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# Data Report of Brackish Marsh Transplant Experiments at the Fraser Estuary

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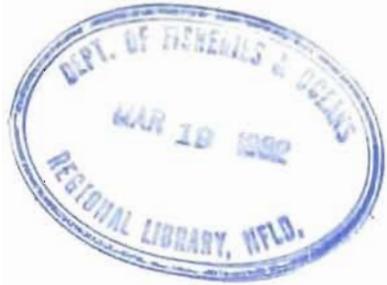
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DATA REPORT ON BRACKISH MARSH TRANSPLANT EXPERIMENTS  
AT THE FRASER ESTUARY

by

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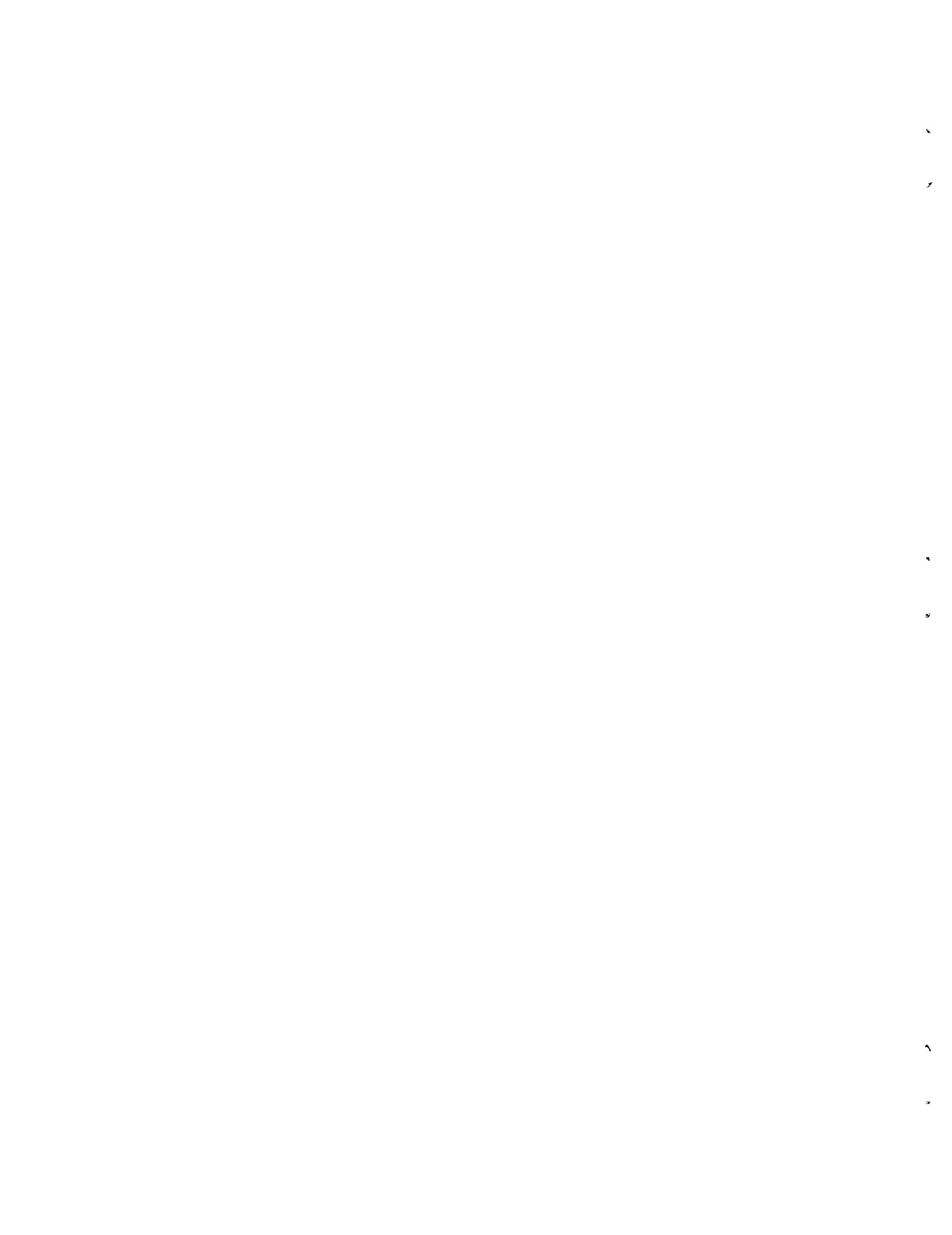
## ABSTRACT

Pomeroy, W. M., D. Gordon, and C. D. Levings. 1981. Data report on brackish marsh transplant experiments at the Fraser estuary. Can. Data Rep. Fish. Aquat. Sci. 274: 76p.

Data are provided on transplant experiments at the Fraser River estuary with five species of marsh plants (Scirpus americanus, S. maritimus, Carex lyngbyei, Salicornia virginica and Distichlis spicata). The following information on plant survival and growth is presented: shoot density, shoot height, survival, rhizome extension, and seed head counts. Data on algal pigments in sediments (chlorophyll a and phaeopigments) as well as organic content, water content, grain size, and interstitial salinity are presented. Data are from January 1979, when the transplants occurred, to August 1980 when observations terminated.

## RESUME

Des données sont fournies sur des expériences de transplantation de cinq espèces de plantes des marais (Scirpus americanus, S. maritimus, Carex lyngbyei, Salicornia virginica et Distichlis spicata) dans l'estuaire du Fraser. Les renseignements suivants relatifs à la survie et à la croissance des plants sont présentés: densité et hauteur de la pousse, survie, extension due rhizome et nombre de têtes de semence. Des données sur les pigments d'algues dans les sédiments (chlorophylle a et phaéopigments) ainsi que sur la teneur en substances organiques, en eau, la granulométrie et la salinité interstitielle sont exposées. Les données ont été recueillies de janvier 1979, date de la transplantation à août 1980, date de la fin des observations.



## INTRODUCTION

Alienation of the brackish marshes of the Fraser River estuary has become an important issue, since valuable habitat for fish and wildlife has been lost through dyking, filling, sewage pollution, etc. (Anon 1978). Restoration of these habitats is one option open to the habitat manager, but little data are available on techniques.

The data presented here were obtained during transplant experiments conducted with 5 species of brackish marsh plants in the Fraser estuary. A preliminary report (Pomeroy and Levings 1980) summarized some of the data on the project. The present report provides the complete data set for the transplants and includes botanical parameters, sediment characteristics and other relevant information. The experiments began in January 1979 and observations terminated in August 1980.

## STUDY SITES

Three sites, representing a range of habitat types, were selected on the Fraser River estuary (Fig. 1) for transplant during 1979. The first was located on the south side of Steveston Island (Fig. 1), just inshore of the fourth dolphin (counting from west to east) at  $49^{\circ}07.07$ ;  $123^{\circ}10.39$ . This is a river site with strong current and wave action. Sediments are composed of loosely compacted, coarse sand typical of newly deposited dredge spoil. Adjacent marsh dominated by Scirpus americanus and Eleocharis palustris exists along the south side of the island. A  $40 \times 15$  m transplant quadrat was established at this site. The second site was across the river from Steveston at (Fig. 1) Albion ( $49^{\circ}06.98$ ;  $123^{\circ}12.90$ ). Sediments consist of coarse to fine sand either compact or loosely deposited. Extensive adjacent marshes of Scirpus americanus, S. validus and Carex lyngbyei exist at this site. A  $35 \times 15$  m transplant quadrat was established at the Albion site. The final location, in the Iona (Fig. 1) intercauseway area ca. 7 km north of the preceding sites, represents high energy foreshore with wave focussing. Sediments are composed of compacted coarse to fine sand. An area of sand waves exists along the length of the two jetties but not in the central areas. Two quadrats, one being peripherally located ( $49^{\circ}13.24$ ;  $123^{\circ}13.04$ ) and  $50 \times 50$  m in size, the other being central ( $49^{\circ}13.13$ ;  $123^{\circ}13.02$ ) and  $40 \times 15$  m in size, were established.

All the transplant quadrats at these three sites were within the tidal range of 2.5 - 3.5 m above chart datum. This elevation is suggested as having optimum submergence/emergence ratios for the species selected for transplanting (Kistritz 1978). Elevation determinations at the Steveston and Albion transplant sites were made from tidal height predictions (Anon 1979) while at Iona an intensive elevation survey was carried out by Northwest Hydrographic Survey Ltd. in September 1978 and January 1979.

Iona was chosen as the site for a second series of transplant experiments which were initiated in February 1980. Two quadrats ( $32 \times 12$  m and  $32 \times 10$  m) were established towards the head of the intercauseway area ( $49^{\circ}13.09$ ;  $123^{\circ}13.89$  and  $49^{\circ}12.99$ ;  $123^{\circ}12.91$ ) at an elevation 4 m above chart datum.

