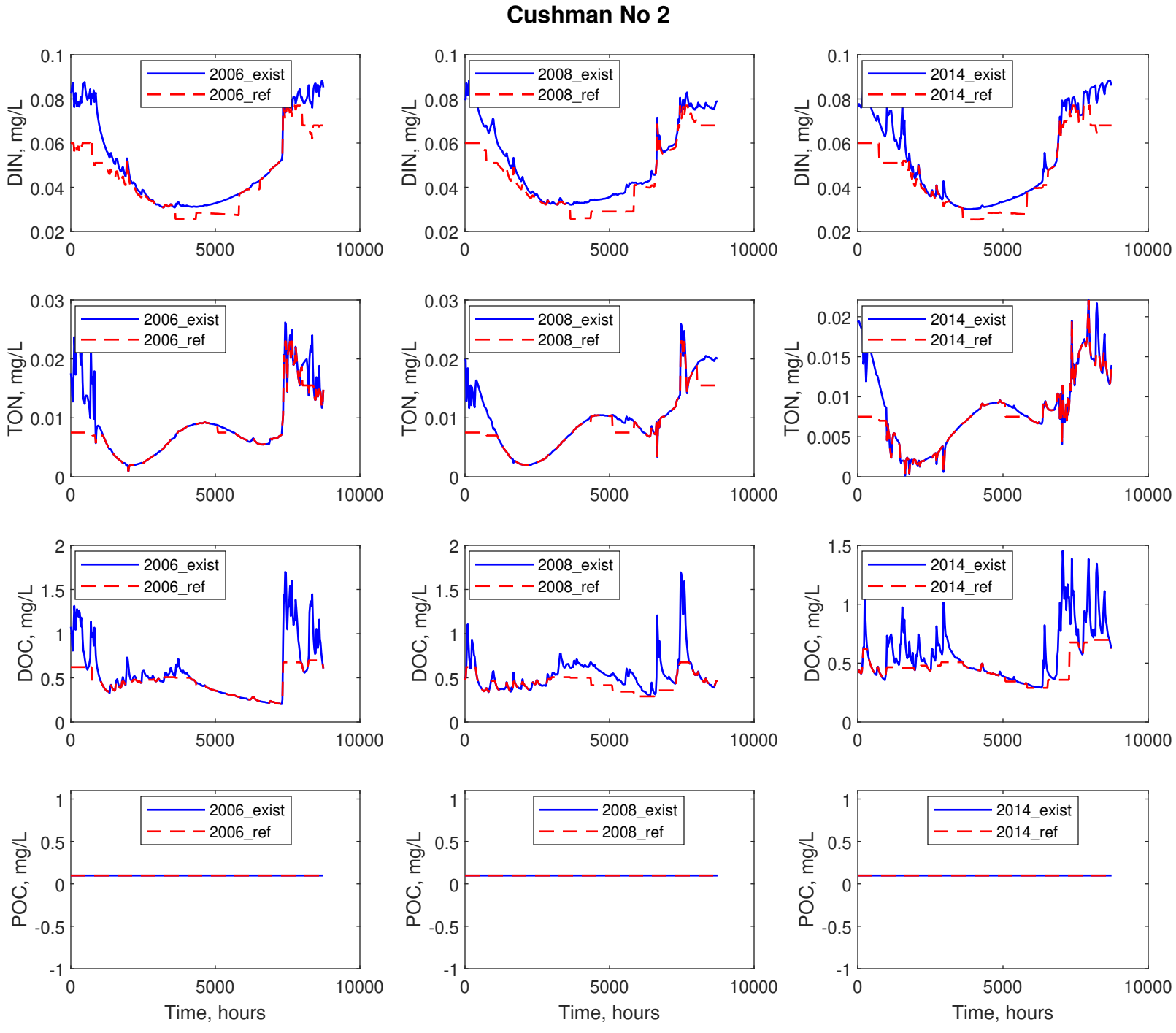

Sunshine Coast
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours


Vancouver Isl C
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

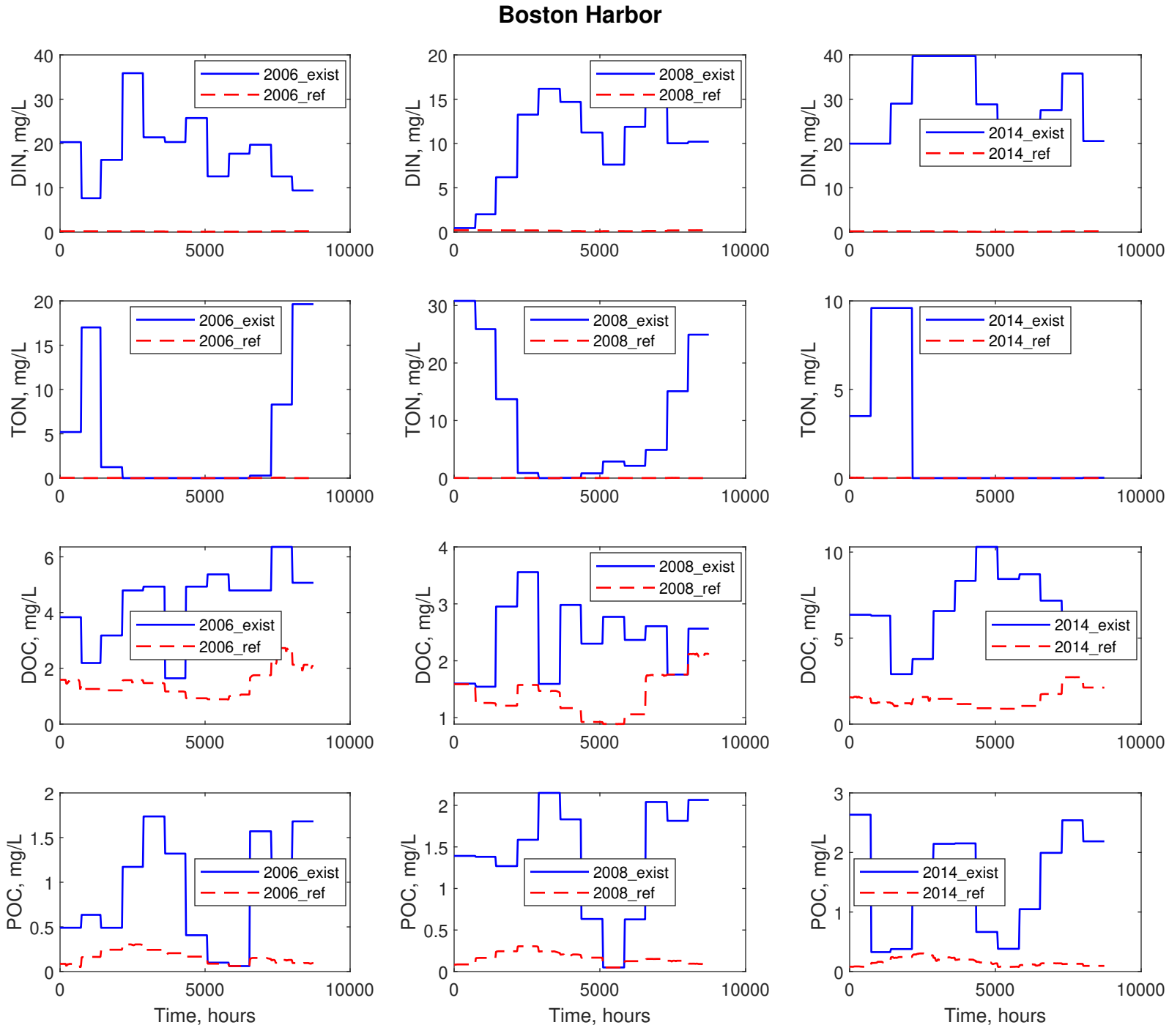

Vancouver Isl N
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

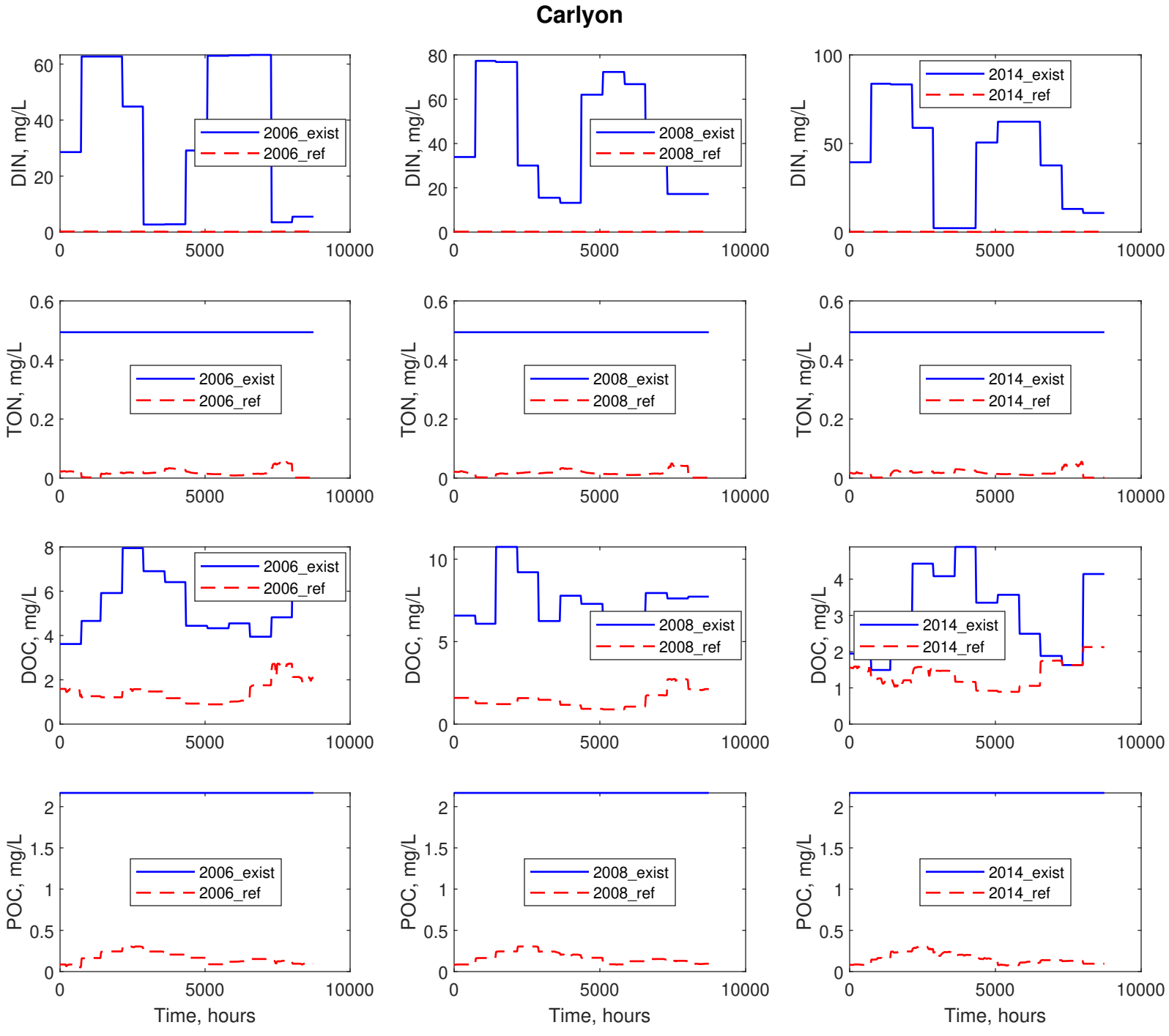

Vancouver Isl S
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

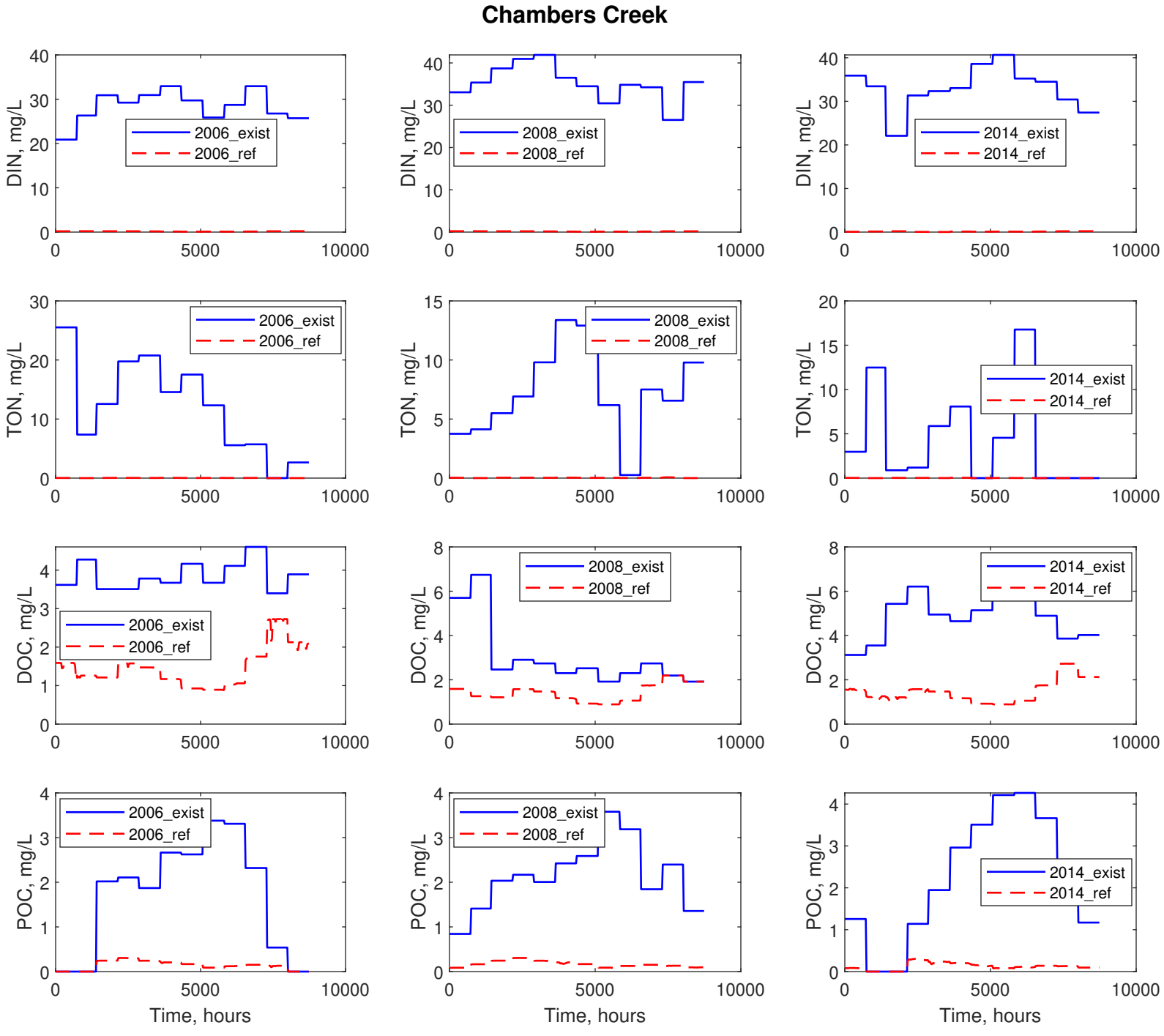

Victoria_SJdF
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

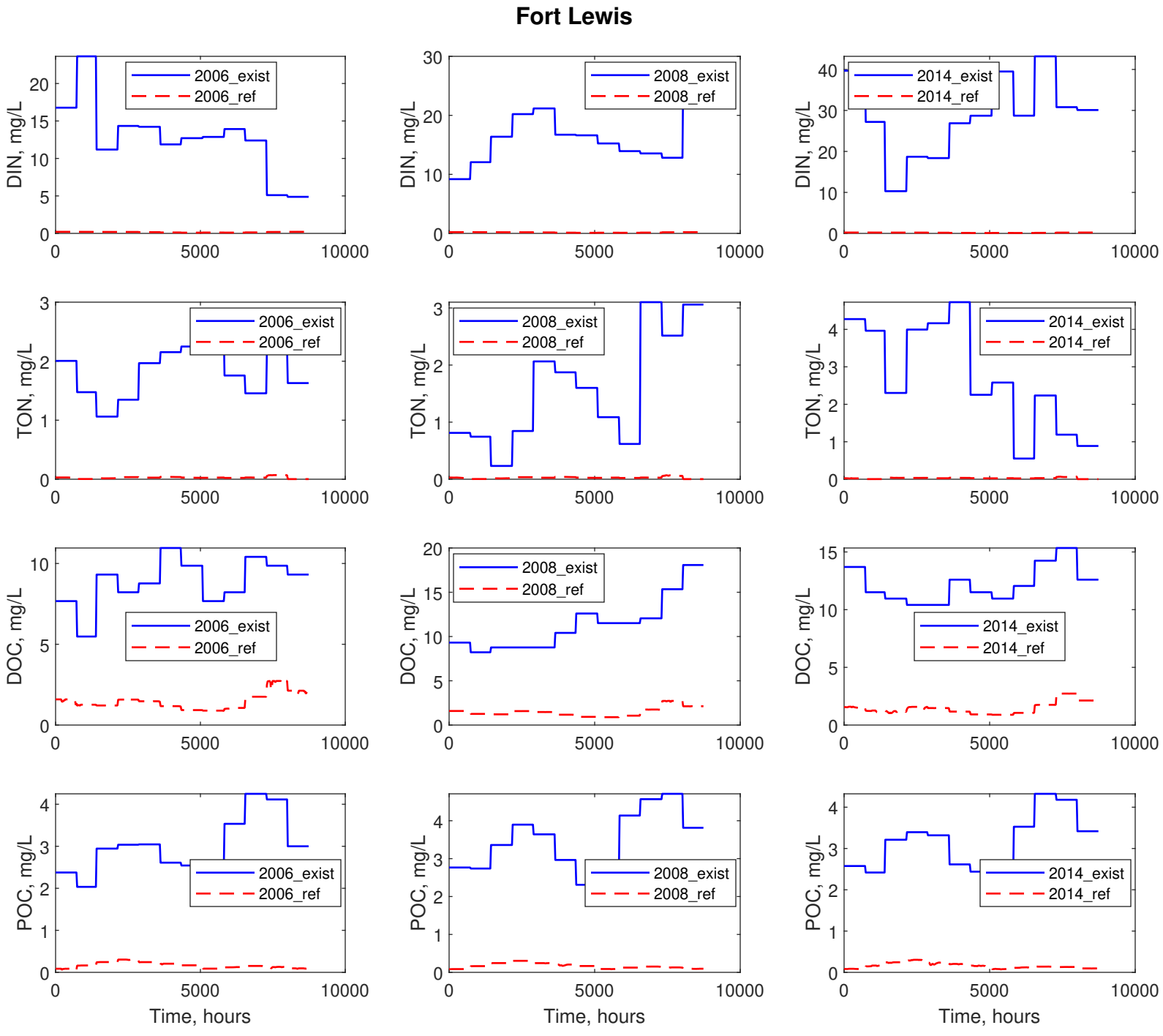

Cushman No 2
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

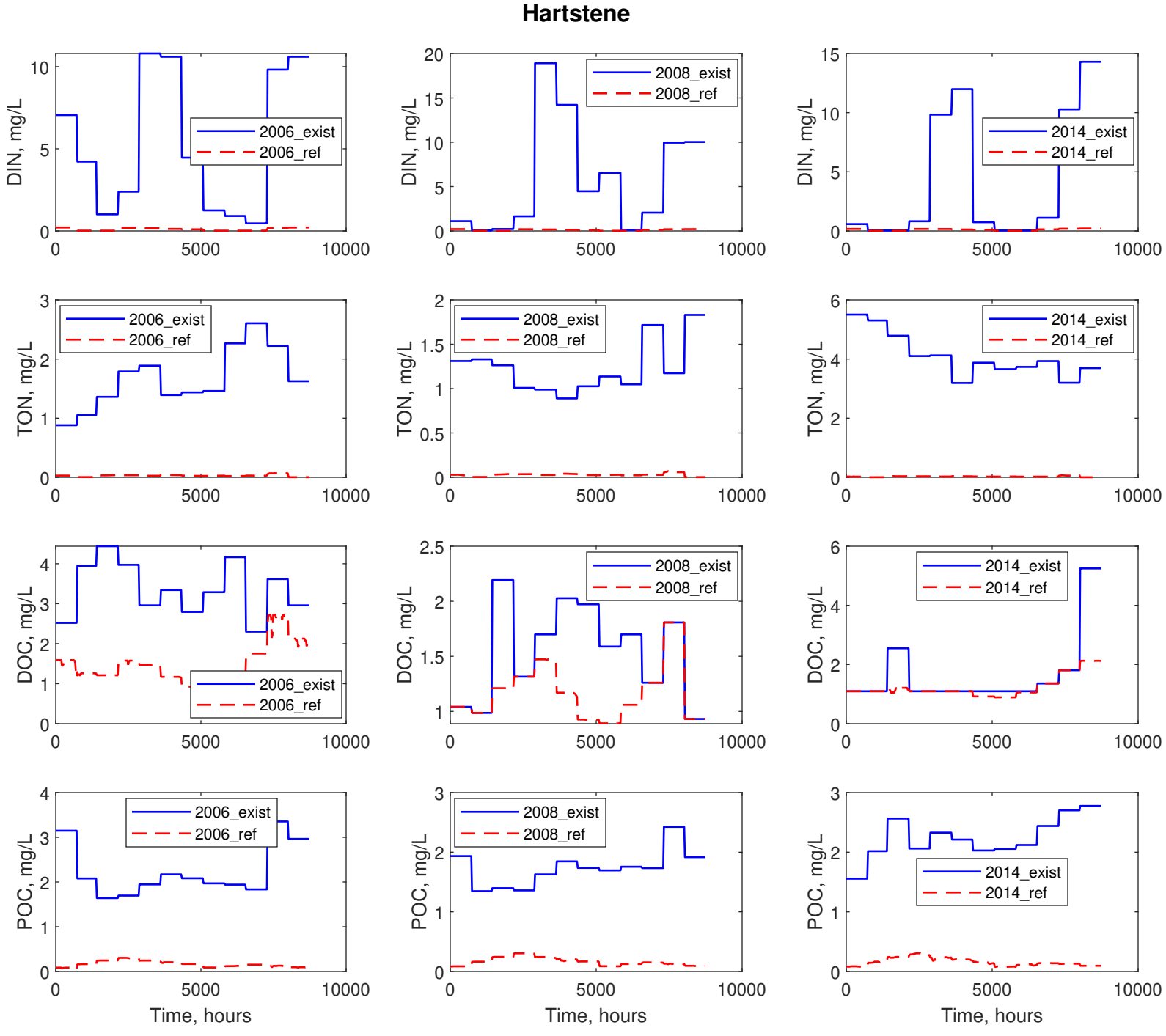
Appendix A8
Marine Point Source Inflow Water Quality for 2006, 2008 and 2014

