

1 **Supplementary Table 1**

2

3 **Mean shell weight per cup (μg) and number of whole shells weighed to calculate**

4 **mean shell weight per cup (n) for *Limacina helicina antarctica* forma *antarctica***

5 **(LHA-A) and *Limacina helicina antarctica* forma *rangi* (LHA-R) from 1997/98**

6 **to 2005/06 at 47°S, 142°E**

7

8 **1997/98**

Cup Number	Time Cup Open	Time Cup Close	Time # days open	LHA-A Weight μg (n)	LHA-R Weight μg (n)
1	21-Sep-97	30-Sep-97	8.5	-	52.6 (1)
2	30-Sep-97	08-Oct-97	8.5	-	-
3	08-Oct-97	17-Oct-97	8.5	26.0 (4)	-
4	17-Oct-97	25-Oct-97	8.5	11.5 (2)	-
5	25-Oct-97	03-Nov-97	8.5	7.8 (2)	-
6	03-Nov-97	11-Nov-97	8.5	-	-
7	11-Nov-97	20-Nov-97	8.5	-	-
8	20-Nov-97	28-Nov-97	8.5	-	-
9	28-Nov-97	07-Dec-97	8.5	-	-
10	07-Dec-97	15-Dec-97	8.5	-	79.8 (1)
11	15-Dec-97	24-Dec-97	8.5	-	10.3 (1)
12	24-Dec-97	01-Jan-98	8.5	-	19.5 (8)
13	01-Jan-98	06-Jan-98	4.3	7.8 (7)	-
14	06-Jan-98	10-Jan-98	4.3	9.1 (5)	13.5 (4)
15	10-Jan-98	14-Jan-98	4.3	-	-
16	14-Jan-98	18-Jan-98	4.3	8.5 (2)	-
17	18-Jan-98	23-Jan-98	4.3	-	23.3 (6)
18	23-Jan-98	27-Jan-98	4.3	16.4 (5)	-
19	27-Jan-98	04-Feb-98	8.5	24.4 (26)	-
20	04-Feb-98	13-Feb-98	8.5	-	47.0 (4)
21	13-Feb-98	21-Feb-98	8.5	-	-

9

10

10 1999/00

Cup Number	Time Cup Open	Time Cup Close	Time # days open	LHA-A Weight μg (n)	LHA-R Weight μg (n)
1	21-Jul-99	10-Aug-99	20.0	-	65.2 (5)
2	10-Aug-99	30-Aug-99	20.0	-	41.7 (5)
3	30-Aug-99	14-Sep-99	15.0	-	9.3 (2)
4	14-Sep-99	29-Sep-99	15.0	-	24.4 (1)
5	29-Sep-99	09-Oct-99	10.0	19.3 (1)	57.2 (1)
6	09-Oct-99	19-Oct-99	10.0	-	-
7	19-Oct-99	29-Oct-99	10.0	-	70.5 (1)
8	29-Oct-99	08-Nov-99	10.0	5.1 (1)	-
9	08-Nov-99	18-Nov-99	10.0	-	-
10	18-Nov-99	28-Nov-99	10.0	-	-
11	28-Nov-99	08-Dec-99	10.0	-	-
12	08-Dec-99	18-Dec-99	10.0	-	-
13	18-Dec-99	28-Dec-99	10.0	-	-
14	28-Dec-99	07-Jan-00	10.0	-	-
15	07-Jan-00	17-Jan-00	10.0	27.3 (1)	6.6 (1)
16	17-Jan-00	27-Jan-00	10.0	-	-
17	27-Jan-00	11-Feb-00	15.0	-	7.2 (4)
18	11-Feb-00	02-Mar-00	20.0	-	9.7 (4)
19	02-Mar-00	01-May-00	60.0	-	38.7 (17)
20	01-May-00	30-Jun-00	60.0	-	18.5 (25)
21	30-Jun-00	29-Aug-00	60.0	-	35.1 (12)