Donor sites for these transplant experiments were chosen carefully so as to match the transplant sites as closely as possible with respect to sediment grain size, salinity, organic content, water content and elevation. An area on the north side of Steveston Island ( $49^{\circ}07.16'$ ;  $123^{\circ}10.39'$ ) was used as a donor site for Carex lyngbyei Hornem (Lyngbey's sedge). Scirpus americanus Pers. (three-square bulrush) was obtained from a site on the south side of Steveston Island ( $49^{\circ}07.04'$ ;  $123^{\circ}10.30'$ ) and from a site off the end of Francis Road (Fig. 1) at  $49^{\circ}09.40'$ ;  $123^{\circ}12.38'$ . Scirpus maritimus L. was also obtained from the Francis Road site. The donor site for the second series of transplants to Iona was located in Boundary Bay (Fig. 1) at the foot of 72nd Avenue ( $49^{\circ}03.60'$ ;  $123^{\circ}01.30'$ ). Salicornia virginica L. and Distichlis spicata (L.) Greene was obtained from here.

#### TRANSPLANT PROCEDURE

Transplanting of Carex lyngbyei and Scirpus americanus was carried out during the winter when marsh vegetation was dormant and new shoots had not yet broken the surface. A "Par A cup cutter" was used to obtain sediment plugs, containing plant shoots, 10 cm in diameter, 15 cm deep. These were taken at low tide at approximately 1 m intervals. Plugs were then stacked in herring skiffs, "lift boxes" (1.25 m x 1.25 m x 0.5 m) or plastic trays depending on the mode of transport which was used. When planting, the "cup cutter" was used to make holes in the substrate, at 1 m intervals, into which the transplant plugs were placed. Excess sediment was packed down around and over the top (to a depth of no more than 4 cm) of the transplant plugs.

The Steveston quadrat was planted between January 9 and 11, 1979 (Table 1). S. americanus was planted in the lower rows (rows 2 - 9) of the quadrat while C. lyngbyei was planted in the upper rows (rows 10 - 14) (Fig. 2). A few of the plugs in row 10 (#17 - 39) and row 11 (#22- 39) were inadvertently planted upside down.

The Albion quadrat was planted on February 28, 1979 (Table 1). The higher rows (8 - 14) were planted with C. lyngbyei and the lower rows (2 - 7) with S. americanus (Fig. 2).

Floating platforms, used in the transplanting of the Iona quadrat, were anchored in the intertidal zone at Iona and Francis Road (Fig. 1) on January 25 and 29, 1979 respectively. Transplanting of the Iona quadrat took place periodically between January 25 and March 12, 1979 (Table 1). Here, as at Albion and Steveston, C. lyngbyei was planted in the upper rows of the quadrats and S. americanus in the lower rows. Quadrat A was planted with 10 rows of S. maritimus (1 - 10), 30 rows (11 - 40) of S. americanus and 10 rows (41 - 50) of C. lyngbyei while quadrat B was planted with 10 rows (1 - 10) of S. americanus and 5 rows (11 - 15) of C. lyngbyei. Snow fence, 0.6 m high, was placed around the quadrats on March 13, 1979 to stop washout of the newly planted plugs. However, the fence was removed by wave action and as few plugs washed out, was considered unnecessary.

Transplanting of Salicornia virginica and Distichlis spicata took place in February 1980. The "Par A cup cutter" was again used to obtain plugs containing plant material. Plugs were taken on February 19 (Table 1) and

transported to the laboratory where they remained outside overnight. Transport to the transplant site occurred the following day and planting took place the day after that. A 17 x 6 m area in the centre of the two transplant quadrats was planted with D. spicata, at 1 m intervals. S. virginica was planted around this at 1 m intervals.

#### MONITORING

The mean number of shoots per transplant plug was determined at the time of transplanting for a subsample of Scirpus americanus and S. maritimus plugs from Francis Road and for Carex lyngbyei and S. americanus plugs from Steveston Island (Table 2).

The growth and development of Scirpus americanus and Carex lyngbyei transplants at Albion and Steveston was monitored at roughly monthly intervals. The success rate of transplant plugs (Table 3) was determined by recording presence/absence (Fig. 3) over the entire quadrat in 1979. After an initial growth period in early 1980 it was no longer possible to identify single plugs due to coalescence, especially for S. americanus. Thus, plug success was not measured during the second year.

Changes in shoot density (Table 4, 5), mean shoot height (Table 6, 7) (measured from the top of the original plugs) and rhizome extension length (Table 9) were determined for a number of randomly selected plugs at each site in 1979. Shoot density was expressed per 0.25 m<sup>2</sup> for 1980 due to difficulties in identifying individual plugs in most cases. Quadrats, 0.25 m<sup>2</sup> in size, were centered over what appeared to be the original plug based on 1 m interval measurements. In addition, mean shoot height was measured (from the surface of the substrate) slightly differently in 1980 because of the difficulty in finding the original plugs. Mean shoot height was determined at the Steveston Island donor sites during 1979 and 1980 (Table 8).

The frequency of plugs with seeds and the number of seed heads per plug were determined during the 1979 growth season (Table 4). However, inaccuracies of the method due to grazing by birds made the data of limited value, thus seed production was not monitored during the 1980 season.

Surface (to 2 cm depth) and subsurface (10 cm depth) sediment samples were also collected at randomly chosen locations within the quadrats immediately adjacent to a plug, and also from outside of the transplant quadrats (Fig. 2) to act as controls. Sediment material was subsampled immediately upon return to the laboratory. Analyses were performed to determine the active chlorophyll a and phaeopigment concentrations of surface samples and the organic content, per cent water content, grain size and interstitial salinity of surface and subsurface samples. Procedures used are described below.

Chlorophyll and Phaeopigments (Table 10, 11) - aliquots consisting of 2 or 4 cc of sediment were analysed immediately upon return to the laboratory or frozen for up to two months until they could be processed. Extractions were performed by placing the sample in 8 mL of 90% acetone, sonicating for 1 minute with a Bronwell Biosonik II A and then letting stand covered in the dark at 5°C for

16 hours. After this, the sample was resonicated for 1 minute, centrifuged, decanted and filtered through a GF/C filter. The filtrate was then brought to 10 mL with 90% acetone. Standard spectrophotometric analysis for chlorophyll a and phaeopigments as described in Strickland and Parsons (1972) was carried out on the filtrate using a Carey 500 spectrophotometer. Each sample was extracted at least twice to recover the bulk of the pigments. During successive extractions, the sediment was left to extract in 90% acetone for a 2 hour period.

Water Content (Table 12, 13) - the water content of the sediment was determined immediately upon return to the laboratory. A 2 or 4 cc subsample was placed in a preweighed aluminum dish, weighed and then dried at 100°C for 16 hours. Following this the samples were reweighed to determine dry weight. The per cent water content was calculated as the weight lost on drying (wet - dry weight) standardized against the initial wet weight of the sample.

Organic Content (Table 10) - samples used to determine water content were placed in a muffle furnace at 500°C for 4 hours after dry weight determinations were completed. They were subsequently reweighed. The fraction of the sample "burned off" was taken to be a measure of the organic content expressed as mg/cc loss on ignition when standardized against the dry weight.

Grain Size (Table 14) - samples of sediment were wet sieved through a series of screens (2.0 mm, 1.0 mm, 0.850 mm, 0.500 mm, 0.250 mm, 0.125 mm, 0.063 mm) on a Geos-Analyt 3/0 shaker. The sediment retained on each screen was dried and weighed. The following procedure was employed to determine the "fine" (<0.063 mm) fraction of the sediment. A subsample of unsorted sediment was placed in a preweighed aluminum dish, dried for 16 hours at 100°C after which the dry weight was determined. The dried sample was ground lightly with a mortar and pestel to break up any lumps and then put into a 1.063 mm mesh screen. The screen was covered with a tight fitting lid and shaken for several minutes, after which the lid was removed and the sediment remaining on the screen was lightly brushed. The sediment remaining on the screen was then weighed. The "per cent fine" value is (the weight of material that passed through the 0.063 mm screen/initial weight of the sample) x 100.

Salinity (Table 15, 16, 17) - approximately 20 cc of sediment was placed in a large syringe with a fine mesh net (0.1 mm) at the base. Through a pumping action with the syringe enough interstitial water could be obtained for use on an American Optical Corporation salinity refractometer. Readings are accurate to  $\pm 0.5^{\circ}/oo$ .

Monitoring of the S. americanus, S. maritimus, C. lyngbyei transplant quadrats at Iona was discontinued after the first growth season because of failure of the transplants to grow. Monitoring of the Salicornia virginica, Distichlis spicata quadrats at Iona was also discontinued after one season due to lack of growth. The Francis Road and Steveston Island donor sites were visited at irregular intervals over the year following transplanting to observe their recovery.