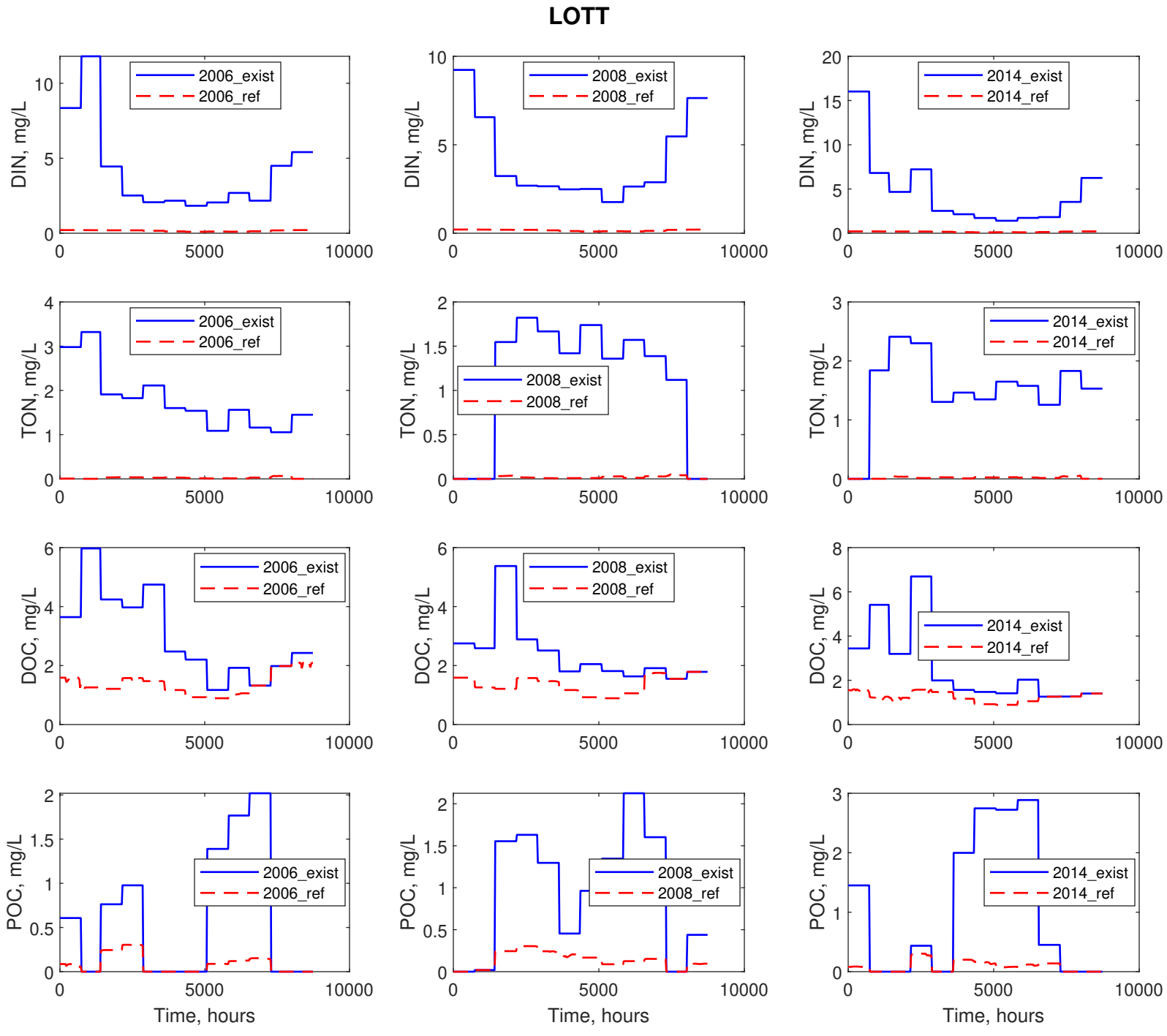

Boston Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

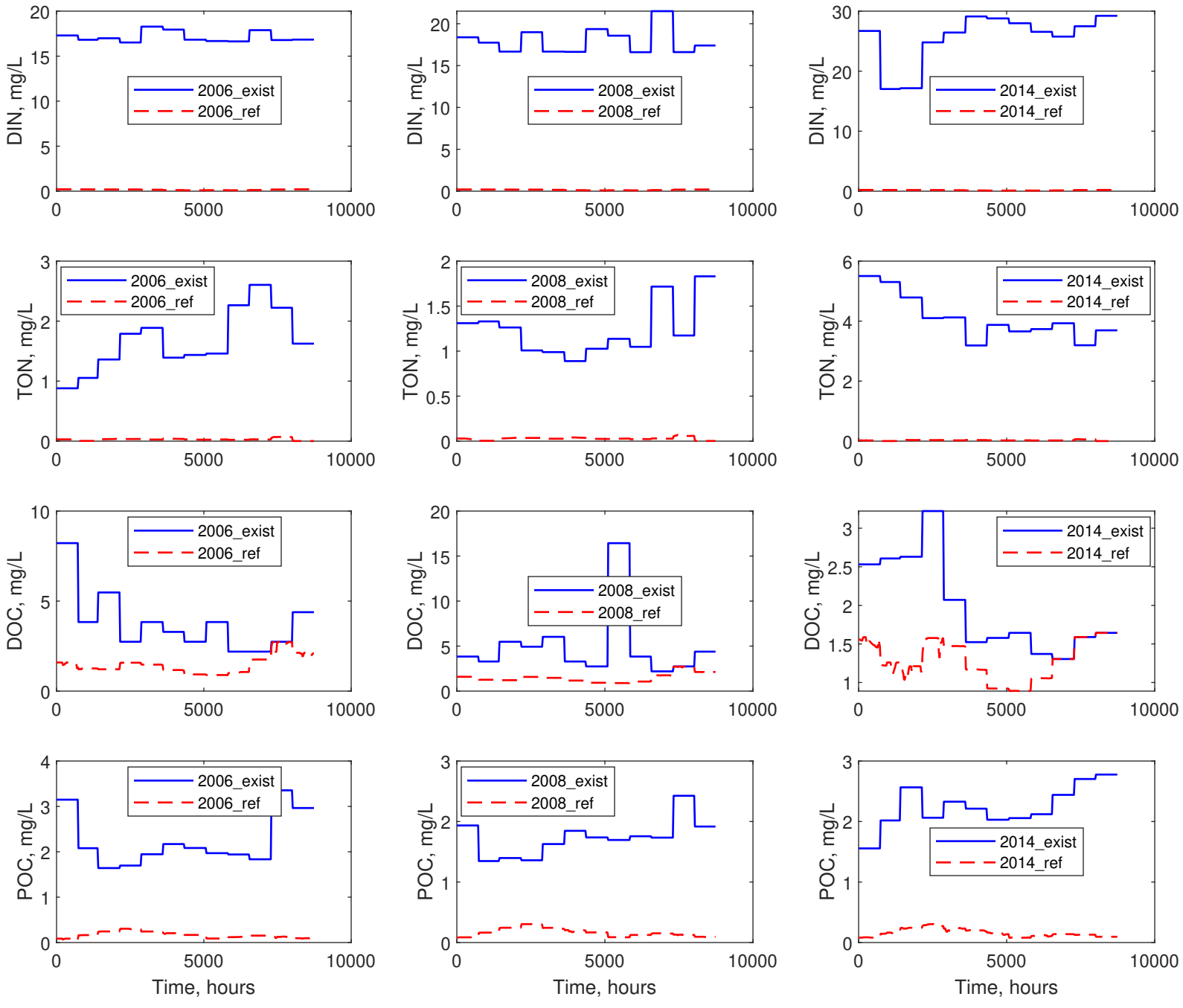

Carlyon
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

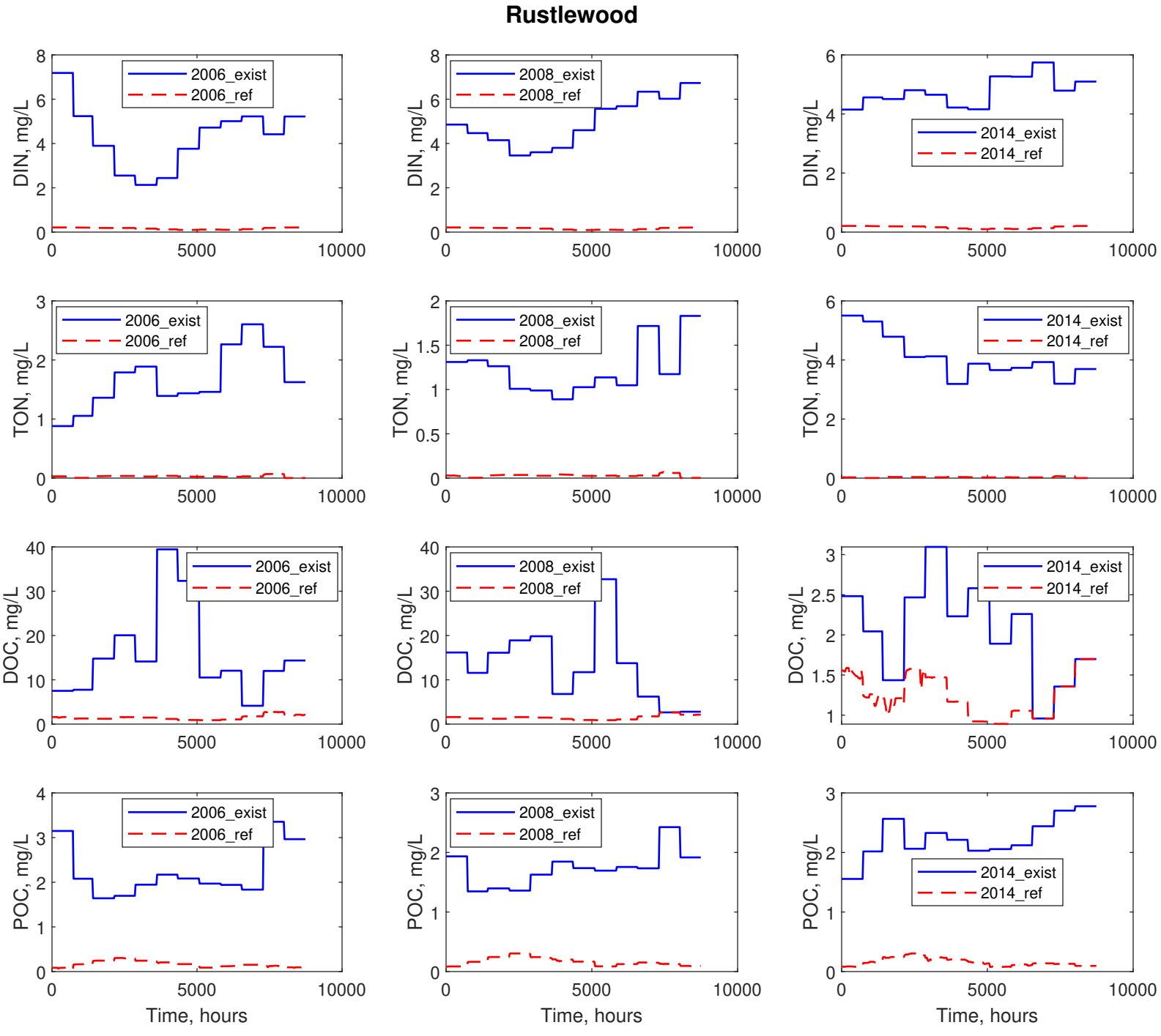

Chambers Creek
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

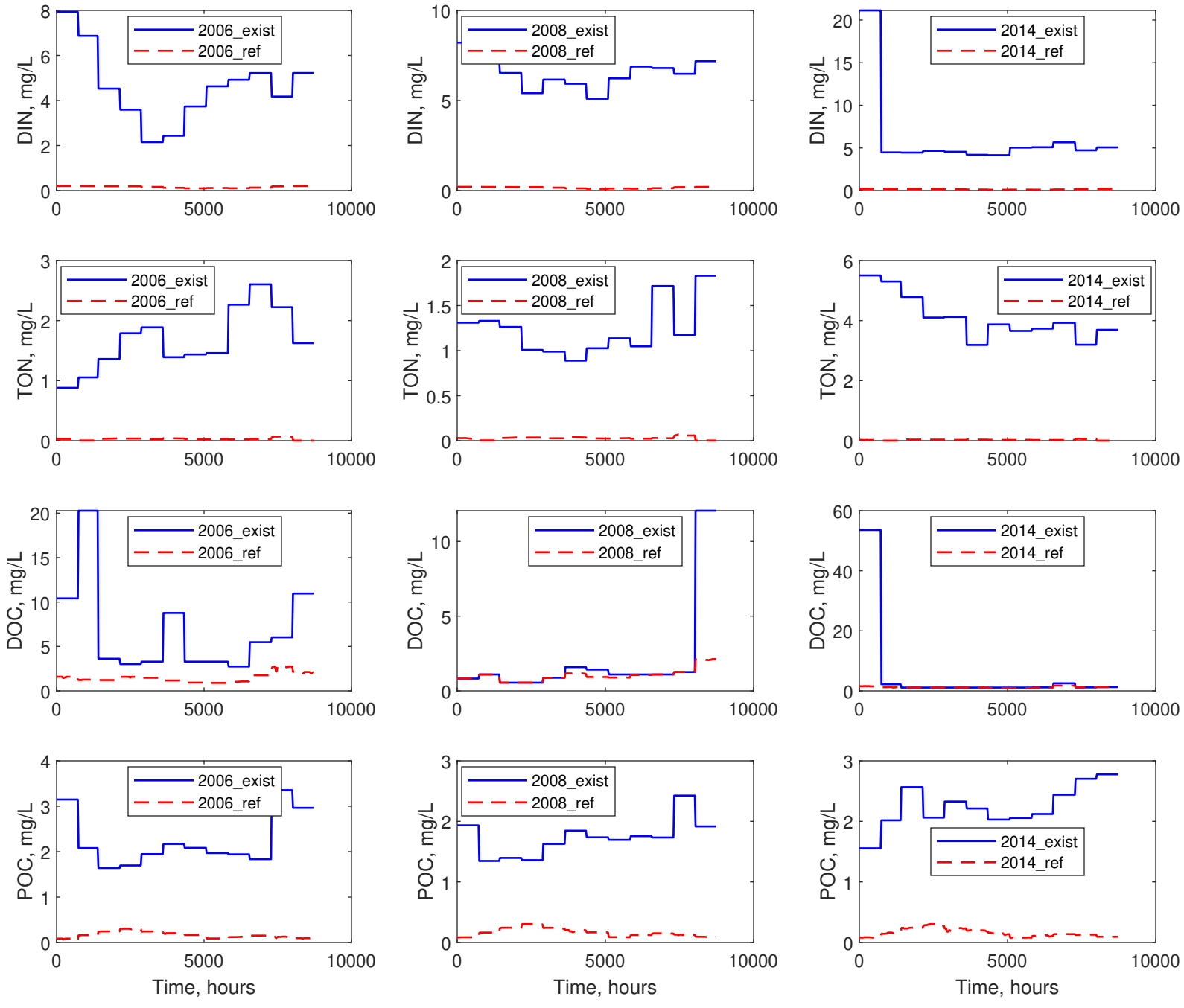

Fort Lewis
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

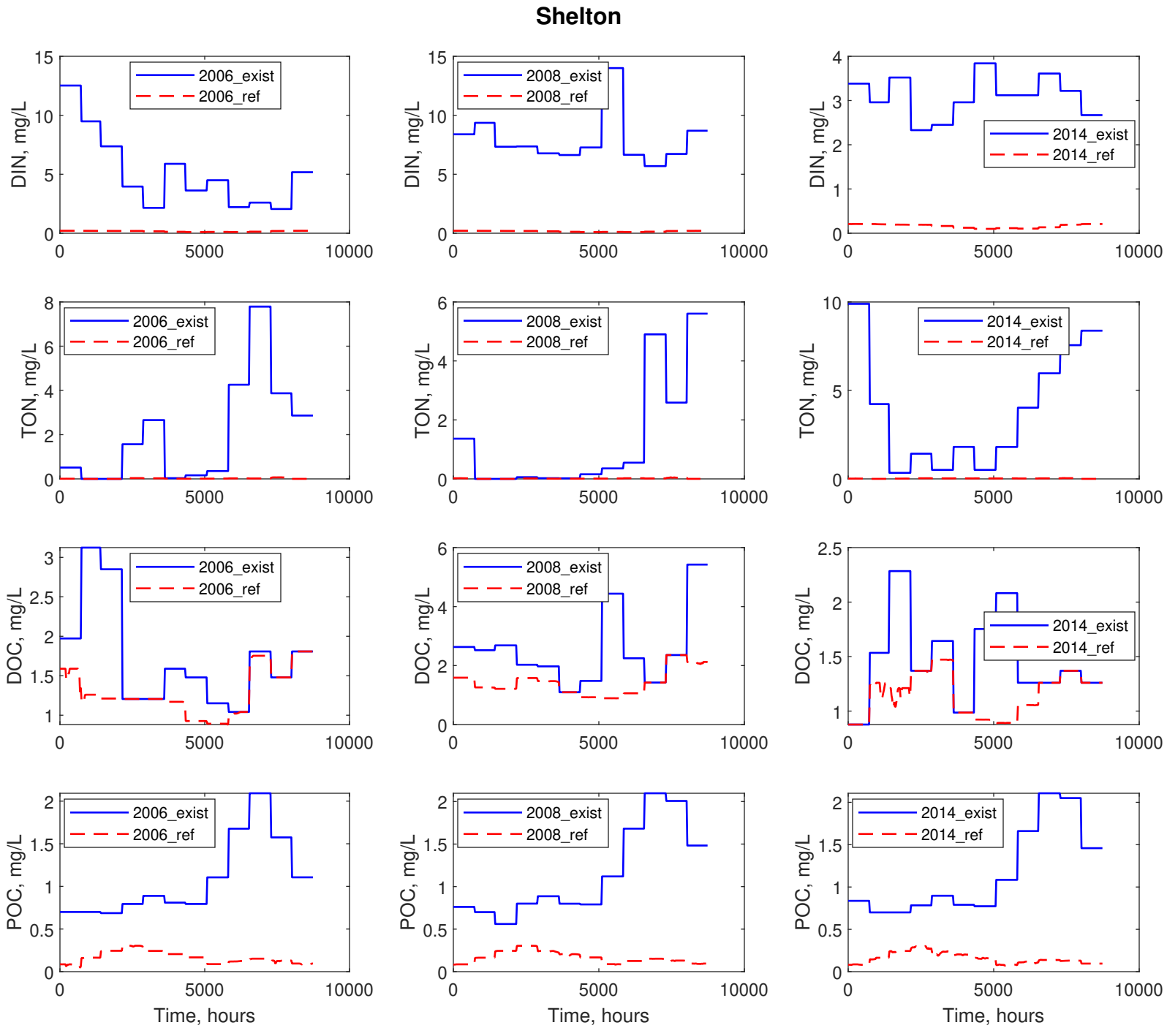

Hartstene
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

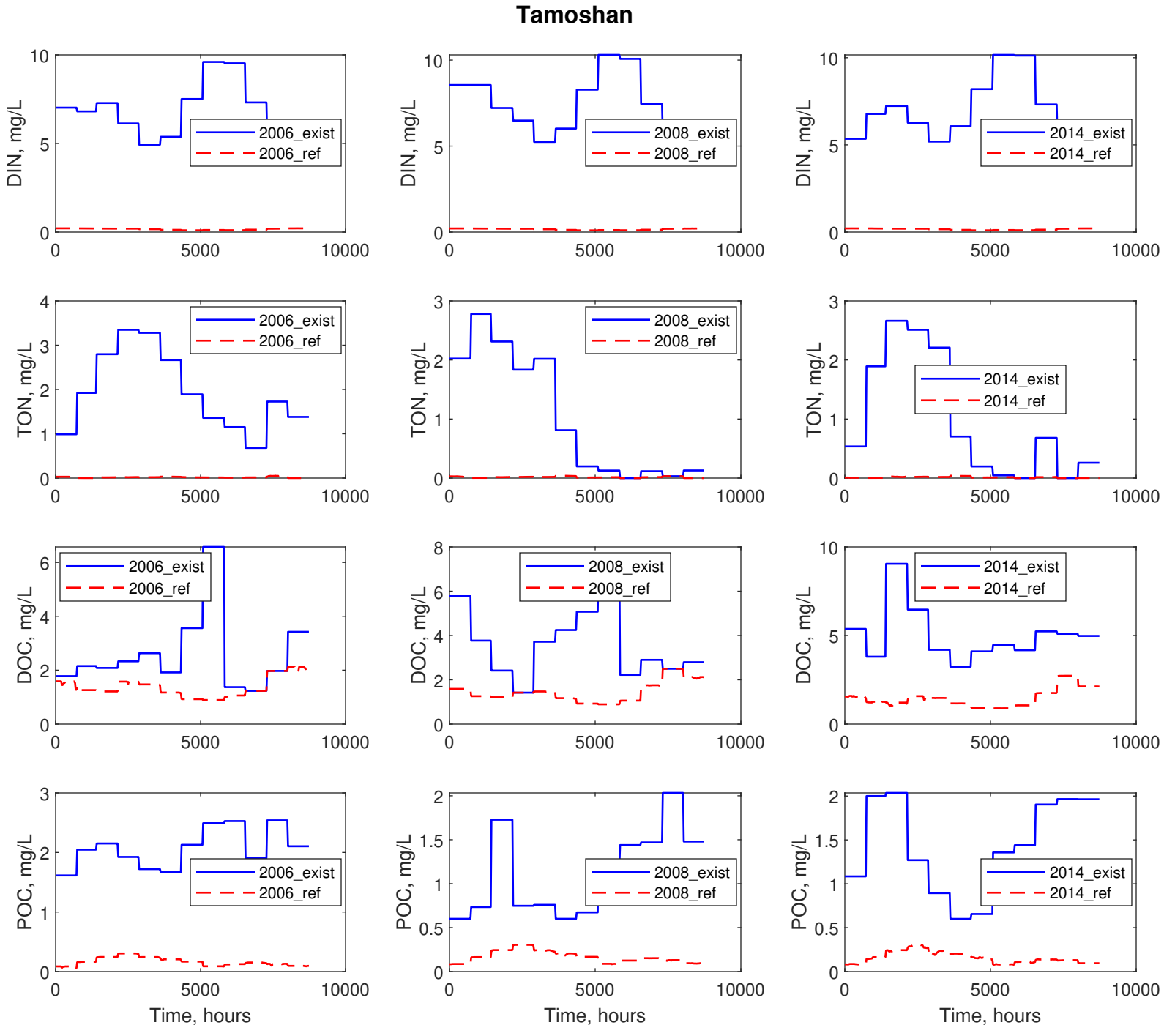

LOTT
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

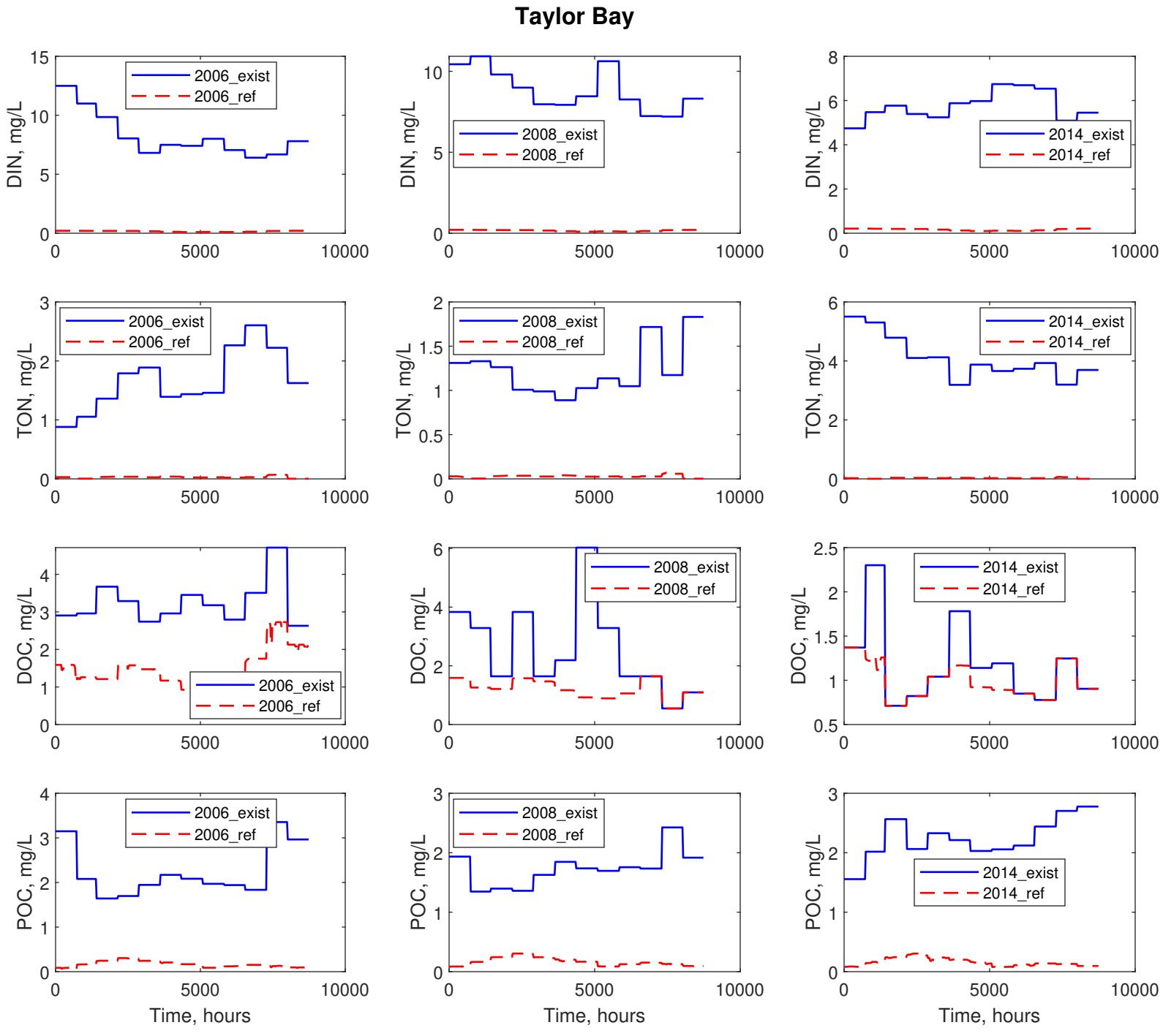

McNeil Is
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

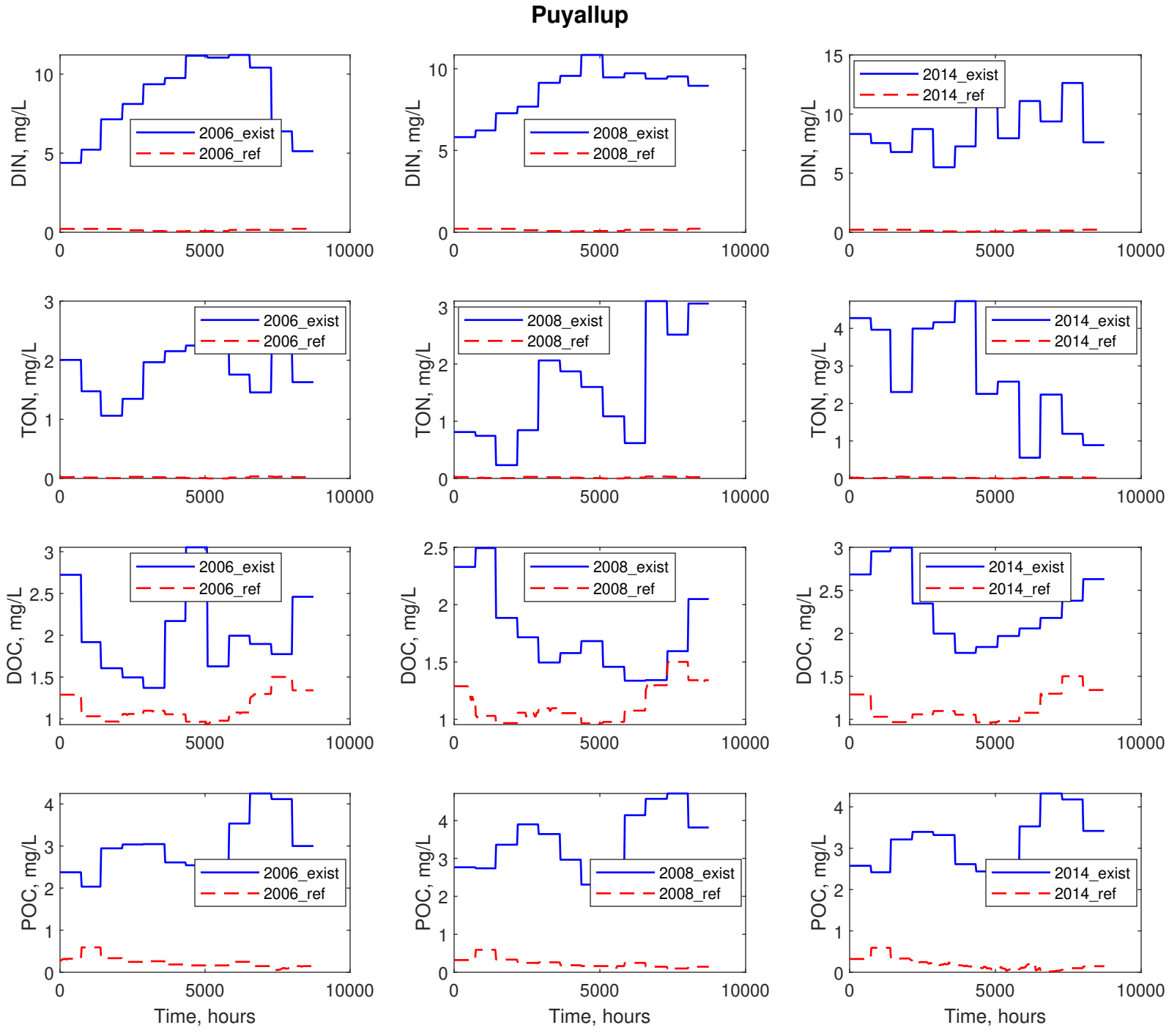

Rustlewood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

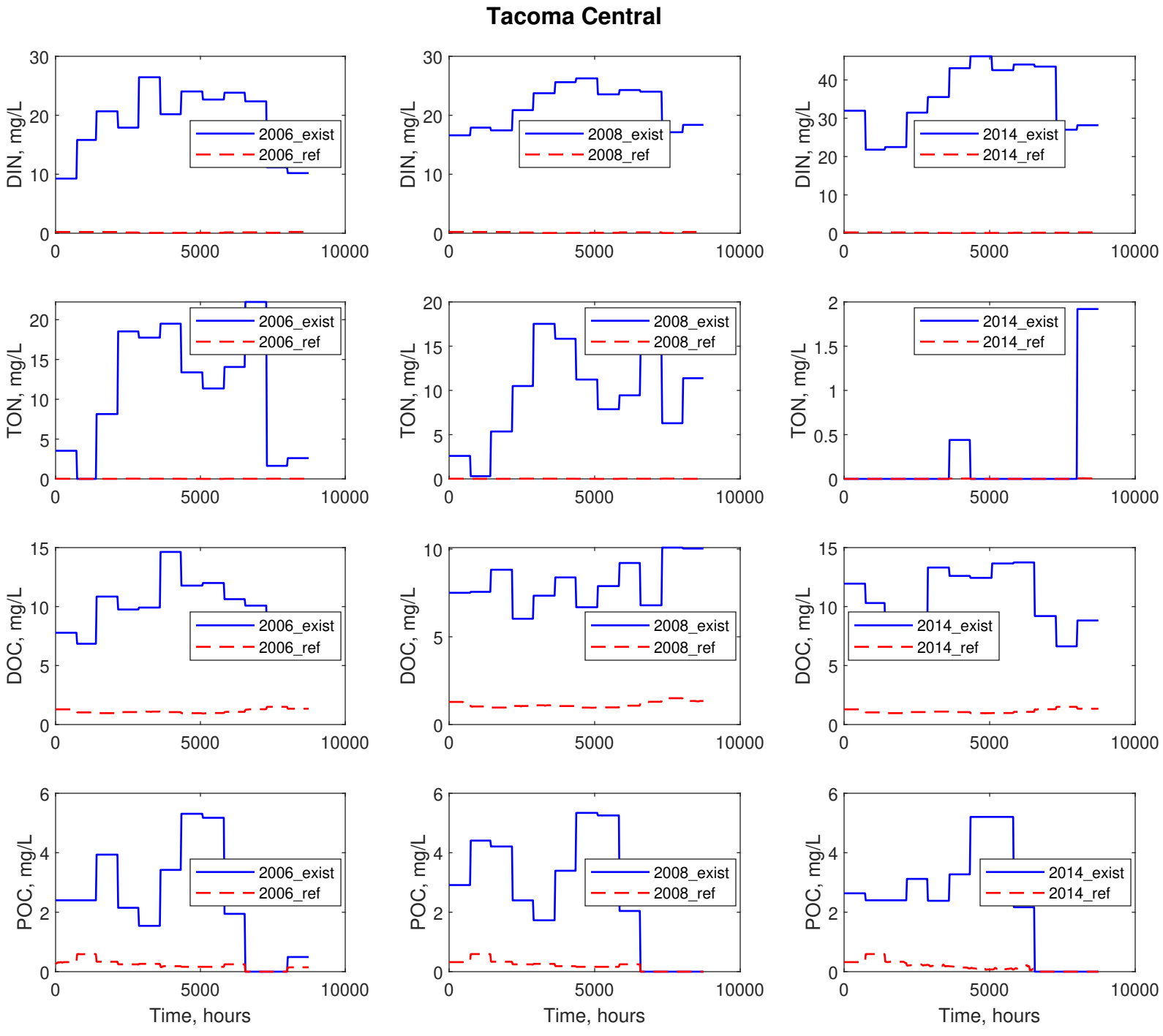

Seashore Villa
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

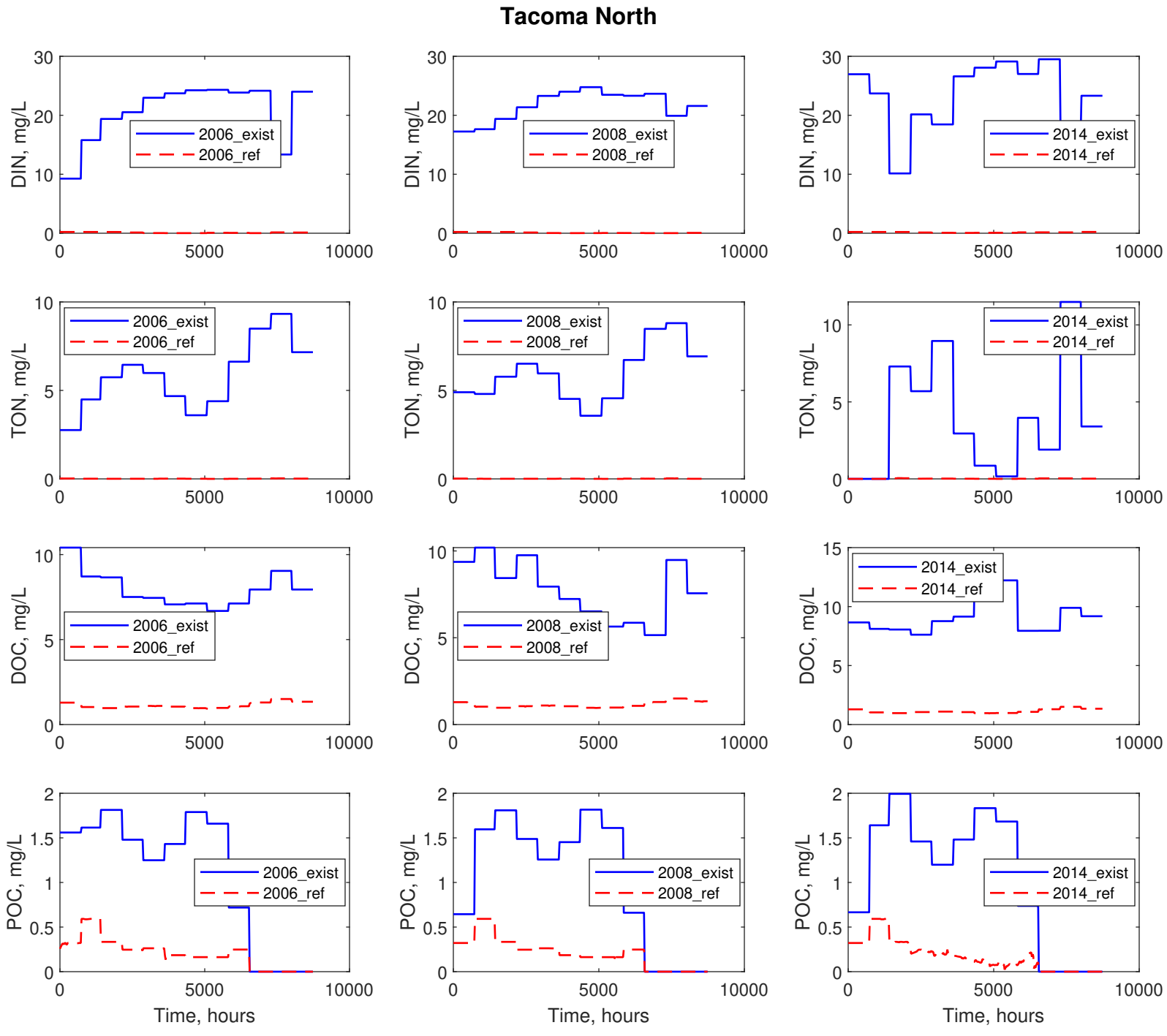

Shelton
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

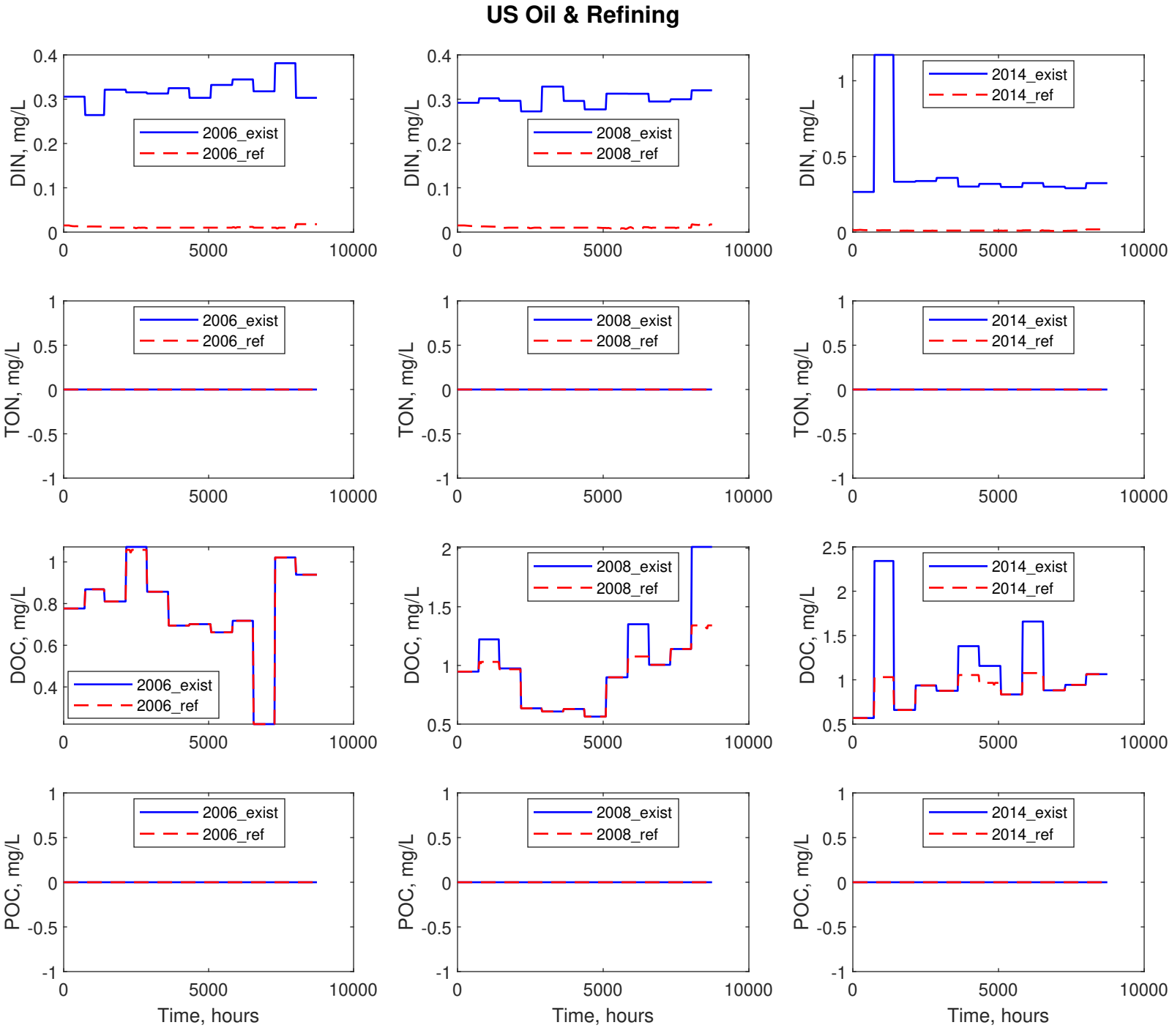

Tamoshan
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

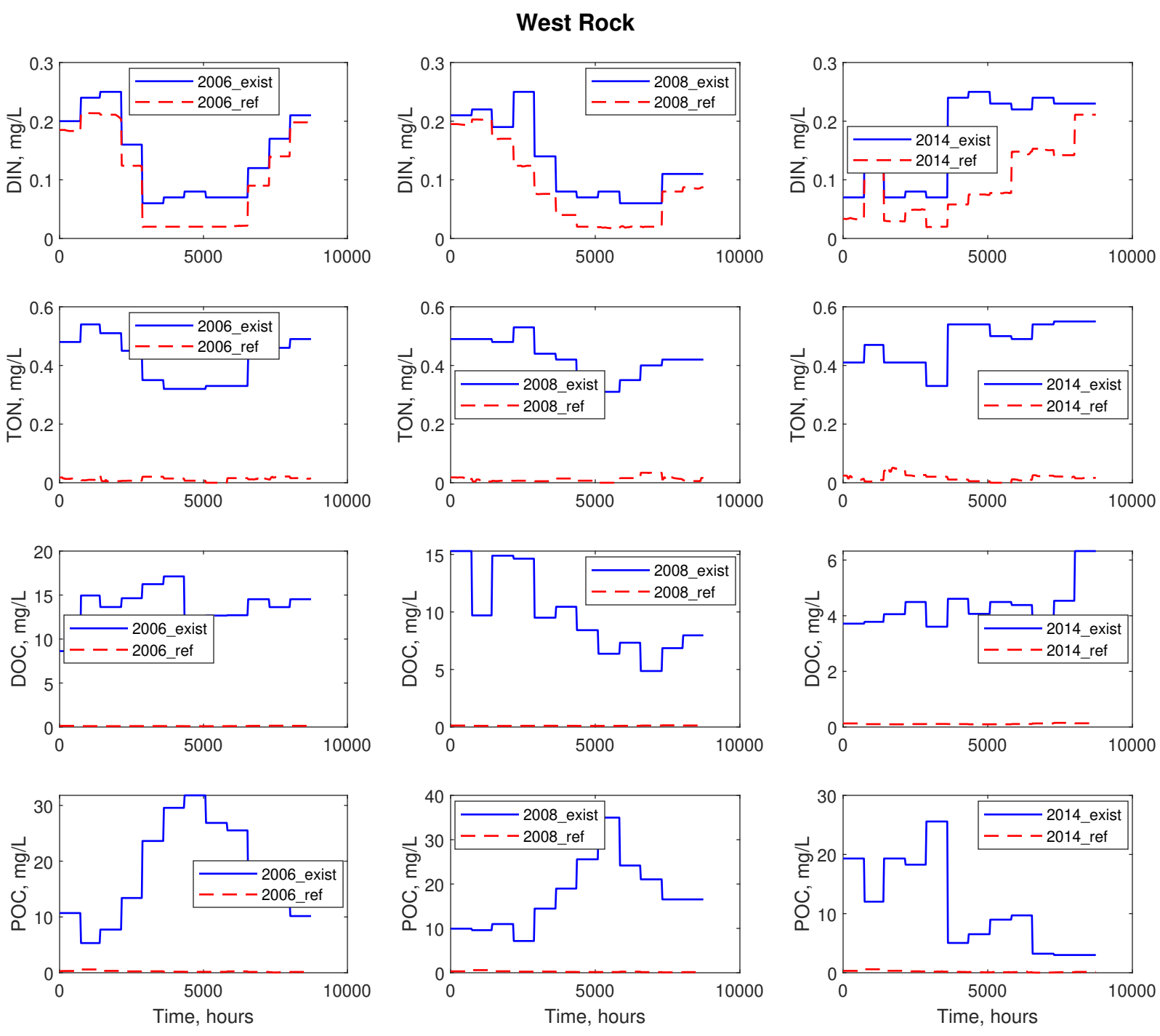

Taylor Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

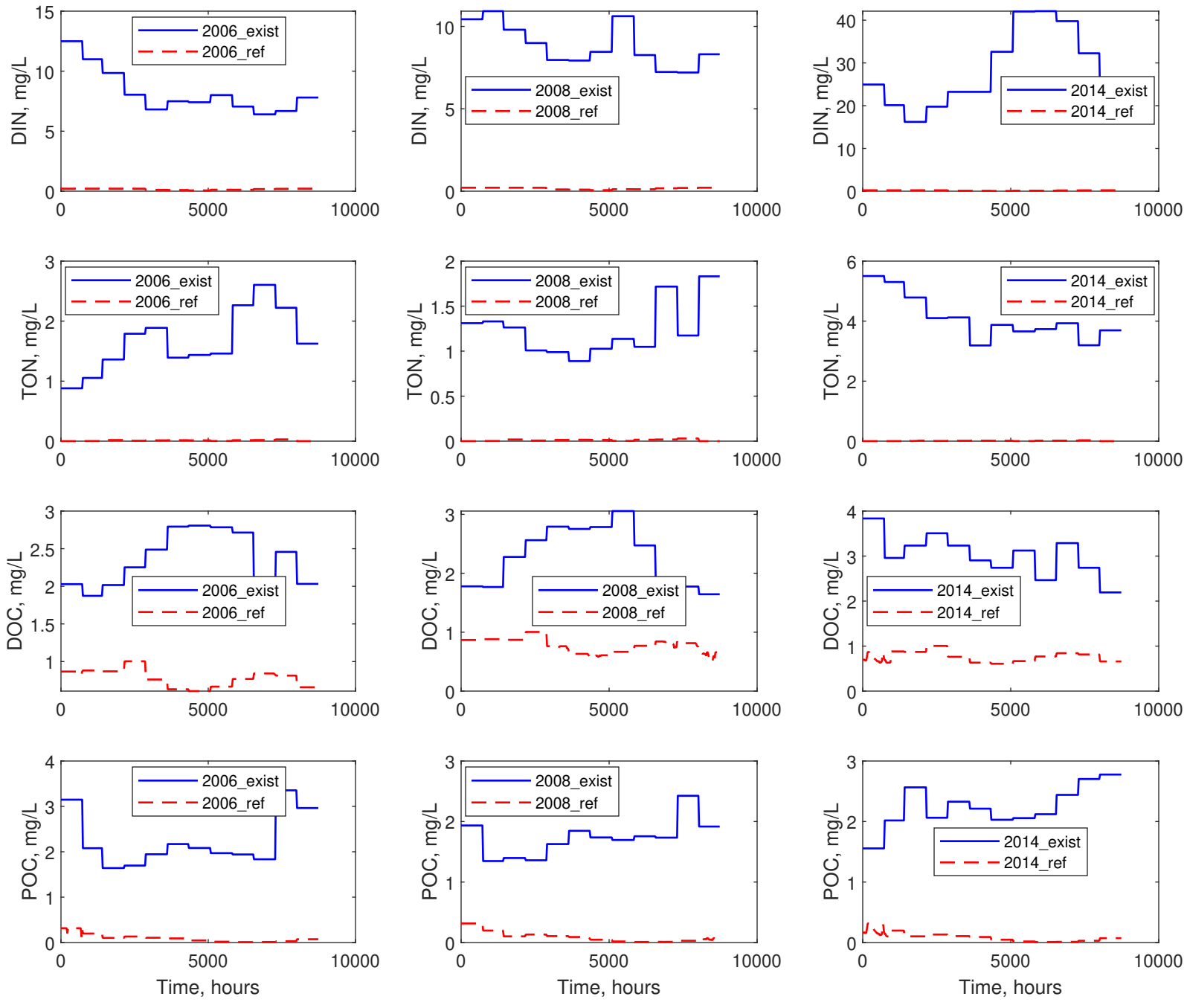

Puyallup
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

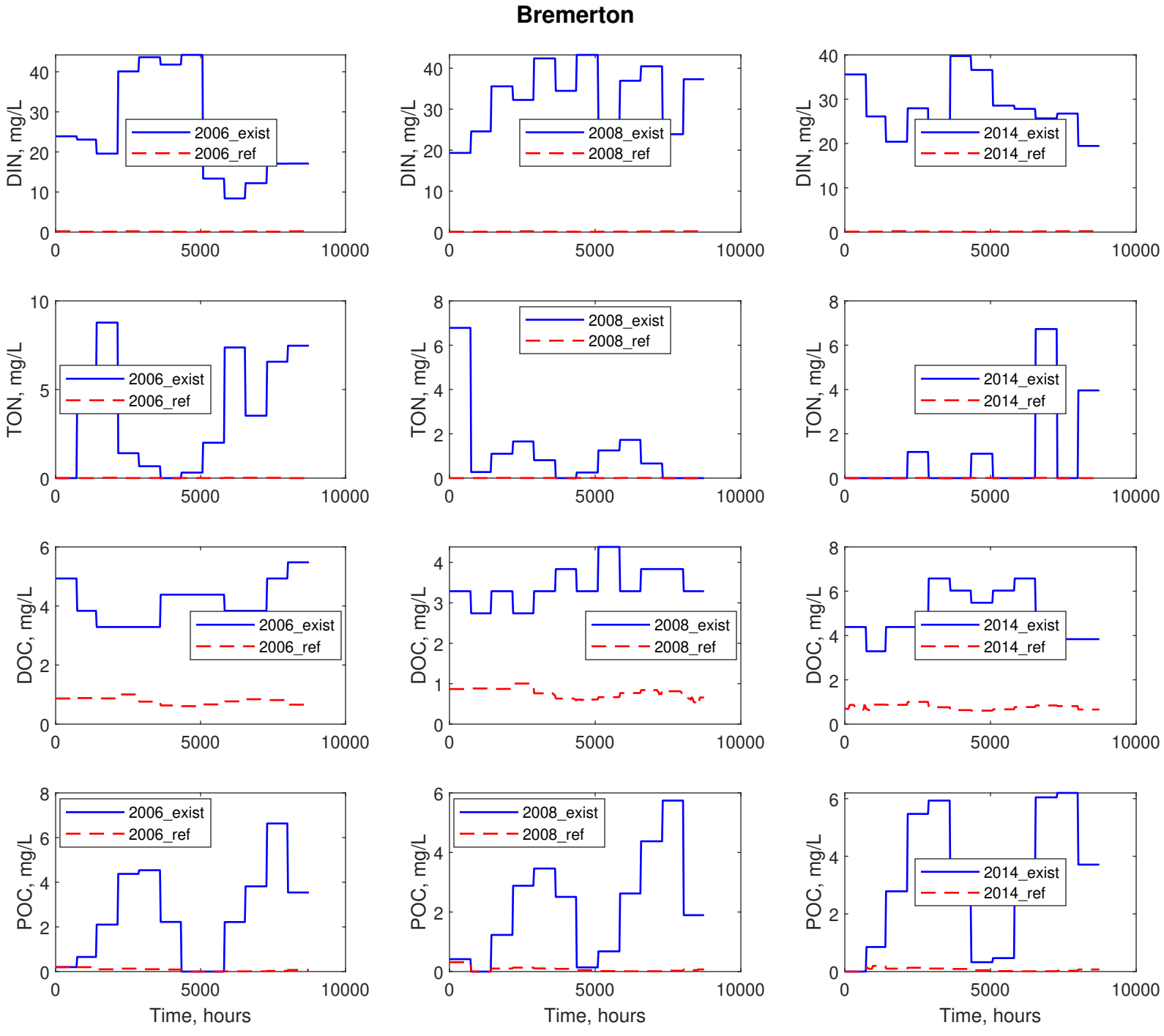

Tacoma Central
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

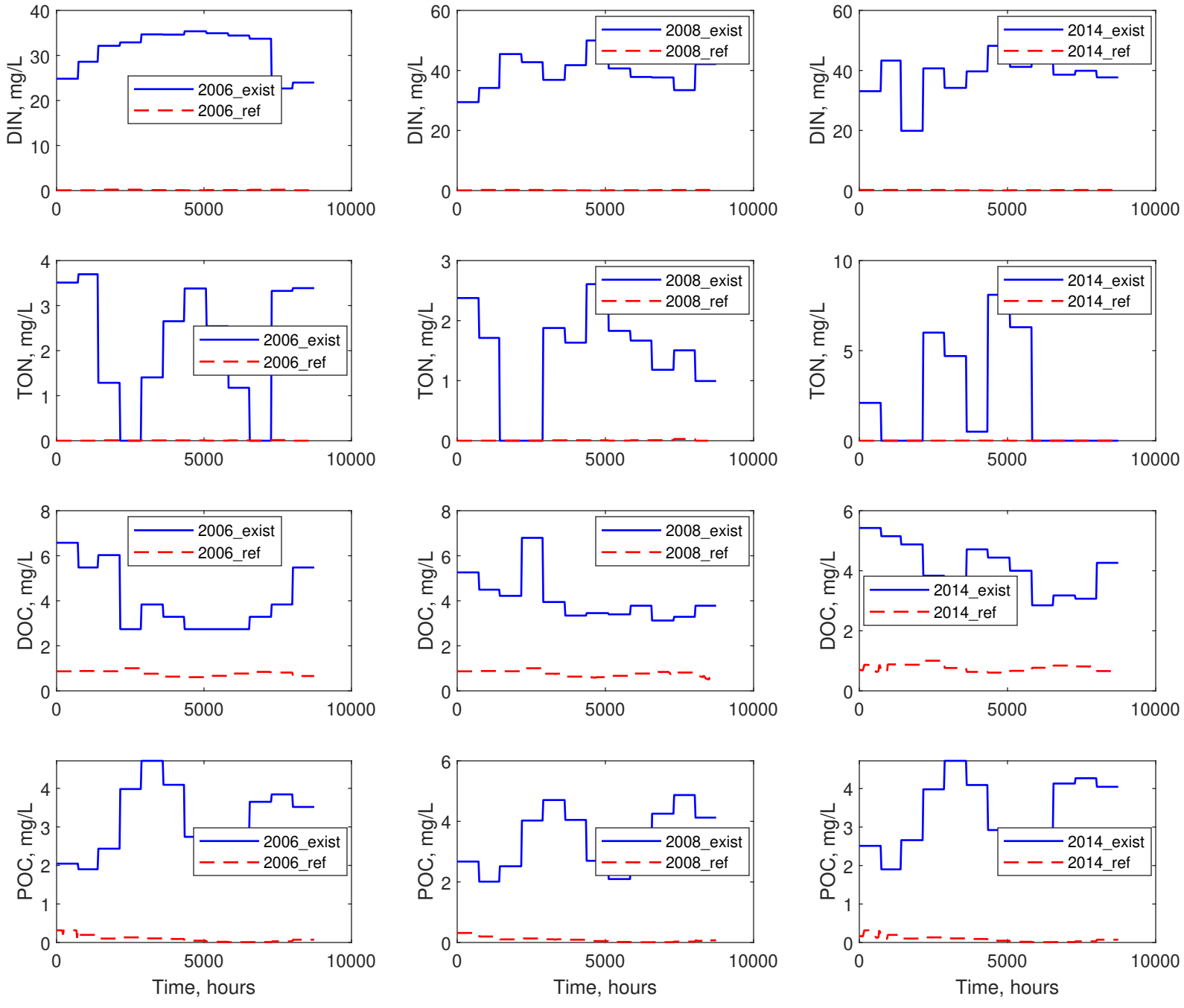

Tacoma North
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