11

12

12 2000/01

Cup Number	Time Cup Open	Time Cup Close	Time # days open	LHA-A Weight μg (n)	LHA-R Weight μg (n)
1	08-Oct-00	18-Oct-00	10.0	8.3 (1)	-
2	18-Oct-00	28-Oct-00	10.0	-	-
3	28-Oct-00	07-Nov-00	10.0	16.6 (1)	52.0 (4)
4	07-Nov-00	17-Nov-00	10.0	7.3 (2)	-
5	17-Nov-00	27-Nov-00	10.0	13.6 (3)	59.6 (2)
6	27-Nov-00	07-Dec-00	10.0	-	4.2 (2)
7	07-Dec-00	17-Dec-00	10.0	-	3.7 (18)
8	17-Dec-00	27-Dec-00	10.0	-	-
9	27-Dec-00	06-Jan-01	10.0	15.2 (1)	45.1 (1)
10	06-Jan-01	16-Jan-01	10.0	9.6 (1)	28.1 (1)
11	16-Jan-01	26-Jan-01	10.0	-	46.7 (1)
12	26-Jan-01	05-Feb-01	10.0	-	-
13	05-Feb-01	15-Feb-01	10.0	-	36.5 (1)
14	15-Feb-01	25-Feb-01	10.0	-	-
15	25-Feb-01	07-Mar-01	10.0	-	-
16	07-Mar-01	22-Mar-01	15.0	13.4 (2)	34.5 (2)
17	22-Mar-01	06-Apr-01	15.0	-	-
18	06-Apr-01	31-May-01	55.0	-	11.6 (2)
19	31-May-01	30-Jul-01	60.0	-	146.8 (1)
20	30-Jul-01	28-Sep-01	60.0	-	-
21	28-Sep-01	28-Oct-01	30.0	-	-

13

14

14 2003/04

Cup Number	Time Cup Open	Time Cup Close	Time # days open	LHA-A Weight μg (n)	LHA-R Weight μg (n)
1	21-Sep-03	05-Oct-03	14.0	-	-
2	05-Oct-03	19-Oct-03	14.0	-	20.6 (4)
3	19-Oct-03	02-Nov-03	14.0	18.5 (3)	-
4	02-Nov-03	16-Nov-03	14.0	11.5 (2)	10.1 (1)
5	16-Nov-03	30-Nov-03	14.0	17.7 (2)	58.8 (2)
6	30-Nov-03	14-Dec-03	14.0	7.7 (1)	-
7	14-Dec-03	28-Dec-03	14.0	6.8 (2)	26.8 (1)
8	28-Dec-03	11-Jan-04	14.0	7.7 (2)	36.2 (2)
9	11-Jan-04	25-Jan-04	14.0	7.0 (2)	15.2 (1)
10	25-Jan-04	08-Feb-04	14.0	14.3 (10)	66.9 (1)
11	08-Feb-04	22-Feb-04	14.0	4.7 (5)	42.9 (1)
12	22-Feb-04	07-Mar-04	14.0	-	-
13	07-Mar-04	21-Mar-04	14.0	-	-
14	21-Mar-04	04-Apr-04	14.0	-	-
15	04-Apr-04	18-Apr-04	14.0	-	-
16	18-Apr-04	02-May-04	14.0	-	-
17	02-May-04	06-Jun-04	35.0	-	-
18	06-Jun-04	11-Jul-04	35.0	-	-
19	11-Jul-04	15-Aug-04	35.0	-	-
20	15-Aug-04	19-Sep-04	35.0	-	-
21	19-Sep-04	03-Oct-04	14.0	-	-

15

16

Cup Number	Time Cup Open	Time Cup Close	Time # days open	LHA-A Weight μg (n)	LHA-R Weight μg (n)
1	10-Dec-05	25-Dec-05	15.0	-	46.3 (2)
2	25-Dec-05	09-Jan-06	15.0	-	27.8 (4)
3	09-Jan-06	24-Jan-06	15.0	-	-
4	24-Jan-06	08-Feb-06	15.0	-	-
5	08-Feb-06	23-Feb-06	15.0	-	-
6	23-Feb-06	10-Mar-06	15.0	-	-
7	10-Mar-06	25-Mar-06	15.0	-	-
8	25-Mar-06	09-Apr-06	15.0	10.6 (1)	31.1 (1)
9	09-Apr-06	24-Apr-06	15.0	-	-
10	24-Apr-06	09-May-06	15.0	-	-
11	09-May-06	24-May-06	15.0	-	-
12	24-May-06	08-Jun-06	15.0	-	-
13	08-Jun-06	23-Jun-06	15.0	-	-
14	23-Jun-06	08-Jul-06	15.0	-	-
15	08-Jul-06	23-Jul-06	15.0	-	-
16	23-Jul-06	07-Aug-06	15.0	-	-
17	07-Aug-06	22-Aug-06	15.0	-	-
18	22-Aug-06	06-Sep-06	15.0	-	-
19	06-Sep-06	21-Sep-06	15.0	-	-
20	21-Sep-06	06-Oct-06	15.0	-	-
21	06-Oct-06	18-Oct-06	12.0	-	-