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Thanks are due to the following persons for their assistance in obtaining the data reported herein: L. Jantz, B. Lawley, E. White, B. Hillaby, S. Matheson, R. D. Wilkie, M. Kotyk, and S. Boyd. The 1979 transplant work was conducted with the assistance of gardeners from Western Grounds Maintenance Ltd. Financial support for the project was provided by the Salmonid Enhancement Program and the Habitat Protection Division of DFO. T. Bird, A. Lill, F. Fraser, and W. Schouwenberg provided administrative assistance and support.

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Fig. 1. Fraser River delta showing the location of the study areas for transplant experiments in 1979 and 1980.

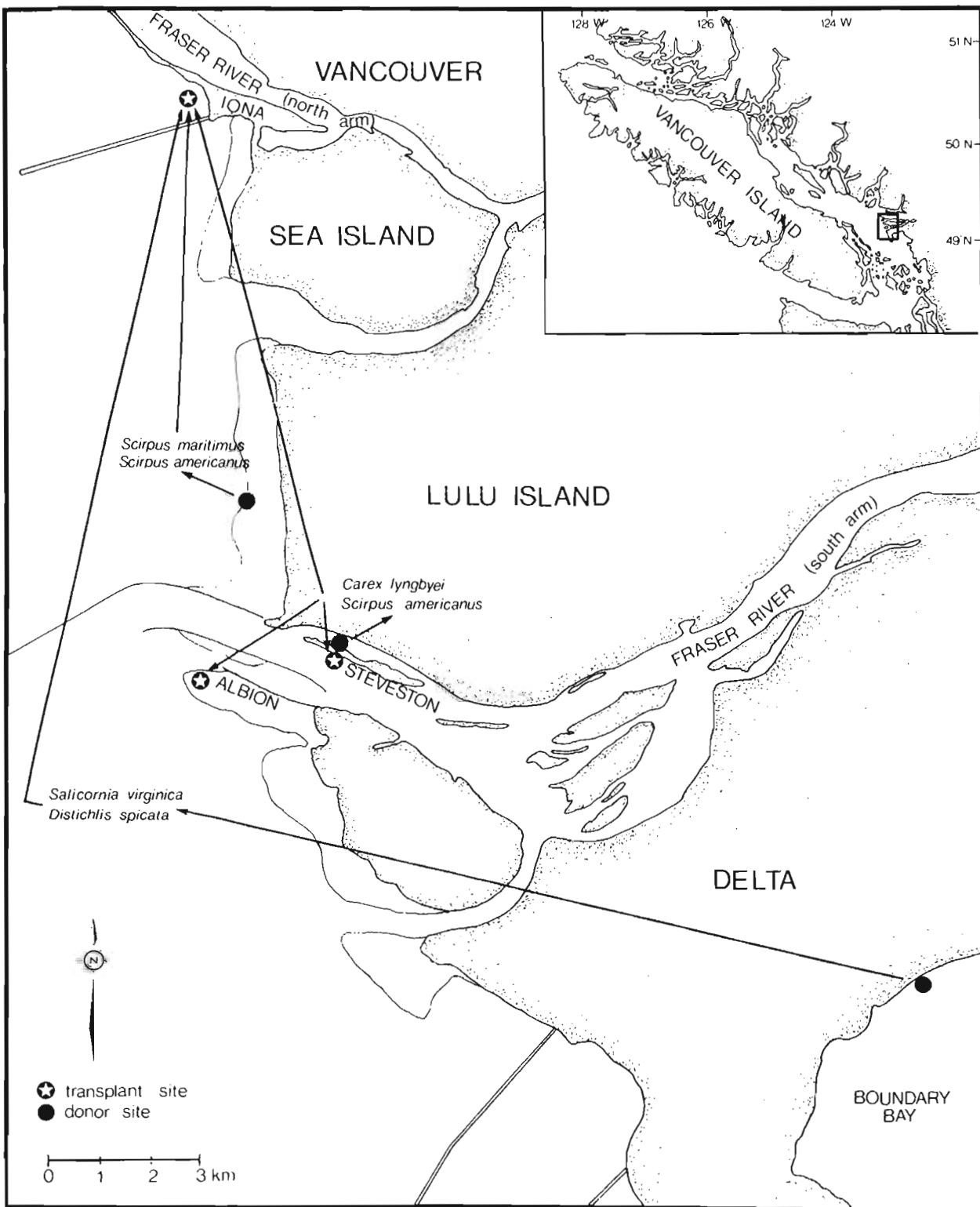


Fig. 2. The Steveston and Albion transplant quadrats showing the location of sampling points outside of the quadrats and the quadrat coordinate system.

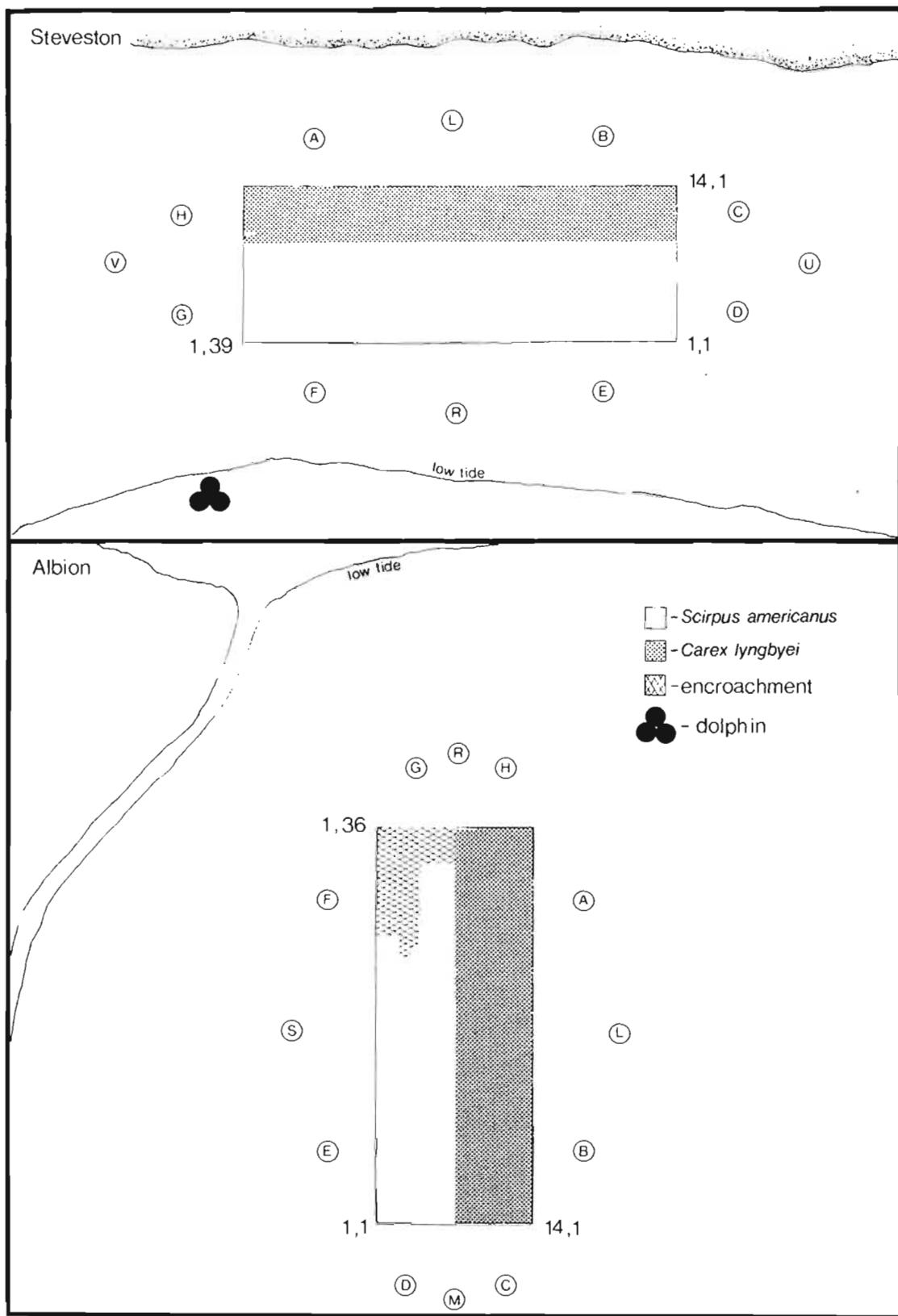
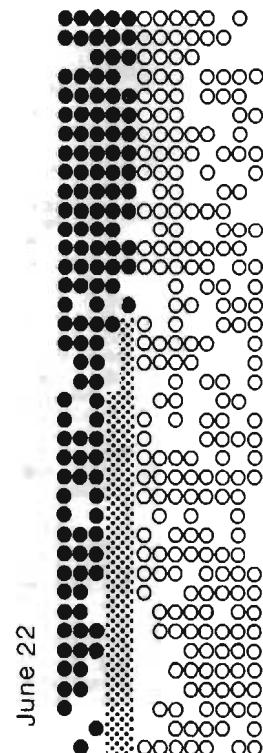
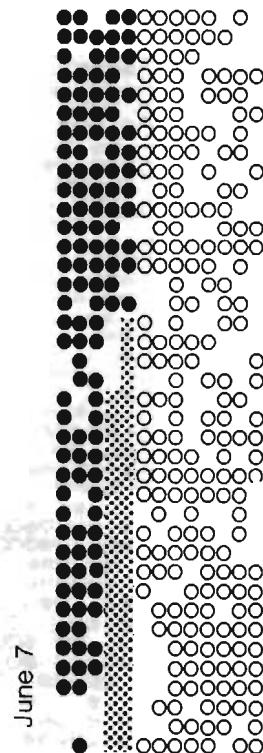
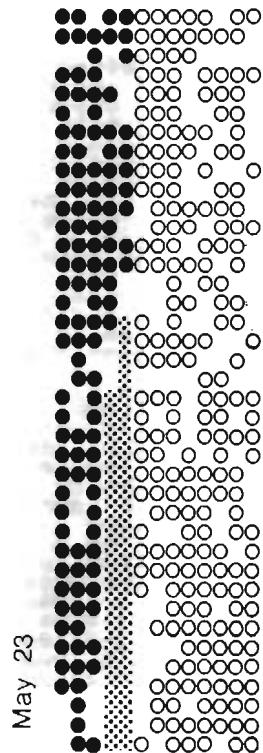
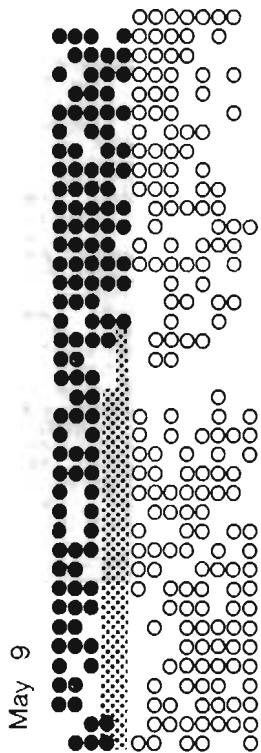