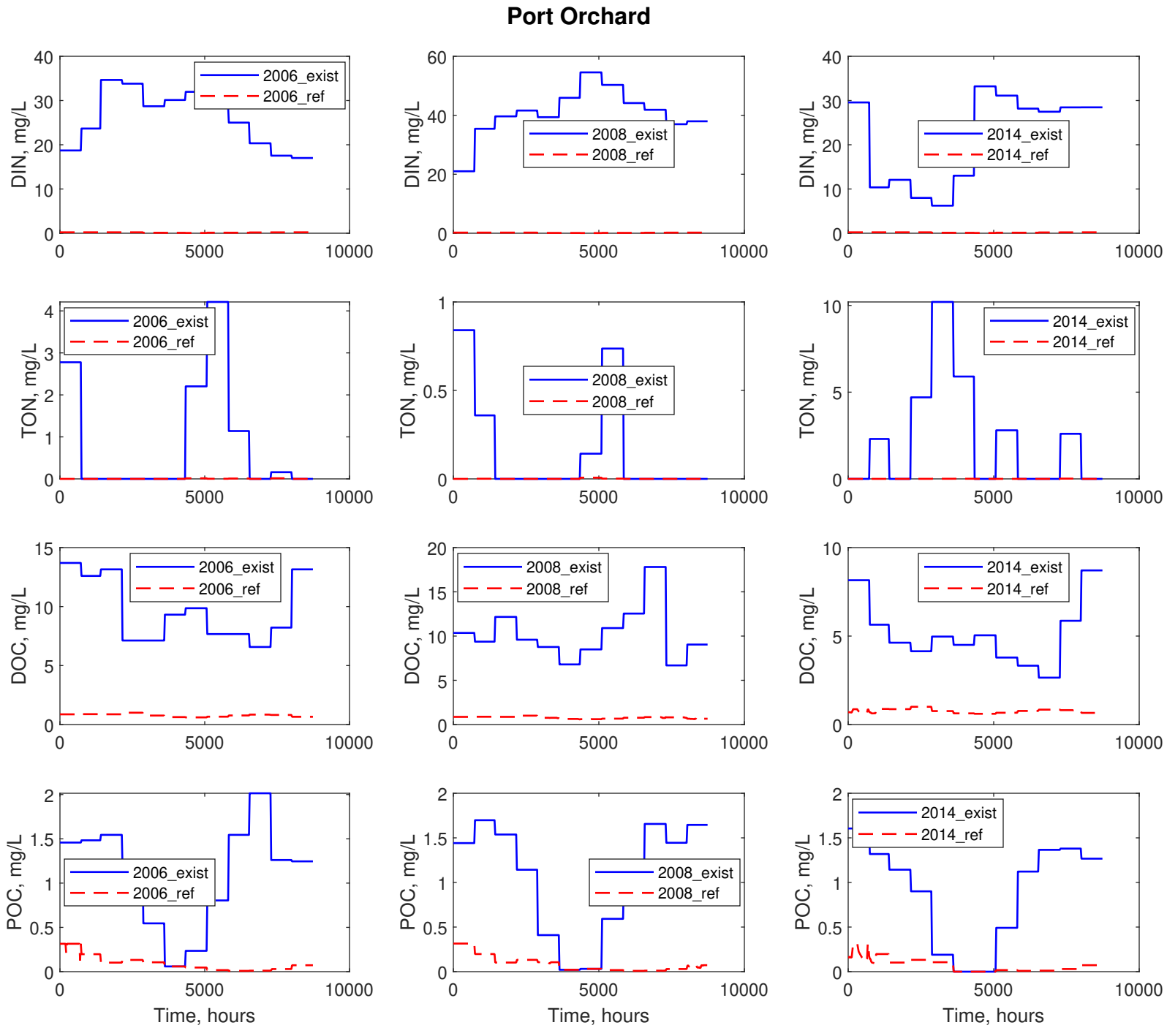

US Oil & Refining
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

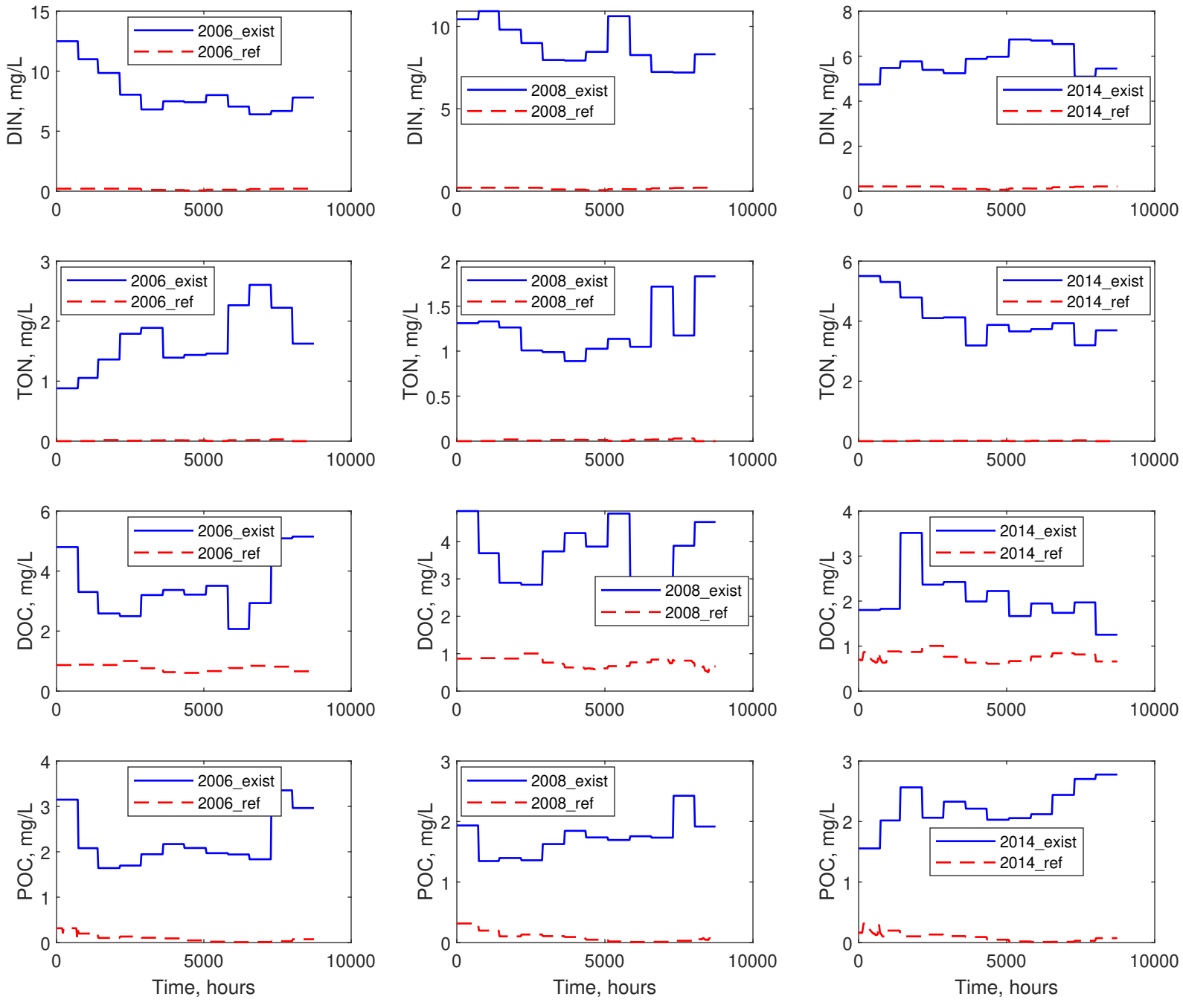

West Rock
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

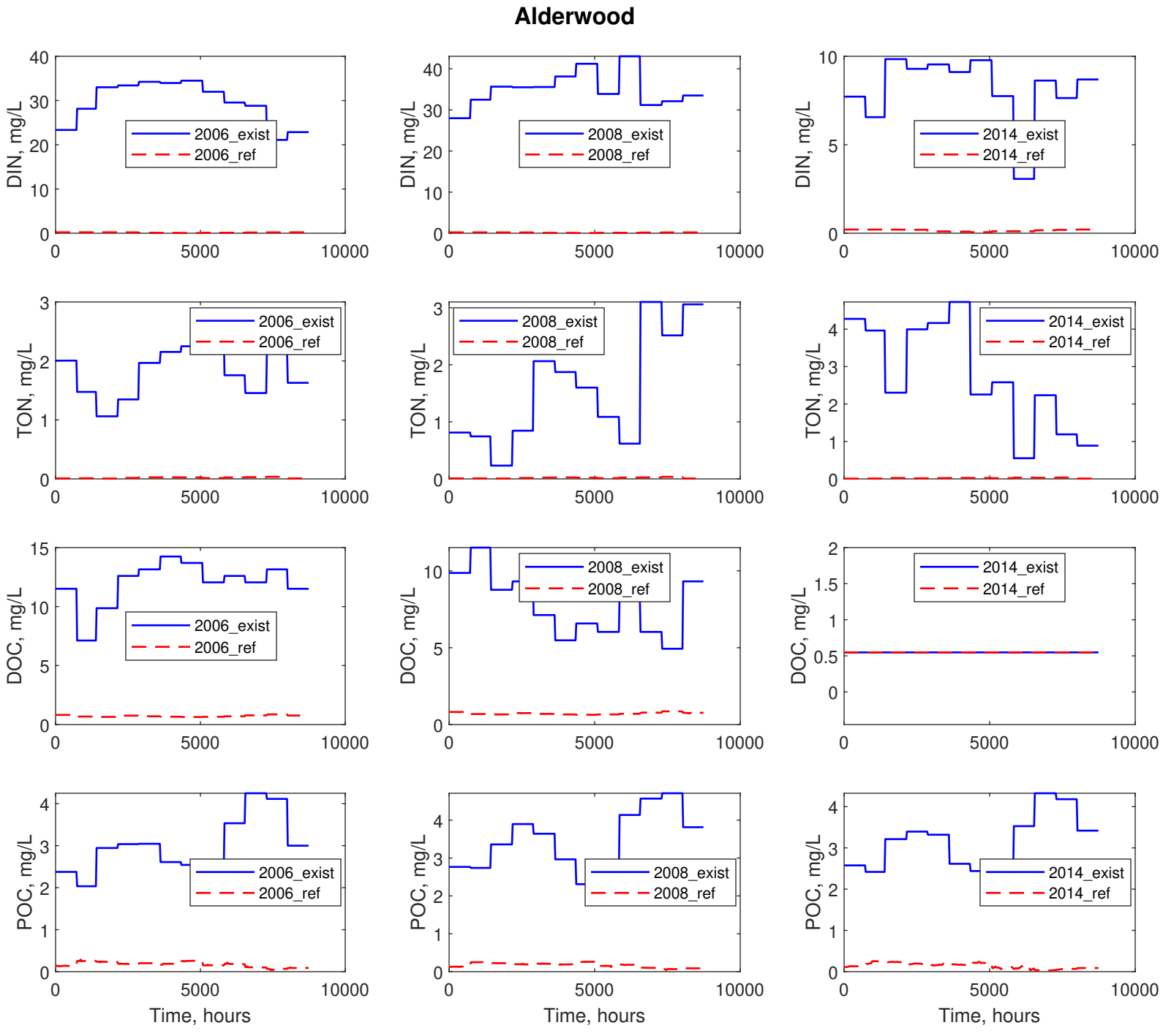

Bainbridge Kitsap Co 7
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

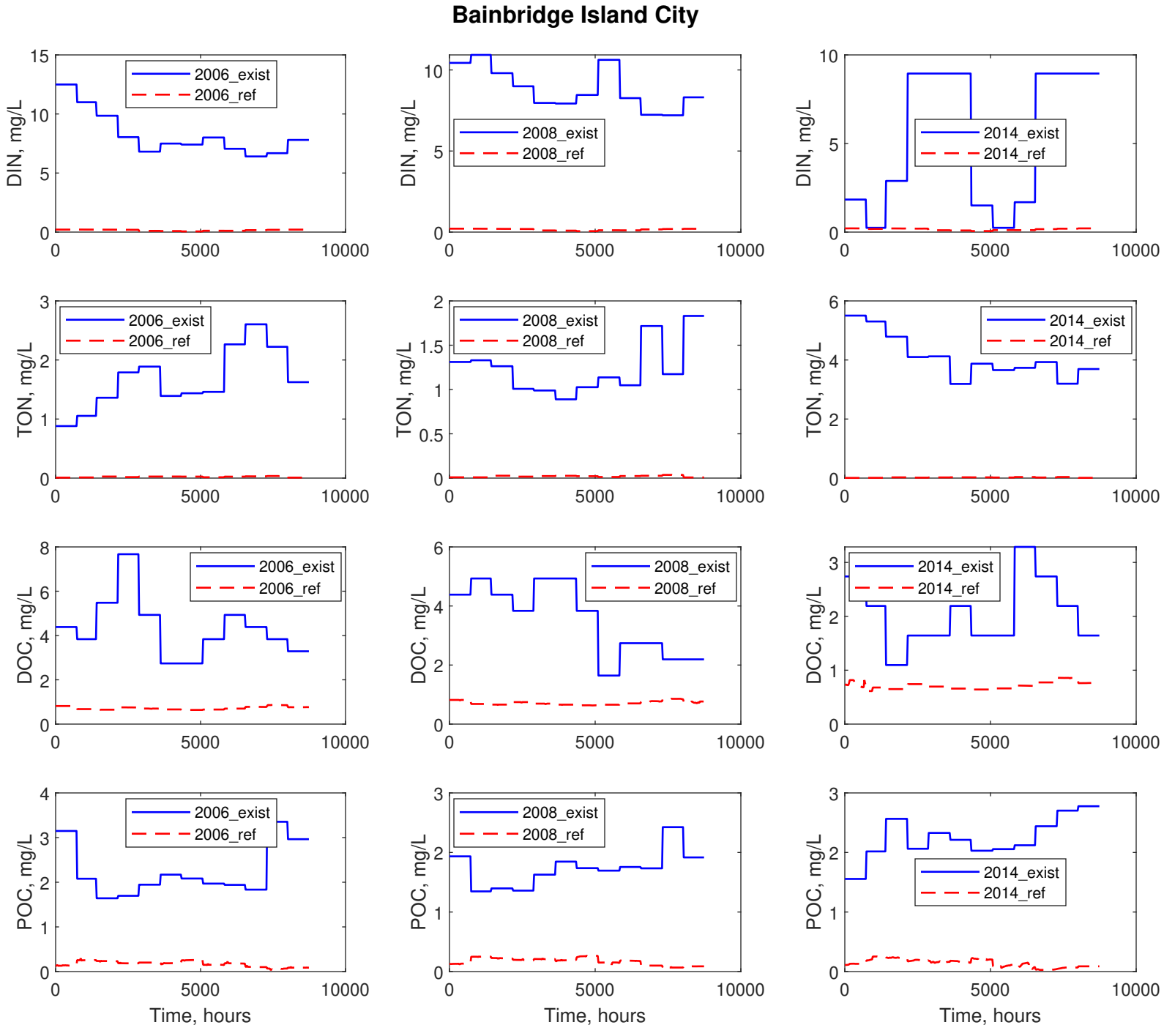

Bremerton
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

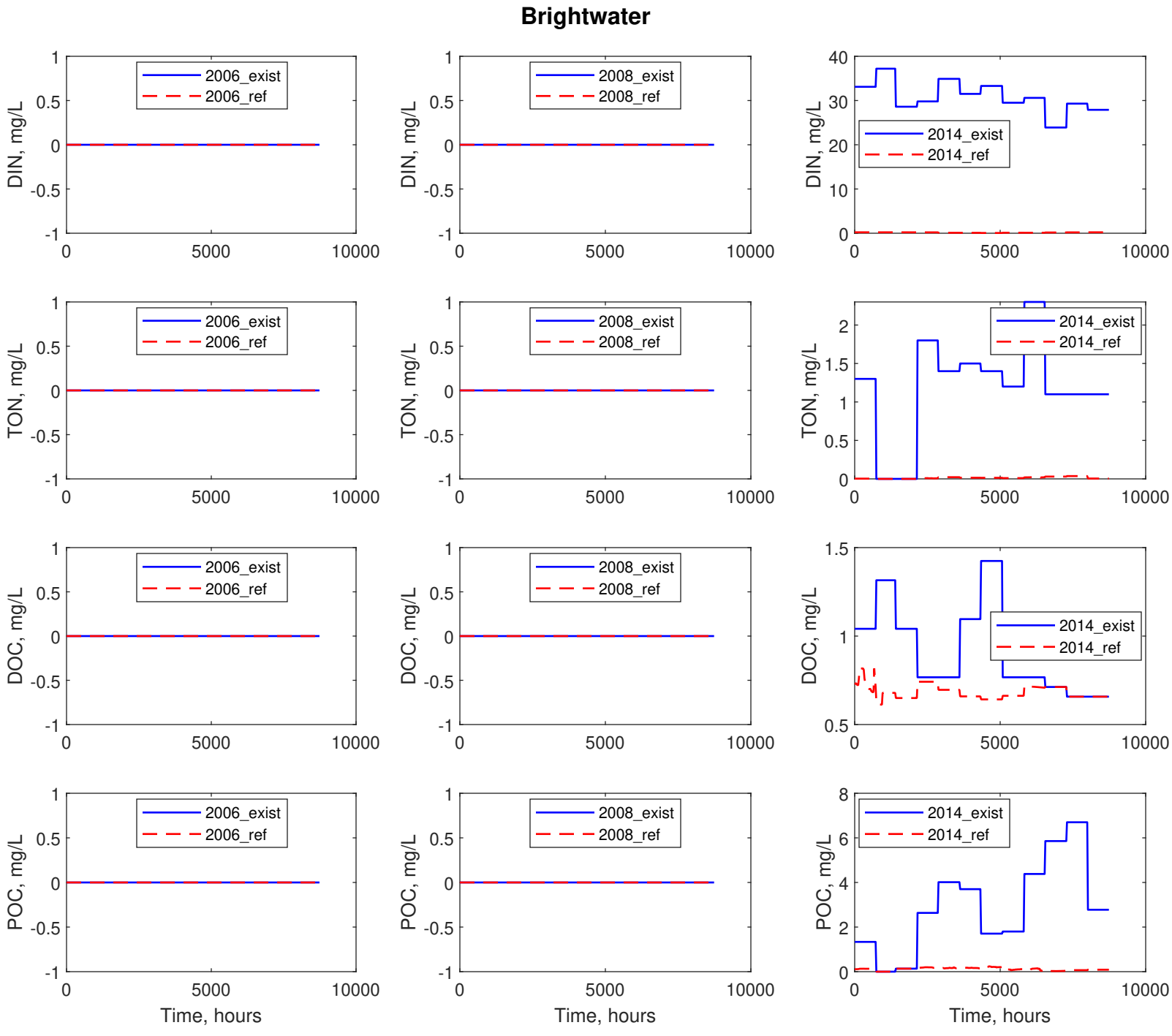

Central Kitsap
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

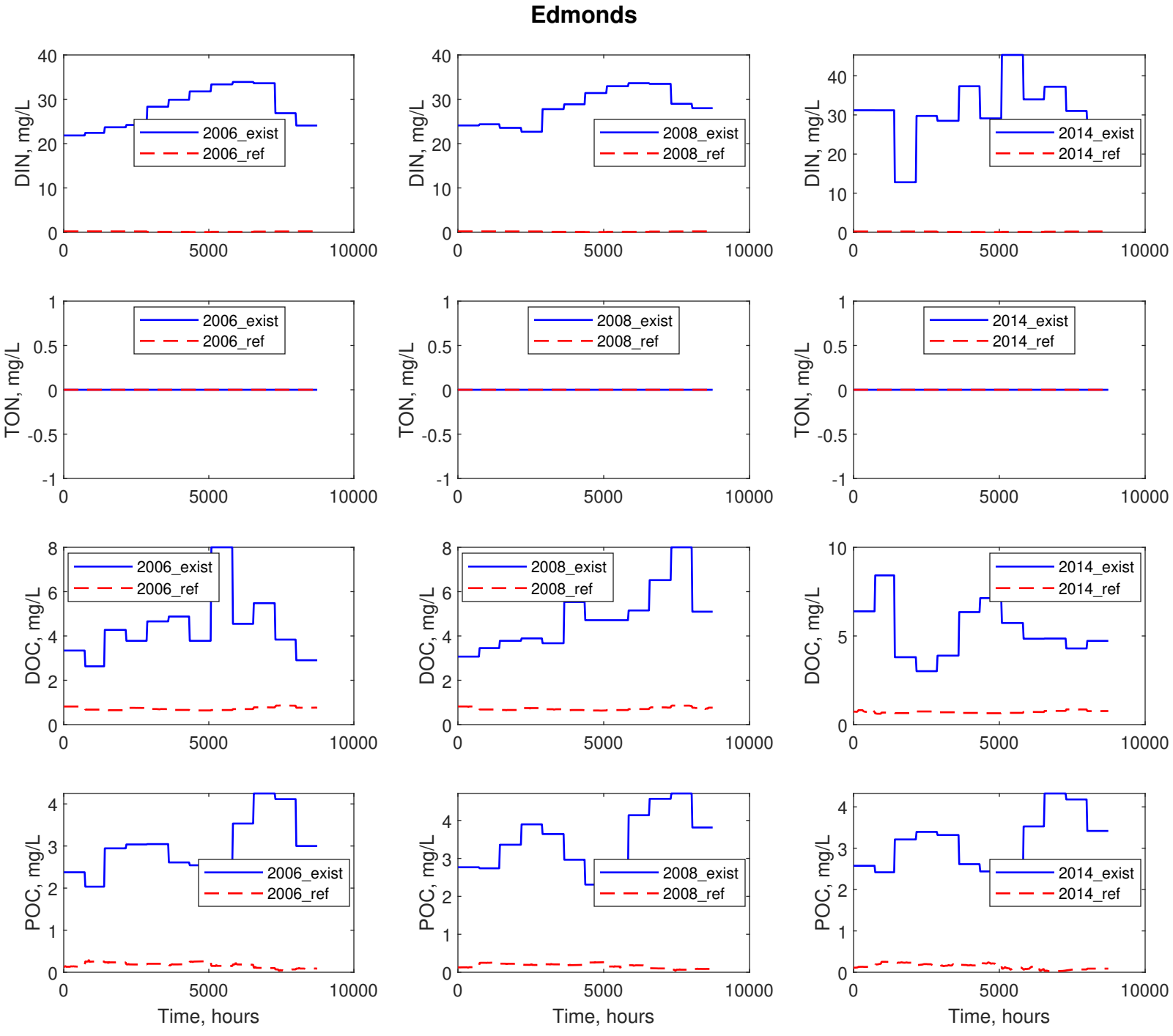

Port Orchard
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

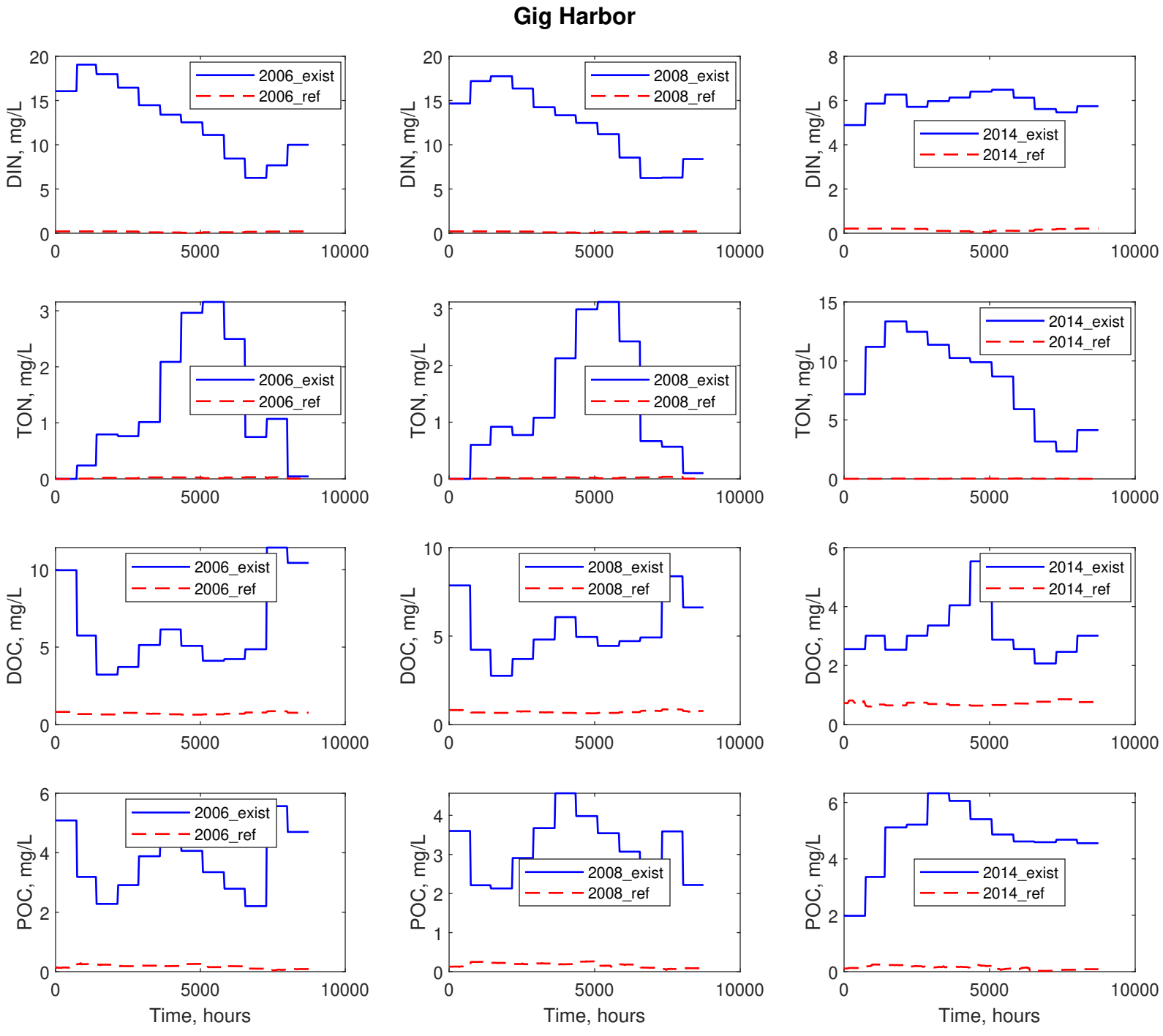

Suquamish
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

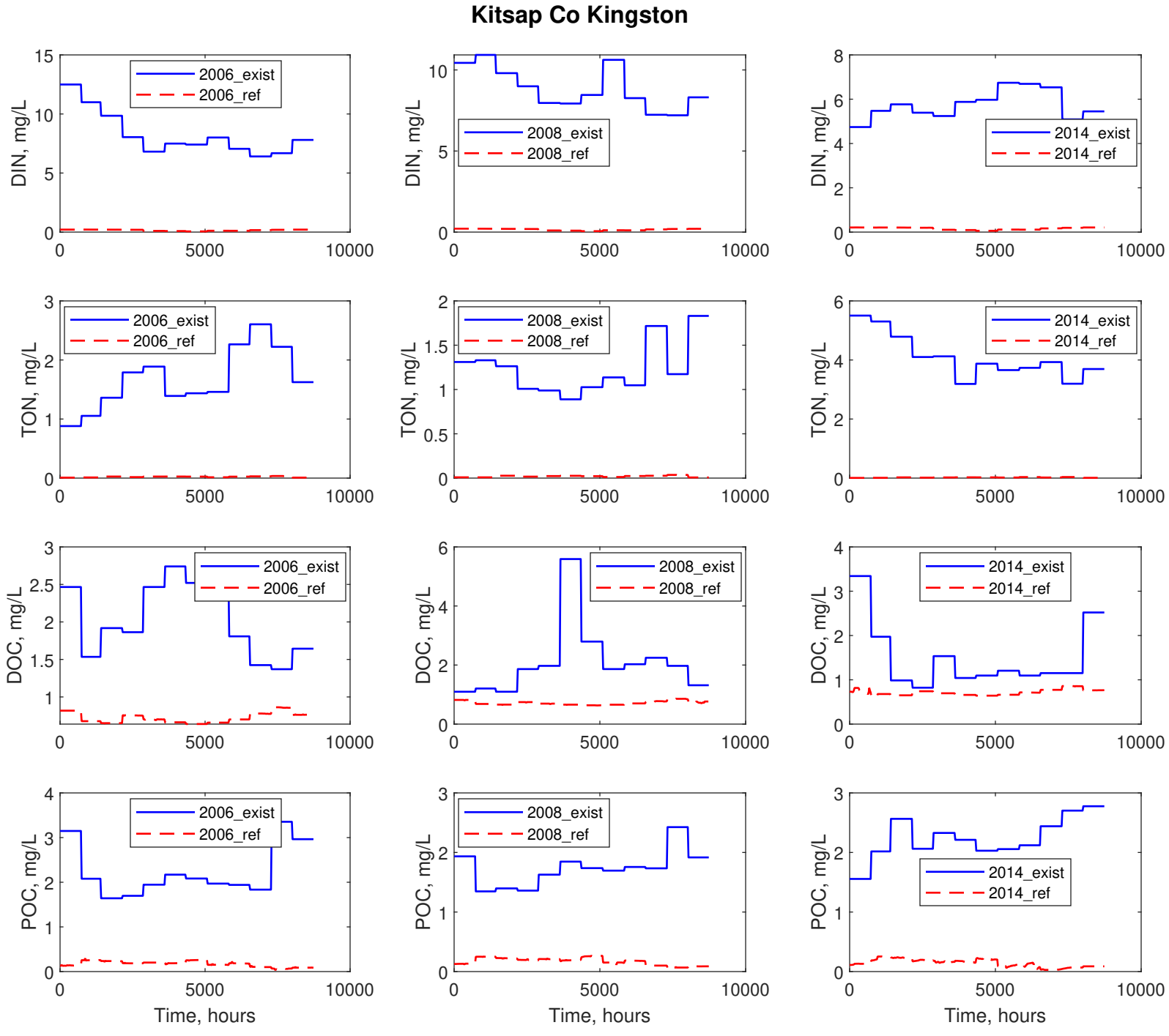

Alderwood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

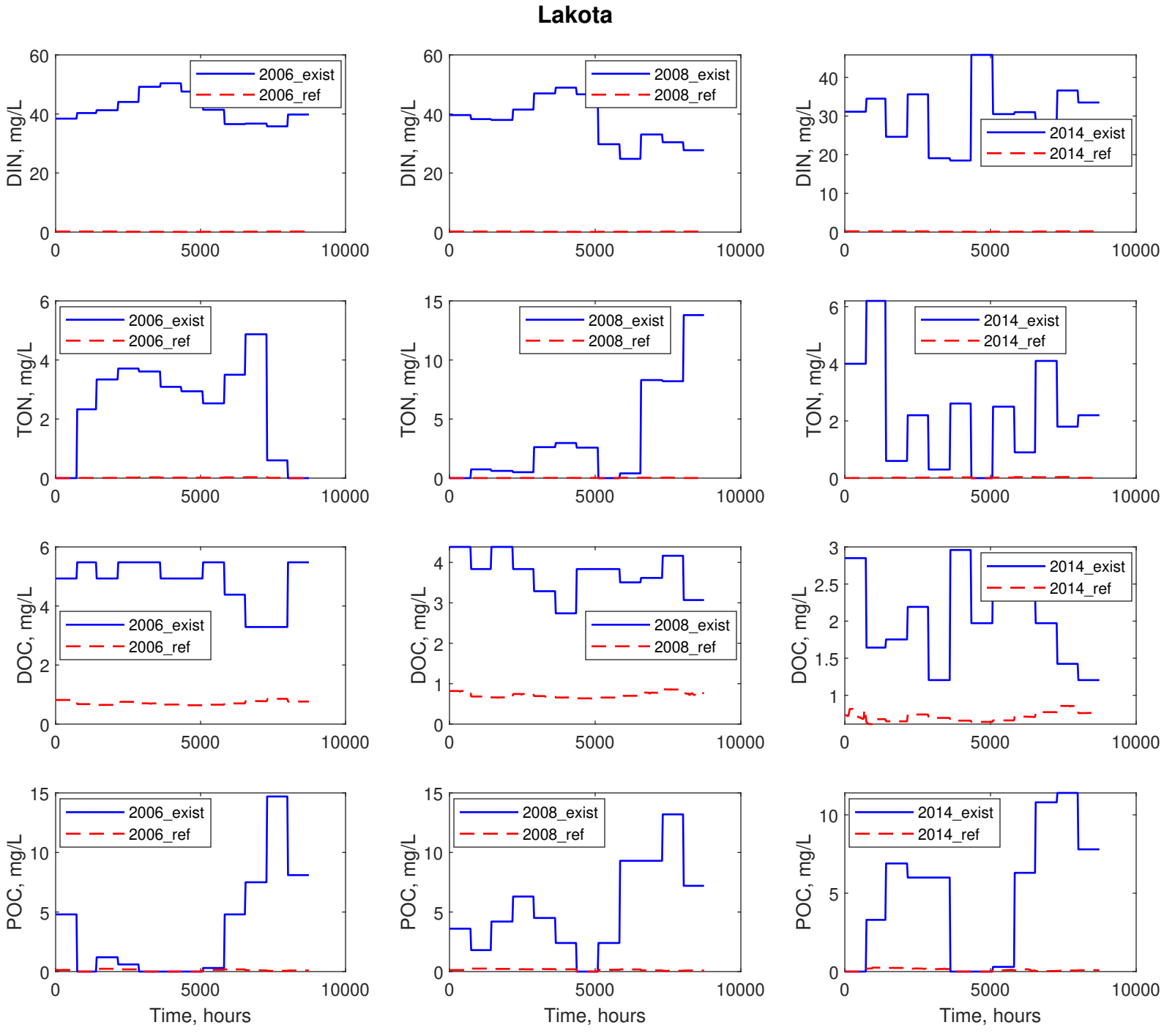

Bainbridge Island City
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

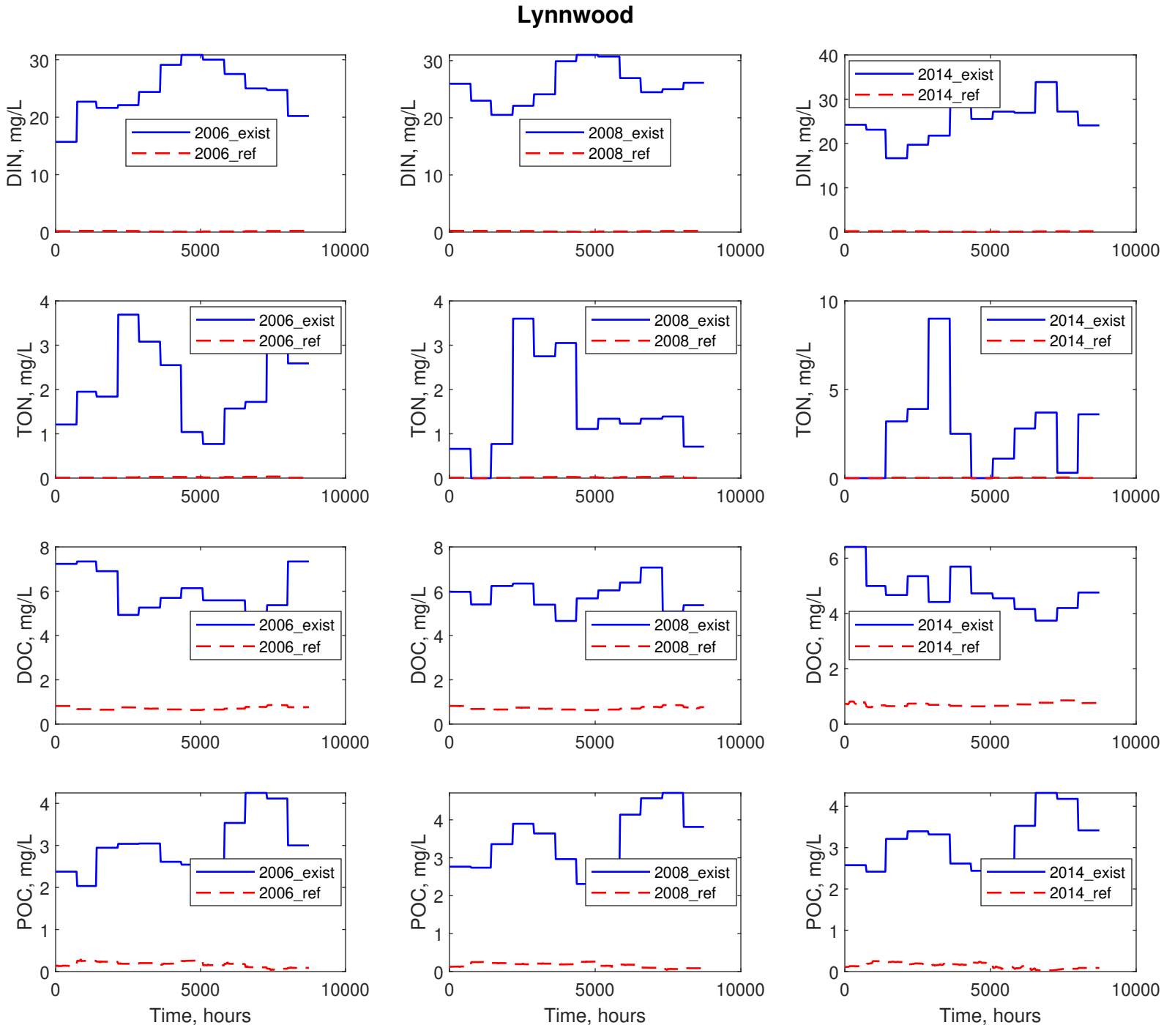

Brightwater
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

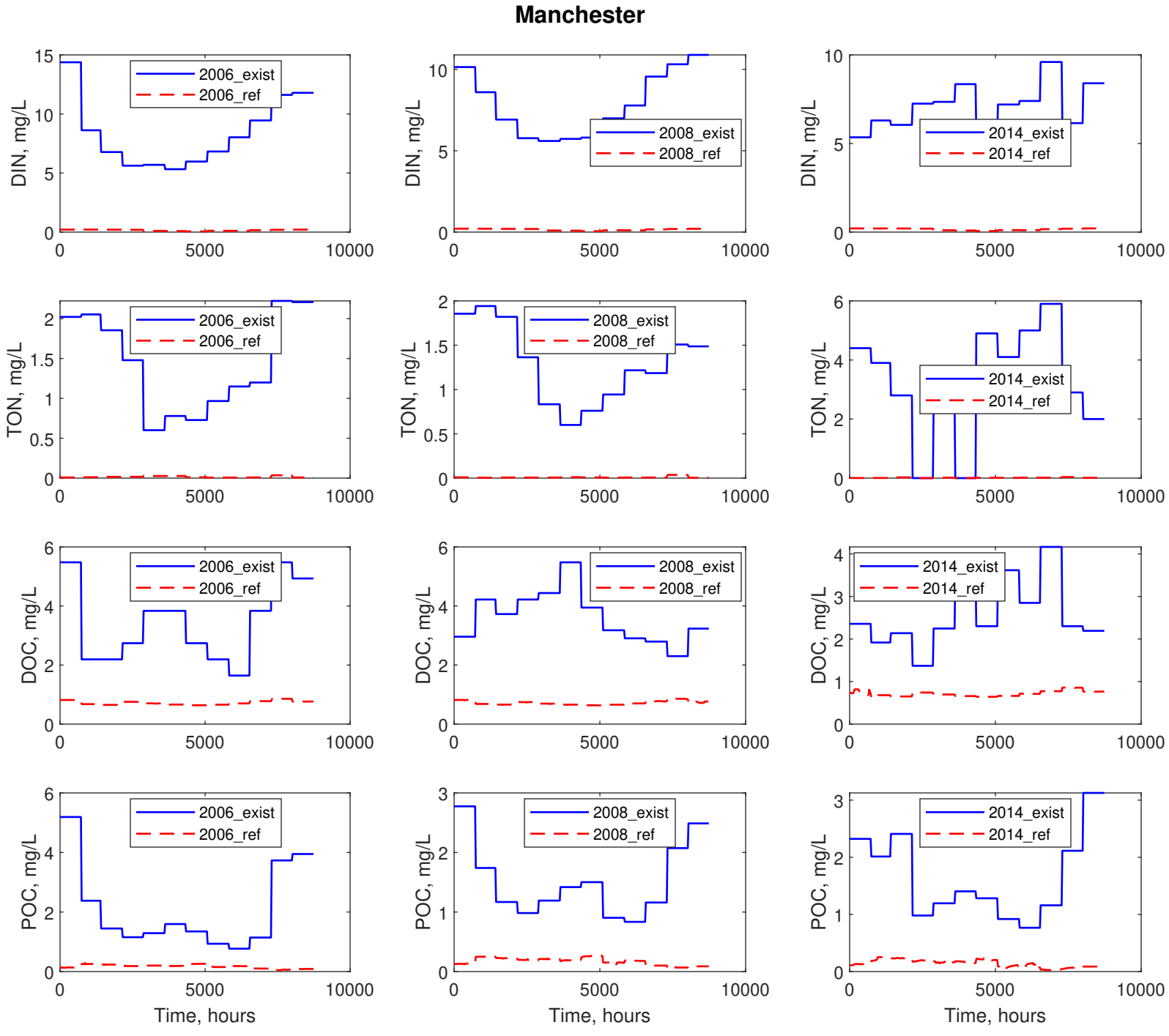

Edmonds
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

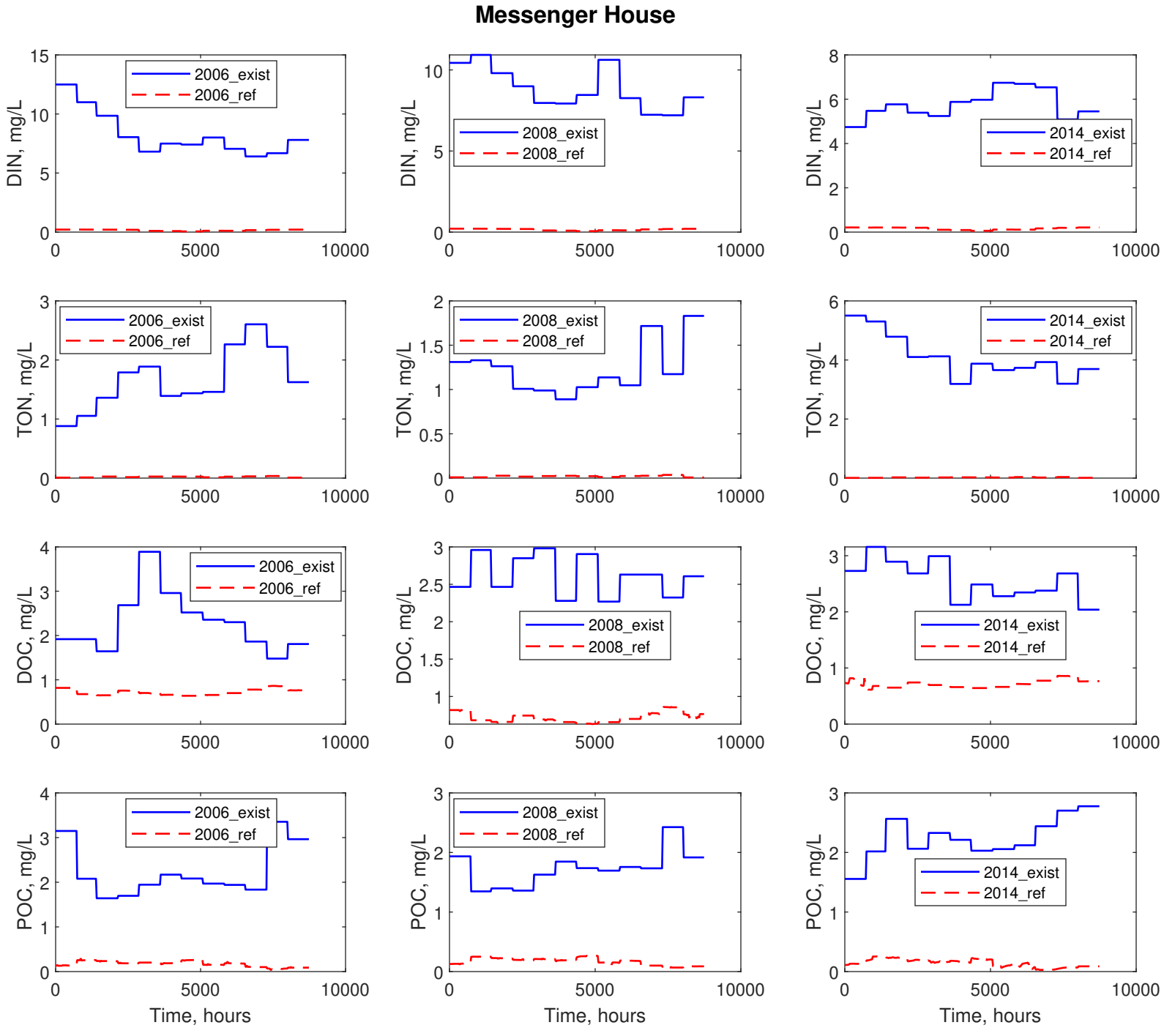

Gig Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

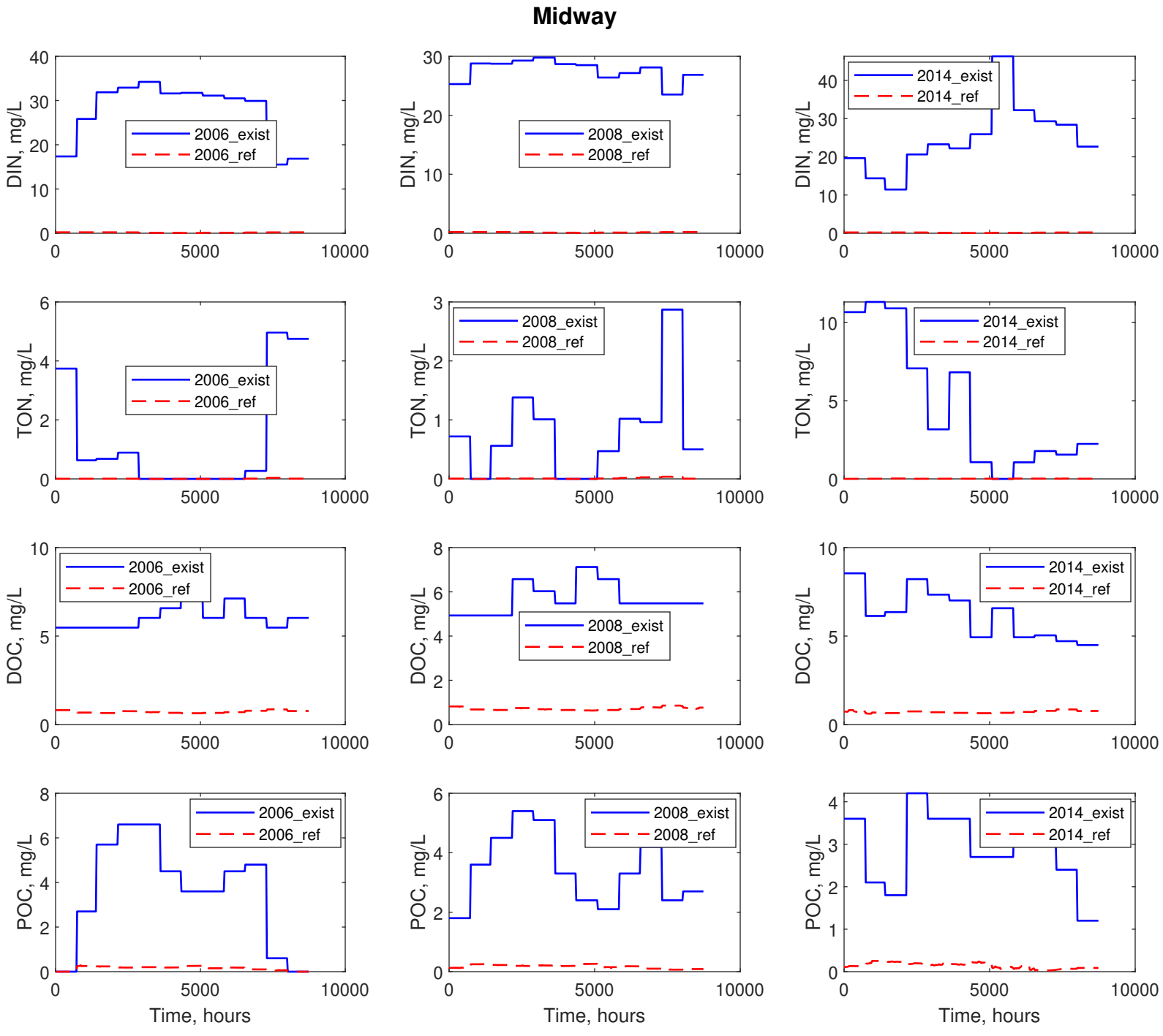

Kitsap Co Kingston
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

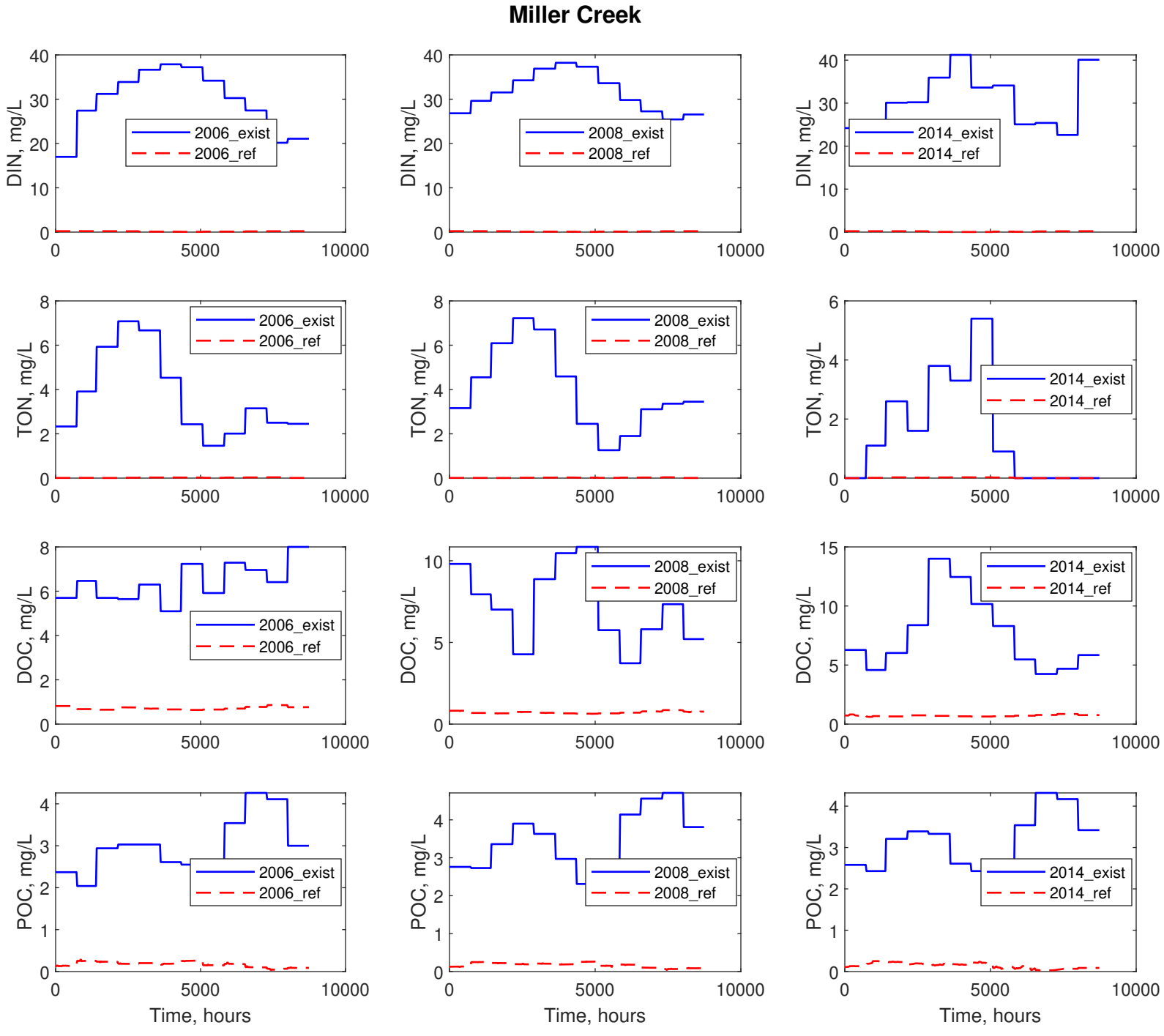

Lakota
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

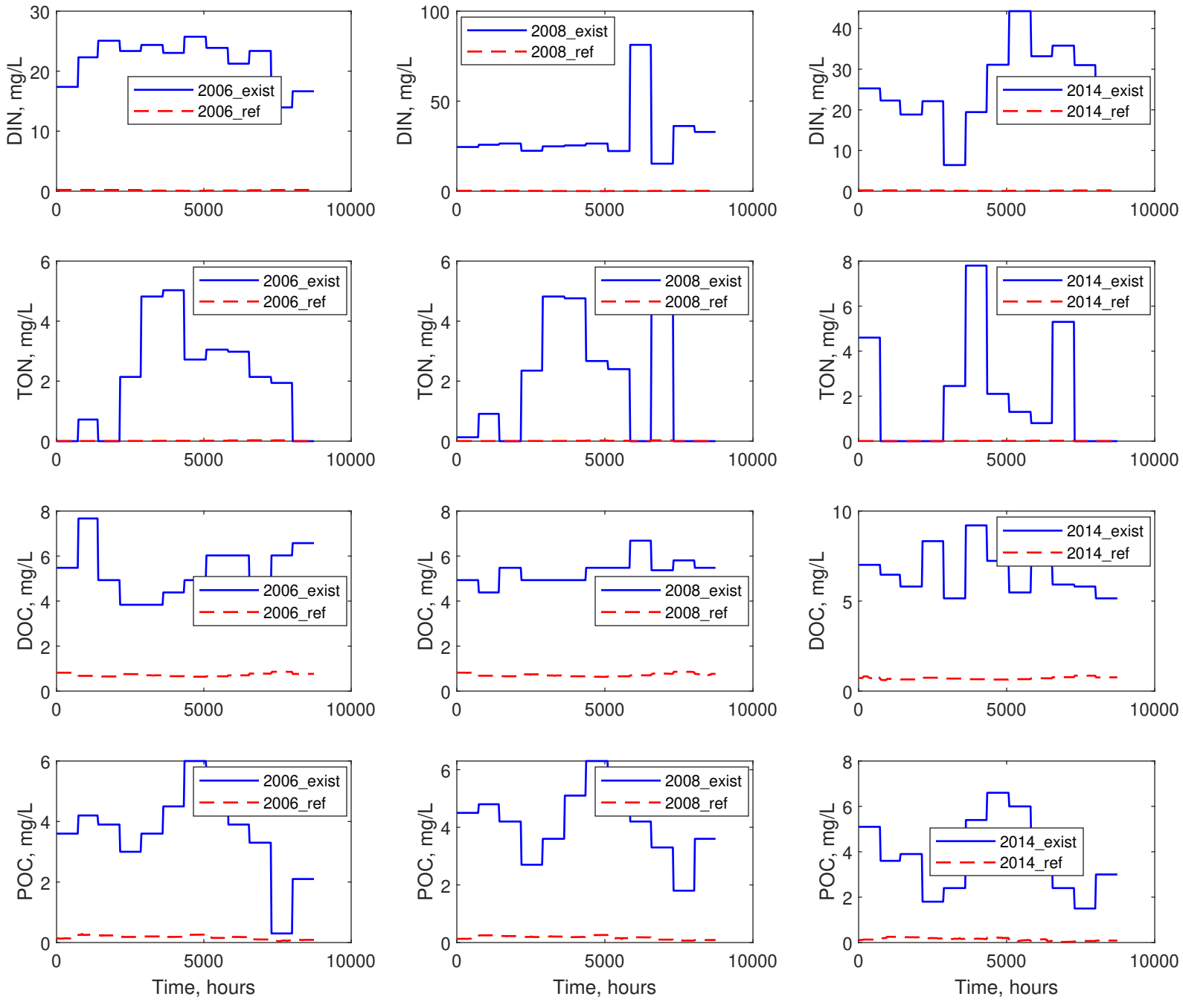

Lynnwood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

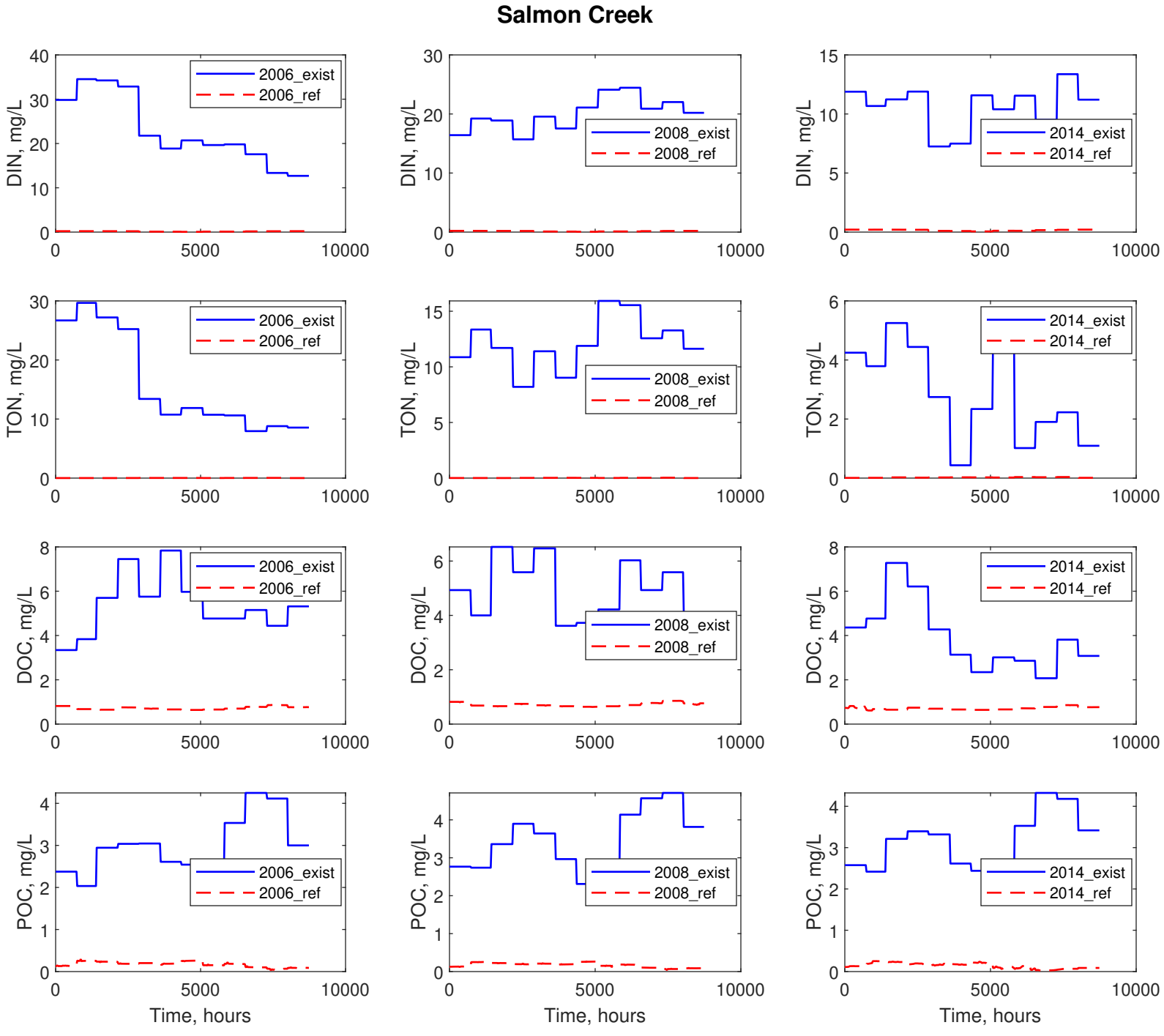

Manchester
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

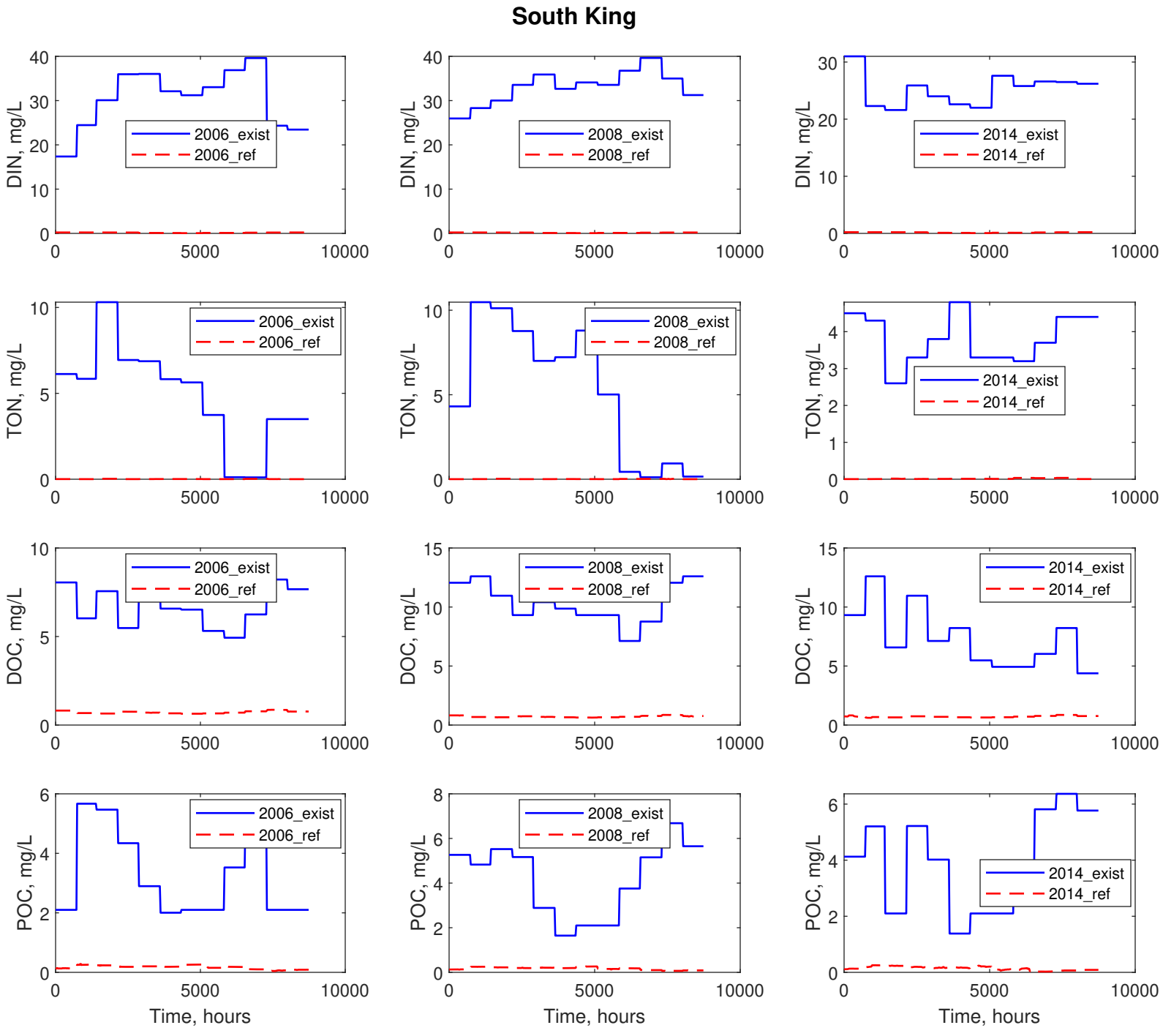

Messenger House
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

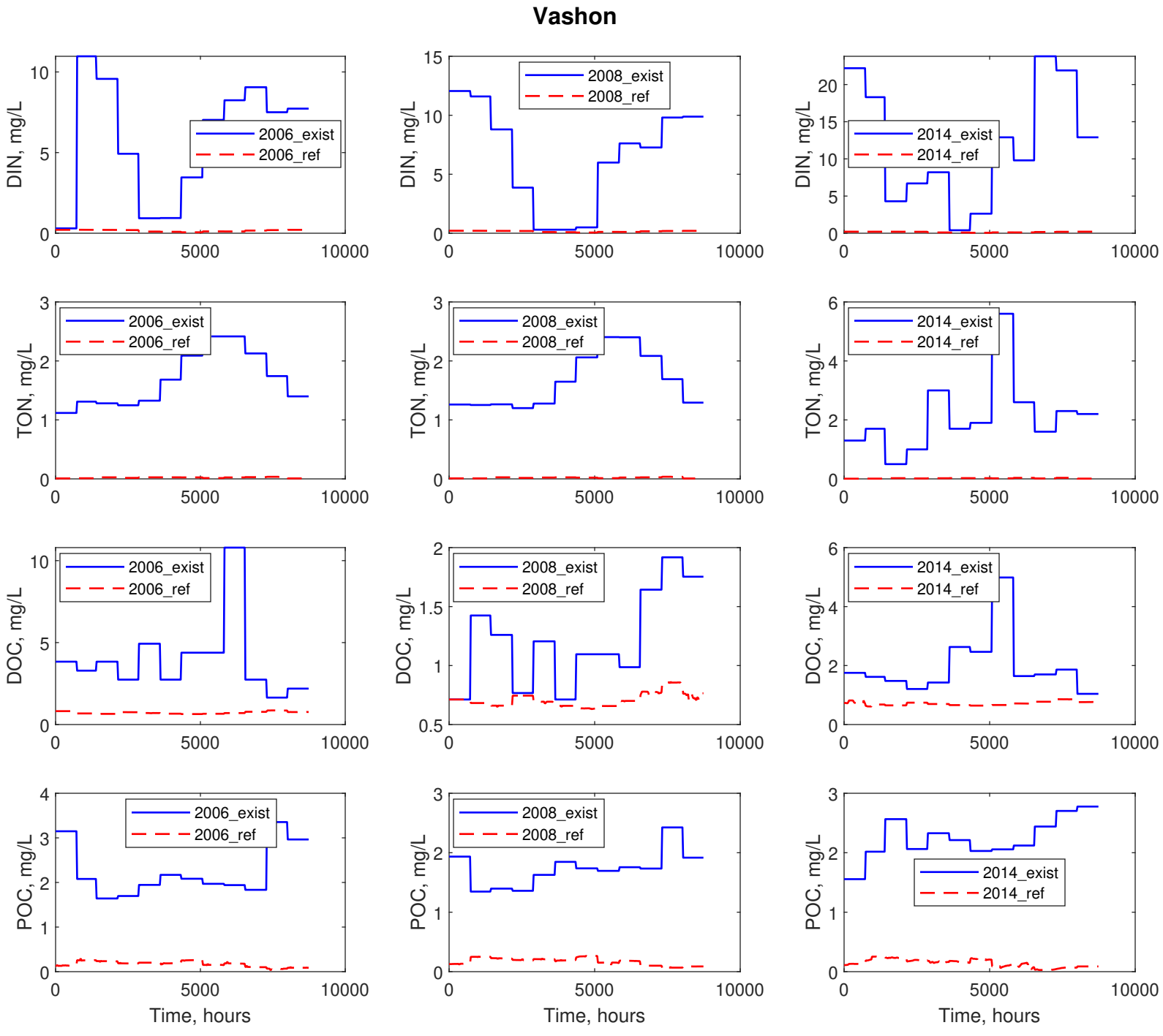

Midway
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

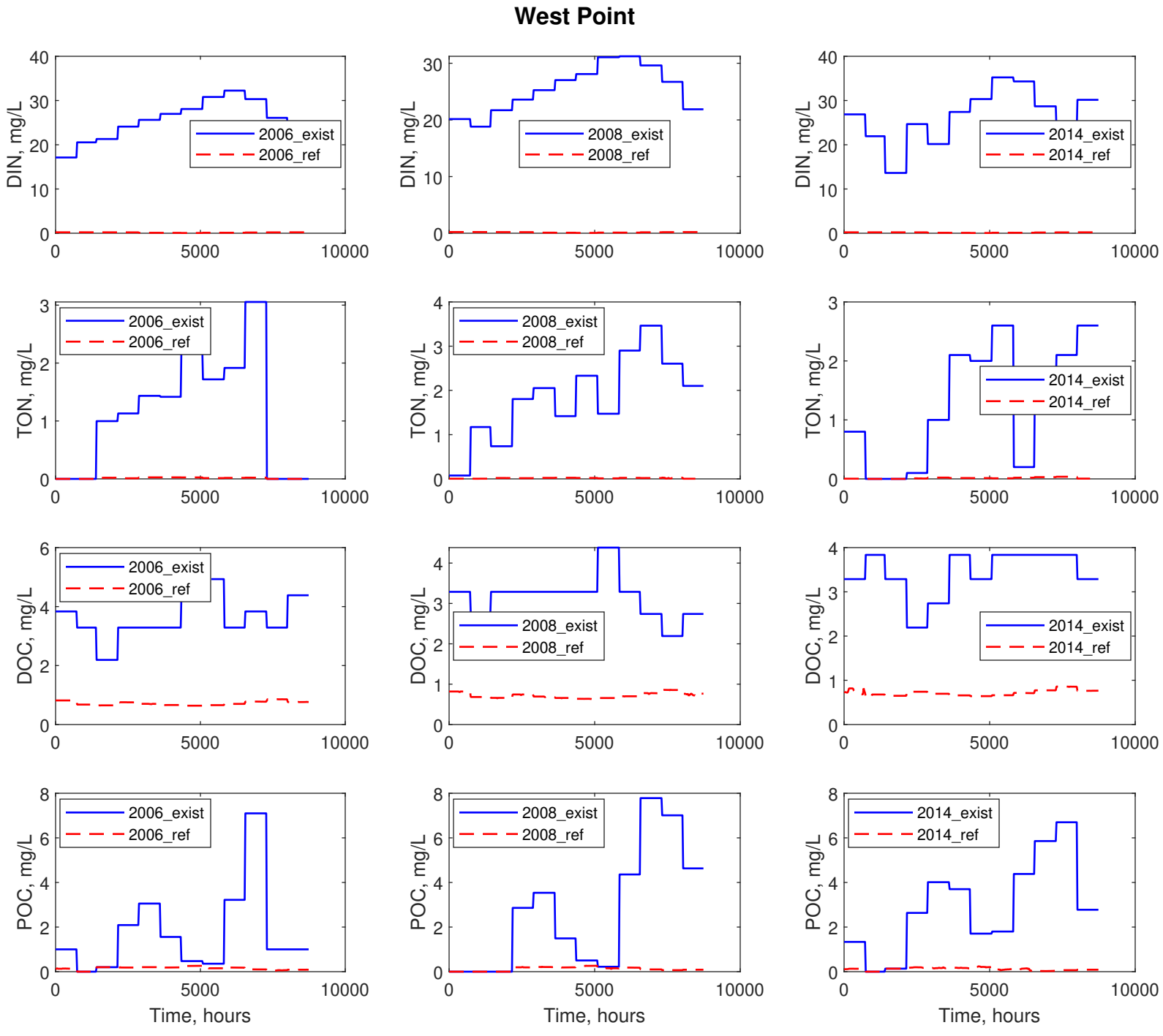

Miller Creek
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

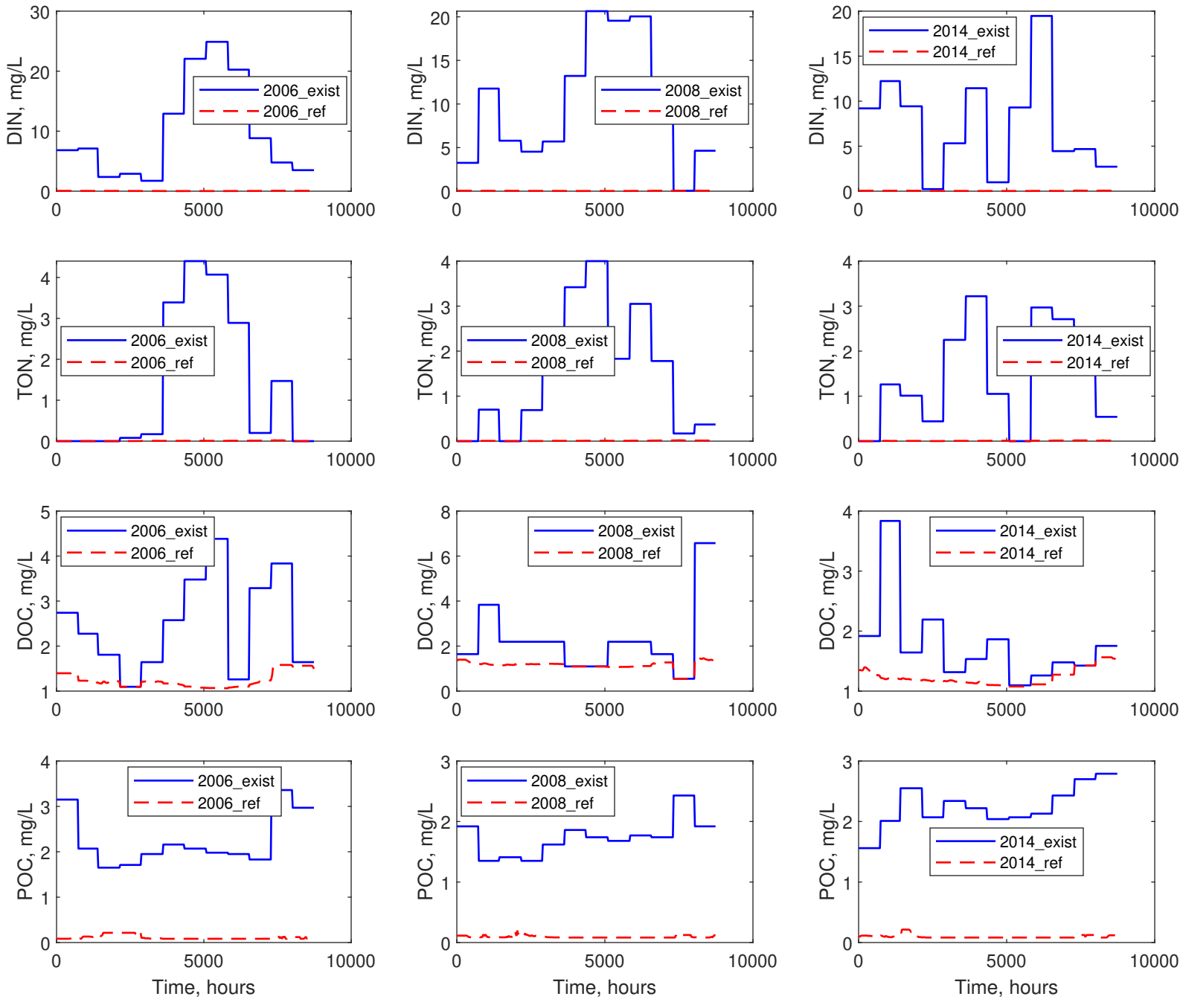

Redondo
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

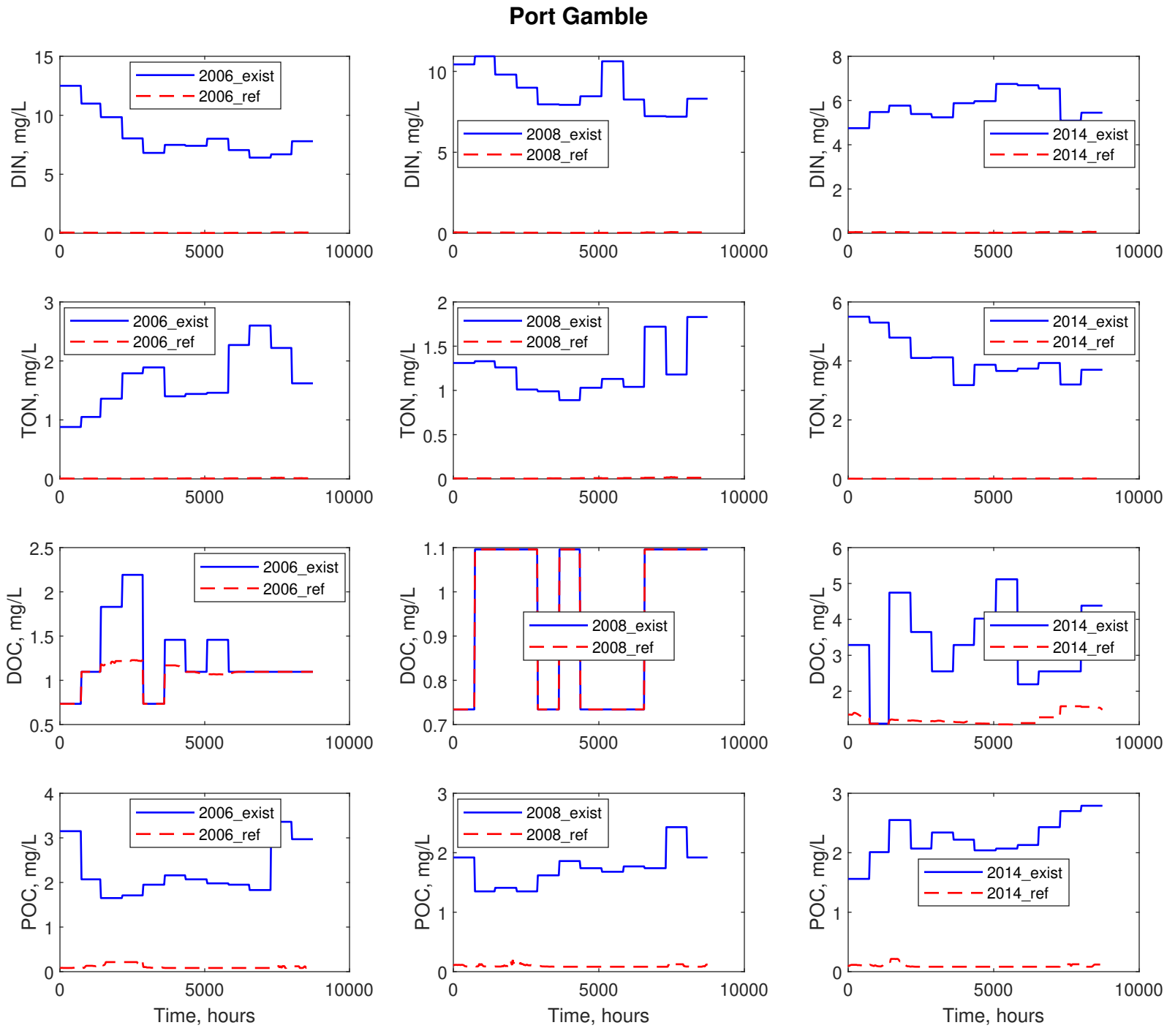

Salmon Creek
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

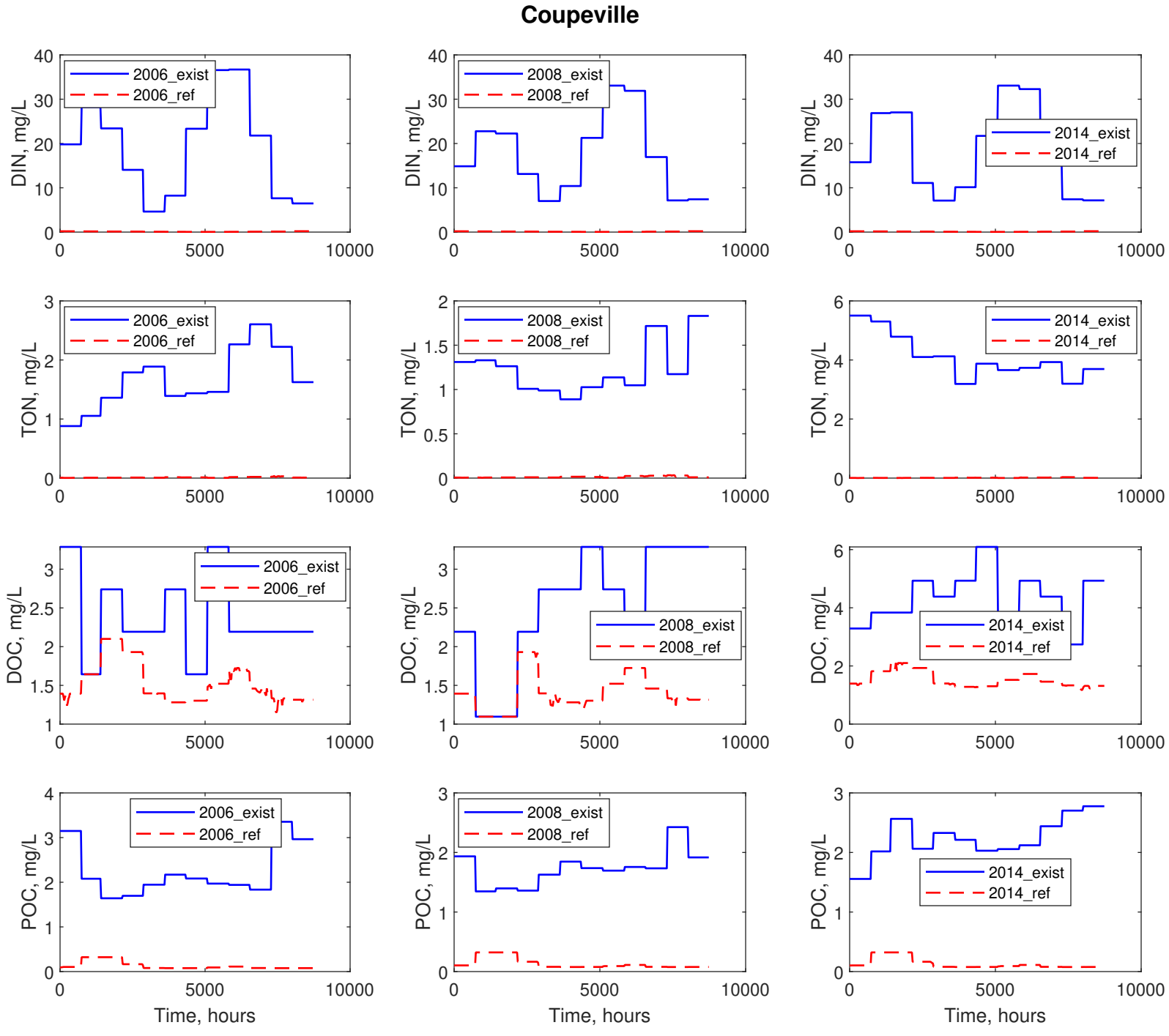

South King
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

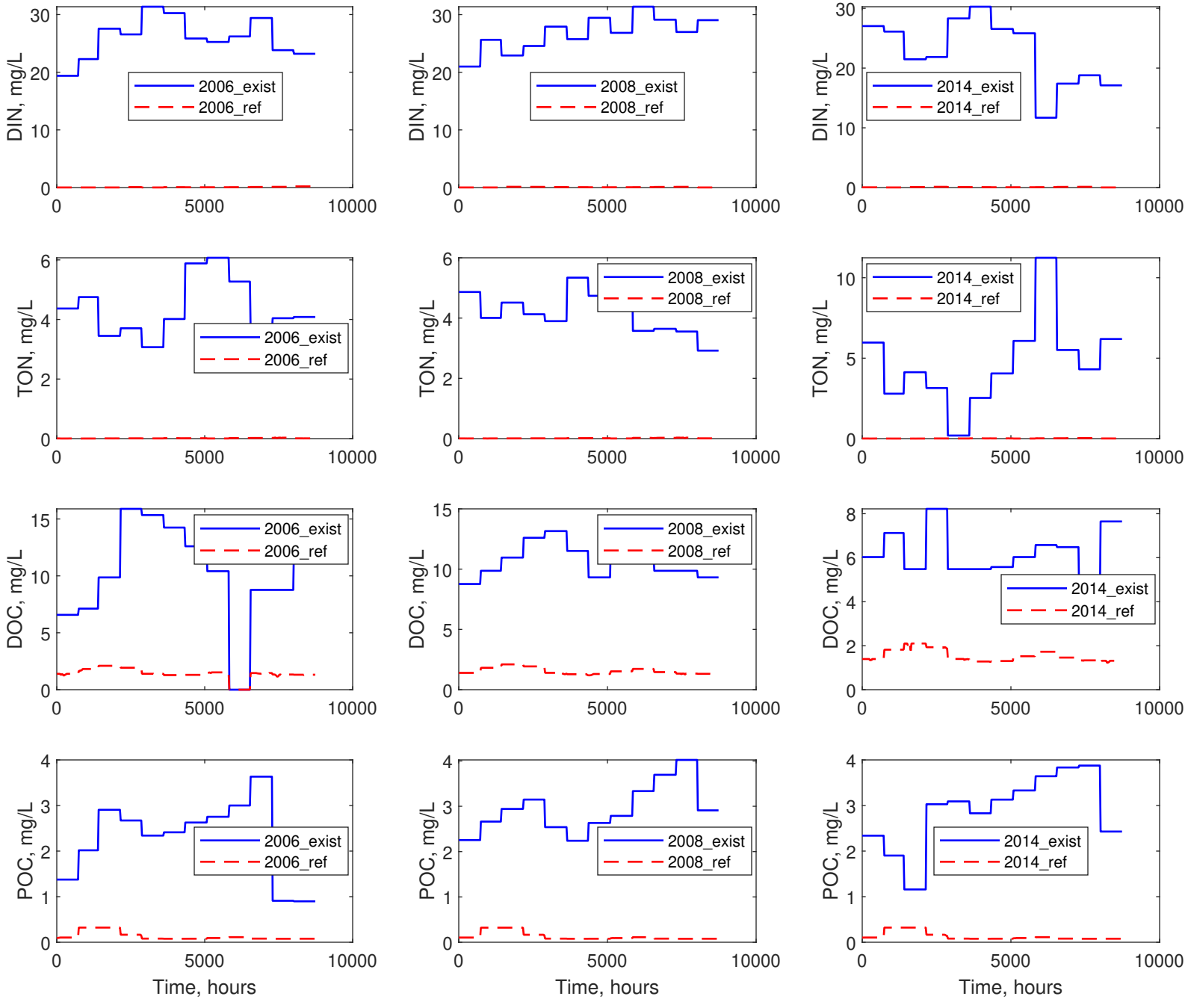

Vashon
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

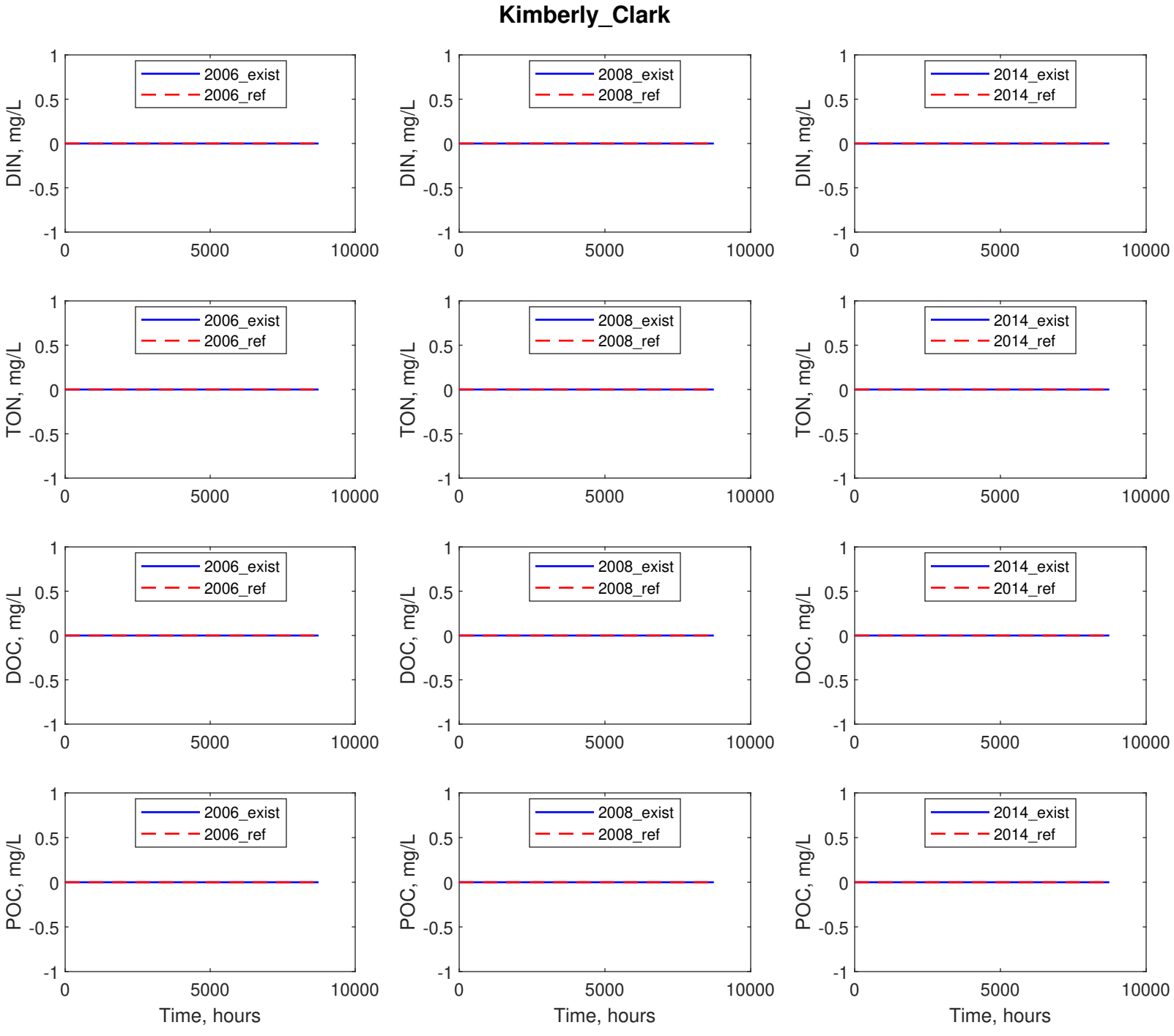

West Point
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

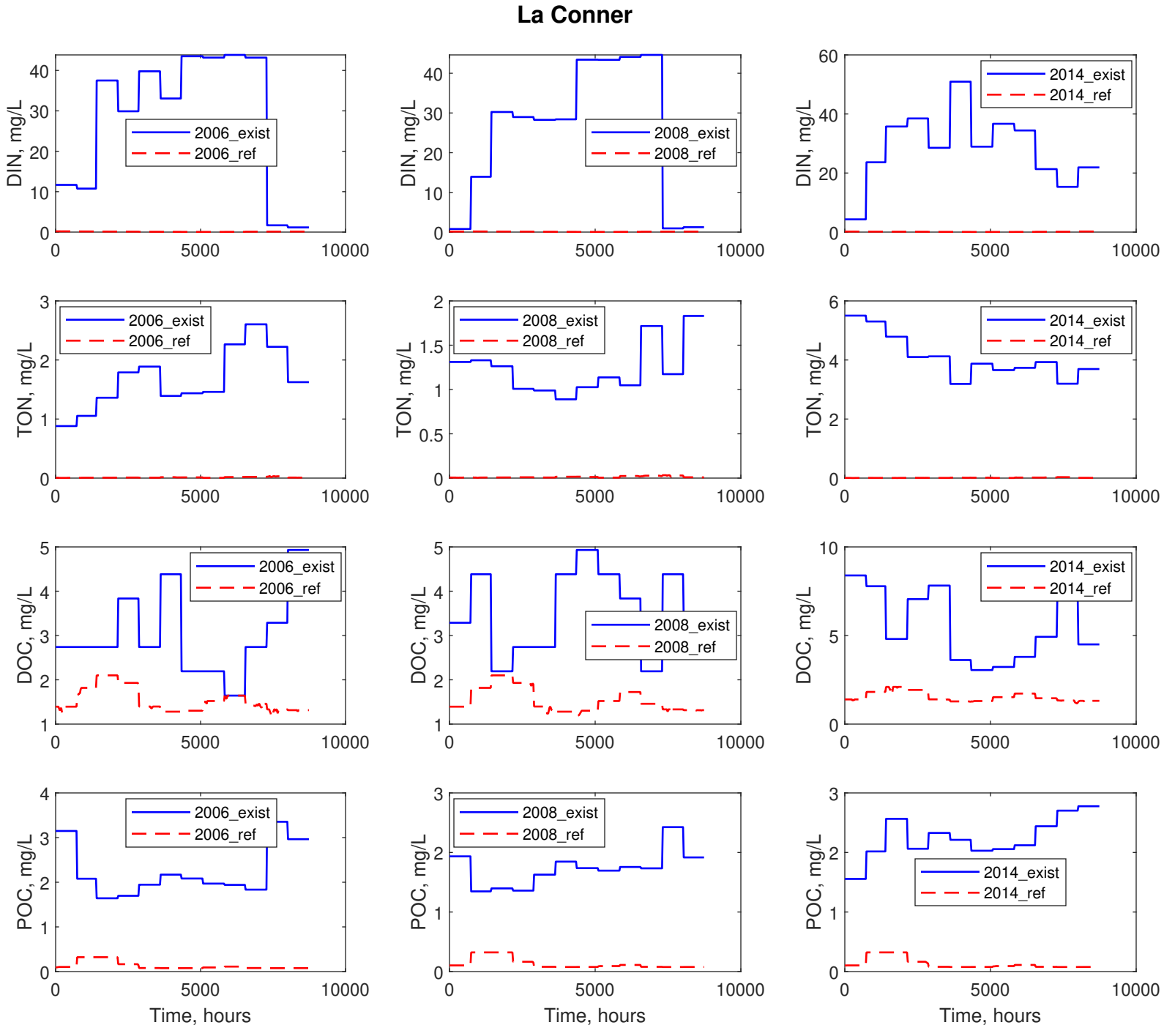

Alderbrook
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

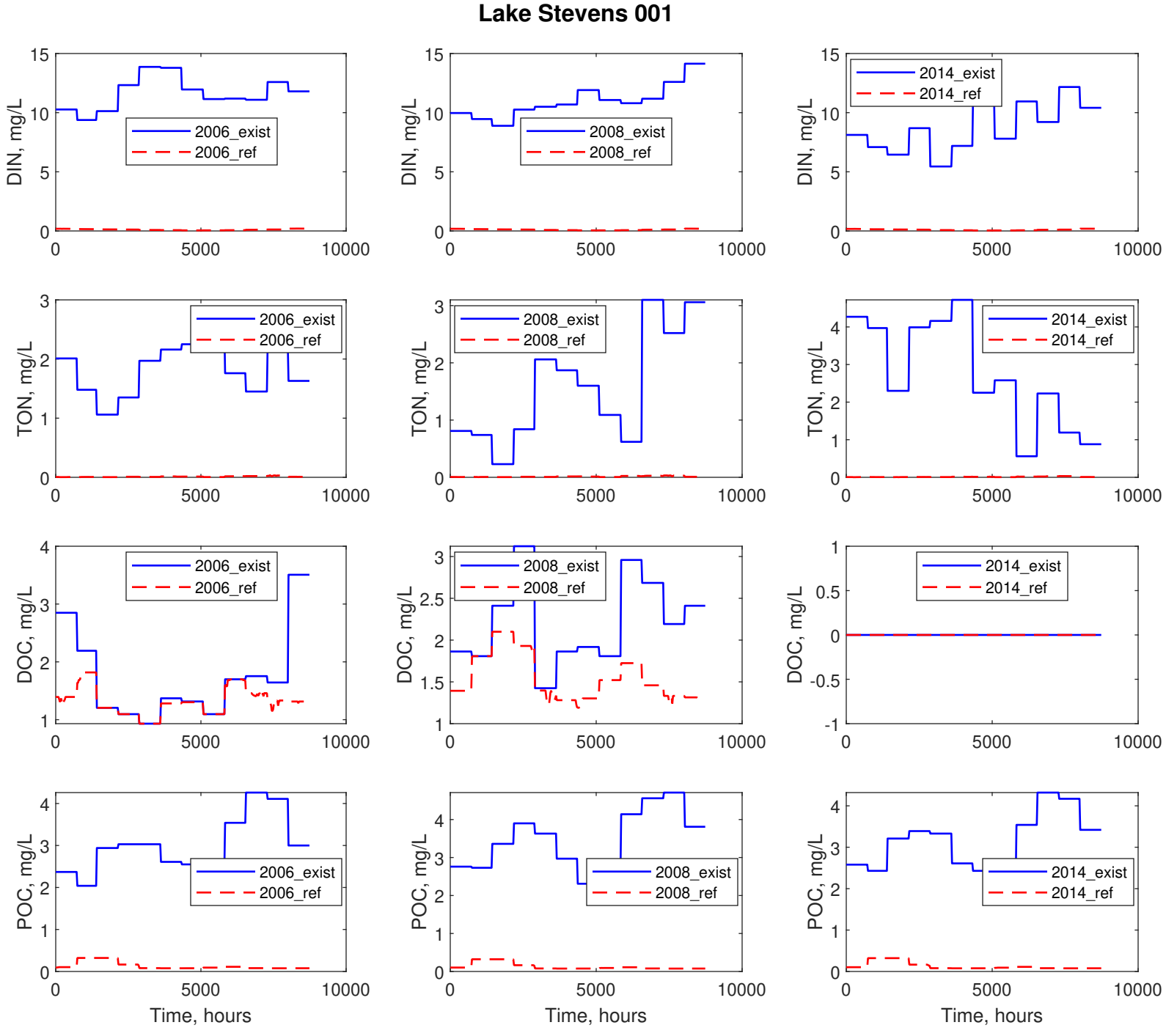

Port Gamble
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

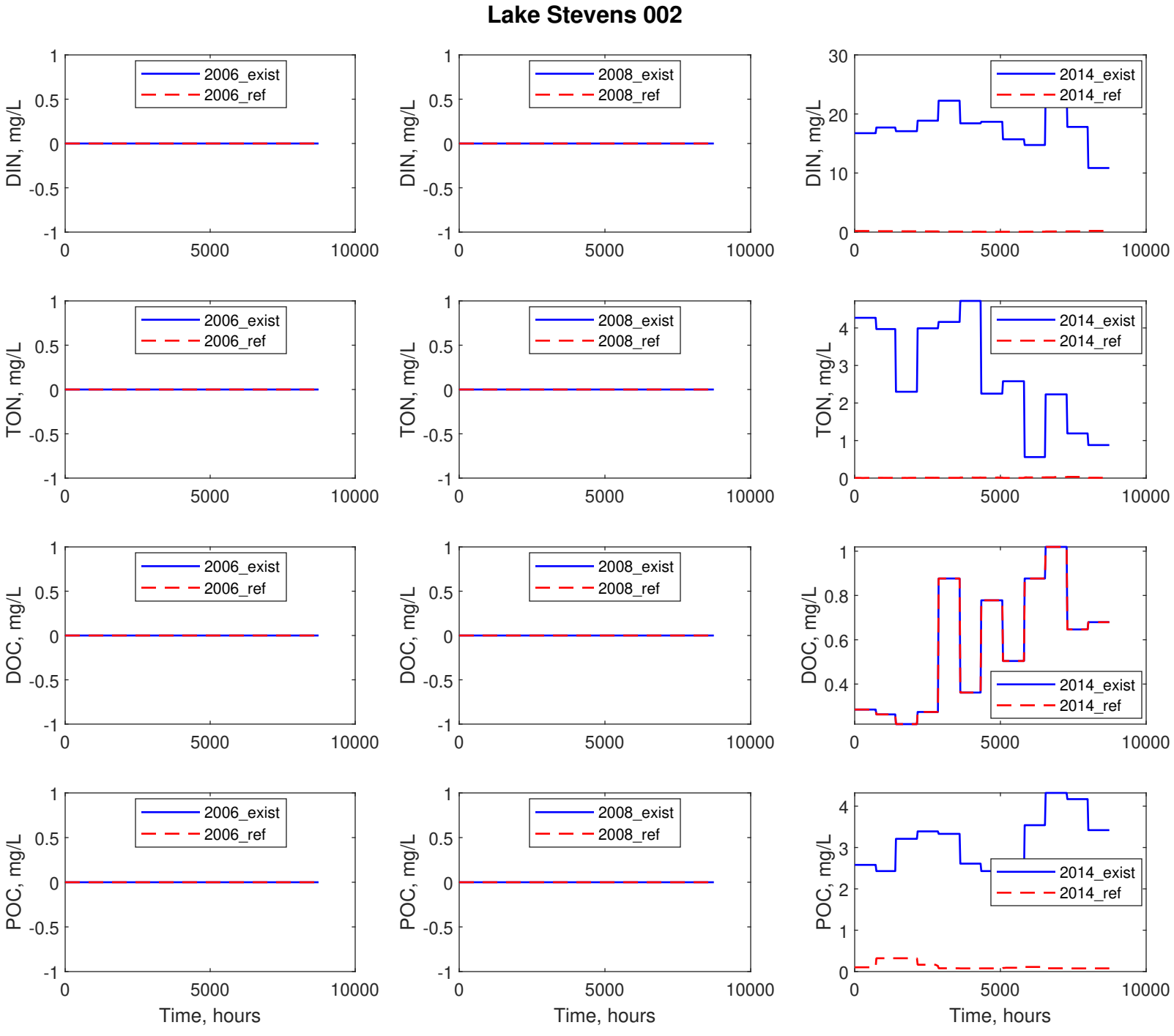

Coupeville
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

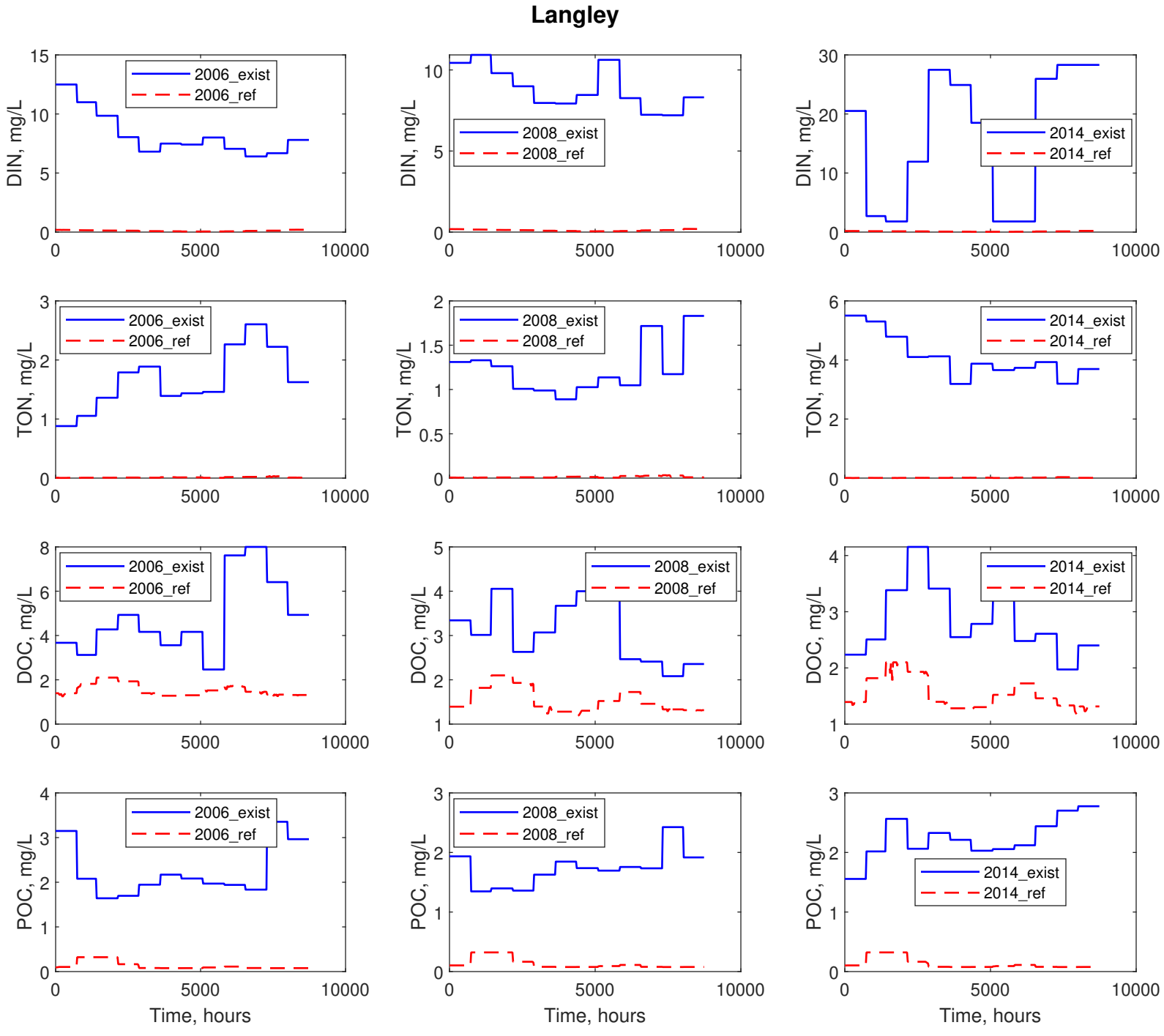

Everett Snohomish
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

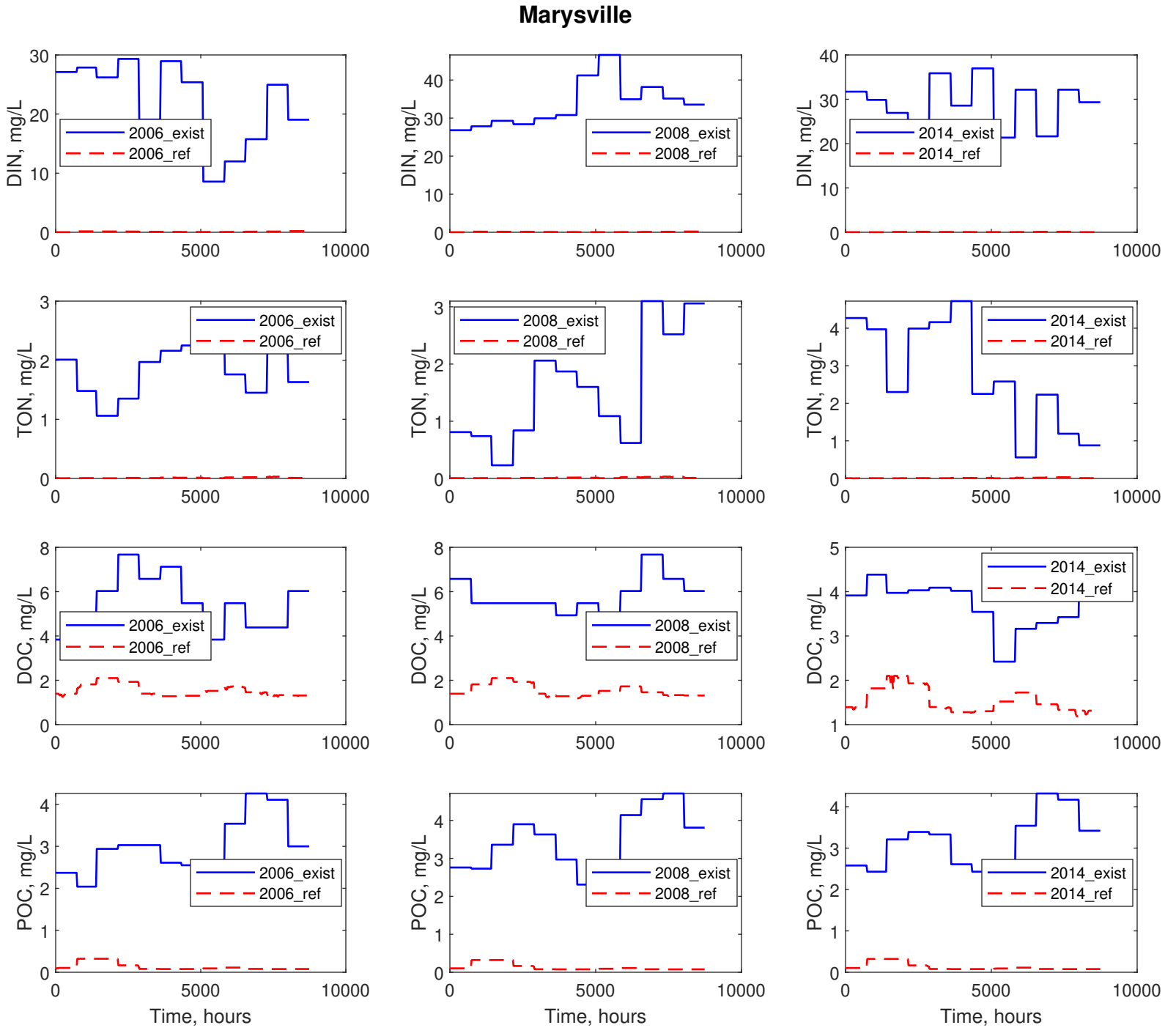

Kimberly_Clark
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
1
0.5
0
-0.5
-1
0
5000
10000
Time, hours