Fig. 3. Presence/absence maps of Carex lyngbyei and Scirpus americanus at the Albion and Steveston transplant quadrats during 1979.

- [] - area of encroachment by natural marsh
- [] - plugs planted upside down
- - presence of C. lyngbyei
- - presence of S. americanus

Steveston

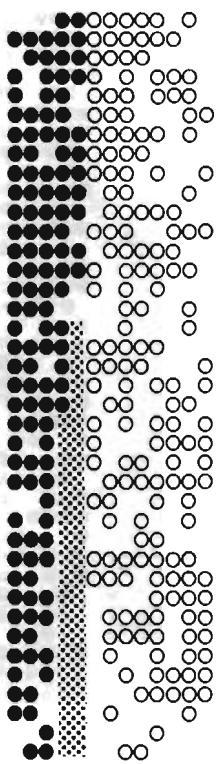
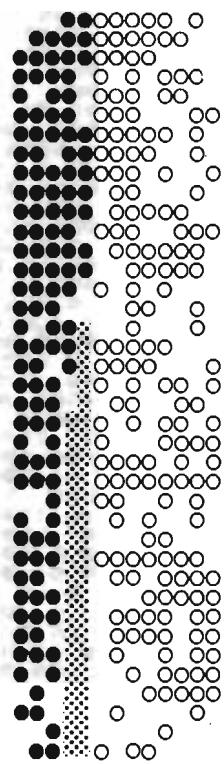
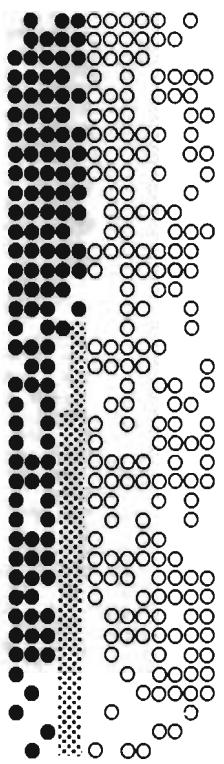
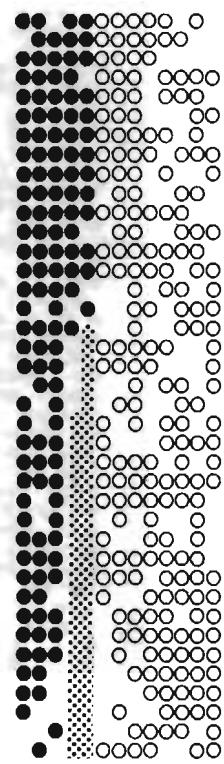


July 9

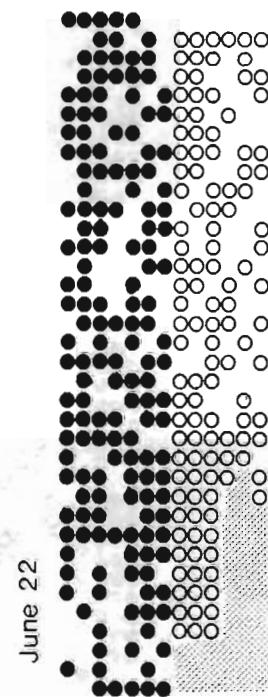
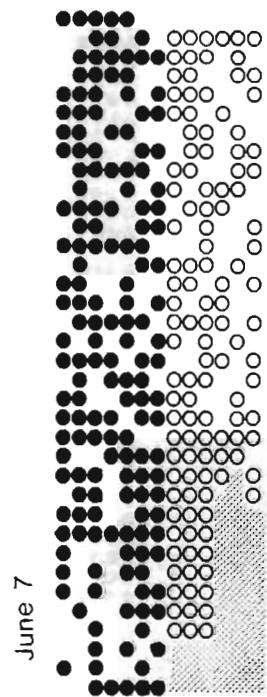
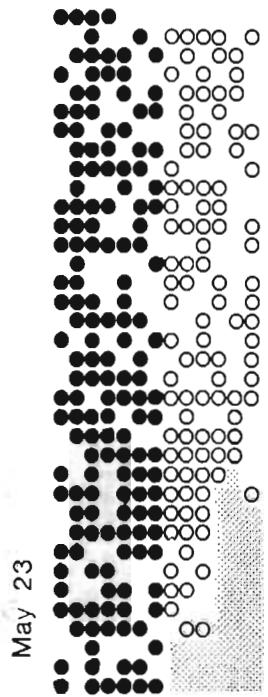
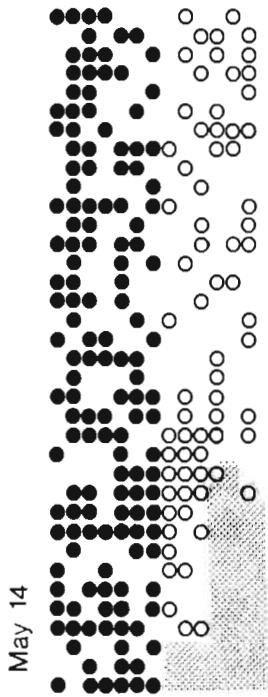
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September 18

October 17



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October 17

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Table 18. Climatological conditions recorded at the Vancouver International Airport at the time of transplanting.

Table 1. Schedule of transplant activities carried out in 1979 and 1980.

Transplant site	Transplant species	Donor site	Date transplant plugs were obtained	Date of transplanting	Time elapsed between the taking and planting of the plugs	Mode of transport
Steveston (1979)	<u>Carex lyngbyei</u>	north side of Steveston Is.	Jan. 9 Jan. 10	Jan. 9 Jan. 10	<2 hrs. <2 hrs.	carried by hand in plastic trays.
	<u>Scirpus americanus</u>	south side of Steveston Is.	Jan. 10 Jan. 11	Jan. 10 Jan. 11	<2 hrs. <2 hrs.	" " " " "
Albion (1979)	<u>Carex lyngbyei</u>	north side of Steveston Is.	Feb. 27	Feb. 27	<24 hrs.	placed in a herring skiff and towed to the transplant site.
	<u>Scirpus americanus</u>	south side of Steveston Is.	Feb. 28	Feb. 28	< 4 hrs.	
Iona (1979)	<u>Scirpus maritimus</u>	Francis Road	Jan. 30	Jan. 31	24 hrs.	placed in "lift" boxes and transported by helicopter.
	<u>Scirpus americanus</u>	Francis Road	Jan. 30 Feb. 16 " " " " " "	Jan. 31 Feb. 16, 20 Feb. 21 23 March 6	24 hrs. 72 + 96 hrs. placed in a herring skiff and towed to the transplant site. 24 - 48 hrs. placed in "lift" boxes and transported by a chartered landing barge. 48 + 72 hrs. placed in a herring skiff and towed to the transplant site.	
	<u>Carex lyngbyei</u>	north side of Steveston Is.	March 10	March 11, 12	24 + 48 hrs.	placed in a herring skiff and towed to the transplant site.
	<u>Salicornia virginica</u>	Boundary Bay	Feb. 19	Feb. 21	48 hrs.	placed in "lift" boxes and lifted by helicopter onto a truck and transported to the laboratory,
	<u>Distichlis spicata</u>	Boundary Bay	Feb. 19	Feb. 21	48 hours	placed in a herring skiff and towed to the transplant site.