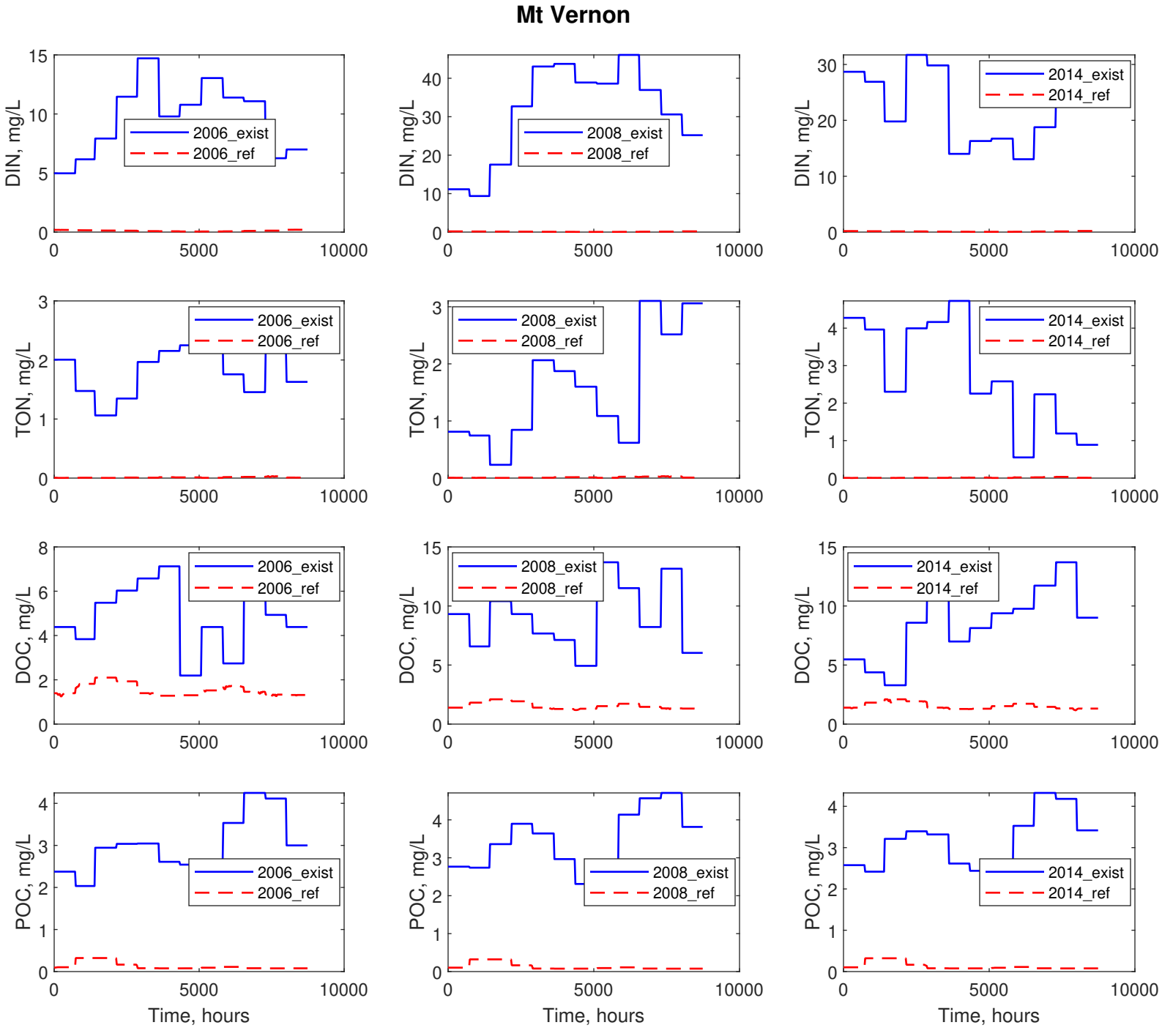

La Conner
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

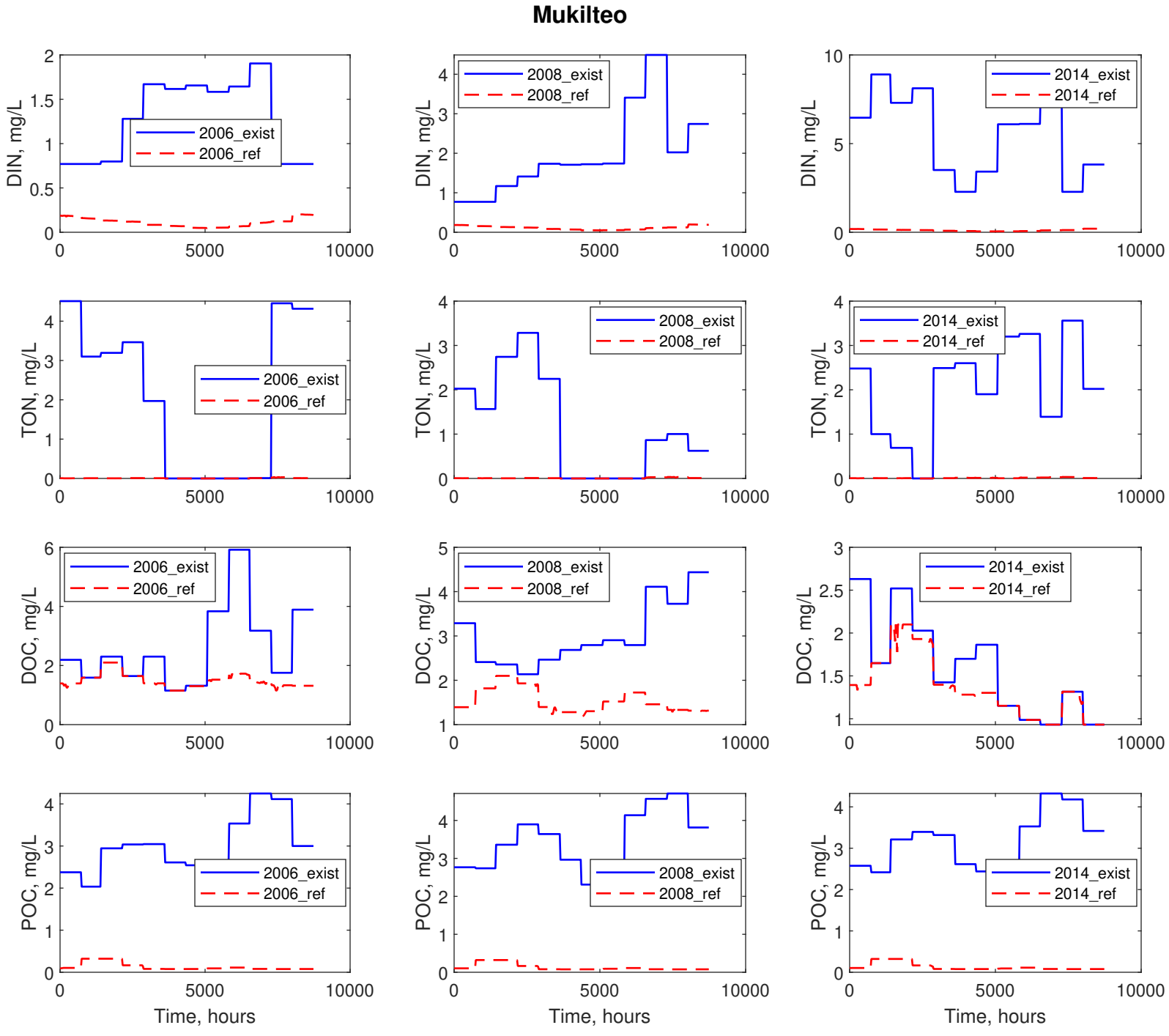

Lake Stevens 001
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

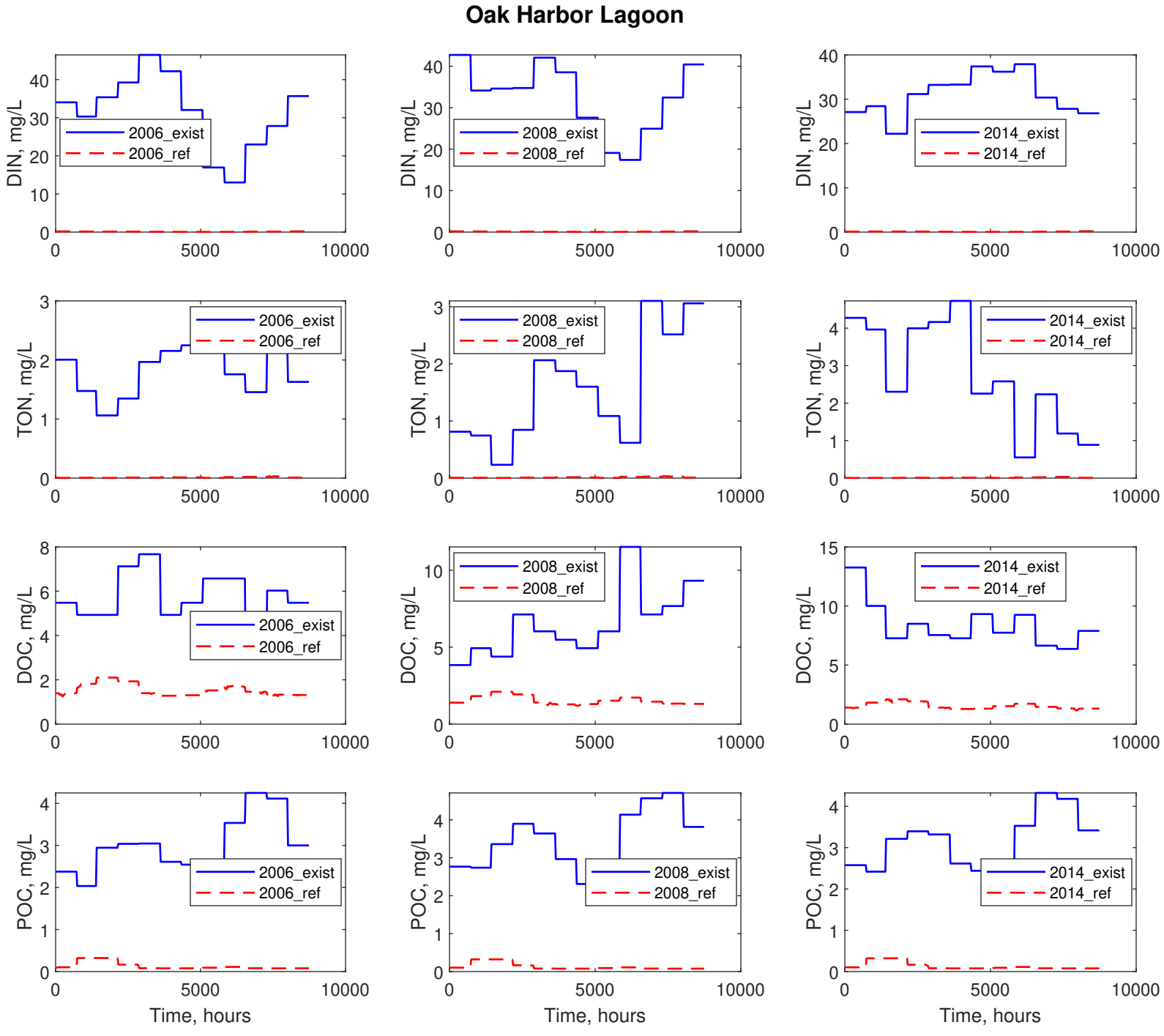

Lake Stevens 002
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

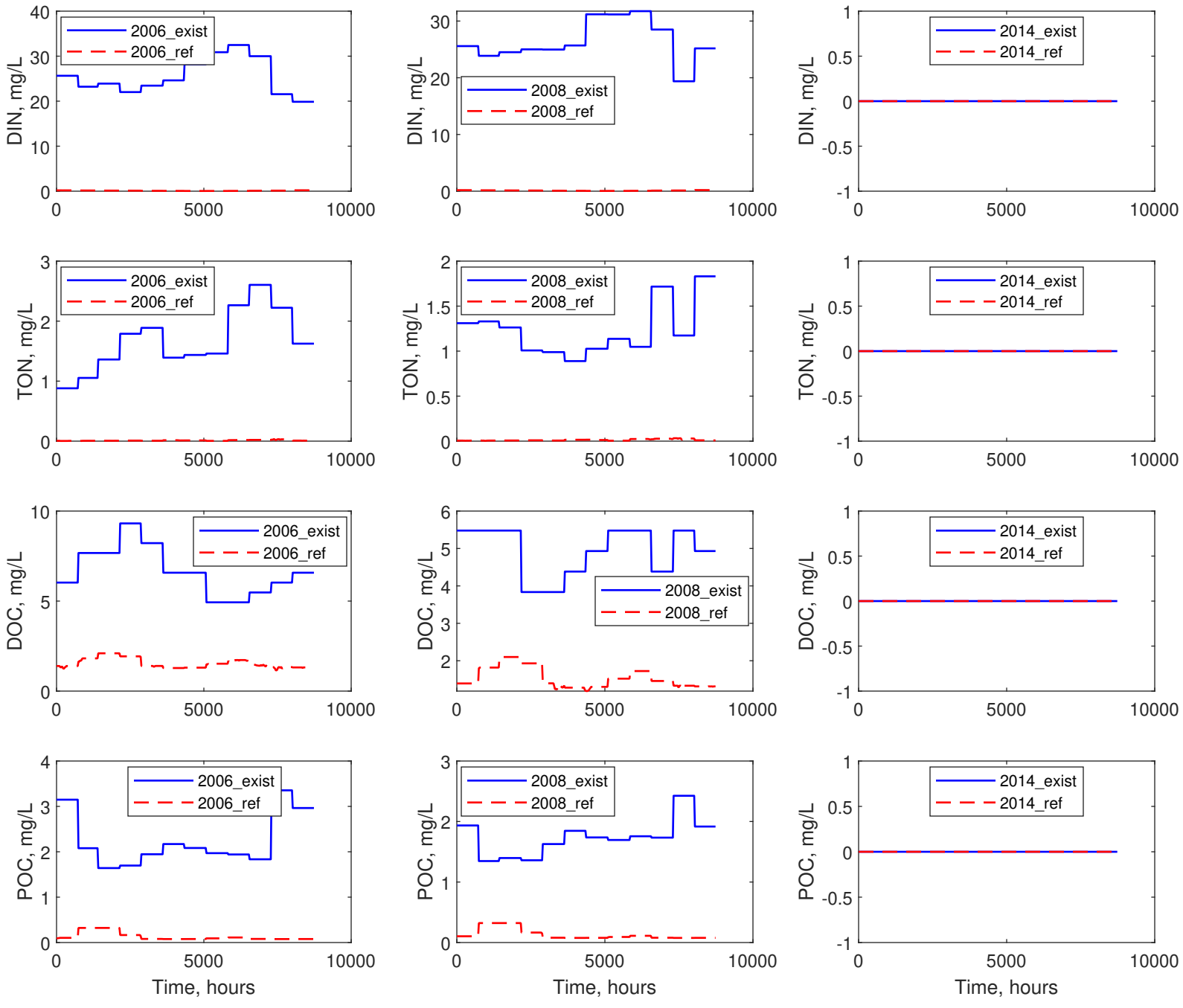

Langley
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

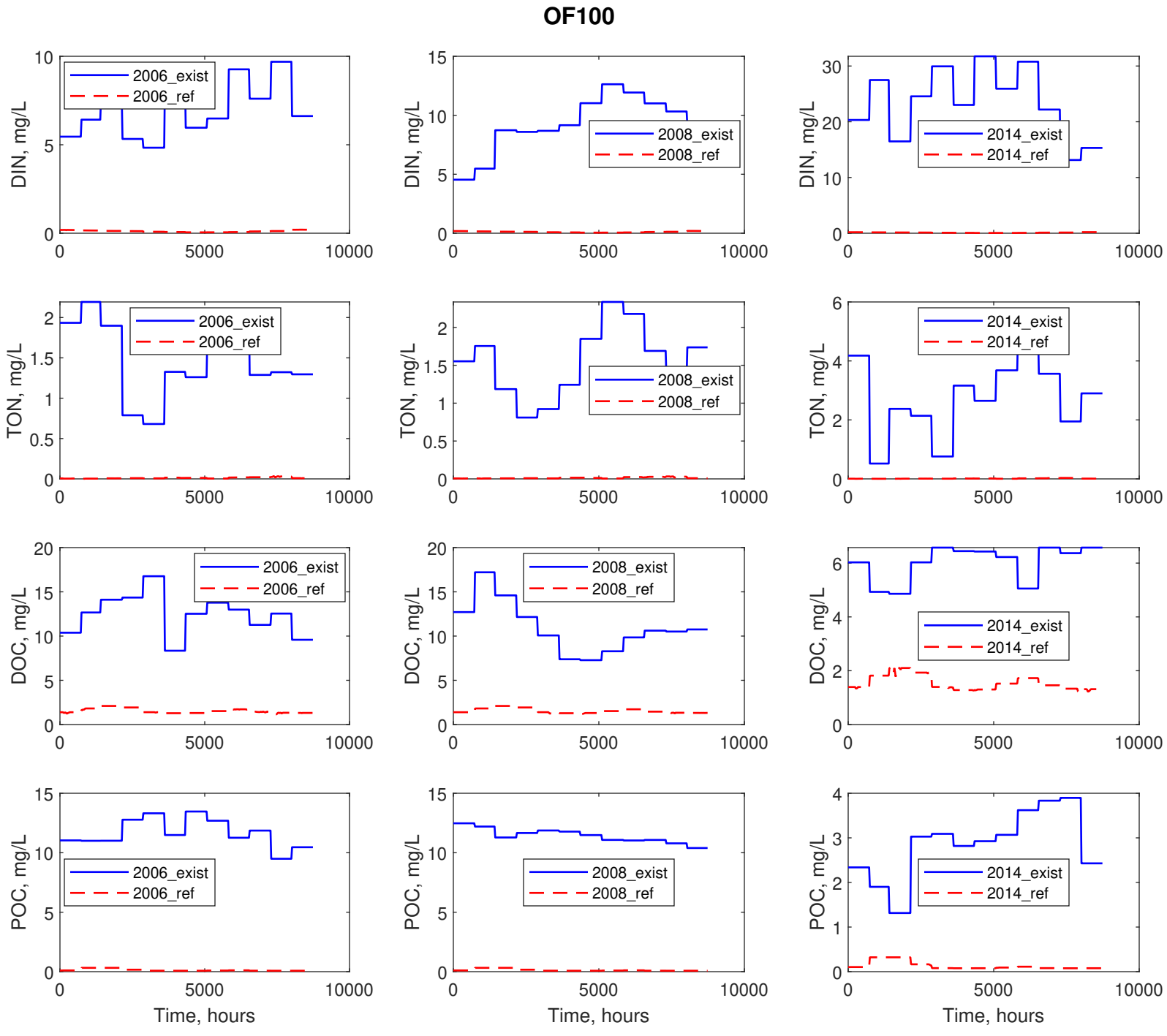

Marysville
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
Time, hours

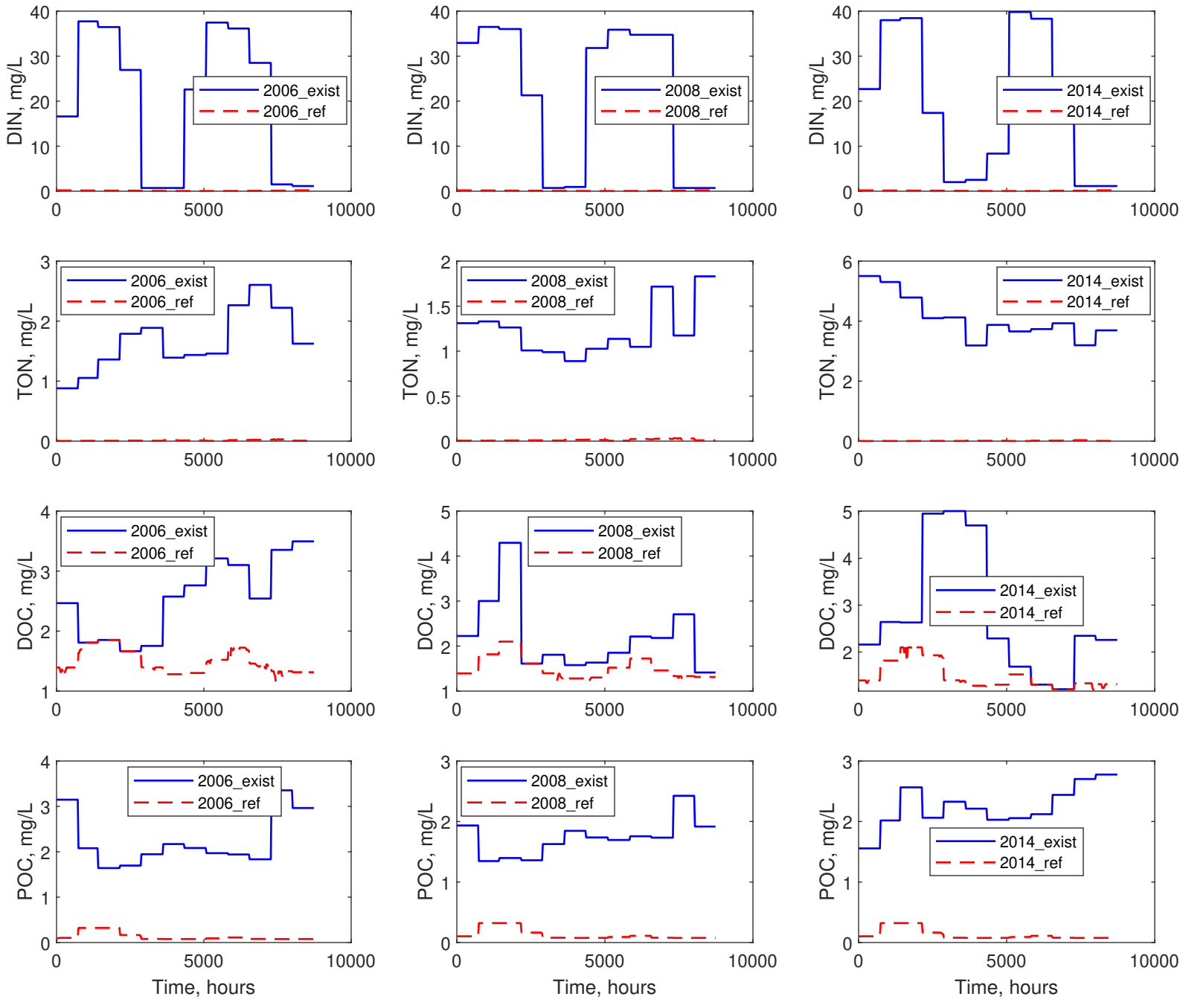

Mt Vernon
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

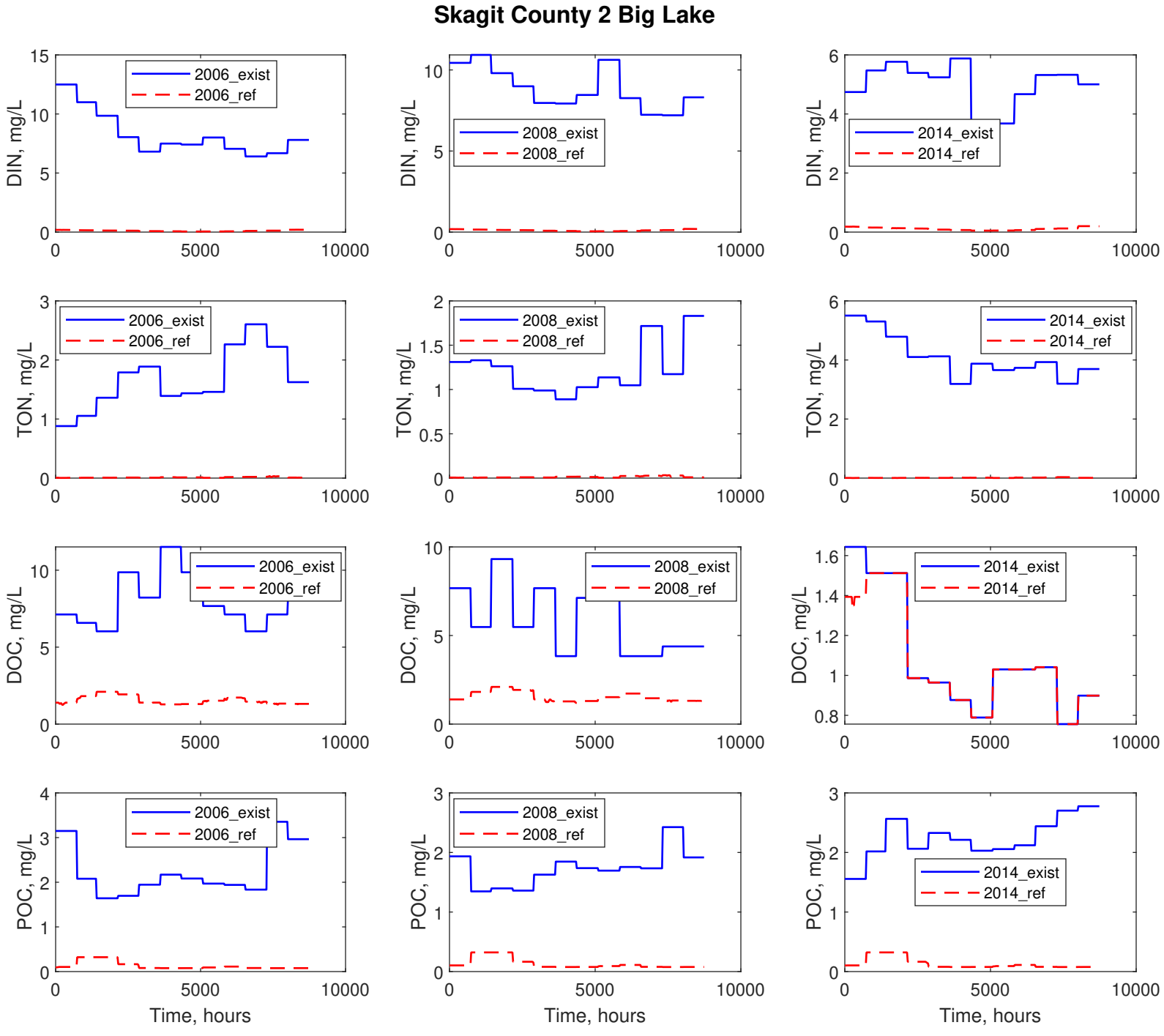

Mukilteo
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

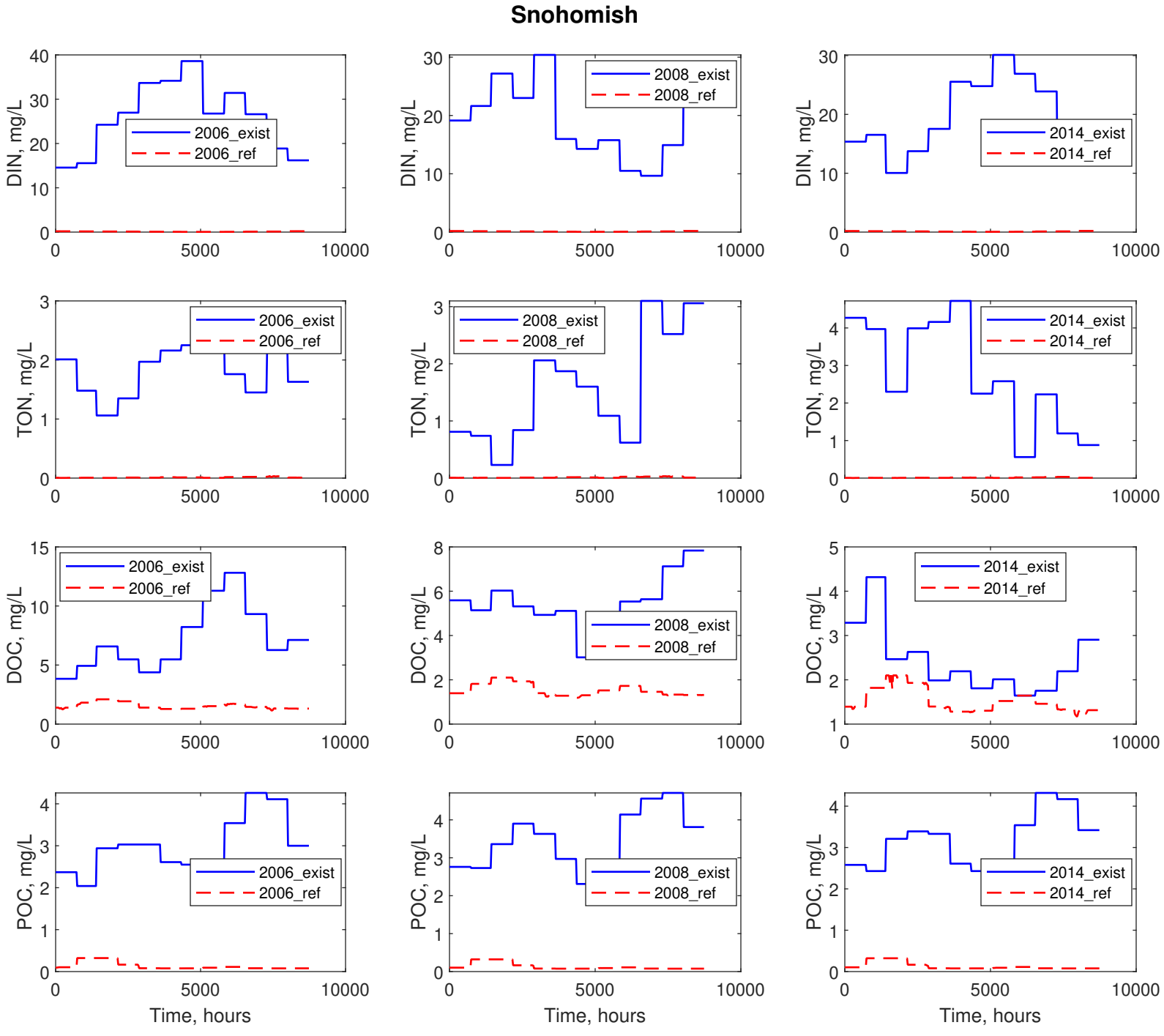

Oak Harbor Lagoon
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

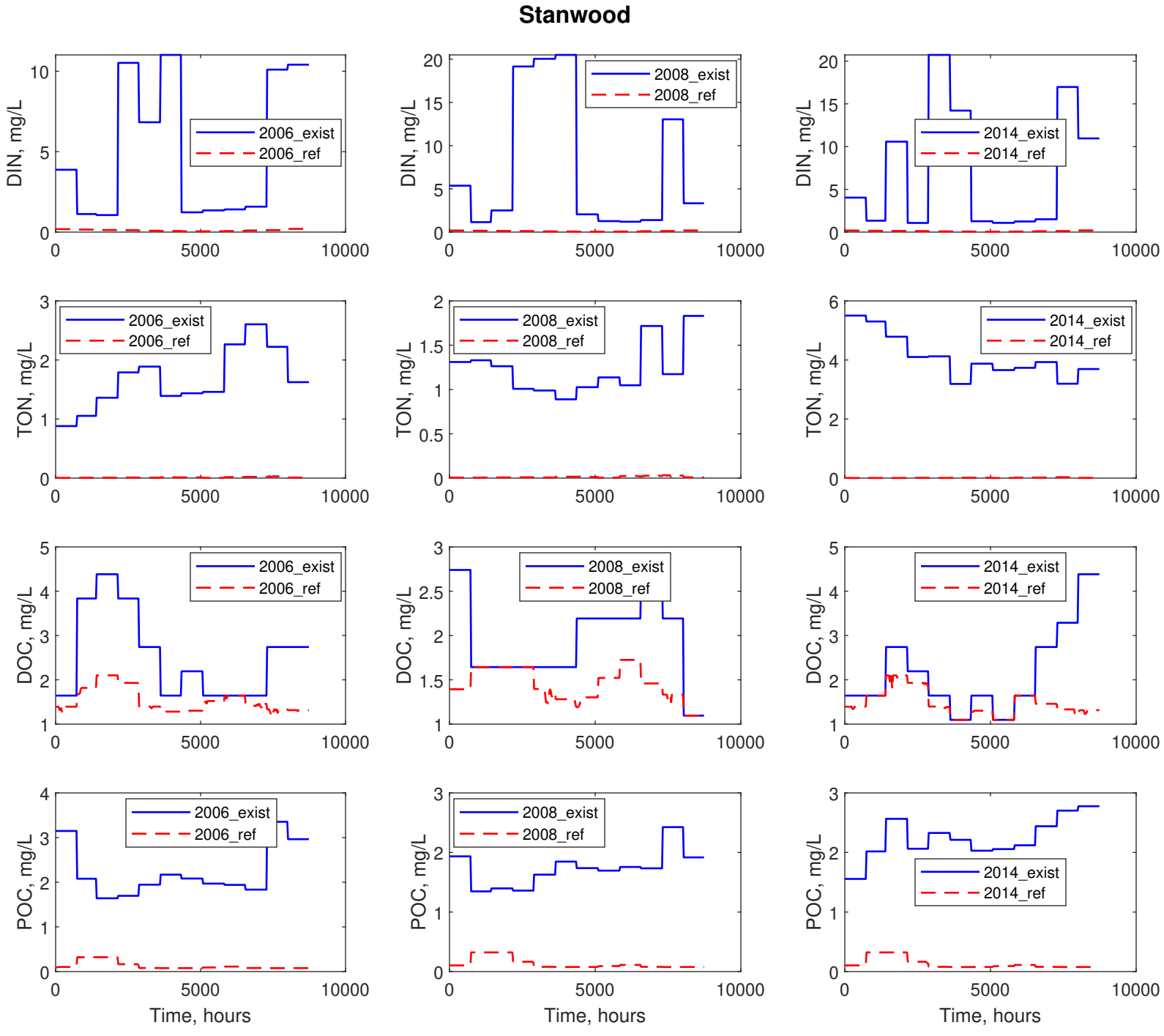

Oak Harbor RBC
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

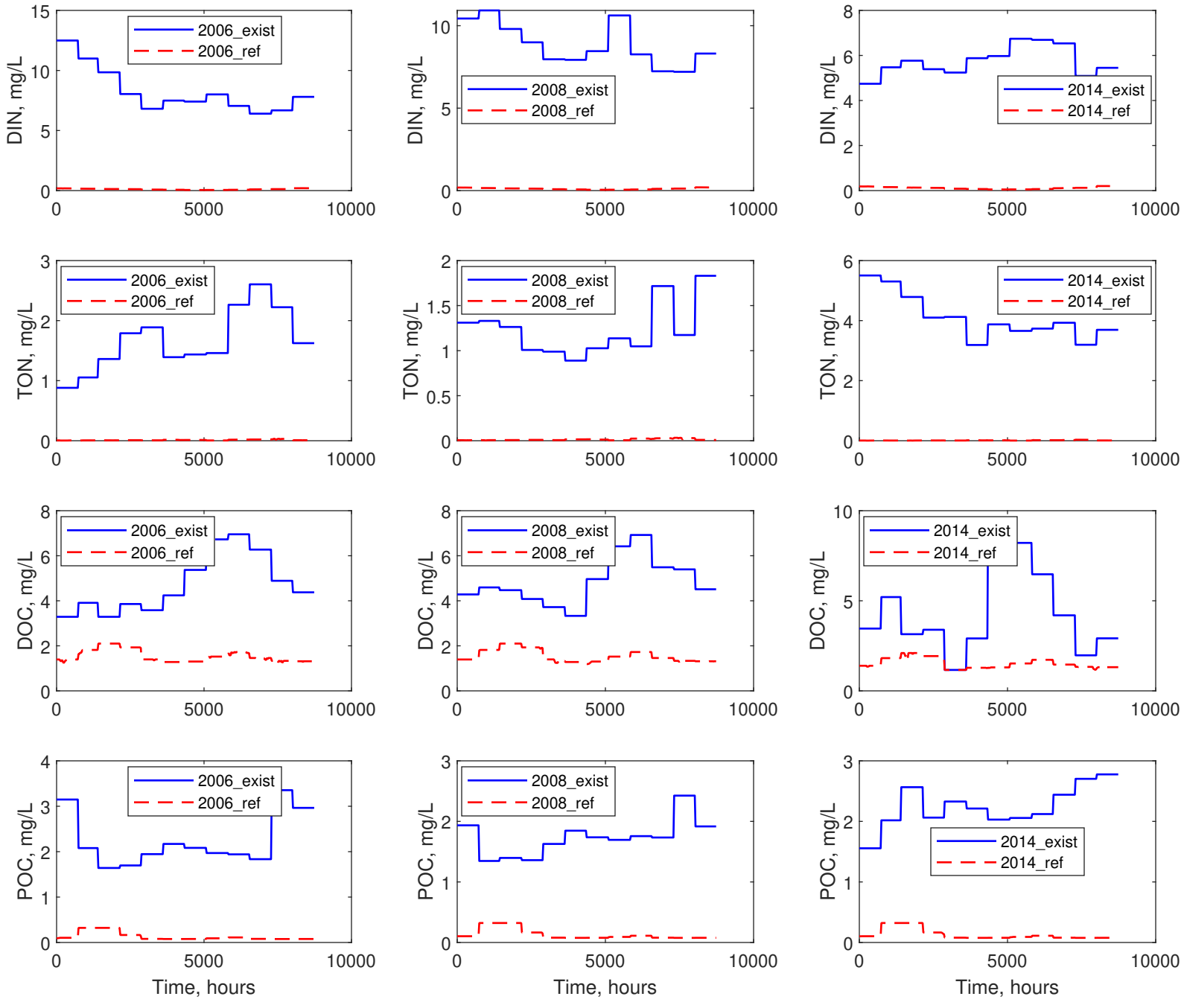

OF100
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
Time, hours

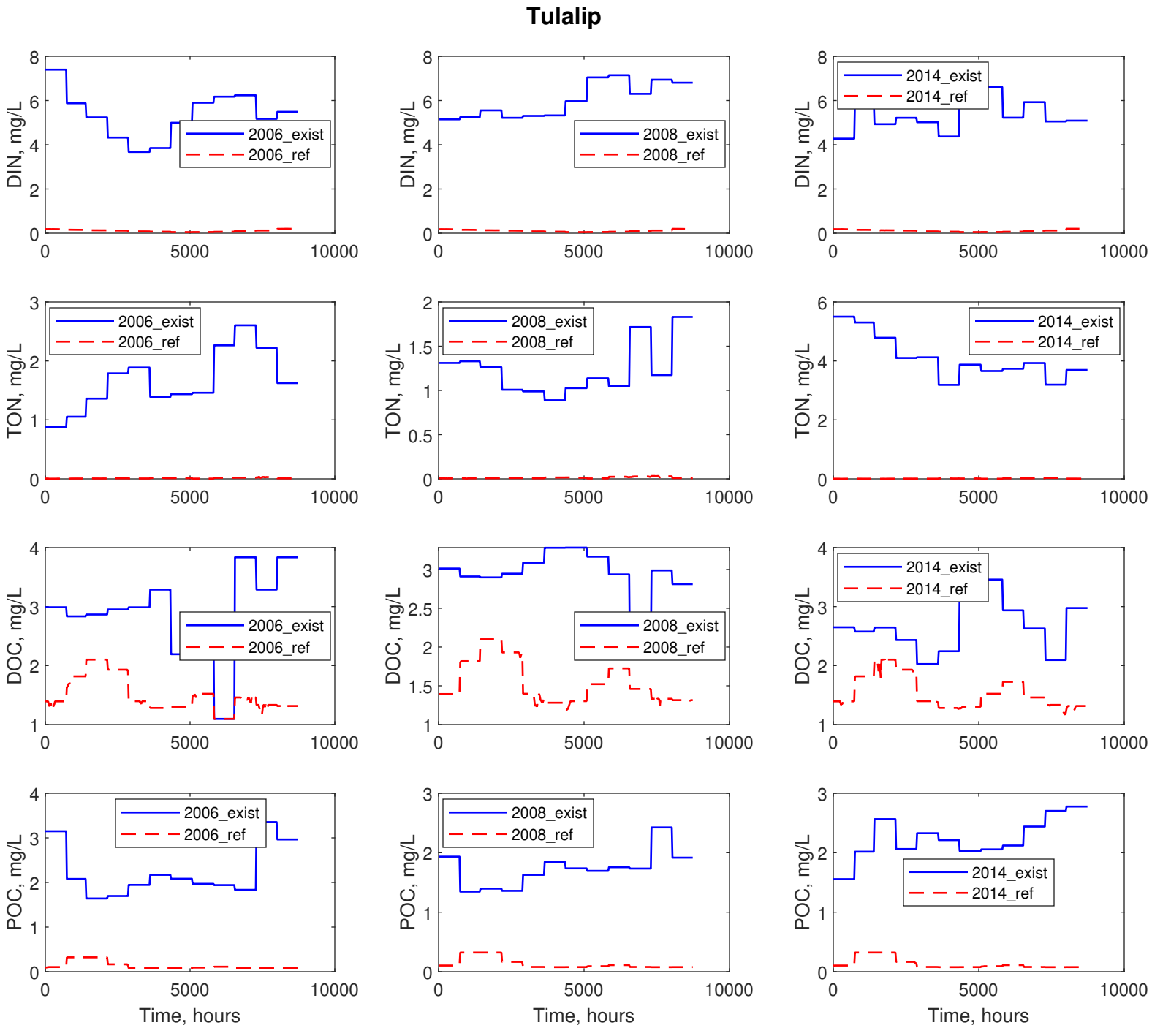

Penn Cove
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

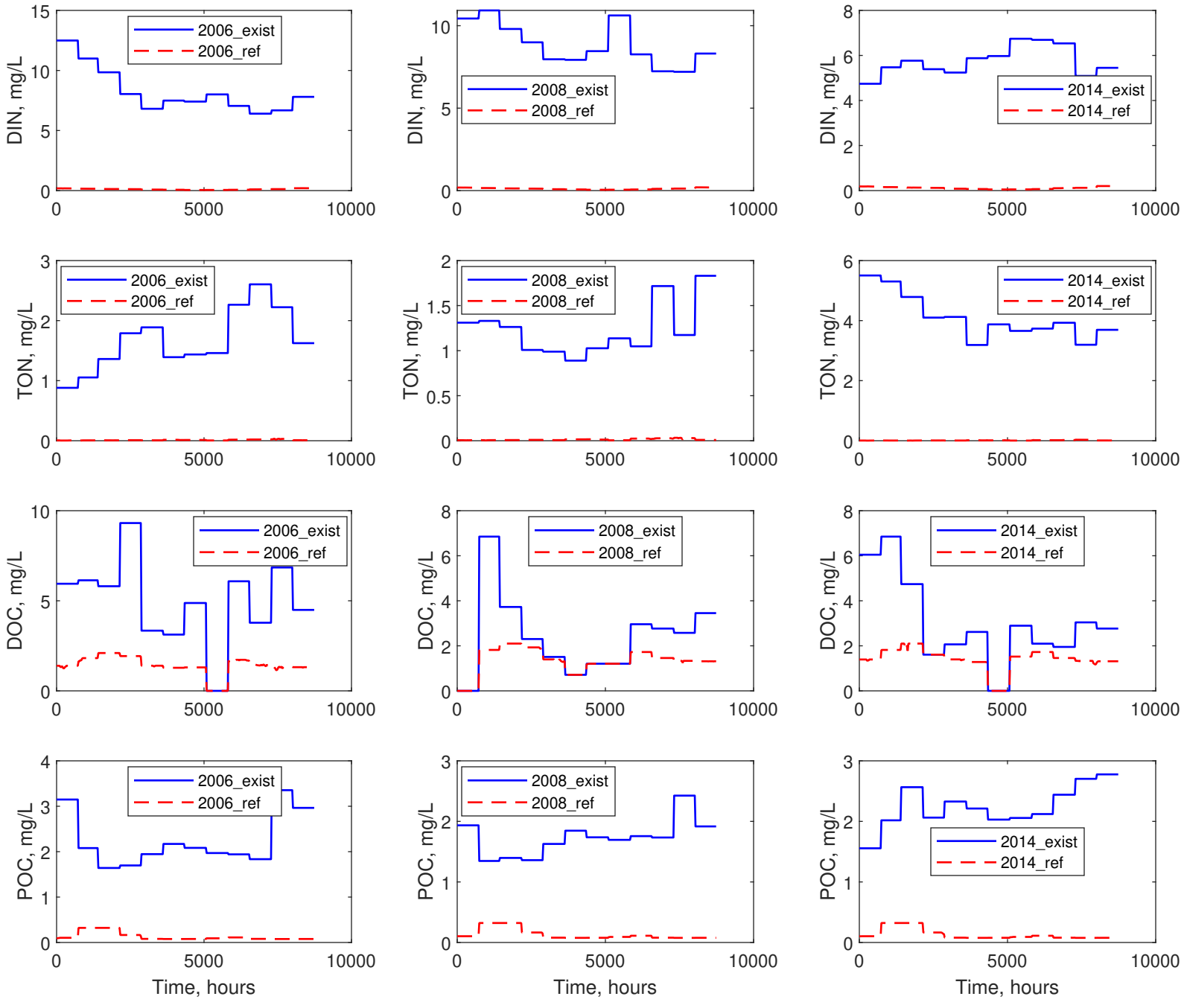

Skagit County 2 Big Lake
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

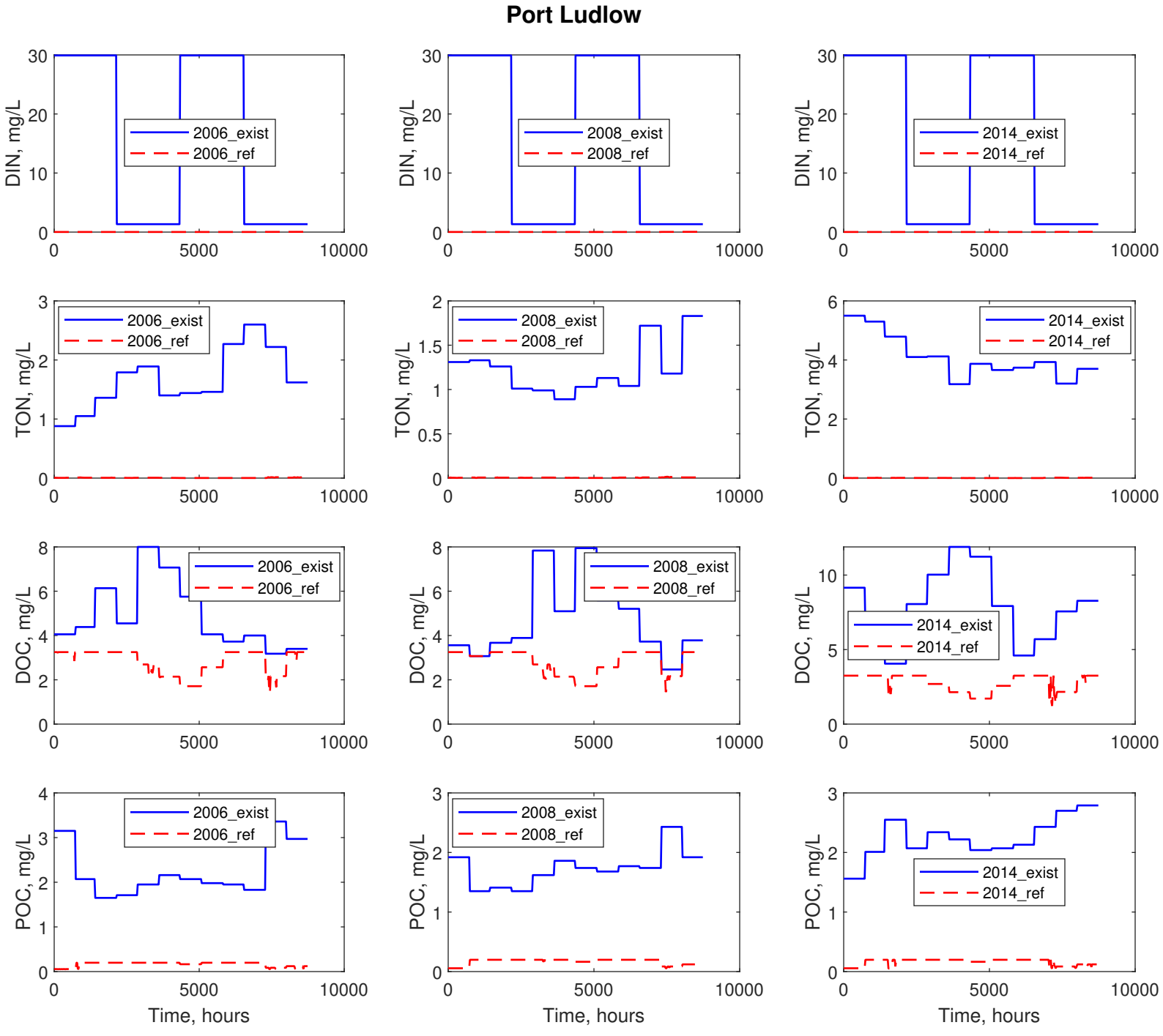

Snohomish
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

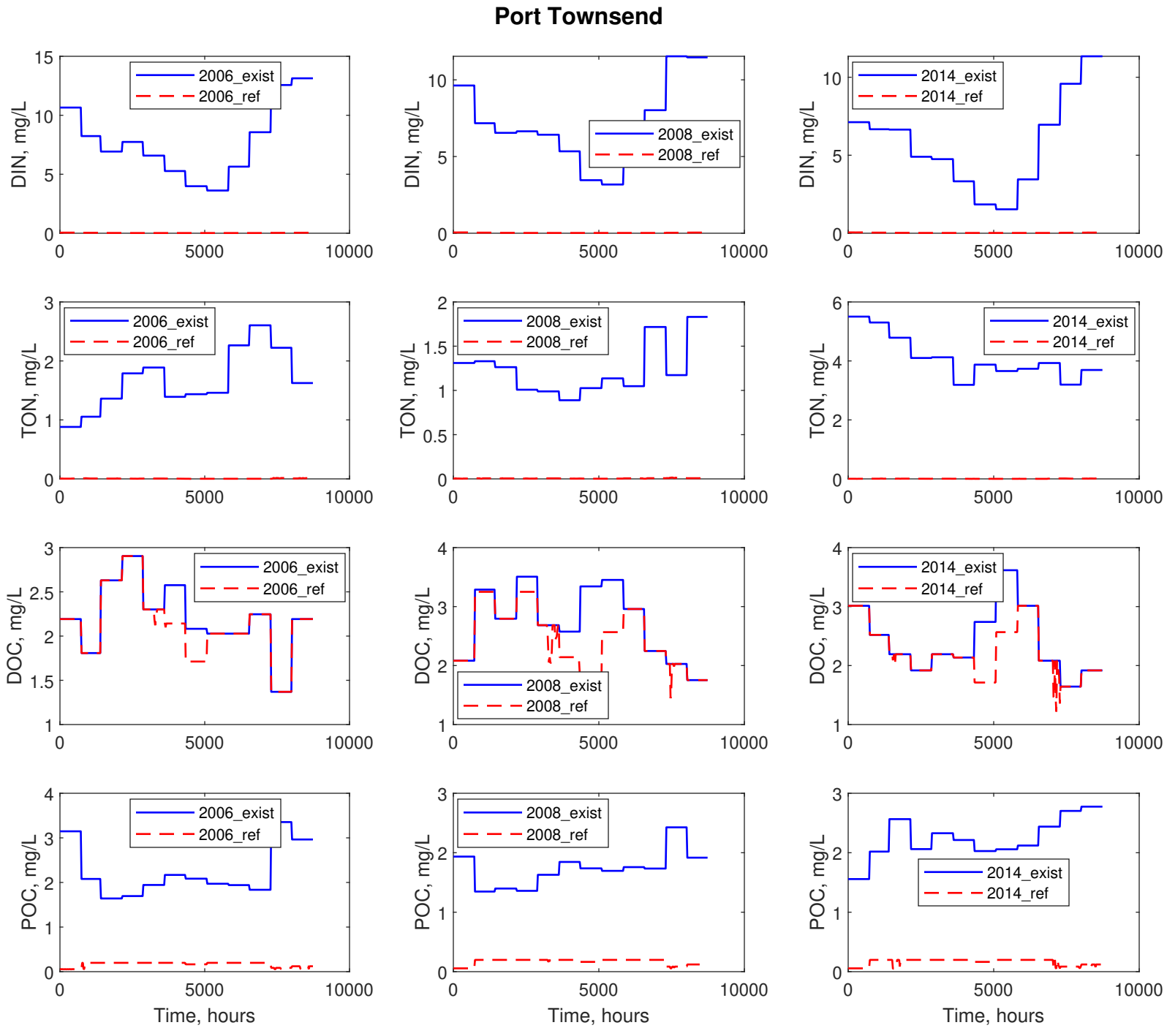

Stanwood
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

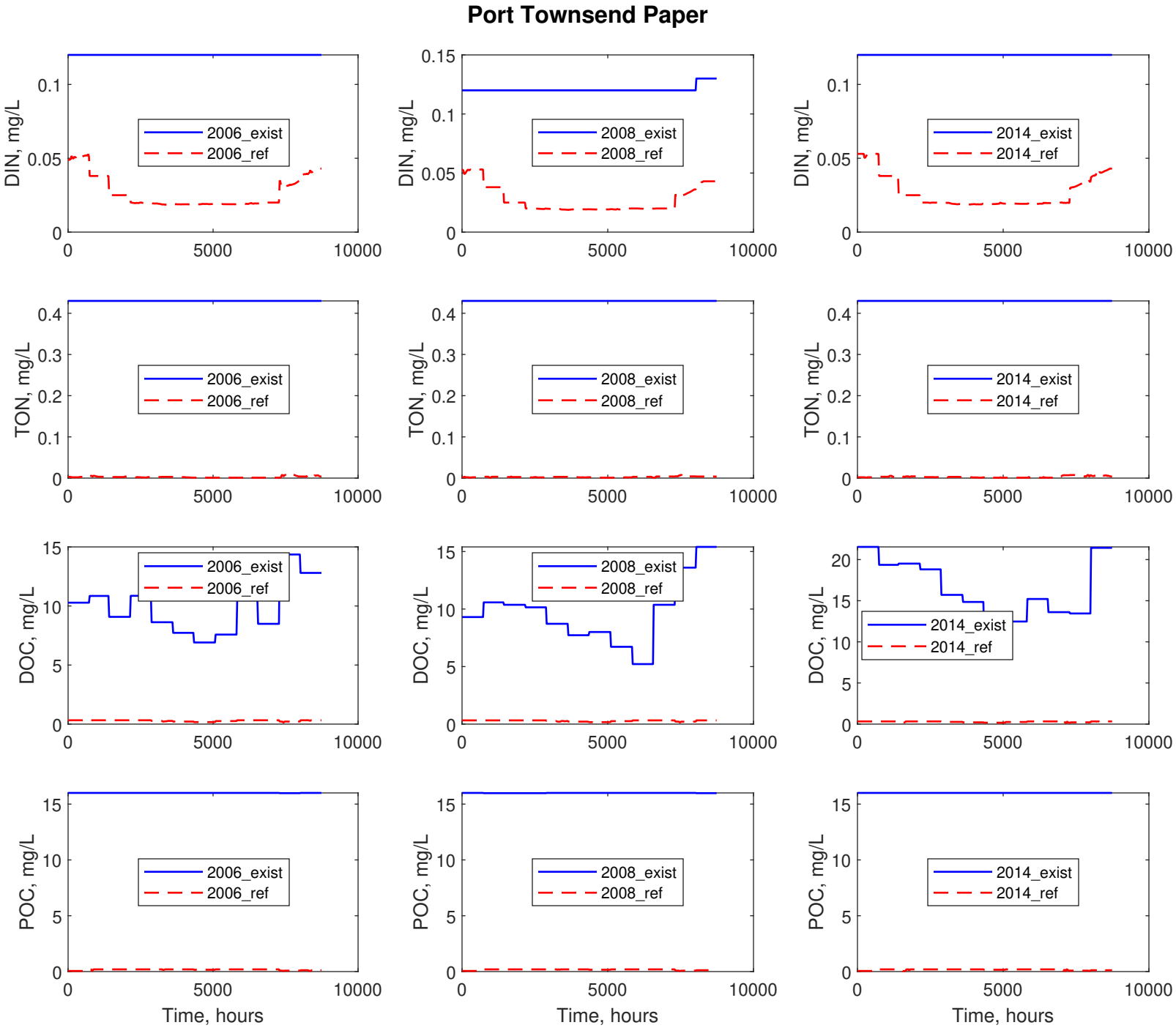

Swinomish
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

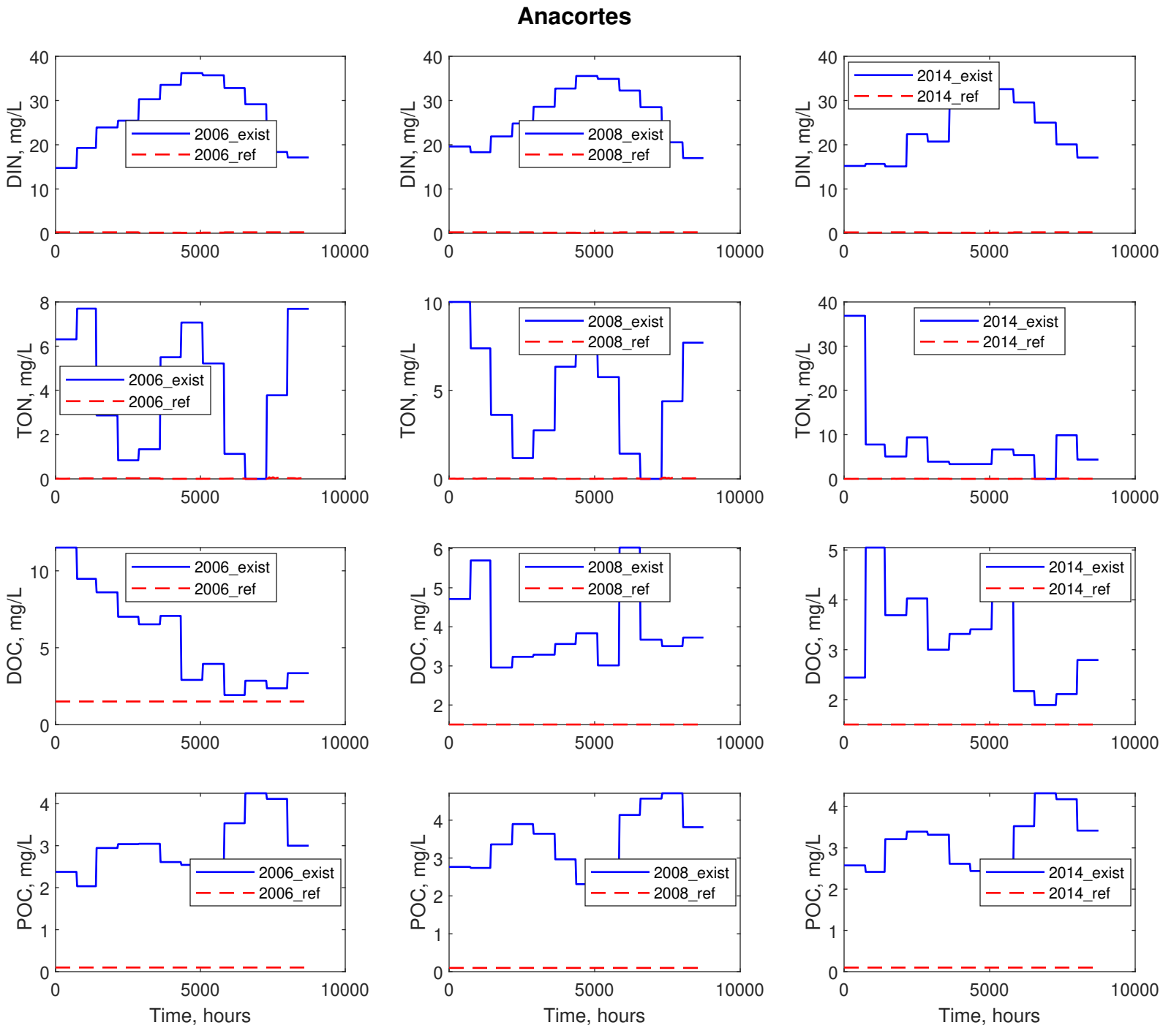

Tulalip
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

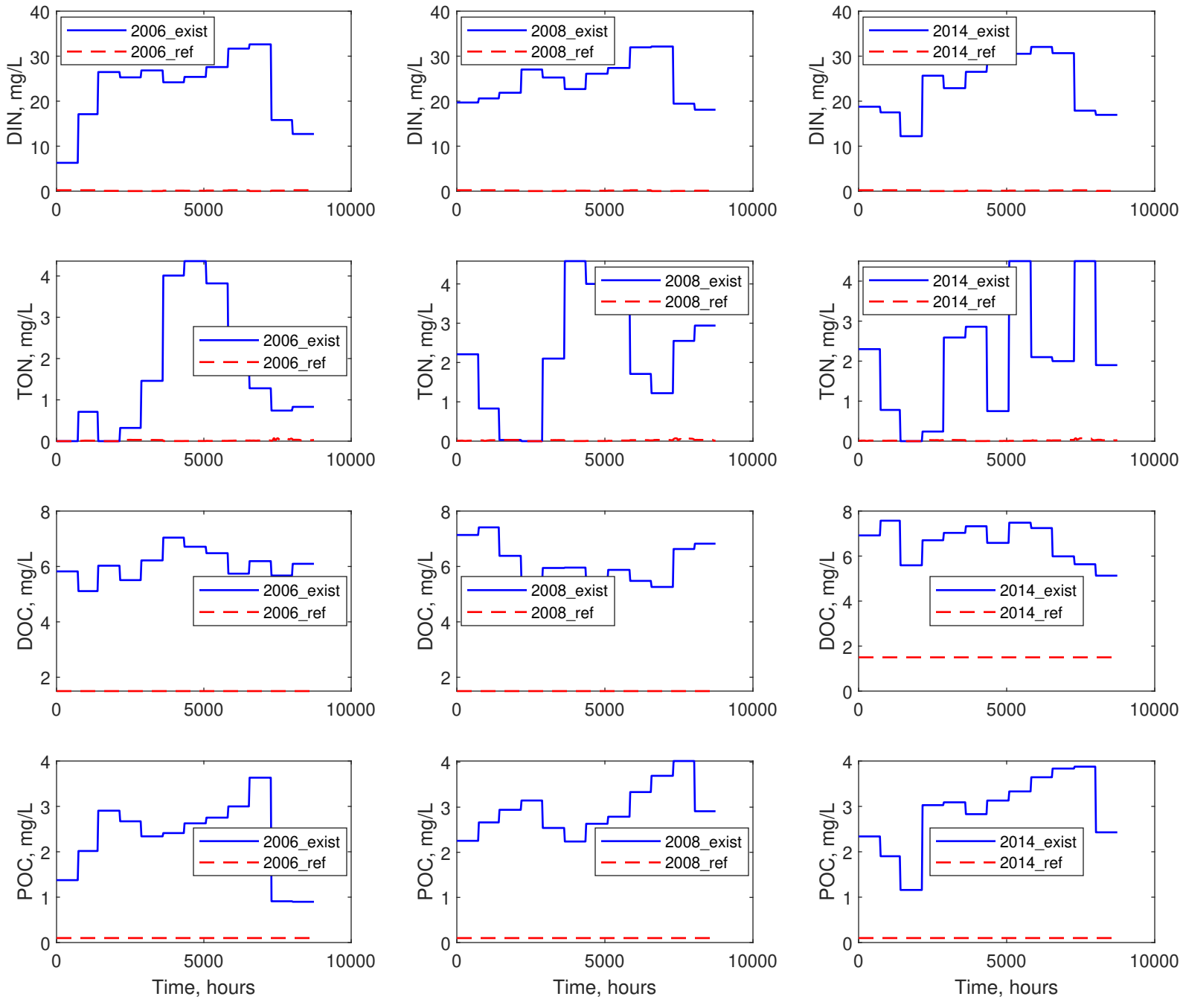

Warm Beach Campground
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

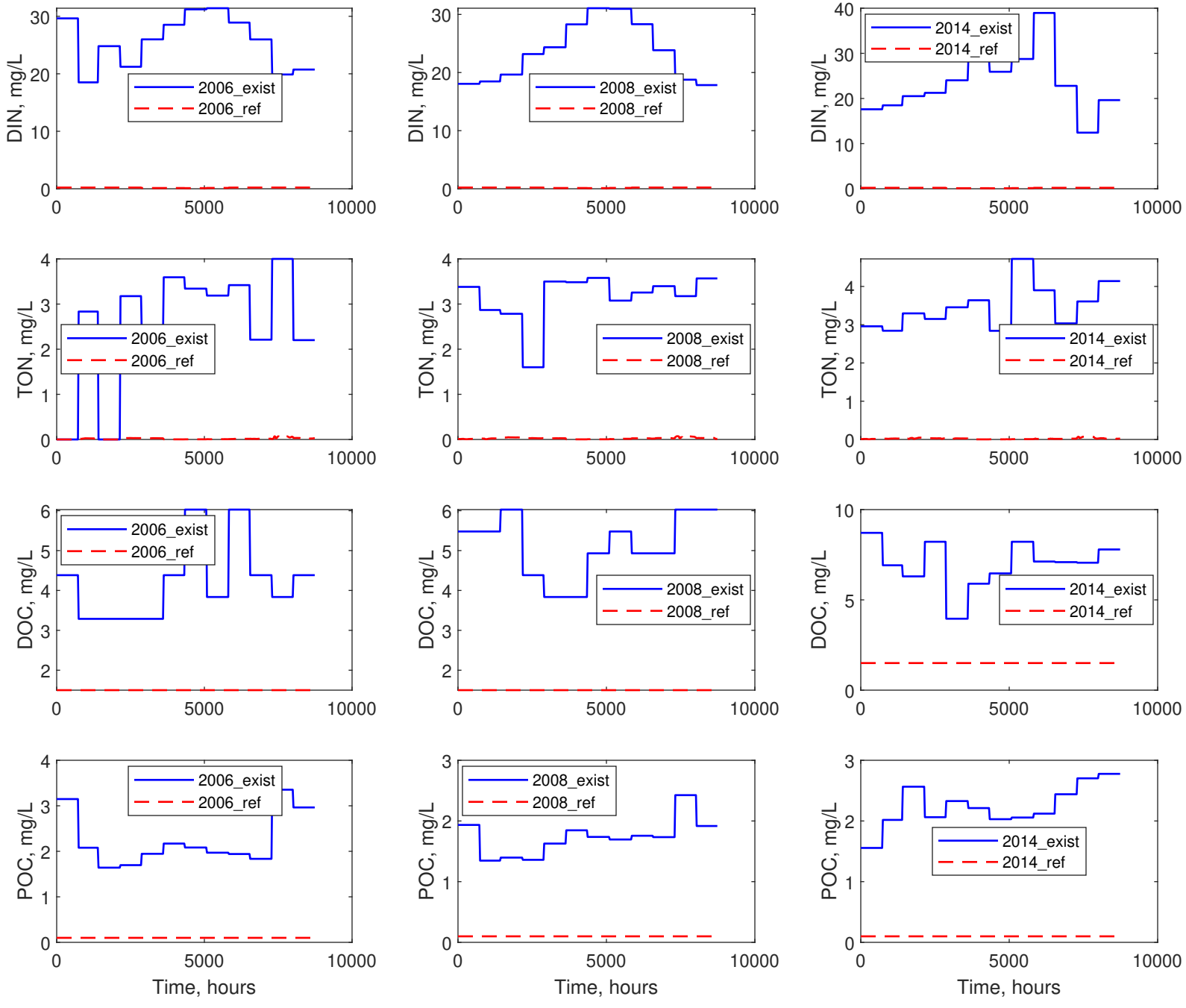

Port Ludlow
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

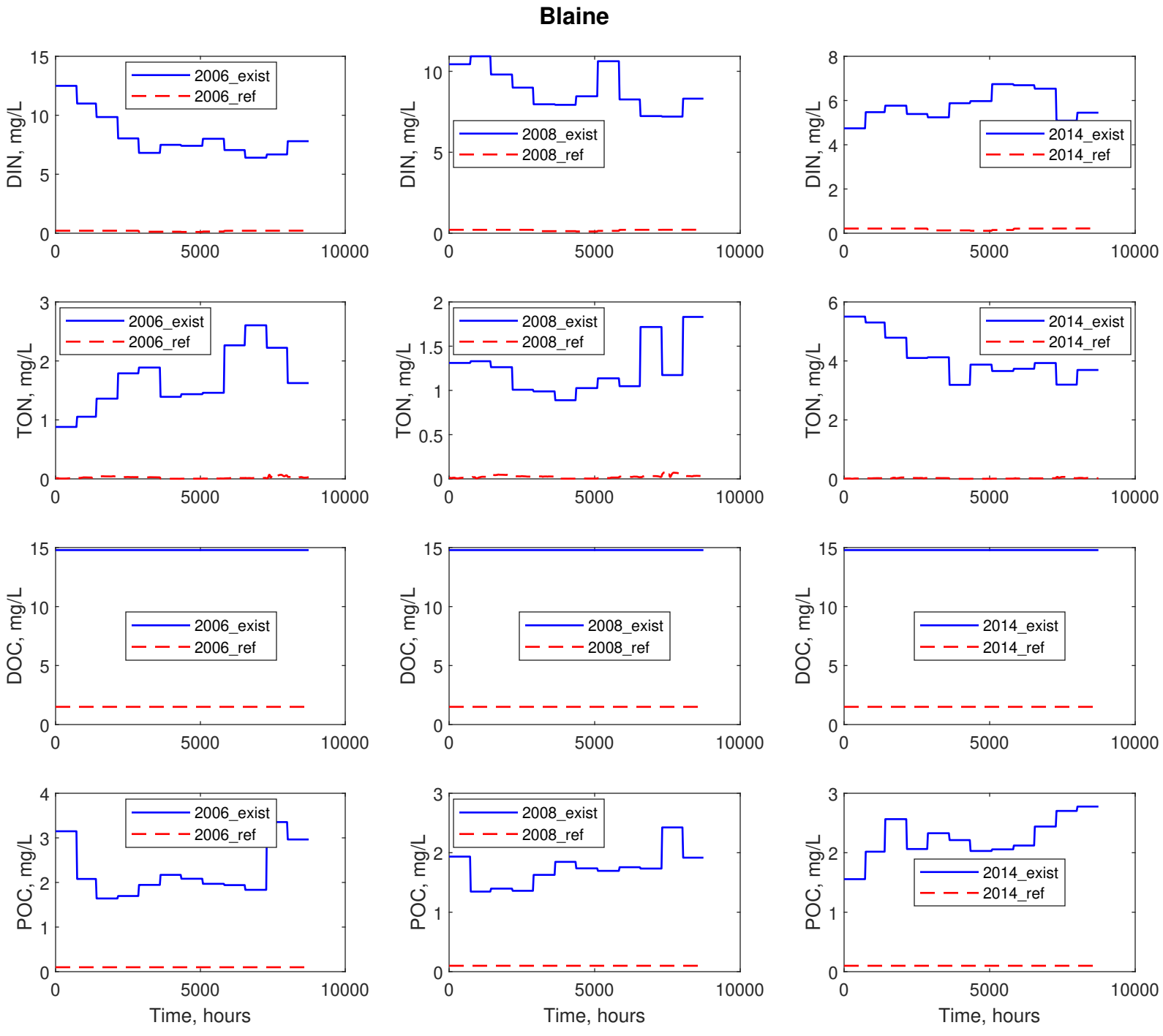

Port Townsend
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

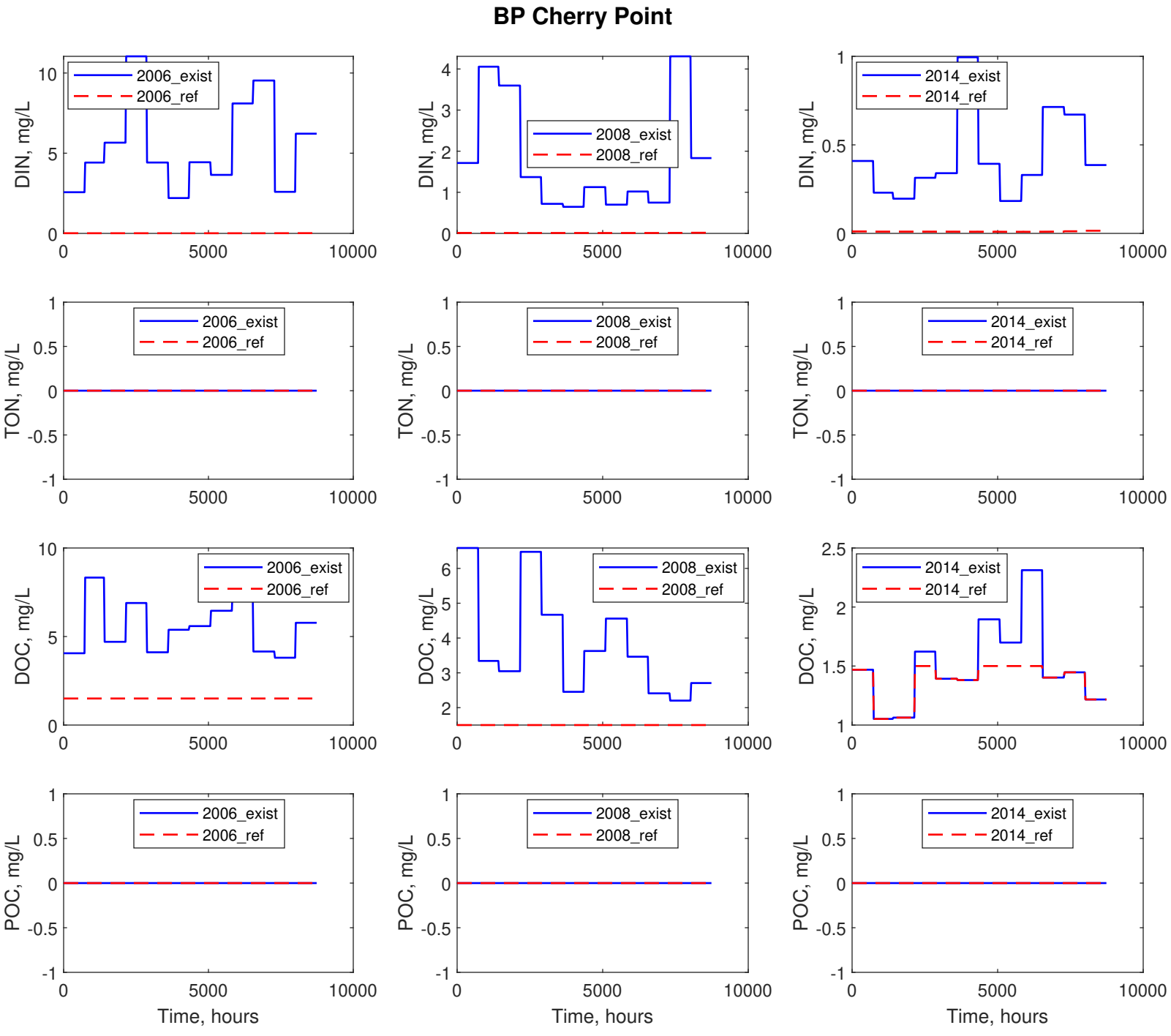

Port Townsend Paper
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

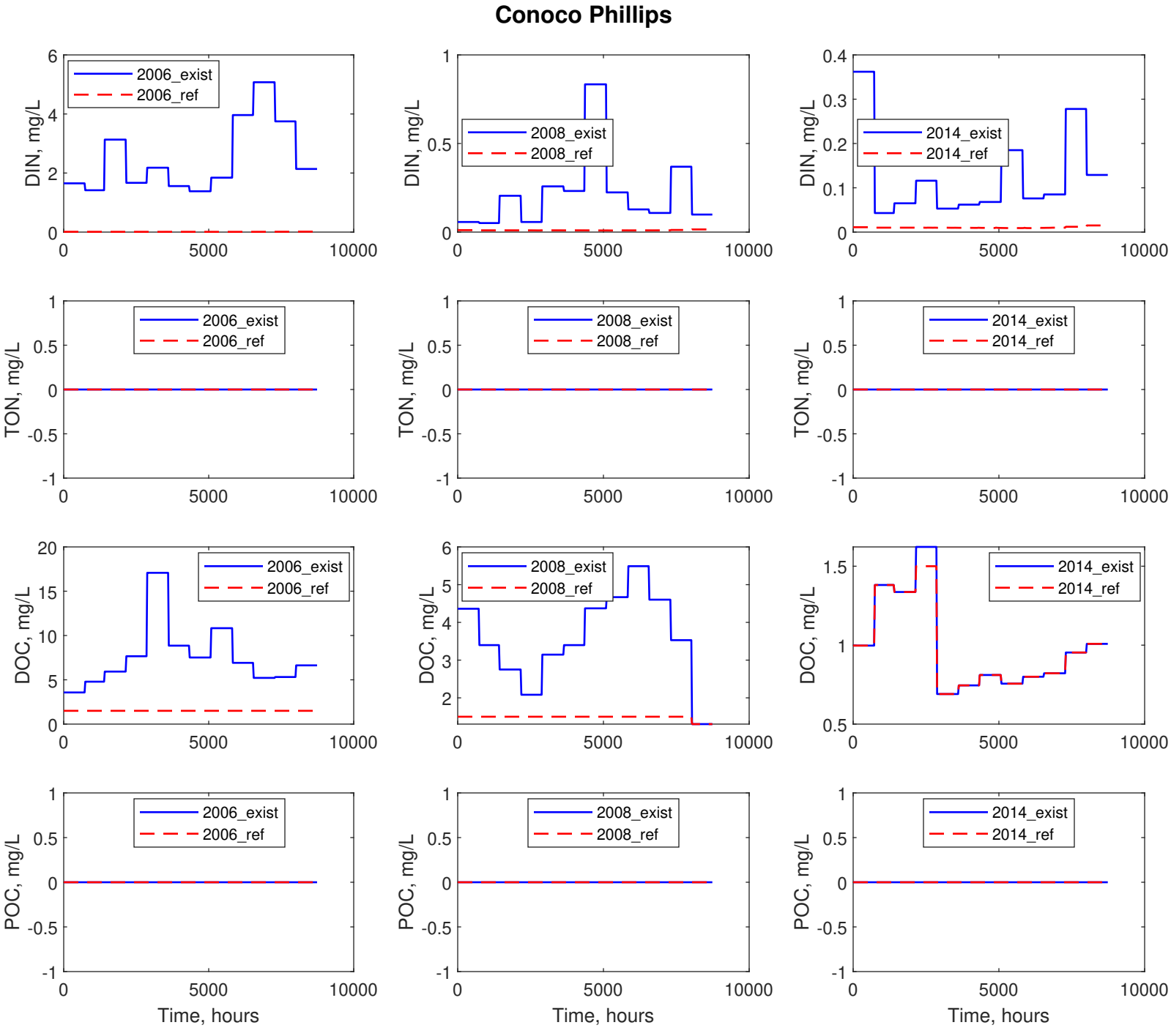

Anacortes
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

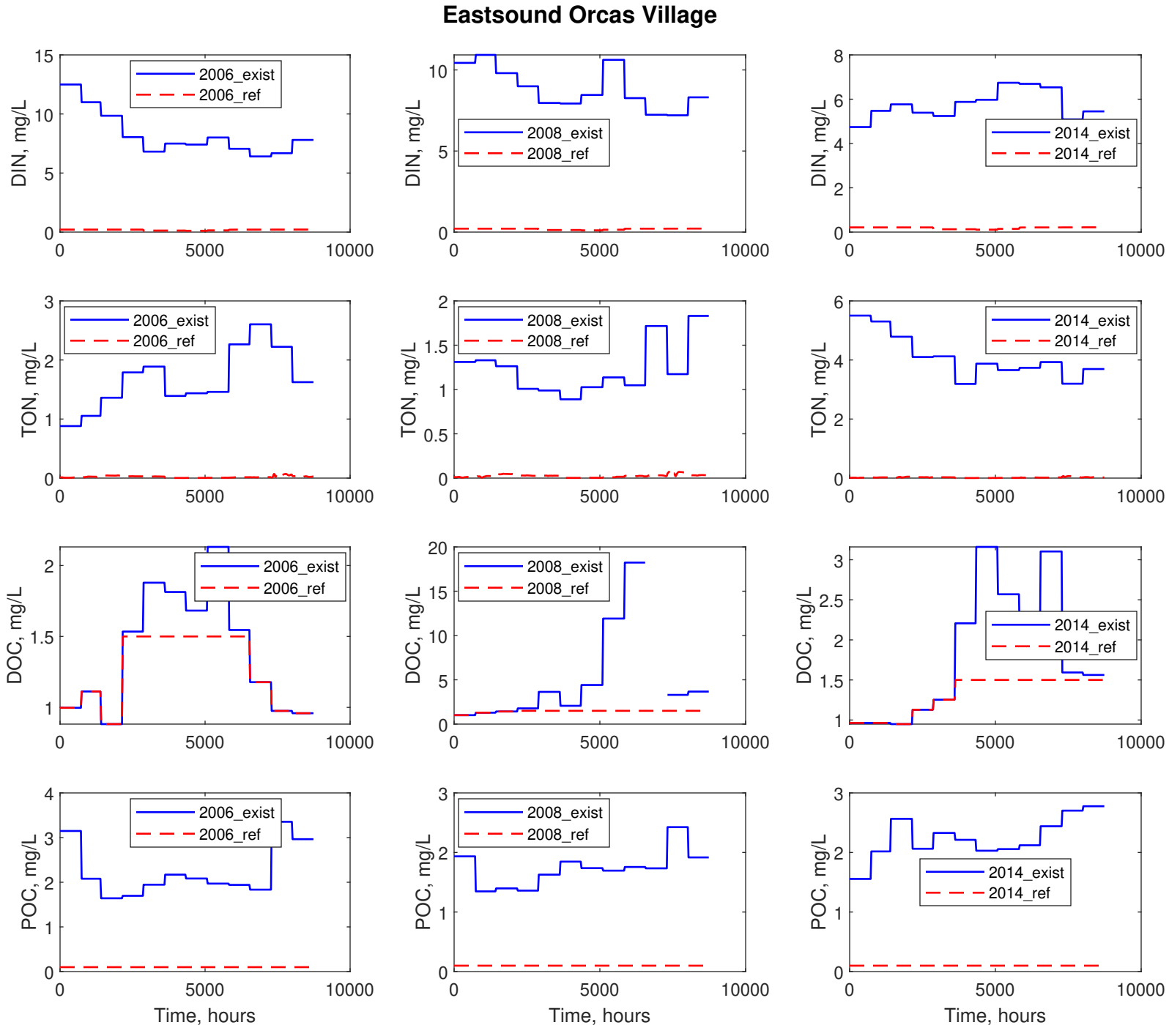

Bellingham
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000
Time, hours

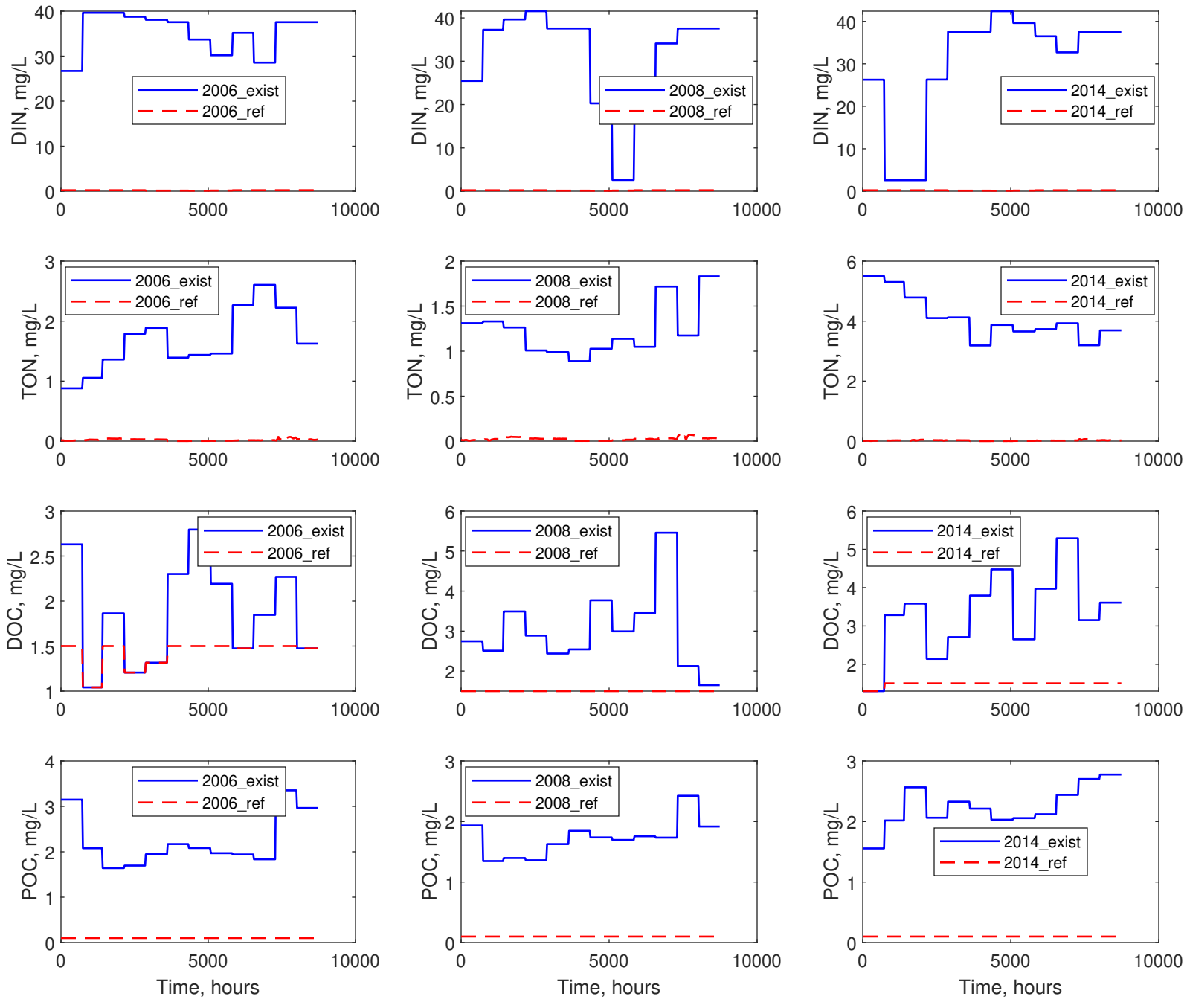

Birch Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

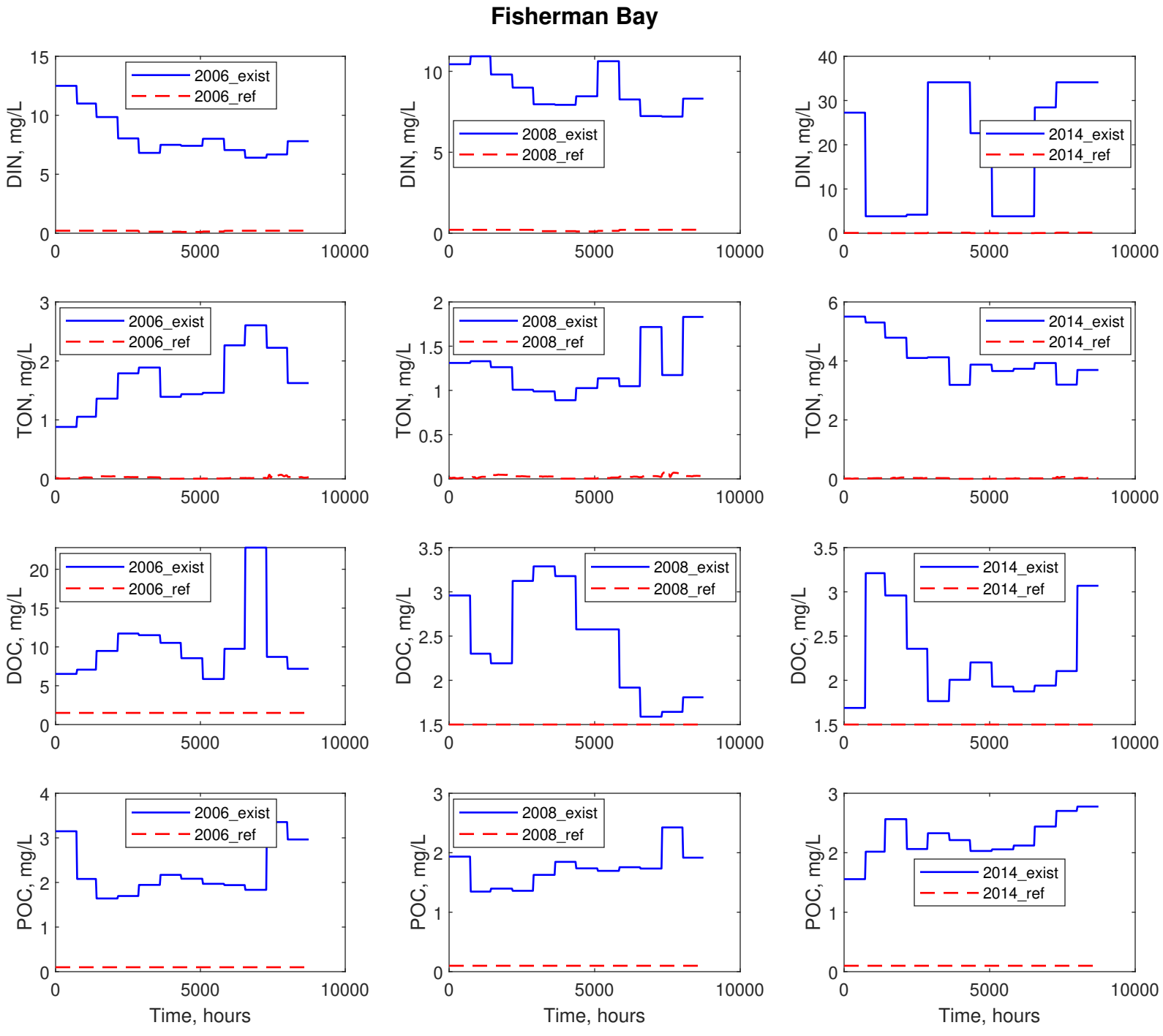

Blaine
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

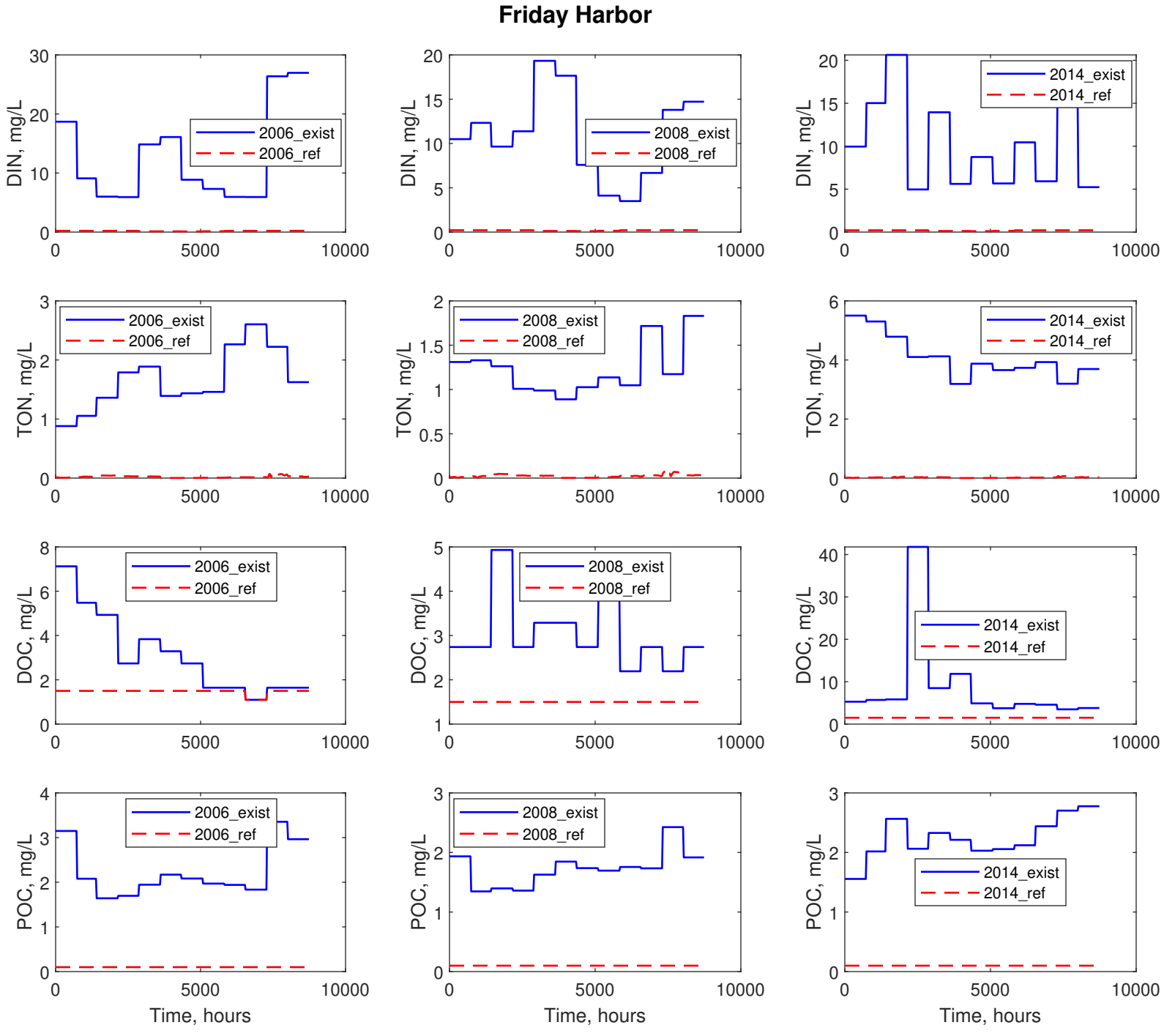

BP Cherry Point
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
0
5000
10000