Table 2. Mean number of shoots per 10 cm diameter plug at time of transplanting.

Species	Donor Site	
	Francis Road	Steveston Island
<i>Carex lyngbyei</i>	-	3
<i>Scirpus americanus</i>	18	4
<i>Scirpus maritimus</i>	4	-

Table 3. Number of transplant plugs growing at the Steveston and Albion quadrats during 1979. (n = number of plugs planted per row)

**Steveston**

Row	May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18	Oct. 17
<u><i>Scirpus americanus</i></u>								
2 (n = 39)	16	21	21	26 (67) <sup>a</sup>	26	18	16	16 (41) <sup>a</sup>
3 (n = 39)	19	31	27	28 (72)	28	25	25	24 (62)
4 (n = 39)	22	28	27	27 (69)	27	21	18	18 (46)
5 (n = 39)	26	30	28	28 (72)	27	26	26	26 (67)
6 (n = 39)	23	26	25	25 (64)	25	21	21	20 (51)
7 (n = 39)	28	35	37	34 (87)	32	30	30	30 (77)
8 (n = 39)	25	28	28	27 (69)	28	25	25	24 (62)
9 (n = 39)	22	26	26	25 (65)	24	23	21	21 (54)
Per cent plug growth	58	72	71	71	70	61	58	57
<u><i>Carex lyngbyei</i></u>								
10 (n = 16)	11	10	12	13 (81)	13	12	10	11 (69)
11 (n = 21)	15	14	16	16 (76)	16	16	18	20 (95)
12 (n = 39)	32	32	31	33 (85)	33	33	32	32 (82)
13 (n = 39)	29	31	31	31 (79)	32	30	31	30 (77)
14 (n = 39)	33	33	34	34 (87)	35	33	33	34 (87)
Per cent plug growth	77	78	81	82	84	81	81	82

<sup>a</sup> per cent growing in each row on the date indicated.

N.B. A row 1 was originally planned for this quadrat but was never planted.

Albion

Row	May 14	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18	Oct. 17
<u><i>Scirpus americanus</i></u>								
2 (n = 26) <sup>b</sup>	13	13	15	14 (54) <sup>a</sup>	10	6	6	5 (19) <sup>a</sup>
3 (n = 24) <sup>b</sup>	6	10	13	12 (50)	10	9	8	8 (33)
4 (n = 25) <sup>b</sup>	12	15	11	11 (44)	11	10	10	10 (40)
5 (n = 33) <sup>b</sup>	13	22	27	27 (82)	24	19	19	18 (55)
6 (n = 33) <sup>b</sup>	14	22	26	26 (79)	25	21	20	20 (61)
7 (n = 33) <sup>b</sup>	12	21	27	30 (91)	31	28	27	24 (73)
Per cent plug growth	40	59	68	69	64	53	52	49
<u><i>Carex lyngbyei</i></u>								
8 (n = 36)	19	20	23	21 (58)	25	22	19	20 (56)
9 (n = 36)	19	21	26	28 (78)	28	25	25	25 (69)
10 (n = 36)	23	25	24	24 (67)	23	21	21	21 (58)
11 (n = 36)	15	21	16	15 (42)	15	16	18	18 (50)
12 (n = 36)	23	29	27	27 (75)	26	25	24	23 (64)
13 (n = 36)	28	26	26	26 (72)	26	26	26	26 (72)
14 (n = 36)	17	20	22	22 (61)	22	22	22	22 (61)
Per cent plug growth	57	64	65	65	65	62	62	62

<sup>a</sup> per cent growing in each row on the date indicated.

<sup>b</sup> these rows were originally planted with 36 plugs however, encroachment by the surrounding natural marsh made it impossible to tell the transplant plugs from the 'natural' plants.

N.B. A row 1 was originally planned for this quadrat but was never planted.

Table 4. Number of shoots and seed heads (bracketed numbers) per plug, for each of the given quadrat coordinates at Steveston and Albion during 1979.

## Steveston

Row	Col.	May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18	Oct. 17
2	4		1	1	2	2	3		
	13		3 (2)	6					
	24	1	1	3	6	7	7	7	
	34	1	2 (2)	5	4	6	6	3	6
	38	1	3 (1)	5	10	4	8	11	7
3	5			1	2	3	1		
	18		2	4					
	20		1						
4	8			2	2	4	2		
	14		1				6	14	10
	23		1	3	3	3	6	9	3
	29	2	3	7	8	10	15	19	5
	34		2	7	3	4	7	9	8
	36	4	2 (1)	3	2	2	3	4	3
	38	1	1	1	1	1			
5	18	1	1 (1)	2	3	4	9	12 (1)	4
7	7		3	10 (1)	10 (3)	12 (1)	18	24 (2)	8 (1)
	13	2	2	3	2	1		6	2
	24			1					
	32	1	1	2	3	4	6	8	4
	39	1	1						
8	4	2	2	4	4	6	8	9	
	14		2	2	2	2	4	5	
	28				6	8	8	6	
	37	1	1	2	11	15	12	4	
9	9	5	6 (3)	13	5	9	6		
	14		1 (1)	2	3	5	7		
	21			1					
	30	3	2	5 (2)	5 (2)	7	10	12	
	39	1	1 (1)	5	4	5	4	6 (2)	4
<hr/>									
Mean Shoot Number		1.8	1.8	3.9	4.4	5.3	7.0	9.2	5.3
<hr/>									
10	14	2	2 (2)	2	2	4	8	12	10
	16			3	5	7	15	20	13
11	7	2	2	2	4	8	5	5	7
	31		1 (1)						
	37		1	2	6	8	6	7	16
12	4	6	6 (5)	7	7	10	12	13	6
	14	5	4	9	7	10	12	14	9
	32	3	3 (2)	4	3	4	6	8	4
13	8	4	6 (2)	12 (2)	11 (3)	15	17	19	10
	10	2	2 (1)	6	4	3	11	15	7
	28		4 (5)	9	2	4	10	19	3
14	4	3	5 (1)	3	5	7	6	11	10
	15	4	9 (2)	9 (3)	8 (3)	18 (4)	12	13	7
	28	6	6 (1)	11	8	15	22	29	14
	34	4	4 (1)	3	3	6	17	16	7
	36	2	2 (1)	3	5	7			8
<hr/>									
Mean Shoot Number		3.6	3.9	5.7	5.3	8.1	11.4	14.4	8.7

Albion

Row	Col.	May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	7	1				4		
	22	2	2	4	3			
3	3		1	2	1	1	6	4
	10		1	1	1	2		
	24				2	3		
4	6	1	2 (1)	1	2	2	6	4
	10		2 (1)	3	3	3	5	1
	17		1	2	2	4	3	2
	24			3	3	5	4 (1)	4
5	30			2	3	3		
6	4		2 (1)	3	5 (1)	6	8 (1)	4
	7		2	4	8 (1)	9 (1)	11	7
	14	2	2	3	2	3	6	5
	20		1	2	3	3	3	2
	25	1	2 (1)	2	8	10	3	2
	30	2	4 (2)	5	5 (2)	5 (1)	2	
7	10		1	3	2	3	5	1
Mean shoot								
number		1.5	1.8	2.7	3.3	4.1	5.1	3.3
8	10	1	2		4	5	1	4
	19			1				
	24	2	3	5	6	8	10	10
	29	2	4 (2)	6	7	7		10
	34	1	6 (3)	11 (3)	8 (3)	12	14	16
9	25	1	4 (3)	8	8	10	10	12
	33	2	2	2	5	6	7	8
11	7	1	1	2	2	3	6	7
	22	3	4 (1)	6	6	8	9	12
12	4	3	3	5	9	12	11	14
	28	7	10 (4)	15	16	19	13	13
	31	3	3 (1)	6	6	10	9	14
13	11	6	7 (5)	9	10	14	12	11
	19	2	4	6	8	8	12	15
	25		4 (2)	5	7	10	11	10
14	1	2	1 (1)	6	8	8	12	13
	7	2	1	1	10 (2)	14	13	13
	20		2					
	29			3	2	3	3	5
Mean shoot								
number		2.5	3.6	5.7	5.7	9.2	9.6	11.0

Table 5. Shoot density (shoots/ $\frac{1}{4}$  m $^2$ ) for each of the given quadrat coordinates at Steveston and Albion during 1980.