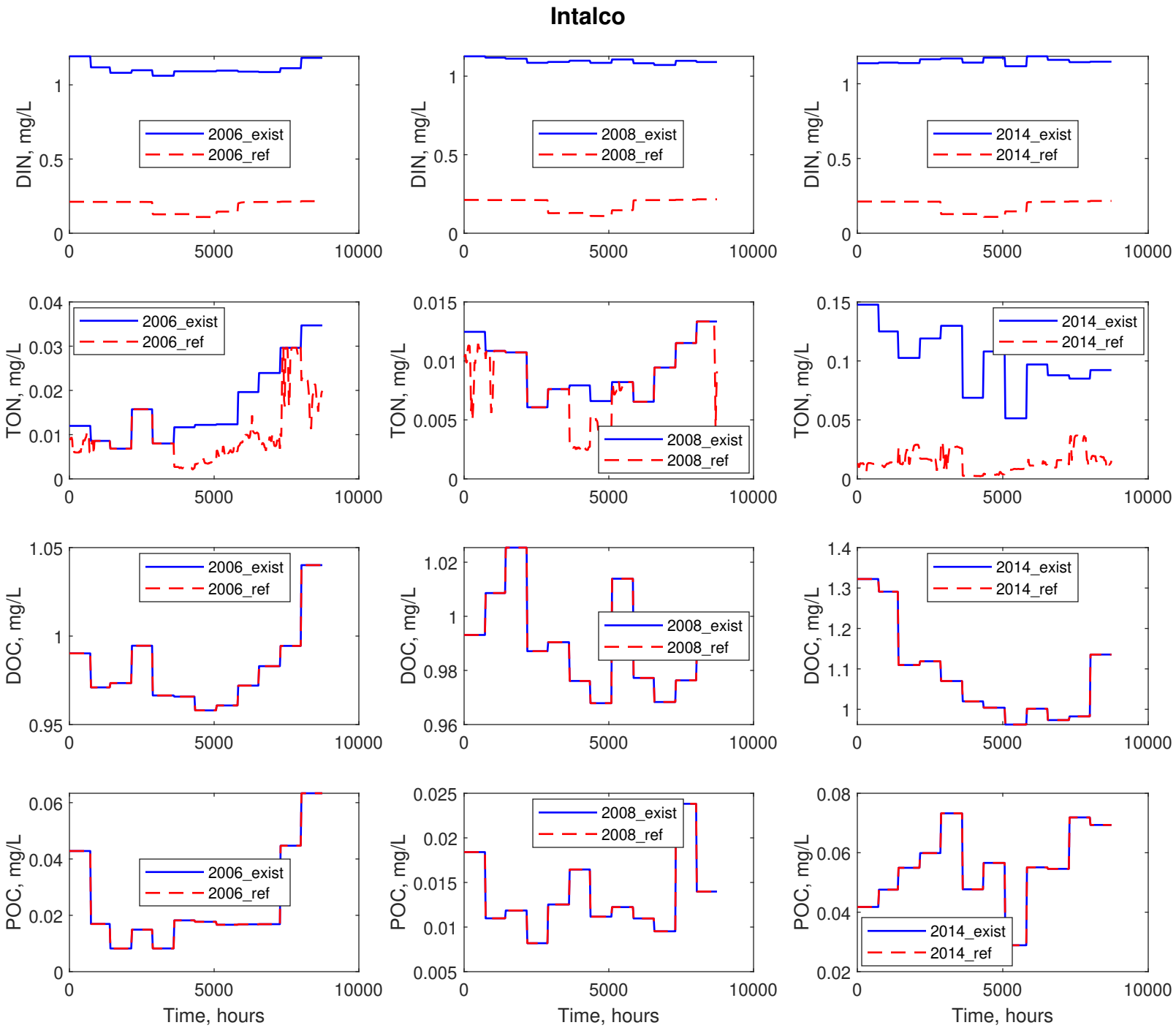

Conoco Phillips
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

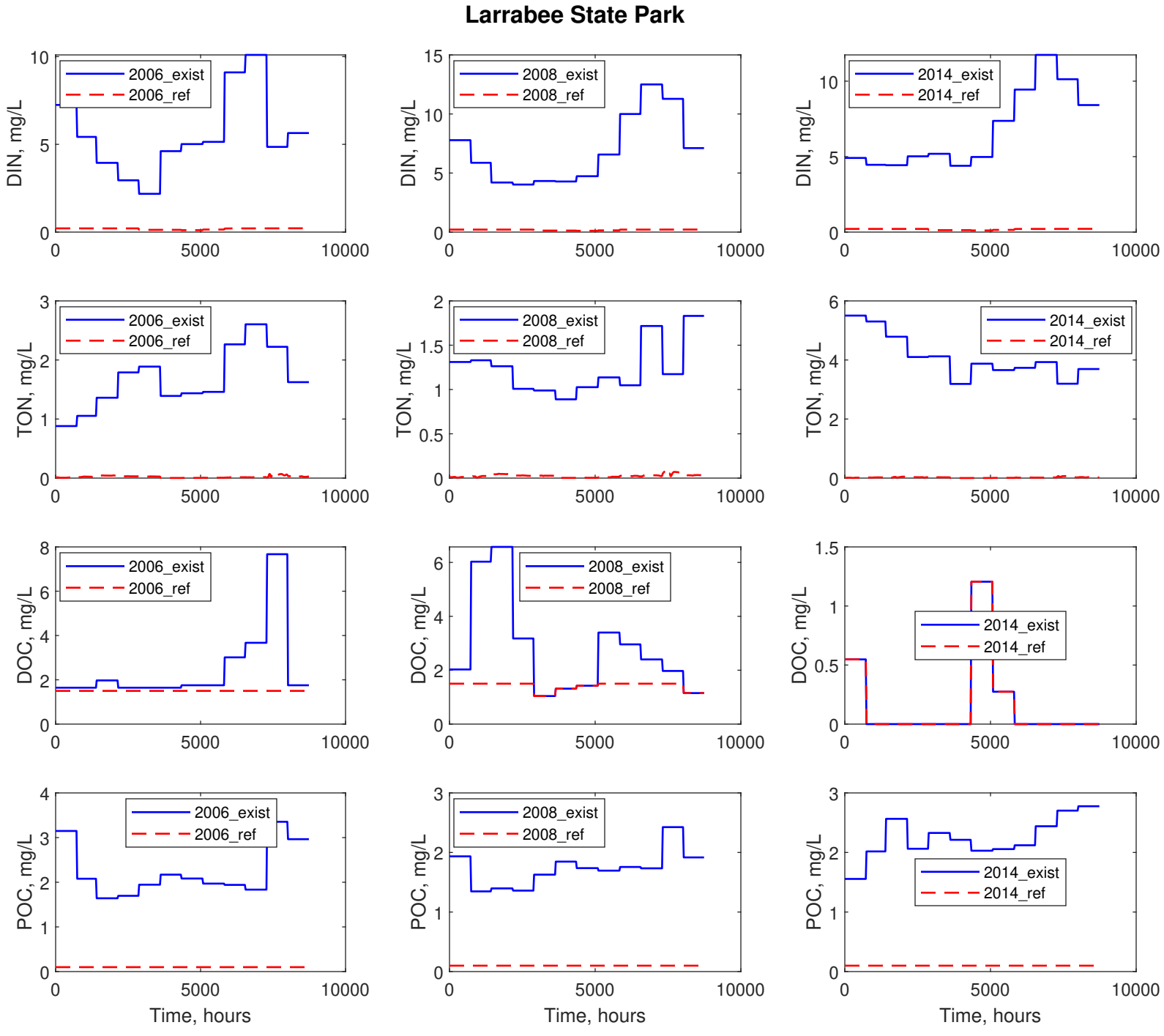

Eastsound Orcas Village
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

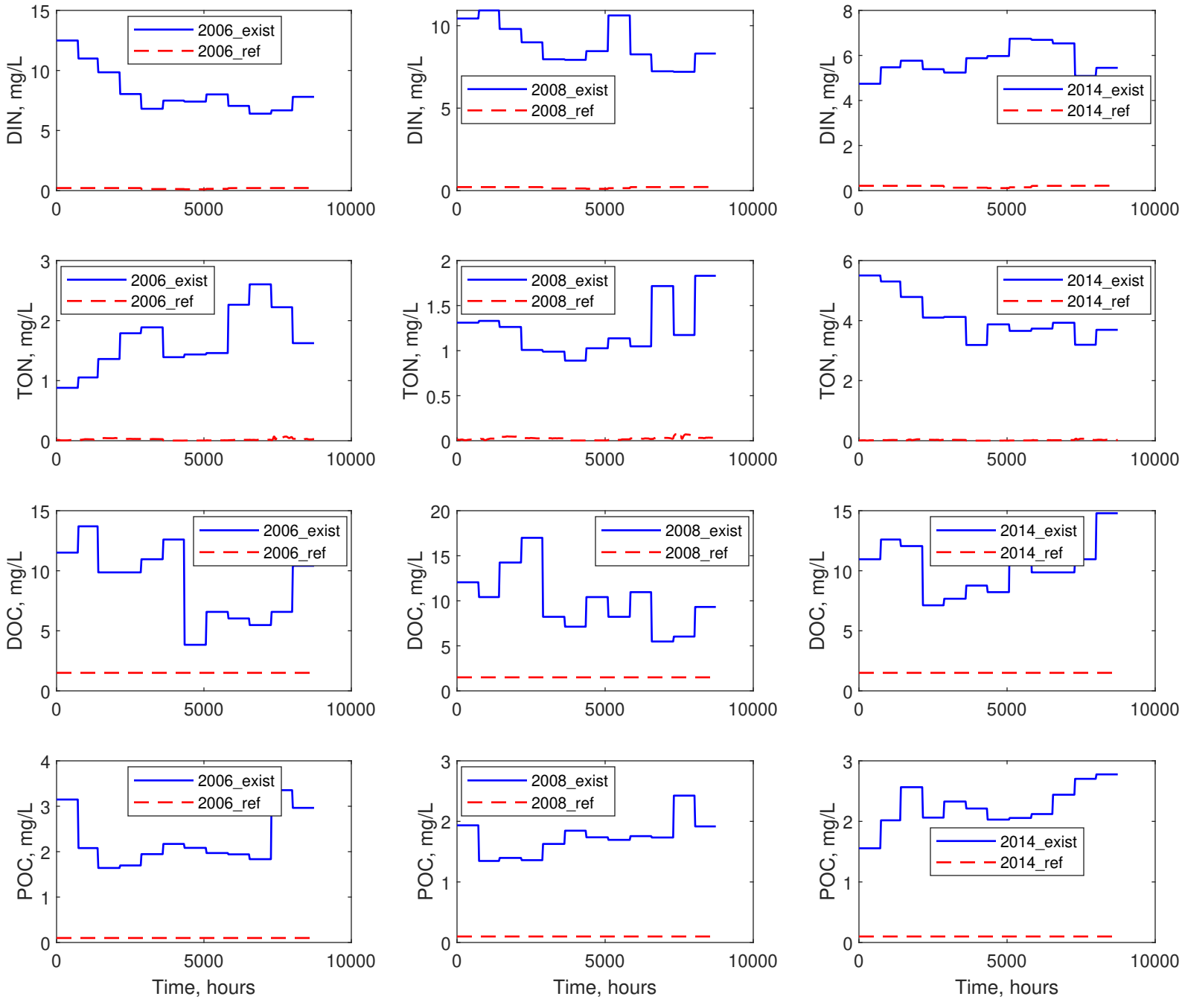

Eastsound Water District
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

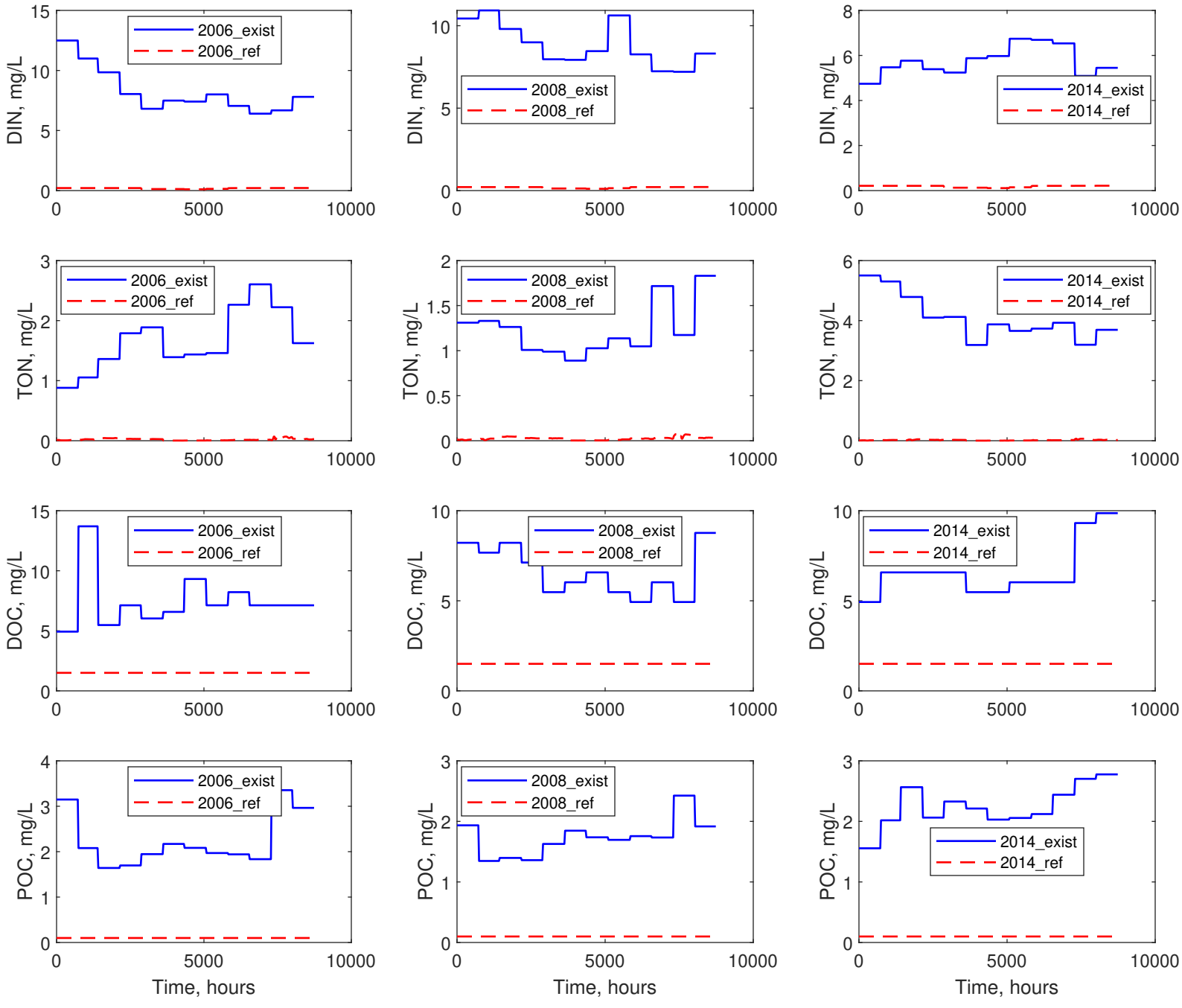

Fisherman Bay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
0
5000
10000

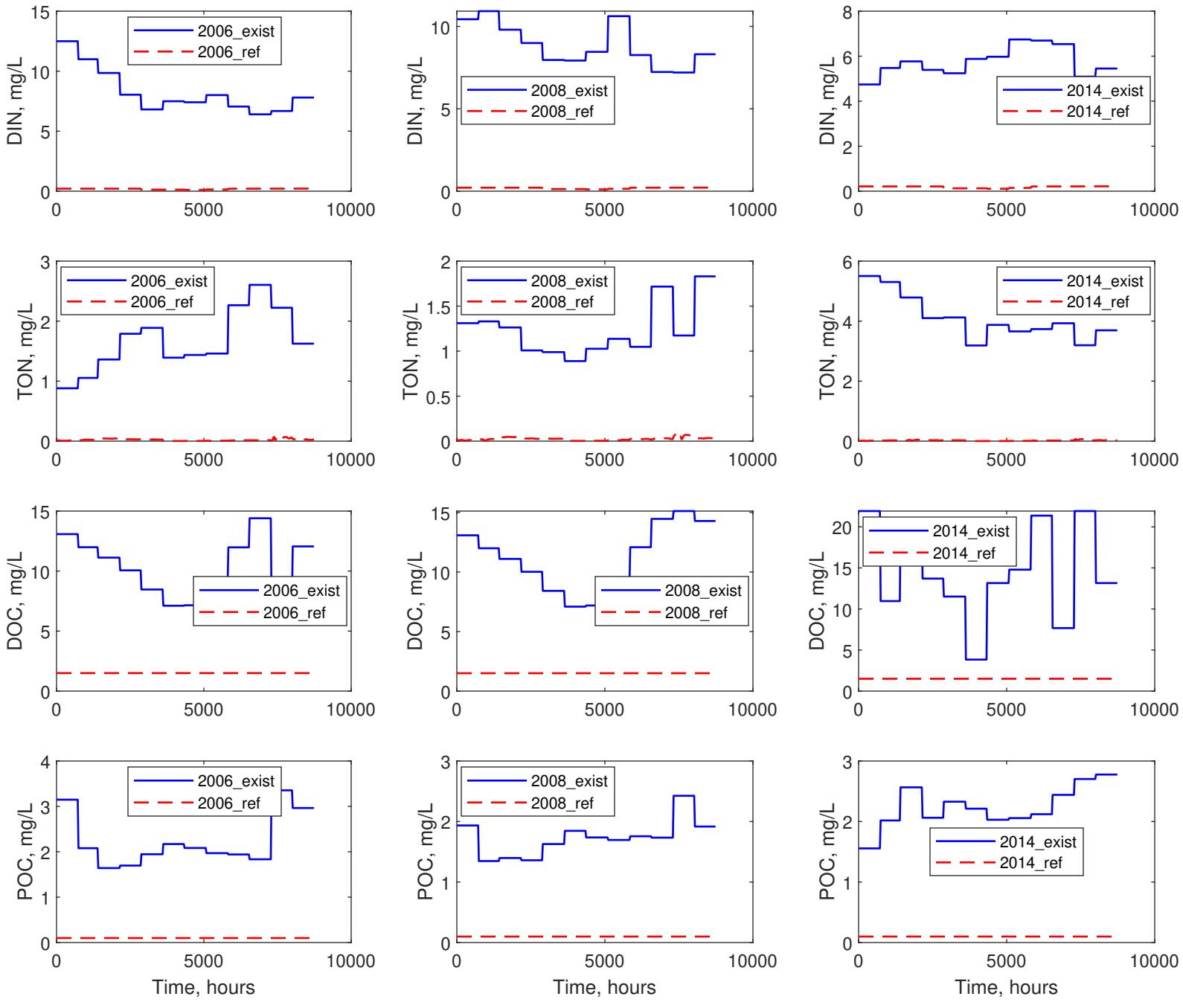

Friday Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

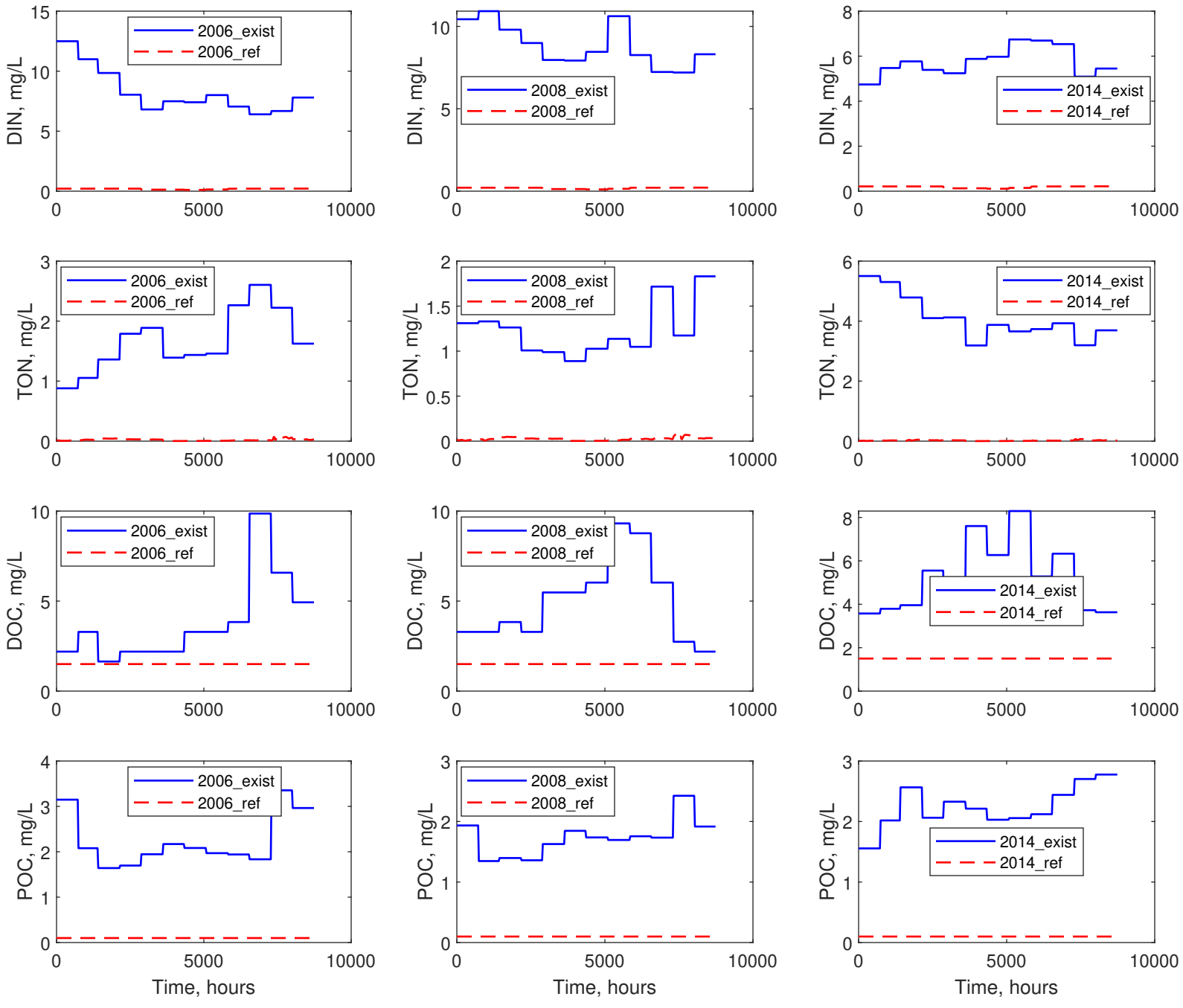

Intalco
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

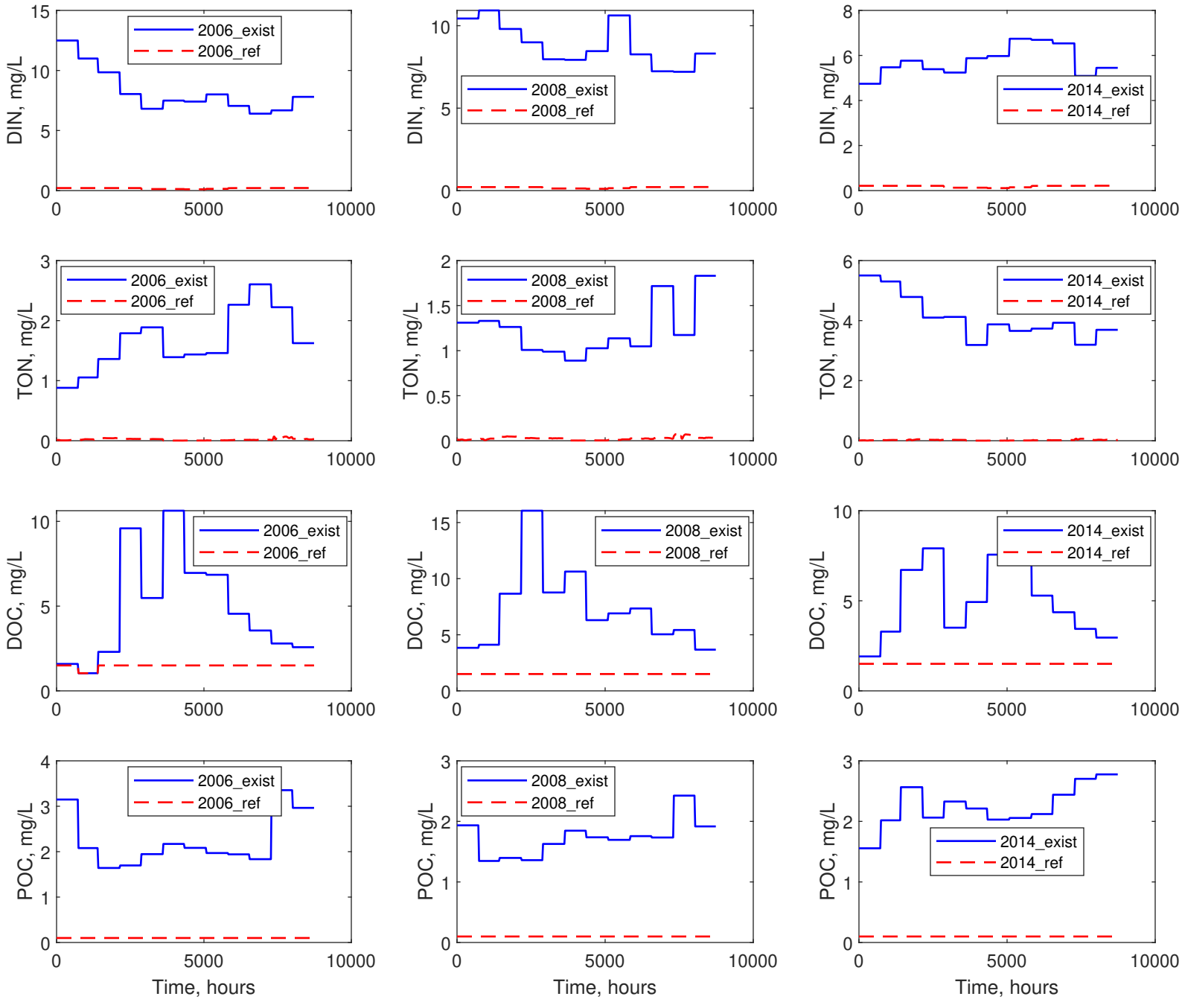

Larrabee State Park
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

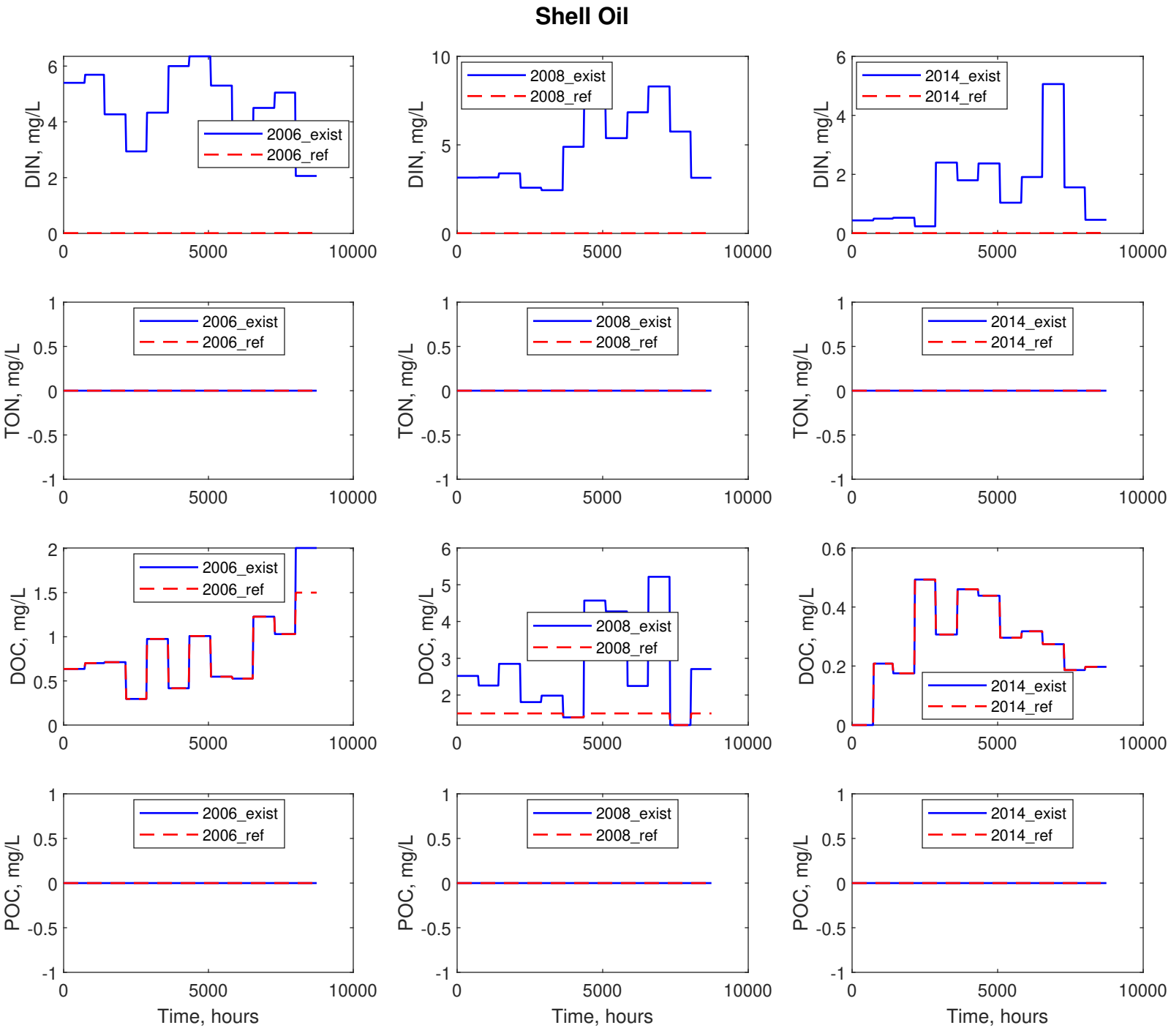

Lummi Goose Pt
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

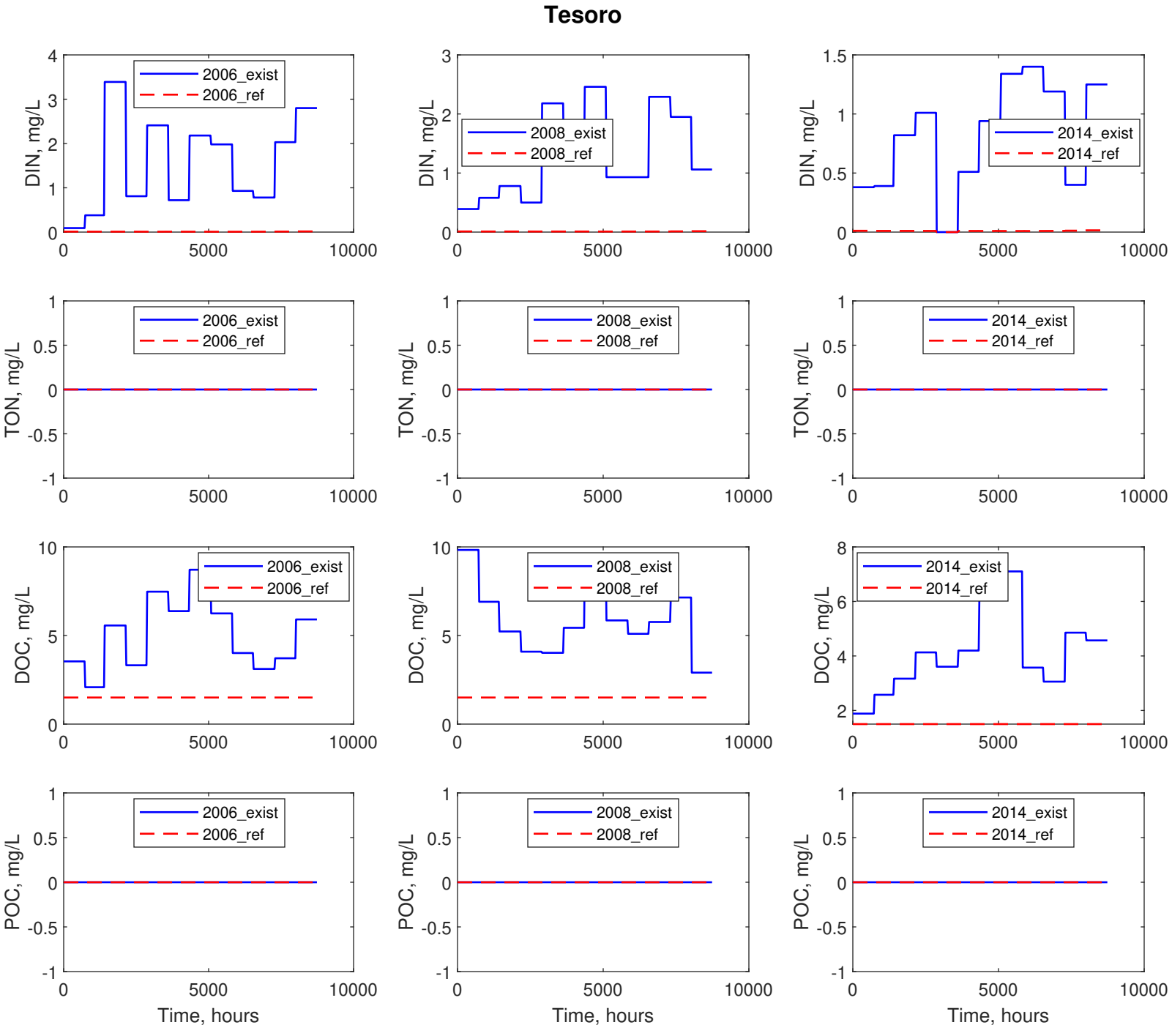

Lummi Sandy Pt
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

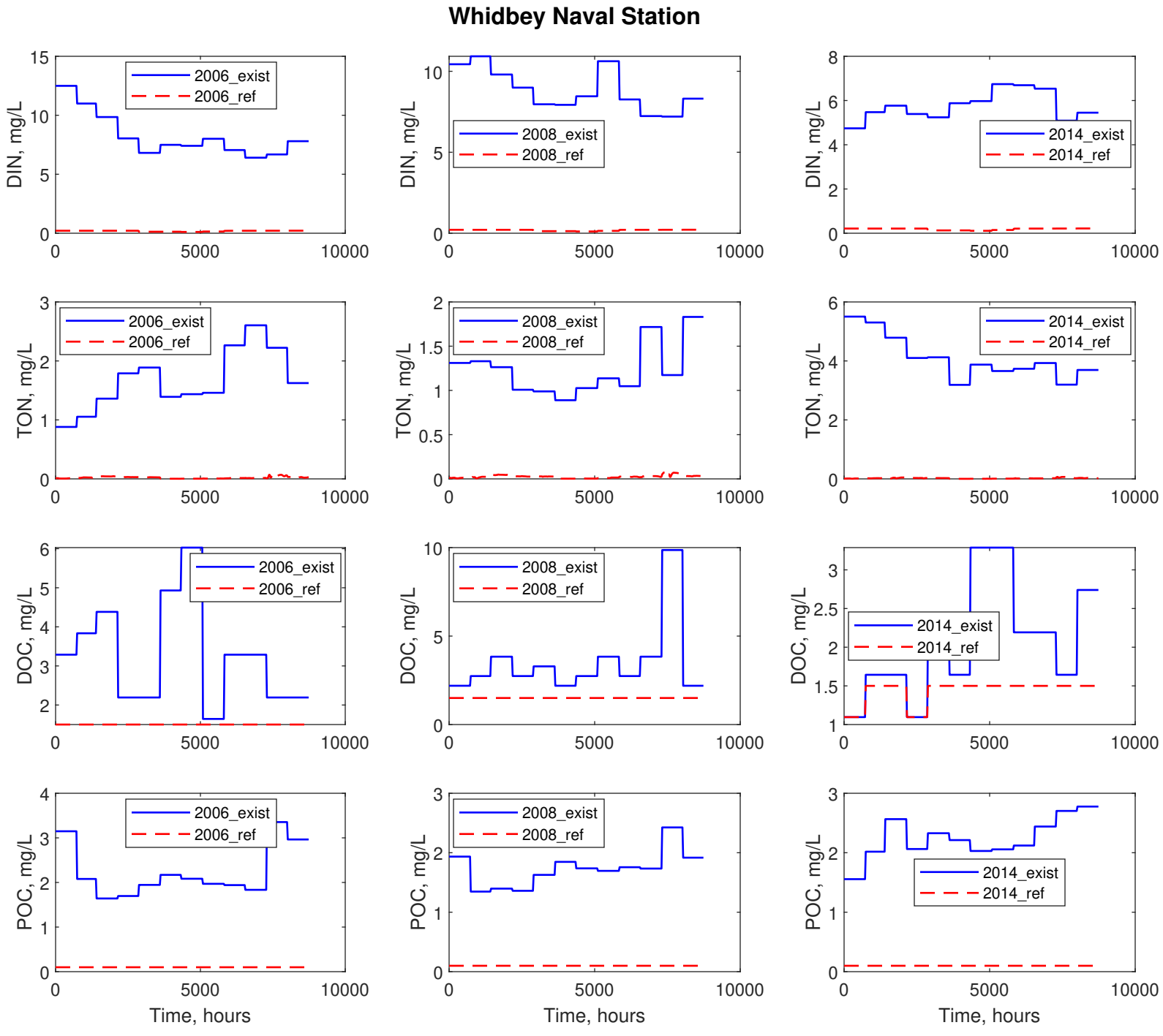

Makah
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TON, mg/L
DOC, mg/L
POC, mg/L
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2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

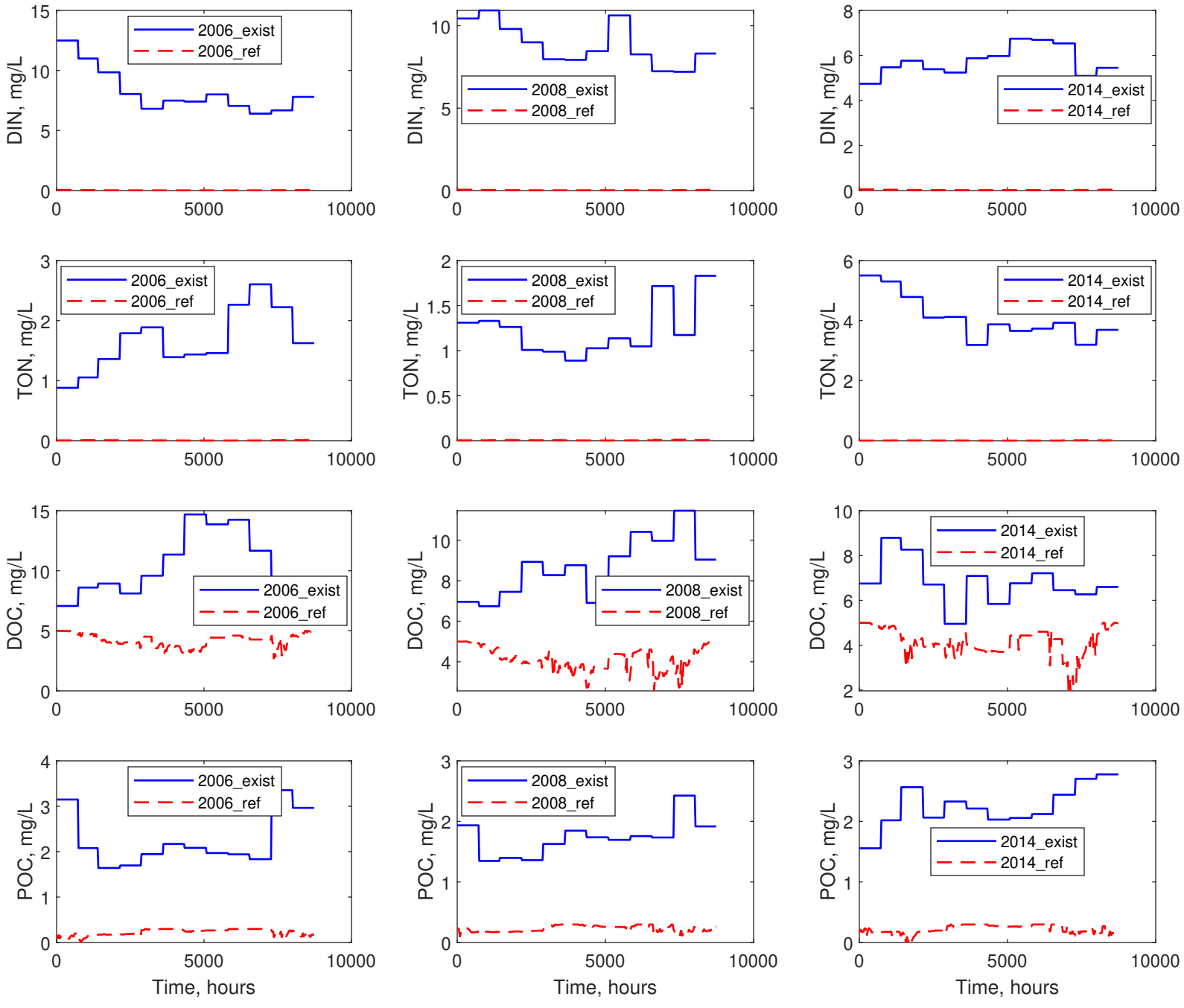

Roche Harbor
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
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2006_ref
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2008_ref
2014_exist
2014_ref
Time, hours
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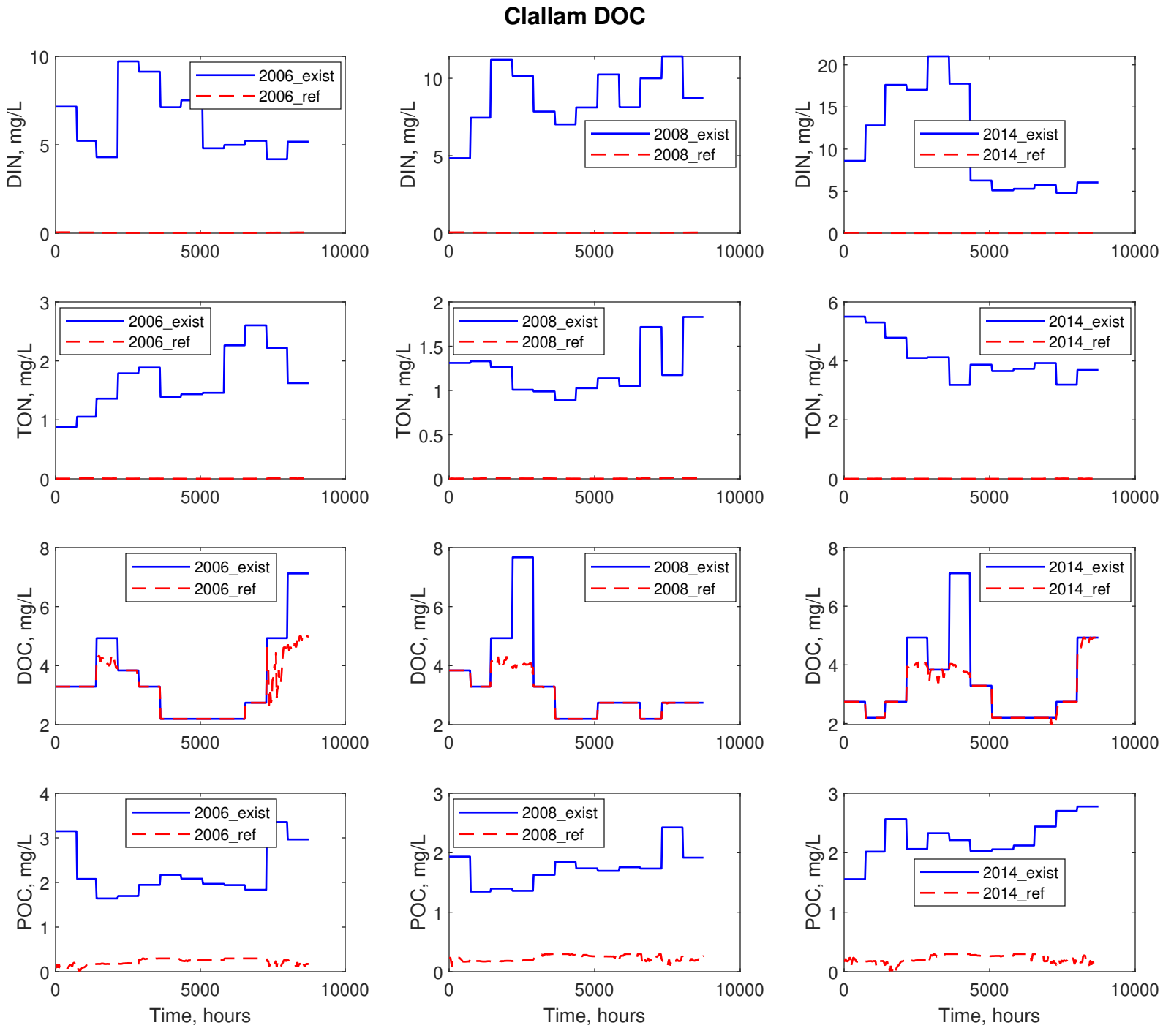

Rosario Utilities
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TON, mg/L
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POC, mg/L
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2014_ref
Time, hours
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10000

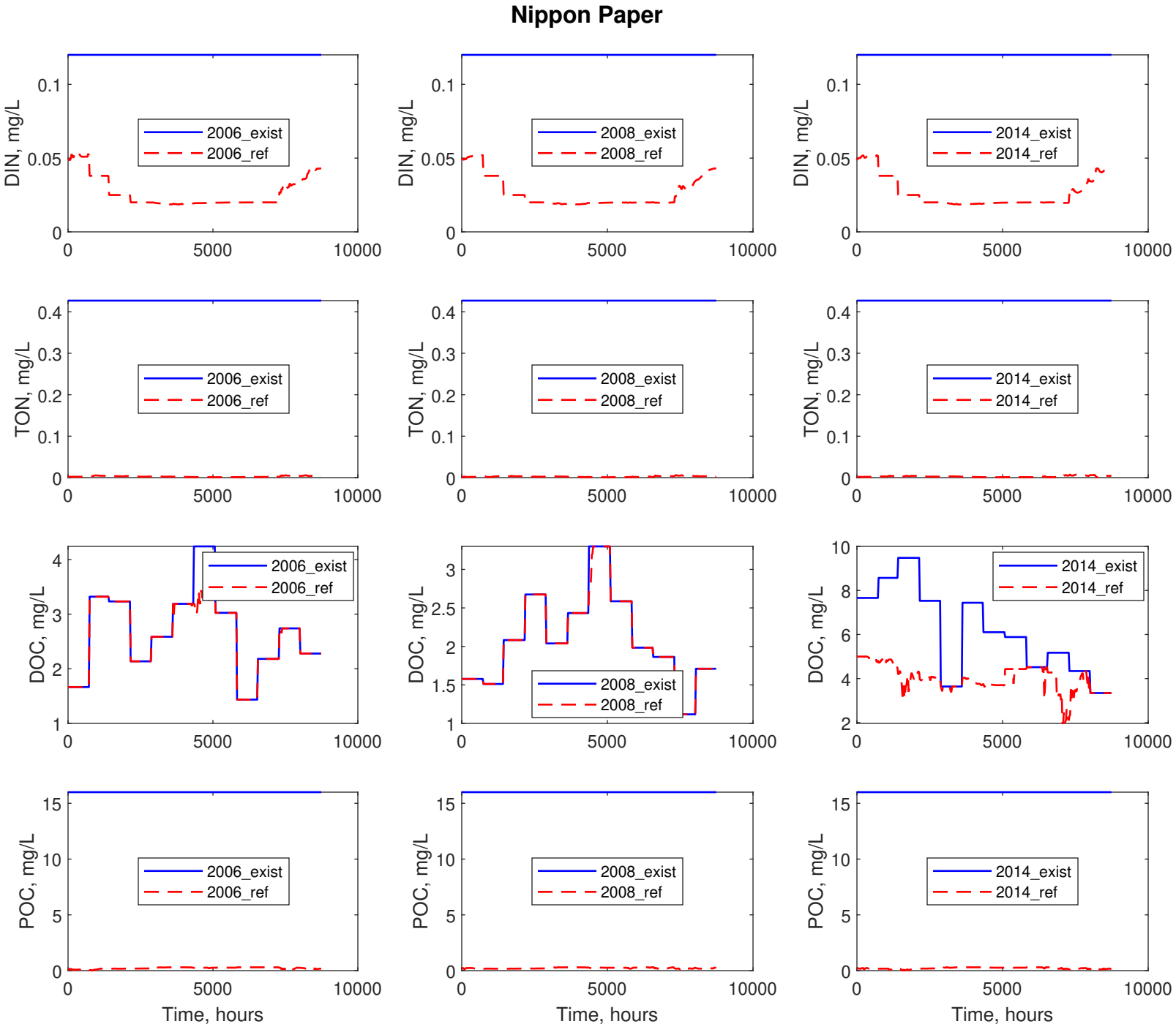

Shell Oil
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POC, mg/L
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2006_ref
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2008_ref
2014_exist
2014_ref
Time, hours

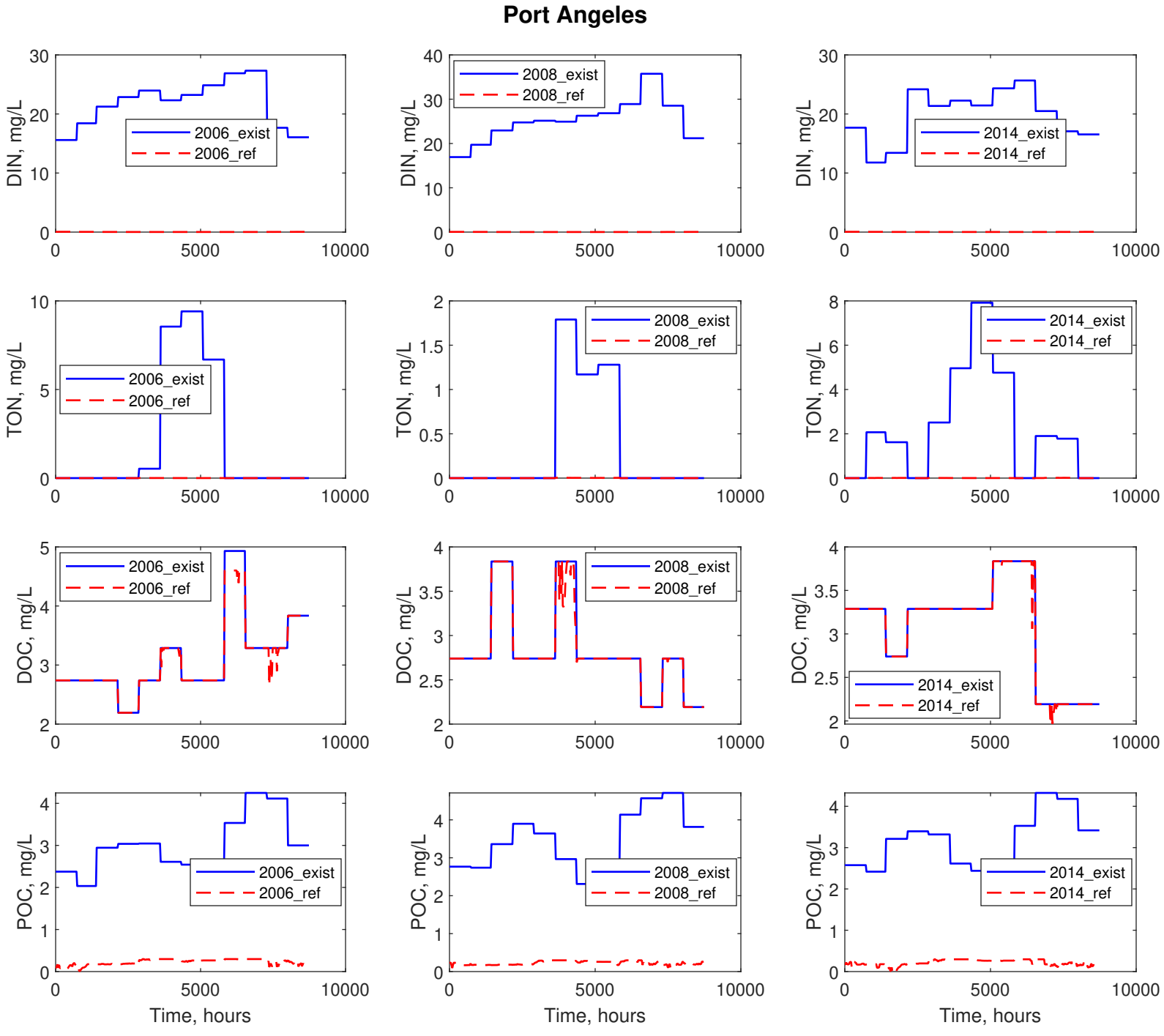

Tesoro
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

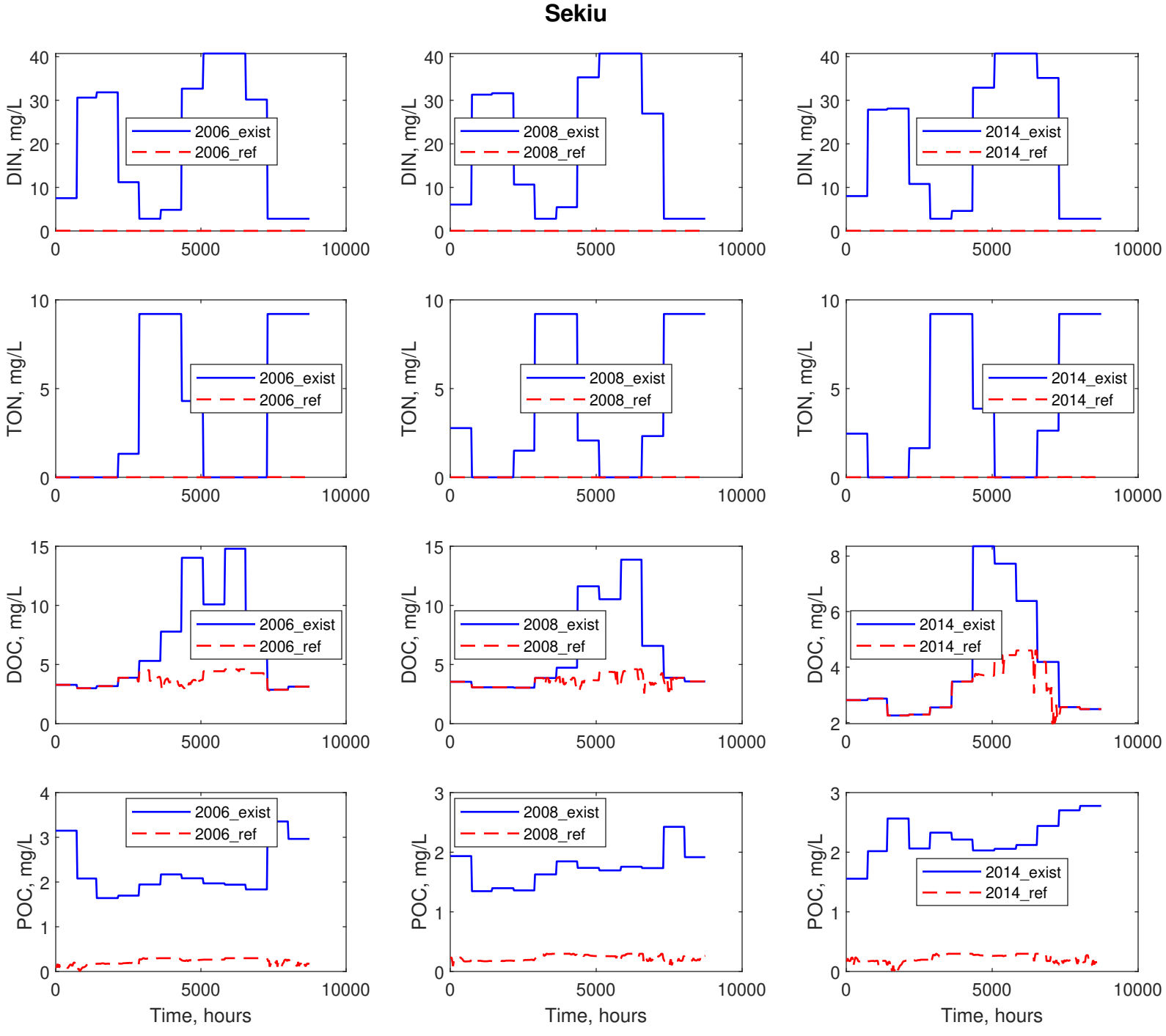

Whidbey Naval Station
DIN, mg/L
TON, mg/L
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POC, mg/L
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2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours
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5000
10000