Steveston

Row	Col.	May 28	June 24	July 10	August 6
2	6			5	
3	11	7	5	9	15
4	9		2	13	
5	11	22	5	12	50
7	27		5	23	
8	4	13	20	13	26
9	30	3	2	14	15
Mean shoot number		11.3	6.5	12.7	26.5
11	31	30	29	31	86
12	14	17	30	21	42
13	6	22			69
13	8			18	
14	28	29	28	28	75
Mean shoot number		24.5	29.0	24.5	68.0

Albion

Row	Col.	May 28	June 25	July 10	August 6
2	22		5	12	
3	16	7	8	13	11
4	24	9	28	27	18
6	4	12	8	18	11
Mean shoot number		9.3	12.3	17.5	13.3
8	29	31	26	28	39
9	25	31	27	22	40
11	7	23	22	22	52
12	28	26	29	26	50
13	11	33	43	38	68
14	20		14	10	
Mean shoot number		28.8	26.8	24.3	49.8

Table 6. Shoot height (cm), measured from the top  
of the plug, of transplant species at the Steveston  
and Albion quadrats during 1979.

Steveston

		<u><i>Scirpus americanus</i></u>						<u><i>Carex lyngbyei</i></u>			
Row	Col.	June 22	July 9	Aug. 22	Sept. 18	Row	Col.	June 22	July 9	Aug. 22	Sept. 18
2	4	26	30	14		10	14	45	49	39	26
	24	20	24	21	20		16	50	55	41	28
	34	20	24	24	23	11	7	54	60	50	35
	38	19	21	24	34		37	53	60	49	33
3	5	16	18	12		12	4	30	40	36	29
4	8	29	34	16			14	29	41	35	30
	14			20	26		32	37	41	40	31
	23	20	22	14	16	13	8	42	49	43	42
	29	30	32	30	28		10	37	46	42	34
	34	18	20	20	18		28	43	49	38	34
	36	39	43	35	22	14	4	41	48	39	30
	38	15	17	20			15	35	41	36	33
5	18	20	22	26	16		28	43	50	43	39
7	7	29	31	26	24		34	47	52	34	36
	13	26	24		18		36	42	51	42	
	32	27	29	26	25						
8	4	30	32	24	19						
	14	12	10	15	15						
	26	24	27	29	22						
	37	18	26	20	18						
9	9	18	22	20							
	14	15	20	20	25						
	30	32	36	36	33						
	39	45	49	36	35						
mean ht.		24.3	26.7	23.0	23.0	mean ht.		41.9	48.8	40.5	32.9

Albion

		<u><i>Scirpus americanus</i></u>				<u><i>Carex lyngbyei</i></u>					
Row	Col.	June 22	July 9	Aug. 22	Sept. 18	Row	Col.	June 22	July 9	Aug. 22	Sept. 18
2	22	19	24			8	10	20	26	50	45
3	3	30	31	56	26		24	36	40	44	41
	10	20	22				29	34	36		36
	24	45	47				34	27	31	65	60
4	6	13	15	39	30	9	25	21	25	30	33
	10	13	15	40	20		33	38	40	43	45
	17	16	15	50	43	11	7	34	38	61	58
	24	33	37	56	50		22	24	30	36	29
5	30	18	20			12	4	28	34	36	31
6	4	16	17	54	44		28	29	37	46	33
	7	27	30	53	48		31	45	53	37	48
	14	21	24	52	41	13	11	40	45	57	39
	20	35	35	45	32		19	18	24	40	41
	25	18	20	36	31		25	27	39	38	45
	30	30	34	64		14	1	32	44	44	51
7	10	22	26	40	35		7	30	39	48	46
							29	13	35	42	56
mean ht.		23.5	25.8	48.4	36.4	mean ht.		29.2	35.6	44.8	43.4

Table 7. Shoot height (cm), measured from the surface of the sediment, at the Steveston and Albion quadrats during 1980.

Steveston

		<u>Scirpus americanus</u>						<u>Carex lyngbyei</u>			
Row	Col.	May 28	June 24	July 10	Aug. 6	Row	Col.	May 28	June 24	July 10	Aug. 6
2	6			50		11	31	17	33	48	27
3	11	15	40	35	31	12	14	18	34	37	35
4	9		20	45		13	6	18	31	37	38
5	11	24	39	41	49	14	28	31	36	54	49
7	27										
8	4	32	45	50	47						
9	30	25	27	47	40						
mean ht.		24.0	34.2	44.7	41.8	mean ht.		21.0	33.5	44.0	37.3

Albion

		<u>Scirpus americanus</u>						<u>Carex lyngbyei</u>			
Row	Col.	May 28	June 25	July 10	Aug. 6	Row	Col.	May 28	June 25	July 10	Aug. 6
2	22		12	37		8	29	17	23	32	22
3	10			32		9	25	18	18	21	15
	16	12	23		55	11	7	17	21	29	24
4	24	6	33	53	40	12	28	15	25	38	21
6	4	11	22	35	25	13	11	10	22	35	18
						14	20		28		
						21			19		
mean ht.		9.7	22.5	39.3	40.0	mean ht.		15.4	21.3	30.5	20.0

Table 8. Mean shoot height (cm) of Carex lyngbyei and Scirpus americanus at the Steveston Island donor sites.

	1979				1980			
	June 25	July 9	Aug. 22	Sept. 18	May 28	June 24	July 10	Aug. 6
<u>Scirpus americanus</u>	32	36	47	49	26	35	46	68
<u>Carex lyngbyei</u>	141	160	180	NS	100	135	138	105

Table 9. Mean rhizome extension (cm) for transplants at Albion and Steveston during the 1979 growth season.

Species	Site	June	July	August	September
<u>Scirpus americanus</u>	Albion	5	14	31	35
	Steveston	6	21	35	37
<u>Carex lyngbyei</u>	Albion	nil	9	17	19
	Steveston	nil	11	18	20
<u>Eleocharis palustris</u>	Albion	7	12	29	36
	Steveston	5	14	30	37

Table 10. Surface sediment chlorophyll a and phaeopigments, and surface and subsurface (10 cm) sediment loss on ignition (LOI) and per cent loss on ignition (% LOI) for the Steveston and Albion transplant.

DS Sc = Scirpus americanus donor site at Steveston Island.

DS Ca = Carex lyngbyei donor site at Steveston Island

OQ = samples taken from outside of the transplant quadrats  
as shown in Figure

NM = samples taken from a natural Scirpus americanus  
marsh nearby the Albion transplant quadrat.

NS = not sampled

Steveston June 22, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo-pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
12	14	NS	NS	5.8	0.39	6.0	0.42
7	13	NS	NS	7.3	0.46	4.9	0.23
13	8	NS	NS	5.5	0.39	5.7	0.37
4	8	NS	NS	6.2	0.43	NS	NS
2	24	NS	NS	7.6	0.45	5.8	0.36
2	34	NS	NS	5.6	0.36	1.1	0.07
4	29	NS	NS	2.1	0.13	27.4	1.62
3	18	NS	NS	5.0	0.30	7.5	0.43
7	32	NS	NS	4.3	0.26	7.6	0.47
9	30	NS	NS	4.4	0.27	5.8	0.37
4	38	NS	NS	7.9	0.49	6.2	0.38
14	36	NS	NS	3.4	0.20	6.7	0.30
14	28	NS	NS	3.0	0.21	36.1	1.60
11	31	NS	NS	7.1	0.43	182.2	7.90
Quad. means				5.4	0.34	23.2	1.12

Steveston August 22, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo-pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
4	29	3.67	0.72	4.7	0.40	5.5	0.36
3	18	6.07	0.93	6.1	0.40	5.4	0.40
7	32	7.81	0.51	4.7	0.29	4.1	0.30
4	38	8.01	0.68	4.4	0.46	4.5	0.29
4	8	3.40	0.66	5.0	0.36	4.9	0.30
9	30	4.61	0.44	4.7	0.34	13.2	0.76
14	36	4.94	0.48	6.4	0.38	4.9	0.32
2	24	3.14	0.83	2.7	0.20	3.0	0.22
2	34	3.67	0.44	5.2	0.40	5.7	0.33
7	13	3.47	0.59	2.5	0.17	5.3	0.33
14	28	3.27	0.42	5.4	0.33	5.5	0.34
12	14	3.67	0.44	3.5	0.26	4.7	0.28
13	8	2.67	0.55	3.2	0.26	5.7	0.36
11	31	4.47	0.57	4.7	0.34	7.1	0.43
Quad. means		4.49	0.59	4.5	0.33	5.7	0.36

Steveston September 18, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo-pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
4	29	NS	NS	12.6	0.76	NS	NS
2	34	NS	NS	8.6	0.60	NS	NS
7	32	NS	NS	10.9	0.71	NS	NS
4	38	NS	NS	10.6	0.74	NS	NS
11	31	NS	NS	7.7	0.52	NS	NS
14	36	NS	NS	12.2	0.74	NS	NS
3	18	NS	NS	6.8	0.43	NS	NS
4	8	NS	NS	4.5	0.43	NS	NS
7	13	NS	NS	6.3	0.42	NS	NS
13	8	NS	NS	6.3	0.35	NS	NS
9	30	NS	NS	7.5	0.48	NS	NS
2	24	NS	NS	11.5	0.66	NS	NS
14	28	NS	NS	7.8	0.53	NS	NS
12	14	NS	NS	8.0	0.56	NS	NS
OQ	L	NS	NS	9.3	0.52	NS	NS
OQ	S	NS	NS	8.0	0.46	NS	NS
DS	Sc	NS	NS	6.9	0.47	NS	NS
Quad. means				8.7	0.57		
OC means				8.7	0.49		
DS means				6.9	0.47		

Steveston October 17, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo-pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
13	8	1.47	1.43	NS	NS	NS	NS
12	14	1.27	0.88	NS	NS	NS	NS
4	29	1.67	0.62	NS	NS	NS	NS
9	30	1.80	0.58	NS	NS	NS	NS
14	30	1.27	0.93	NS	NS	NS	NS
4	8	1.80	1.00	NS	NS	NS	NS
14	28	2.34	0.56	NS	NS	NS	NS
11	31	2.20	0.65	NS	NS	NS	NS
4	38	2.34	0.23	NS	NS	NS	NS
7	32	1.74	0.32	NS	NS	NS	NS
7	13	2.67	0.51	NS	NS	NS	NS
OQ	S	1.13	0.45	NS	NS	NS	NS
OQ	L	1.00	0.35	NS	NS	NS	NS
DS	Sc	1.94	0.45	NS	NS	NS	NS
Quad. means				1.87	0.70		
OC means				1.07	0.40		
DS means				1.94	0.45		

Steveston May 28, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
11	31	1.47	1.05	4.9	0.43	5.0	0.47
13	6	0.67	1.86	4.9	0.50	6.0	0.52
12	14	1.20	1.04	4.4	0.39	4.6	0.40
14	28	1.34	2.12	4.5	0.43	5.5	0.43
9	30	0.94	2.24	6.2	0.55	6.8	0.65
8	4	0.99	0.66	4.9	0.41	6.0	0.58
3	11	0.32	1.32	8.1	0.70	8.6	0.69
5	11	1.34	0.81	4.4	0.36	8.0	0.79
13	11	NS	NS	NS	NS	7.3	0.72
OQ		0.53	1.62	6.1	0.56	5.7	0.47
DS	Sc	1.60	1.20	NS	NS	6.7	0.63
DS	Sc	1.20	3.75	10.5	0.79	7.3	0.53
Quad. means		1.03	1.39	5.3	0.48	6.4	0.58
OQ means		0.53	1.62	6.1	0.56	5.7	0.97
DS means		1.40	2.48	10.5	0.79	7.0	0.58

Steveston June 24, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
5	11	1.31	0.24	2.2	0.14	NS	NS
3	11	1.02	0.14	4.3	0.28	NS	NS
4	9	1.05	0.08	1.2	0.10	NS	NS
7	27	1.23	0.19	4.5	0.37	NS	NS
8	4	0.25	0.17	2.9	0.22	NS	NS
9	29	1.91	0.33	5.9	0.41	NS	NS
11	30	1.71	0.31	6.0	0.36	NS	NS
12	14	NS	NS	4.3	0.32	NS	NS
13	6	0.32	0.21	4.0	0.34	NS	NS
14	28	0.72	0.13	1.2	0.11	NS	NS
OQ	A	0.45	0.21	0.2	0.02	NS	NS
OQ	B	0.19	0.36	0.8	0.06	NS	NS
OQ	C	1.34	0.85	0.6	0.03	NS	NS
OQ	D	1.72	0.21	2.3	0.16	NS	NS
OQ	E	1.00	0.07	2.1	0.15	NS	NS
OQ	F	1.00	0.05	1.6	0.11	NS	NS
OQ	G	NS	NS	2.6	0.21	NS	NS
OQ	H	2.40	0.39	0.5	0.06	NS	NS
DS	Sc	1.12	0.91	1.9	0.16	NS	NS
DS	Sc	NS	NS	1.0	0.10	NS	NS
Quad. means		1.06	0.20	3.6	0.27		
OQ means		1.16	0.31	1.3	0.11		
DS means		1.12	0.91	1.5	0.13		

Steveston July 10, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
3	11	1.67	0.43	5.6	0.44	NS	NS
7	27	0.97	0.52	3.6	0.22	NS	NS
12	14	0.29	0.19	12.1	0.97	NS	NS
9	29	0.76	0.86	19.4	1.16	NS	NS
11	30	1.16	0.38	15.6	1.26	NS	NS
13	6	0.27	0.06	10.5	0.81	NS	NS
2	6	1.40	0.51	7.8	0.63	NS	NS
14	28	0.40	0.30	7.8	0.54	NS	NS
4	9	1.52	0.42	1.8	0.15	NS	NS
5	11	1.07	0.94	14.9	1.33	NS	NS
8	4	1.13	0.73	11.7	0.78	NS	NS
OQ	A	0.47	0.09	20.6	2.15	NS	NS
OQ	B	0.33	0.09	16.1	1.10	NS	NS
OQ	C	1.40	0.51	13.0	0.87	NS	NS
OQ	D	2.18	0.53	16.7	1.25	NS	NS
OQ	E	1.24	0.46	16.9	1.30	NS	NS
OQ	F	2.94	1.78	19.4	1.37	NS	NS
OQ	G	1.31	1.03	4.3	0.43	NS	NS
OQ	H	2.14	0.54	17.4	1.35	NS	NS
DS	Sc	0.47	0.05	12.6	1.00	NS	NS
DS	Sc	0.42	0.63	14.0	1.09	NS	NS
DS	Sc	1.11	1.20	16.5	1.35	NS	NS
DS	Sc	1.24	0.27	17.7	1.33	NS	NS
DS	Ca	24.88	37.69	37.1	4.89	NS	NS
DS	Ca	37.54	37.43	45.7	7.18	NS	NS
DS	Ca	9.39	27.98	46.6	6.08	NS	NS
DS	Ca	21.36	46.80	35.9	5.23	NS	NS
Quad. means		0.97	0.49	10.1	0.75		
OQ means		1.50	0.63	15.6	1.23		
DS Sc means		0.81	0.54	15.2	1.19		
DS Ca means		23.29	37.48	41.3	5.85		

Steveston August 6, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
9	30	1.23	0.30	9.0	0.54	6.0	0.29
13	6	0.80	0.32	8.0	0.49	8.0	0.46
14	28	0.51	0.05	6.0	0.37	5.0	0.30
4	8	1.00	0.54	12.0	0.68	7.0	0.36
7	32	0.87	0.67	4.0	0.21	6.0	0.32
OQ	C	2.00	0.45	12.0	0.72	12.0	0.62
OQ	H	0.80	0.27	7.0	0.46	10.0	0.61
DS	Sc	0.84	0.47	11.0	0.67	12.0	0.70
Quad. means		0.88	0.38	7.8	0.46	6.4	0.35
OQ means		1.40	0.36	9.5	0.59	11.0	0.62
DS means		0.54	0.47	11.0	0.67	12.0	0.70

Albion March 1, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
13	32	1.00	1.15	NS	NS	NS	NS
13	6	1.07	1.02	NS	NS	NS	NS
2	23	1.40	1.45	NS	NS	NS	NS
12	34	1.20	0.81	NS	NS	NS	NS
6	17	1.40	1.05	NS	NS	NS	NS
4	4	1.54	1.04	NS	NS	NS	NS
12	14	1.53	0.75	NS	NS	NS	NS
3	32	1.00	1.24	NS	NS	NS	NS
14	36	1.00	0.59	NS	NS	NS	NS
3	13	1.13	1.24	NS	NS	NS	NS
13	20	1.34	1.04	NS	NS	NS	NS
7	33	0.93	0.98	NS	NS	NS	NS
7	8	1.47	0.91	NS	NS	NS	NS
OQ	A	1.00	1.01	NS	NS	NS	NS
OQ	B	1.60	0.78	NS	NS	NS	NS
OQ	C	1.54	1.32	NS	NS	NS	NS
OQ	D	1.74	1.07	NS	NS	NS	NS
OQ	E	1.74	1.02	NS	NS	NS	NS
OQ	F	1.67	1.18	NS	NS	NS	NS
OQ	G	NS	NS	NS	NS	NS	NS
OQ	H	1.20	0.90	NS	NS	NS	NS
OQ	L	1.74	0.88	NS	NS	NS	NS
OQ	S	2.27	1.04	NS	NS	NS	NS
Quad. means		1.23	1.02				
OQ means		1.61	1.02				