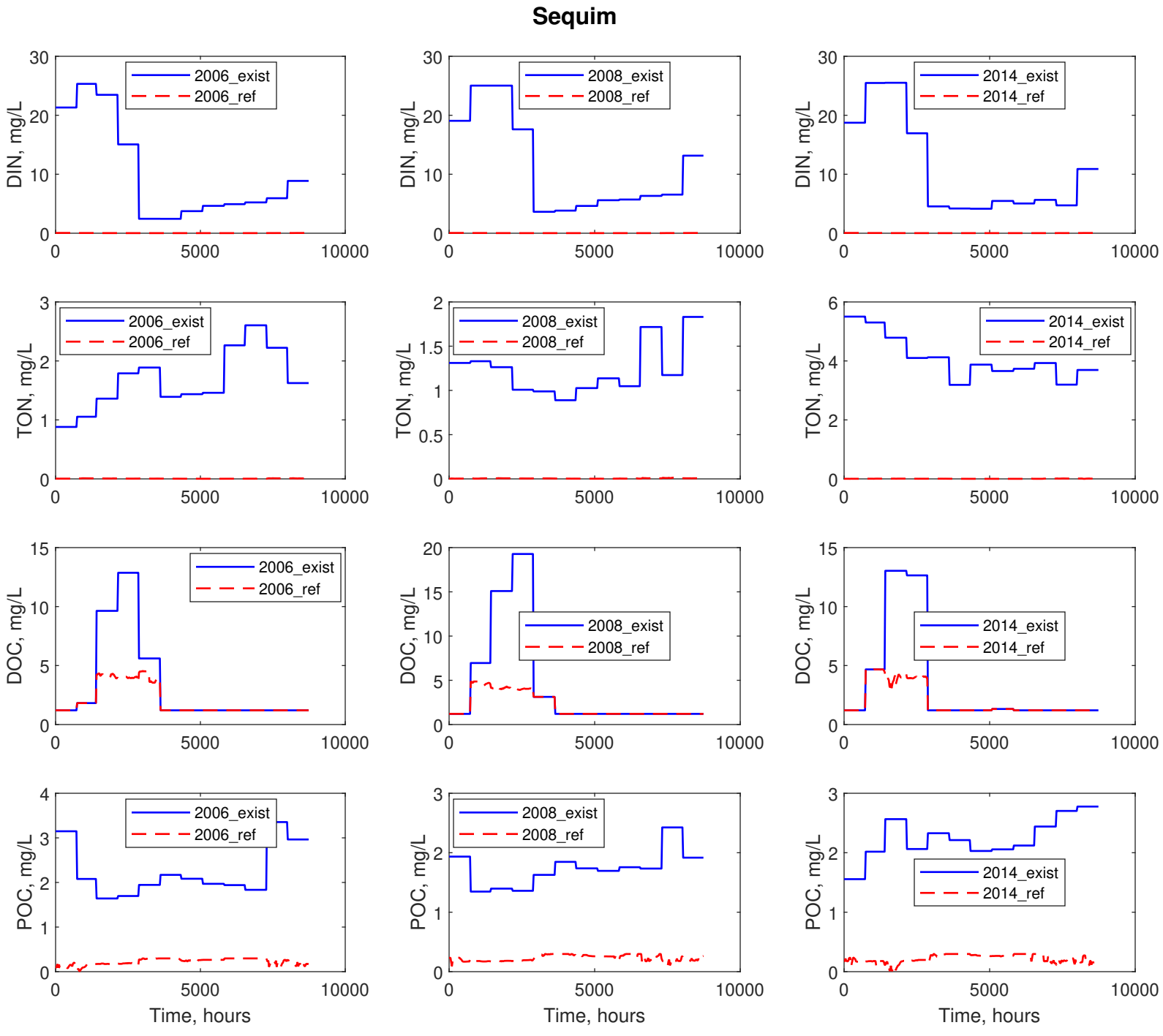

Clallam Bay POTW
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

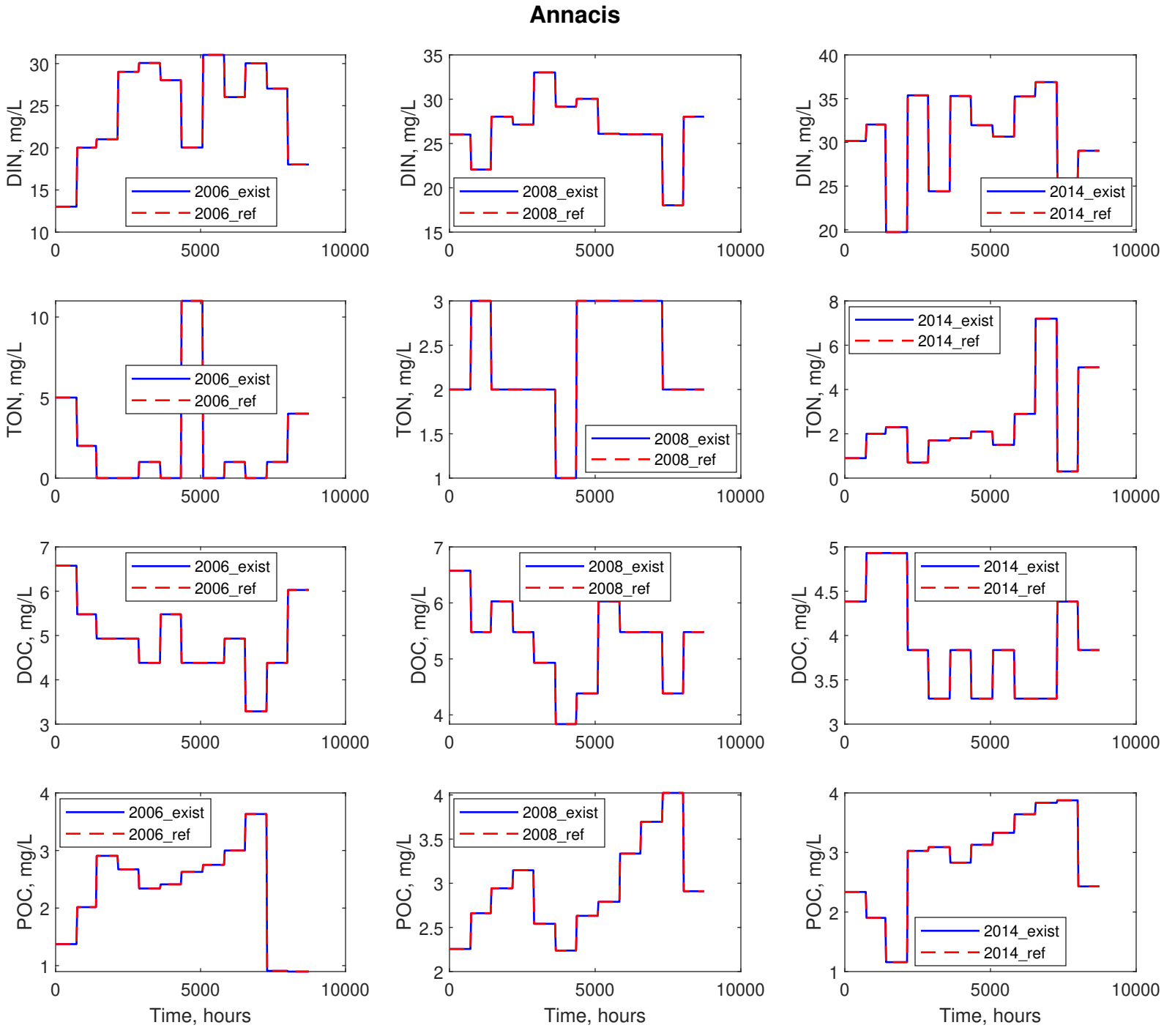

Clallam DOC
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
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2014_ref
Time, hours
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5000
10000

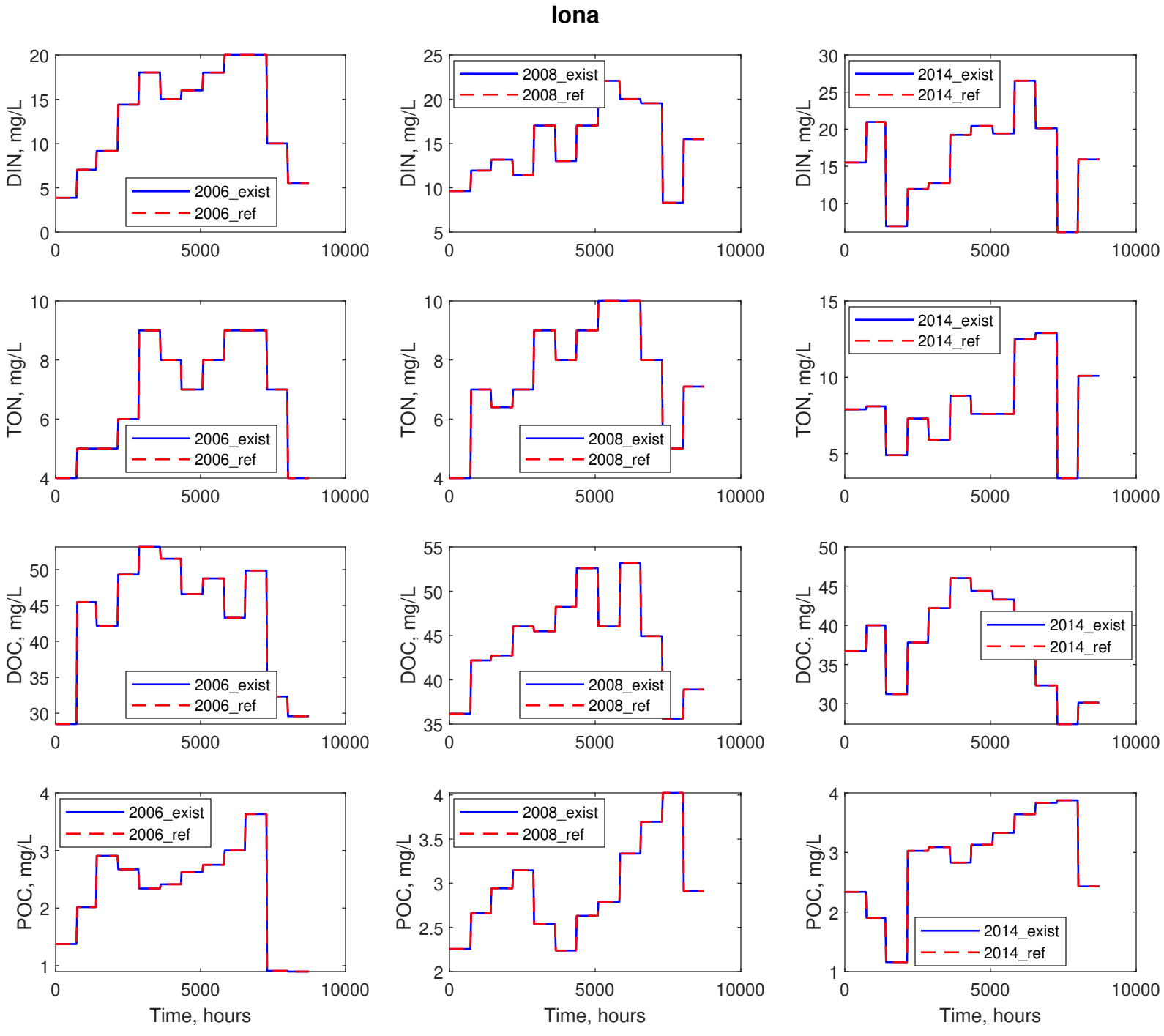

Nippon Paper
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

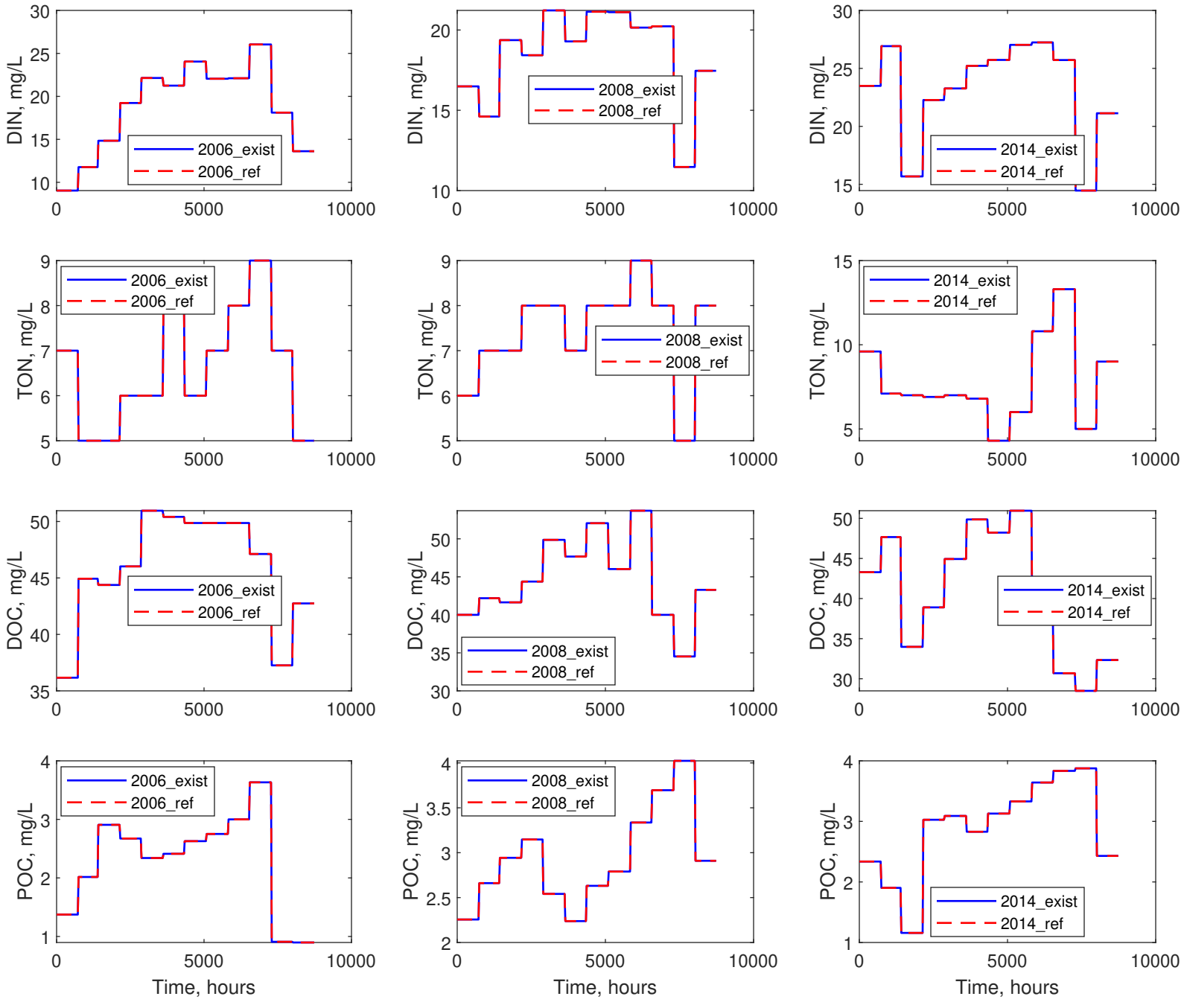

Port Angeles
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

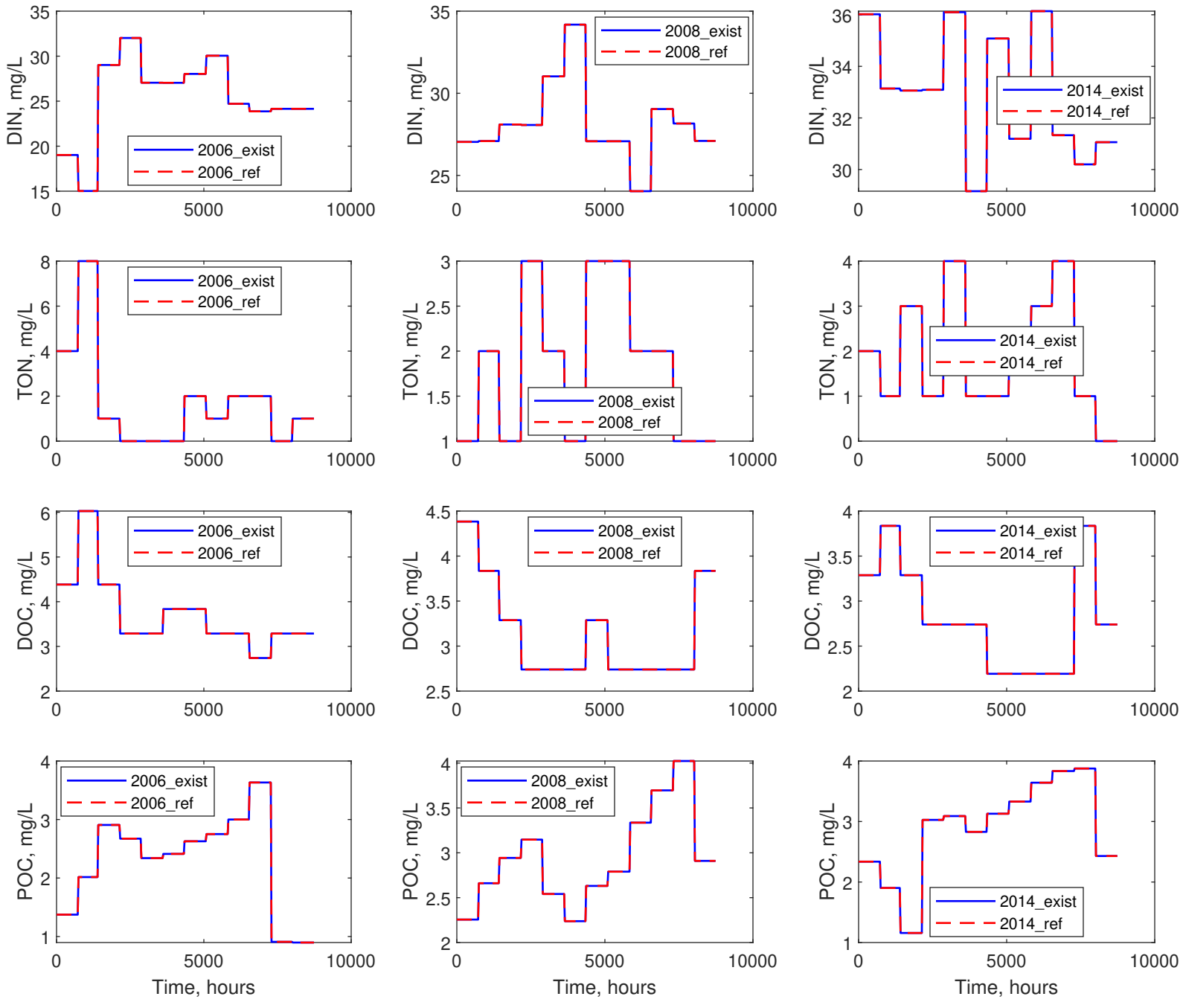

Sekiu
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours

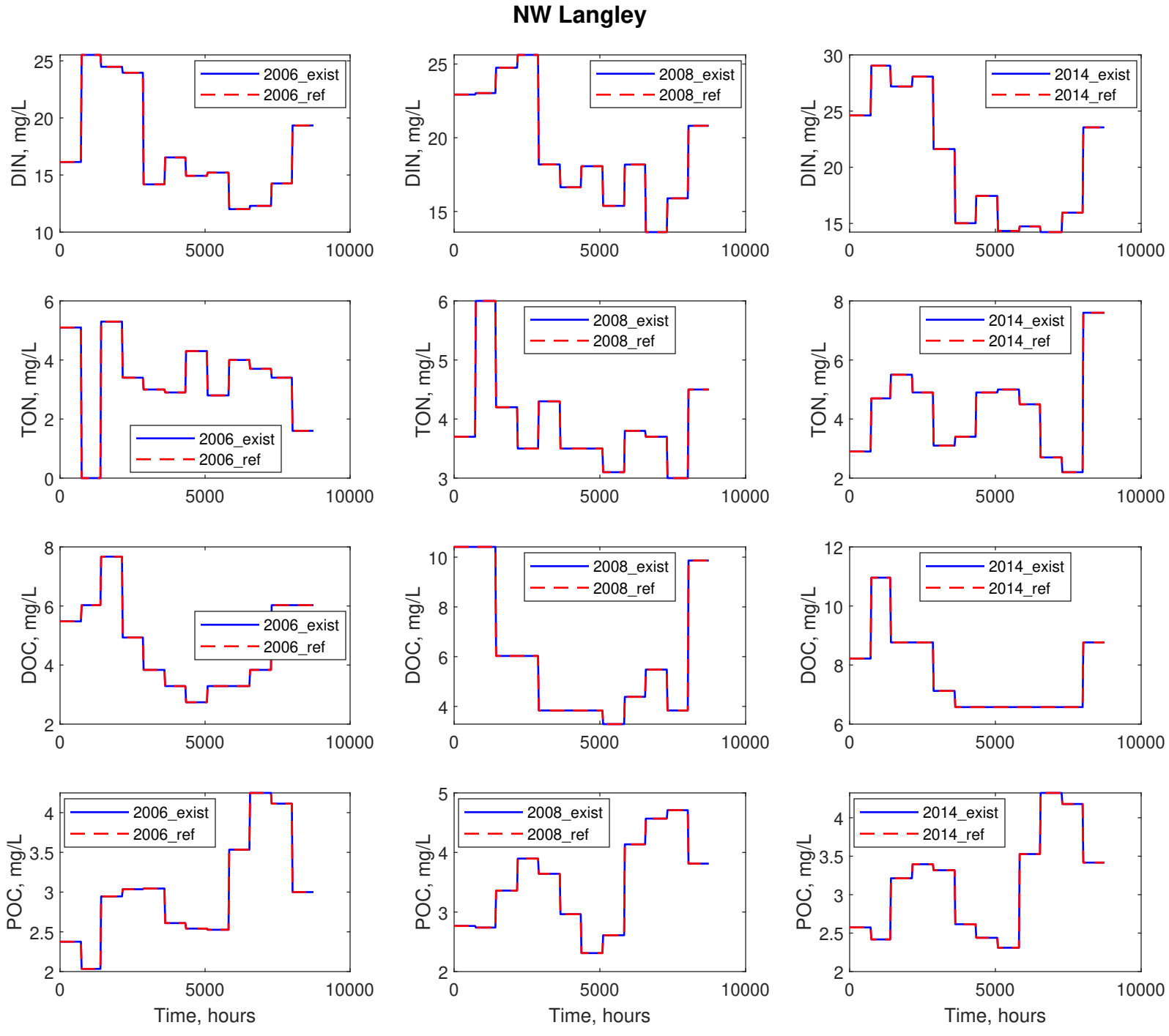

Sequim
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

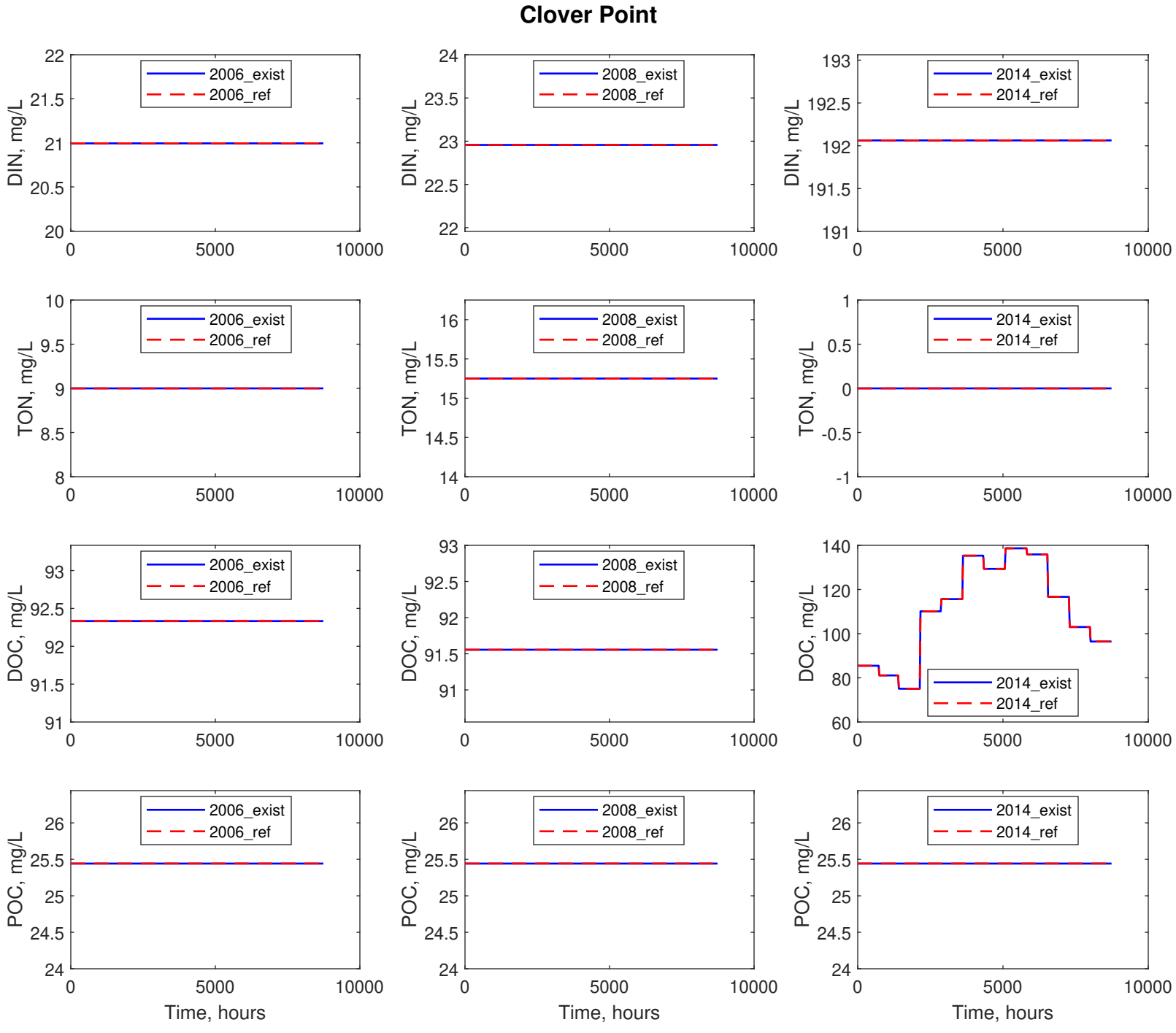

Annacis
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

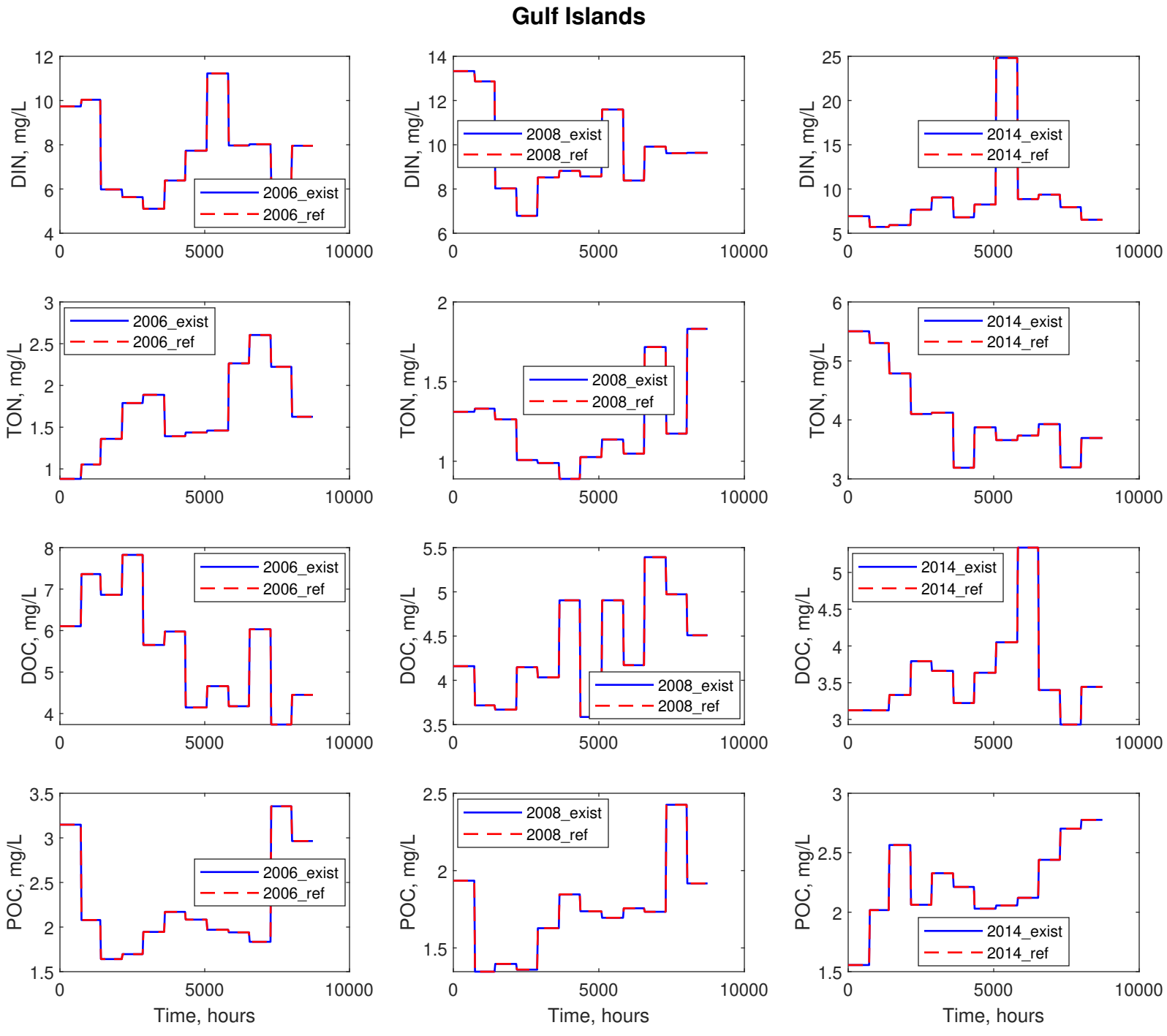

Iona
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

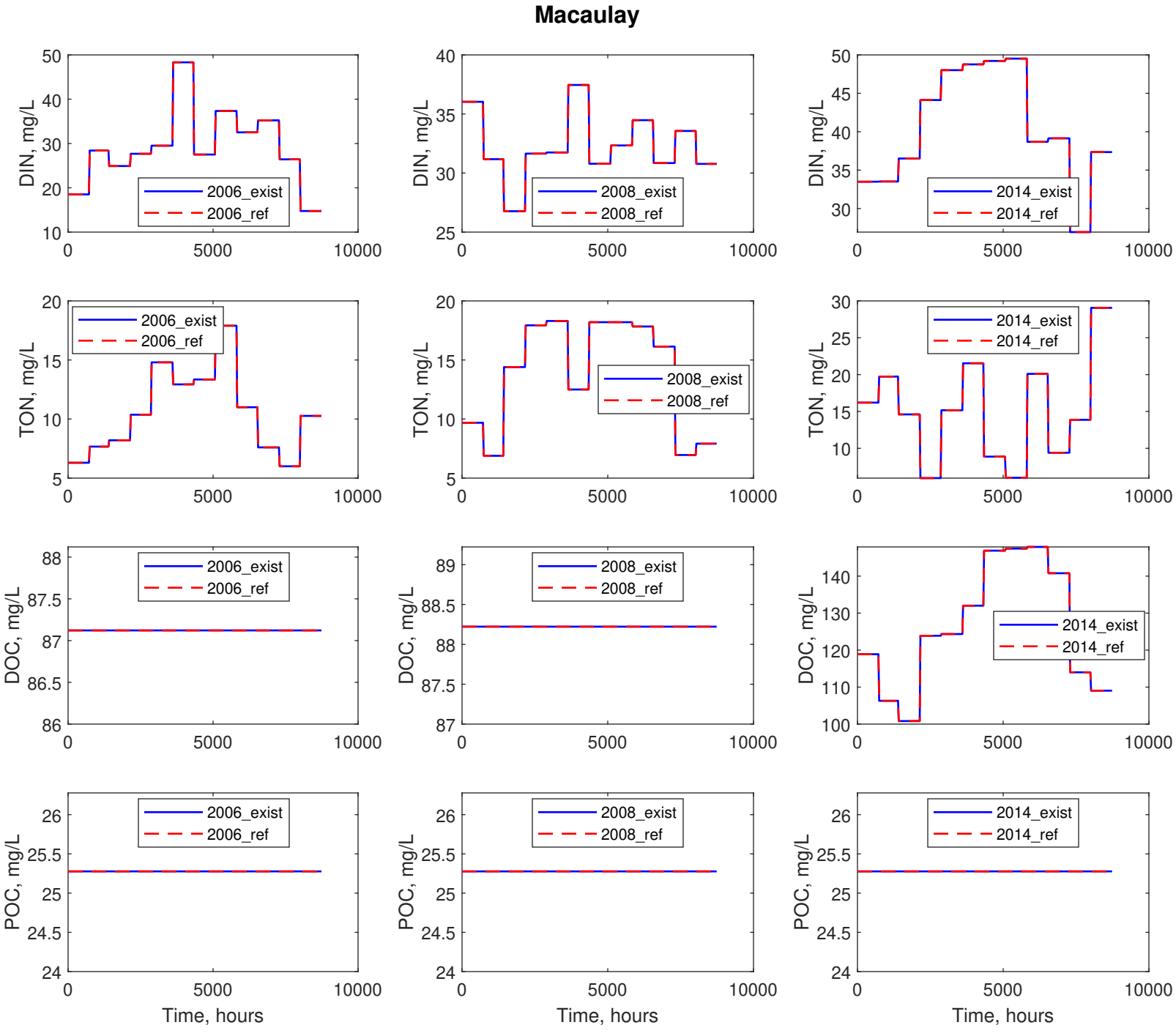

Lions Gate
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

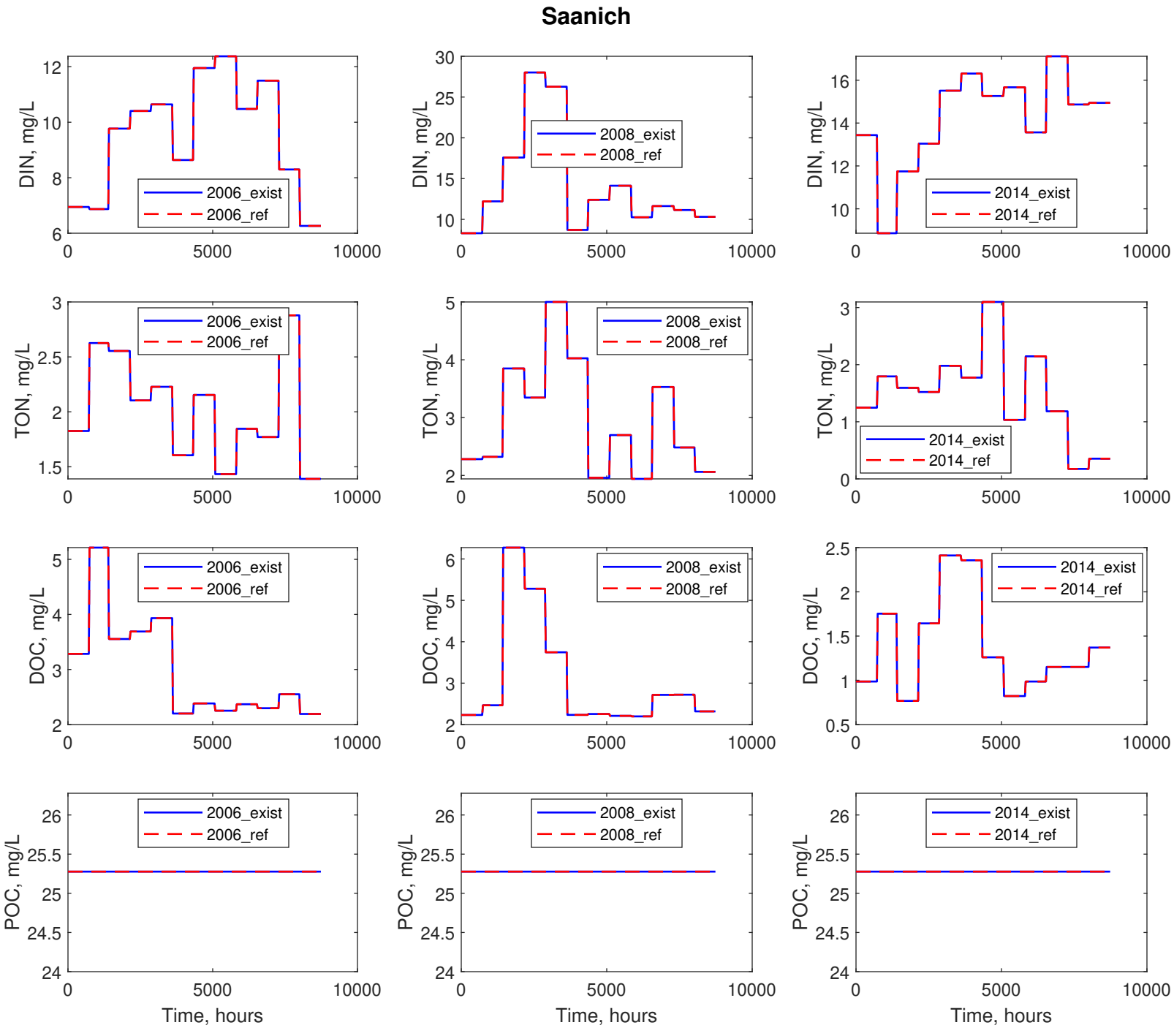

Lulu
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref


NW Langley
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref


Clover Point
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref


Gulf Islands
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref
Time, hours


Macaulay
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref


Saanich
DIN, mg/L
TON, mg/L
DOC, mg/L
POC, mg/L
Time, hours
2006_exist
2006_ref
2008_exist
2008_ref
2014_exist
2014_ref

Appendix A9
Annual Average Dissolved Inorganic Nitrogen Loads for 2006, 2008 and 2014

The tables in this appendix represent annual average dissolved inorganic nitrogen (DIN) loads from terrestrial sources (watersheds and marine point sources) in kg/day into different regions of the Salish Sea. These represent estimates of existing and bounding scenario loads, including estimated 'reference' and 'anthropogenic' loads, as well as load reductions of point sources under the different BNR scenarios.

Annual average 2006 loads in kg/day from watersheds and marine point sources

	2006 DIN loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	7,787	5,280	2,506	2,479	2,455	2,825	5,307
Main Basin	32,070	6,286	25,784	3,482	3,304	2,982	28,588
Whidbey Basin	18,305	15,434	2,871	10,432	10,405	5,029	7,873
Admiralty	203	156	48	15	13.6	142	188
Hood Canal	1,372	1,371	1.04	895	895	476	478
Bellingham, Samish, Padilla Bays	7,366	6,308	1,058	2,252	2,245	4,062	5,113
SJF - US	919	675	244	464	462	213	455
SOG - US	1,073	628	445	213	207	421	860
SJF – Canada[1]	4,832	2,049	2,784	4,832	2,049	N/A	N/A
SOG - Canada[1]	46,555	23,964	22,590	46,555	23,964	N/A	N/A
Total - Puget Sound[2]	**59,737**	**28,527**	**31,210**	**17,303**	**17,073**	**11,454**	**42,433**
Total - all US regions	**69,094**	**36,137**	**32,957**	**20,233**	**19,988**	**16,149**	**48,861**

	2006 DIN loads from marine point sources under BNR Scenarios			2006 DIN load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	1,661	1,704	2,506	845	803	0
Main Basin	15,809	17,699	18,209	9,975	8,085	7,575
Whidbey Basin	2,278	2,540	2,871	592	331	0
Admiralty	44	48	48	4.04	0	0
Hood Canal	0.8	1	1	0	0	0
Bellingham, Samish, Padilla Bays	621	621	1,058	437	437	0
SJF - US	171	244	244	72.4	0	0
SOG - US	337	445	445	108	0	0
SJF – Canada[1]	2,784	2,784	2,784	0	0	0
SOG - Canada[1]	22,590	22,590	22,590	0	0	0
Total - Puget Sound[1]	**19,793**	**21,991**	**23,634**	**11,417**	**9,219**	**7,575**
Total - all US regions	**20,923**	**23,301**	**25,381**	**12,034**	**9,656**	**7,575**

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario

Annual average 2008 loads in kg/day from watersheds and marine point sources

	2008 DIN loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	6,216	3,455	2,760	1,540	1,519	1,936	4,676
Main Basin	28,168	4,482	23,686	2,452	2,311	2,171	25,716
Whidbey Basin	15,828	12,530	3,298	8,404	8,379	4,151	7,424
Admiralty	188	147	41	12.0	10.7	136	176
Hood Canal	504	503	1	392	392	111	112
Bellingham, Samish, Padilla Bays	6,313	5,187	1,126	2,017	2,012	3,175	4,296
SJF - US	620	392	228	293	291	101	327
SOG - US	913	548	365	201	195	353	713
SJF – Canada[1]	3,684	1,125	2,559	3,684	1,125	N/A	N/A
SOG - Canada[1]	48,430	24,025	24,405	48,430	24,025	N/A	N/A
Total - Puget Sound[2]	50,905	21,118	29,786	12,800	12,612	8,506	38,105
Total - all US regions	58,751	27,245	31,505	15,310	15,110	12,136	43,440

	2008 DIN loads from marine point sources under BNR Scenarios			2008 DIN load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	1,674	1,737	2,760	1,087	1,024	0
Main Basin	13,762	15,856	16,453	9,924	7,830	7,233
Whidbey Basin	2,381	2,767	3,298	917	531	0
Admiralty	37	41	41	4	0	0
Hood Canal	0.7	1	1	0	0	0
Bellingham, Samish, Padilla Bays	688	688	1,126	438	438	0
SJF - US	158	228	228	70	0	0
SOG - US	250	365	365	116	0	0
SJF – Canada[1]	2,559	2,559	2,559	0	0	0
SOG - Canada[1]	24,405	24,405	24,405	0	0	0
Total - Puget Sound[2]	17,855	20,401	22,554	11,931	9,385	7,233
Total - all US regions	18,950	21,682	24,272	12,555	9,823	7,233

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario

Annual average 2014 loads in kg/day from watersheds and marine point sources

	2014 DIN loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	7,362	4,530	2,832	2,017	1,998	2,532	5,345
Main Basin	31,474	6,098	25,377	3,477	3,309	2,788	27,998
Whidbey Basin	20,225	16,912	3,313	11,786	11,772	5,140	8,438
Admiralty	213	180	33.0	14.3	13.0	167	199
Hood Canal	1,129	1,128	0.8	692	692	436	437
Bellingham, Samish, Padilla Bays	8,114	7,039	1,075	2,607	2,600	4,439	5,506
SJF - US	788	580	208	388	387	193	400
SOG - US	1,034	714	320	248	243	471	785
SJF – Canada[1]	12,464	1,770	10,694	12,464	1,770	N/A	N/A
SOG - Canada[1]	58,919	31,082	27,836	58,919	31,082	N/A	N/A
Total - Puget Sound[2]	60,404	28,848	31,555	17,986	17,785	11,064	42,417
Total - all US regions	70,339	37,182	33,157	21,231	21,016	16,166	49,108

	2014 DIN loads from marine point sources under BNR Scenarios			2014 DIN load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	1,663	1,752	2,832	1,169	1,080	0
Main Basin	15,667	17,400	19,464	9,710	7,976	5,913
Whidbey Basin	2,134	2,514	3,313	1,178	799	0
Admiralty	30	33	33	3.26	0	0
Hood Canal	0.7	0.8	0.8	0	0	0
Bellingham, Samish, Padilla Bays	609	609	1,075	466	466	0
SJF - US	145	208	208	62.4	0	0
SOG - US	207	320	320	113	0	0
SJF – Canada[1]	10,694	10,694	10,694	0	0	0
SOG - Canada[1]	27,836	27,836	27,836	0	0	0
Total - Puget Sound[2]	19,494	21,700	25,643	12,061	9,855	5,913
Total - all US regions	20,455	22,836	27,245	12,703	10,322	5,913

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario

Appendix A10
Annual Average Dissolved Organic Carbon Loads for 2006, 2008 and 2014

The tables in this appendix represent annual average dissolved organic carbon (DOC) loads from terrestrial sources (watersheds and marine point sources) in kg/day into different regions of the Salish Sea. These represent estimates of existing and bounding scenario loads, including estimated 'reference' and 'anthropogenic' loads, as well as load reductions of point sources under the different BNR scenarios.

Annual average 2006 loads in kg/day from watersheds and marine point sources

	2006 DOC loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	30,725	30,150	574	17,772	17,559	12,592	12,953
Main Basin	51,669	44,811	6,857	33,437	32,607	12,204	18,232
Whidbey Basin	138,282	135,729	2,553	121,832	121,457	14,272	16,450
Admiralty	1,643	1,180	464	1,062	1,039	141	581
Hood Canal	21,795	21,794	0	17,374	17,374	4,420	4,420
Bellingham, Samish, Padilla Bays	18,200	17,844	356	17,945	17,844	0	255
SJF - US	57,772	57,641	130	53,518	53,394	4,247	4,253
SOG - US	1,871	1,603	268	1,678	1,603	0	193
SJF – Canada[1]	72,068	61,562	10,505	72,068	61,562	N/A	N/A
SOG - Canada[1]	1,037,480	1,006,619	30,861	1,037,480	1,006,619	N/A	N/A
Total - Puget Sound[2]	**244,113**	**233,664**	**10,449**	**191,477**	**190,035**	**43,629**	**52,637**
Total - all US regions	**321,956**	**310,753**	**11,203**	**264,617**	**262,876**	**47,876**	**57,338**

	2006 DOC loads from marine point sources under BNR Scenarios			2006 DOC load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	538	573	574	36	1	0
Main Basin	6,231	6,362	6,607	627	495	251
Whidbey Basin	1,622	1,658	2,553	932	895	0
Admiralty	463	464	464	0.47	0	0
Hood Canal	0	0	0	0	0	0
Bellingham, Samish, Padilla Bays	314	314	356	42	42	0
SJF - US	128	130	130	2.5	0	0
SOG - US	249	268	268	19	0	0
SJF – Canada[1]	10,505	10,505	10,505	0	0	0
SOG - Canada[1]	30,861	30,861	30,861	0	0	0
Total - Puget Sound[1]	**8,854**	**9,057**	**10,198**	**1,595**	**1,392**	**251**
Total - all US regions	**9,545**	**9,769**	**10,952**	**1,658**	**1,434**	**251**

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario

Annual average 2008 loads in kg/day from watersheds and marine point sources

	2008 DOC loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	17,683	17,230	453	11,236	11,059	6,171	6,448
Main Basin	38,456	32,239	6,216	26,397	25,716	6,523	12,059
Whidbey Basin	139,618	137,378	2,240	119,205	118,847	18,530	20,413
Admiralty	1,385	952	433	847	824	128	539
Hood Canal	8,781	8,781	0	7,534	7,534	1,246	1,246
Bellingham, Samish, Padilla Bays	17,618	17,236	382	17,341	17,236	0	277
SJF - US	39,423	39,315	108	35,425	35,325	3,991	3,998
SOG - US	1,810	1,600	210	1,676	1,600	0	134
SJF – Canada[1]	40,620	32,191	8,429	40,620	32,191	N/A	N/A
SOG - Canada[1]	1,044,637	1,014,333	30,303	1,044,637	1,014,333	N/A	N/A
Total - Puget Sound[2]	**205,923**	**196,580**	**9,343**	**165,218**	**163,980**	**32,599**	**40,705**
Total - all US regions	**264,774**	**254,730**	**10,043**	**219,661**	**218,141**	**36,590**	**45,113**

	2008 DOC loads from marine point sources under BNR Scenarios			2008 DOC load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	413	453	453	40	0	0
Main Basin	5,364	5,480	5,594	852	737	623
Whidbey Basin	1,636	1,679	2,240	604	562	0
Admiralty	432	433	433	0.55	0	0
Hood Canal	0	0	0	0	0	0
Bellingham, Samish, Padilla Bays	354	354	382	28	28	0
SJF - US	104	108	108	3.6	0	0
SOG - US	193	210	210	17	0	0
SJF – Canada[1]	8,429	8,429	8,429	0	0	0
SOG - Canada[1]	30,303	30,303	30,303	0	0	0
Total - Puget Sound[2]	**7,846**	**8,045**	**8,720**	**1,497**	**1,299**	**623**
Total - all US regions	**8,497**	**8,716**	**9,421**	**1,546**	**1,327**	**623**

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario

Annual average 2014 loads in kg/day from watersheds and marine point sources

	2014 DOC loads - annual average of daily loads						
Region	**total load**	**watershed load**	**marine point source load**	**total reference load**	**watershed reference load**	**watershed anthro-pogenic load**	**total anthro-pogenic load**
South Sound	24,033	23,446	587	14,398	14,218	9,228	9,635
Main Basin	49,569	44,088	5,481	32,900	32,136	11,953	16,669
Whidbey Basin	173,754	172,940	814	152,270	152,052	20,888	21,484
Admiralty	1,968	1,218	750	1,100	1,079	139	868
Hood Canal	16,961	16,961	0	13,918	13,918	3,043	3,043
Bellingham, Samish, Padilla Bays	21,025	20,673	352	20,764	20,673	0	261
SJF - US	54,633	54,399	234	47,808	47,644	6,755	6,825
SOG - US	2,065	1,900	166	1,966	1,900	0	100
SJF – Canada[1]	66,897	56,317	10,580	66,897	56,317	N/A	N/A
SOG - Canada[1]	1,158,286	1,132,601	25,685	1,158,286	1,132,601	N/A	N/A
Total - Puget Sound[2]	**266,286**	**258,653**	**7,633**	**214,587**	**213,402**	**45,251**	**51,699**
Total - all US regions	**344,009**	**335,625**	**8,384**	**285,125**	**283,618**	**52,006**	**58,885**

	2014 DOC loads from marine point sources under BNR Scenarios			2014 DOC load reductions from marine point sources under BNR[3]		
Region	**BNR all**	**BNR 1000**	**BNR 8000**	**BNR all**	**BNR 1000**	**BNR 8000**
South Sound	495	535	587	92	52	0
Main Basin	4,692	4,826	5,117	789	655	364
Whidbey Basin	677	732	814	137	82	0
Admiralty	749	750	750	1.44	0	0
Hood Canal	0	0	0	0	0	0
Bellingham, Samish, Padilla Bays	294	294	352	58	58	0
SJF - US	232	234	234	1.6	0	0
SOG - US	139	166	166	26	0	0
SJF – Canada[1]	10,580	10,580	10,580	0	0	0
SOG - Canada[1]	25,685	25,685	25,685	0	0	0
Total - Puget Sound[2]	**6,613**	**6,844**	**7,268**	**1,020**	**789**	**364**
Total - all US regions	**7,279**	**7,537**	**8,020**	**1,105**	**847**	**364**

[1] Canadian loads remain the same under the reference condition and BNR scenarios

[2] Puget Sound total includes the following regions: South Sound, Main Basin, Whidbey Basin, Admiralty, and Hood Canal

[3] This is the difference between the existing point source load and the load under each BNR scenario