Albion May 23, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
4	17	3.00	0.73	5.0	0.40	NS	NS
2	2	3.54	0.59	3.7	0.26	NS	NS
4	4	2.80	1.92	5.7	0.43	NS	NS
3	13	2.94	1.03	5.5	0.40	NS	NS
2	23	2.67	1.21	8.4	0.65	NS	NS
9	6	NS	NS	7.8	0.58	NS	NS
7	8	NS	NS	8.0	0.57	NS	NS
12	34	NS	NS	7.2	0.51	NS	NS
13	36	NS	NS	5.0	0.38	NS	NS
8	3	3.07	0.62	10.1	0.67	NS	NS
3	22	2.14	0.62	6.4	0.43	NS	NS
7	33	NS	NS	4.3	0.31	NS	NS
6	17	NS	NS	6.3	0.43	NS	NS
14	30	NS	NS	6.3	0.49	NS	NS
14	5	NS	NS	5.0	0.39	NS	NS
13	20	NS	NS	7.4	0.57	NS	NS
5	32	2.74	0.72	NS	NS	NS	NS
OQ		3.14	1.25	9.1	0.64	NS	NS
OQ		3.94	0.97	8.8	0.63	NS	NS
OQ		3.60	0.93	6.6	0.46	NS	NS
OQ		3.00	1.11	7.2	0.56	NS	NS
OQ		2.20	1.40	3.8	0.25	NS	NS
OQ		NS	NS	7.5	0.54	NS	NS
OQ		NS	NS	6.8	0.49	NS	NS
OQ		NS	NS	5.5	0.39	NS	NS
OQ		NS	NS	8.2	0.55	NS	NS
OQ		NS	NS	7.5	0.55	NS	NS
Quad. means		2.86	0.93	6.4	0.47		
OQ means		3.18	1.13	7.1	0.51		

Albion June 22, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
12	28	NS	NS	6.5	0.41	7.1	0.42
2	22	NS	NS	7.6	0.47	8.3	0.53
6	20	NS	NS	7.6	0.49	22.6	1.53
4	24	NS	NS	6.1	0.40	5.3	0.35
14	20	NS	NS	14.0	0.92	5.8	0.36
11	7	NS	NS	7.2	0.49	5.6	0.36
13	11	NS	NS	10.6	0.70	6.4	0.43
3	10	NS	NS	9.2	0.57	6.7	0.46
9	25	NS	NS	6.9	0.46	8.0	0.53
1	4	NS	NS	8.4	0.51	5.8	0.38
14	33	NS	NS	11.6	0.75	29.8	1.49
8	24	NS	NS	2.6	0.17	6.5	0.43
6	4	NS	NS	9.6	0.40	5.2	0.44
8	4	NS	NS	10.7	0.76	7.3	0.30
NM	U	NS	NS	18.6	1.37	7.6	0.55
NM	B	NS	NS	7.0	0.49	7.4	0.51
Quad. means				8.5	0.54	9.3	0.57
NM means				12.8	0.93	7.5	0.53

Albion August 22, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phaeo- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
3	10	22.16	4.15	60.8	3.96	4.4	0.30
6	20	19.02	2.70	13.5	0.91	4.3	0.30
12	28	23.03	14.82	14.2	0.80	5.7	0.37
13	11	24.30	3.88	12.5	0.78	7.7	0.49
2	22	10.91	2.92	23.2	1.61	5.7	0.41
8	4	19.69	17.90	11.2	0.80	7.8	0.51
9	25	9.35	3.22	7.7	0.51	3.0	0.23
6	4	6.94	3.20	11.6	0.63	3.4	0.21
8	24	13.35	3.52	6.6	0.42	6.4	0.44
11	7	7.01	2.52	10.9	0.78	5.3	0.33
4	24	16.22	4.99	23.8	1.28	5.2	0.38
14	20	NS	NS	NS	NS	14.5	0.84
14	33	NS	NS	NS	NS	5.7	0.43
Quad. means		15.63	5.80	17.8	1.14	6.1	0.40

Albion September 8, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phago- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
12	28	3.57	3.55	10.3	0.68	NS	NS
6	4	9.41	6.15	12.7	0.74	NS	NS
13	11	7.31	4.42	15.4	0.80	NS	NS
14	23	10.65	4.61	20.5	0.94	NS	NS
14	20	19.96	8.54	23.3	1.15	NS	NS
4	24	6.51	3.95	12.7	0.90	NS	NS
3	10	3.60	1.91	10.3	0.65	NS	NS
9	25	3.22	0.58	10.1	0.65	NS	NS
8	2	39.52	5.67	17.8	1.17	NS	NS
8	24	7.14	2.40	8.9	0.53	NS	NS
11	7	5.77	0.83	10.6	0.65	NS	NS
OQ	L	23.76	8.20	17.8	0.87	NS	NS
OQ	S	10.93	2.42	12.3	0.74	NS	NS
NM	S	9.90	6.66	16.7	0.80	NS	NS
Quad. means		10.61	3.88	13.8	0.81		
OQ means		17.35	5.31	15.1	0.81		
NM means		9.90	6.66	16.7	0.80		

Albion October 17, 1979

Row	Col.	Chlorophyll a (ug/cc)	Phago- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
3	10	7.68	2.56	NS	NS	NS	NS
11	7	6.68	3.23	NS	NS	NS	NS
8	4	9.41	5.03	NS	NS	NS	NS
13	11	9.01	7.53	NS	NS	NS	NS
6	20	7.74	8.00	NS	NS	NS	NS
4	24	12.55	12.59	NS	NS	NS	NS
9	25	4.21	3.78	NS	NS	NS	NS
12	28	8.54	11.59	NS	NS	NS	NS
14	20	9.81	9.02	NS	NS	NS	NS
2	22	1.07	0.38	NS	NS	NS	NS
6	4	3.67	1.33	NS	NS	NS	NS
8	24	8.14	4.01	NS	NS	NS	NS
OQ		2.47	1.03	NS	NS	NS	NS
OQ	L	14.55	12.92	NS	NS	NS	NS
NM	S	11.28	12.27	NS	NS	NS	NS
Quad. means		7.38	5.76				
OQ means		8.51	6.98				
NM means		11.28	12.27				

Albion May 28, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaco- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
12	28	1.90	1.22	5.8	0.58	5.0	0.49
4	24	1.79	1.82	6.7	0.64	11.4	0.95
8	29	2.38	1.67	8.0	0.79	7.3	0.74
6	4	2.46	3.15	9.1	0.96	5.4	0.56
13	11	2.38	1.27	6.0	0.66	5.3	0.52
11	7	NS	NS	4.2	0.41	7.8	0.76
9	25	NS	NS	4.0	0.42	7.0	0.66
3	16	NS	NS	6.1	0.63	6.8	0.66
OQ	S	3.47	0.70	7.7	0.72	7.5	0.78
OQ	L	2.32	2.22	4.8	0.48	5.8	0.56
NM		NS	NS	11.2	1.02	11.0	1.08
Quad. means		2.18	1.83	6.2	0.64	7.0	0.67
OQ means		2.90	1.46	6.3	0.60	6.7	0.67
NM means		-	-	11.2	1.02	11.0	1.08

Albion June 25, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaco- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
2	22	0.52	1.32	2.3	0.18	NS	NS
3	16	0.60	0.89	4.2	0.39	NS	NS
4	24	1.10	1.39	1.9	0.17	NS	NS
14	21	0.23	0.51	0.6	0.04	NS	NS
8	29	0.56	0.93	7.7	0.63	NS	NS
9	25	0.33	1.09	5.0	0.44	NS	NS
13	11	0.40	0.71	5.1	0.47	NS	NS
12	28	0.37	0.84	2.7	0.31	NS	NS
6	4	NS	NS	0.1	0.01	NS	NS
11	7	NS	NS	12.9	1.33	NS	NS
OQ	A	0.49	2.68	5.6	0.39	NS	NS
OQ	B	2.46	0.58	9.7	0.60	NS	NS
OQ	C	2.42	1.04	8.0	0.68	NS	NS
OQ	D	0.89	0.55	6.2	0.52	NS	NS
OQ	E	0.61	0.23	5.2	0.54	NS	NS
OQ	F	1.71	0.86	5.8	0.46	NS	NS
OQ	G	0.88	0.93	5.7	0.42	NS	NS
OQ	H	0.96	0.74	4.2	0.37	NS	NS
NM	Sc	3.14	0.90	9.8	0.74	NS	NS
NM	Sc	2.99	1.79	13.5	1.17	NS	NS
NM	Sc	4.39	1.88	10.3	0.87	NS	NS
NM	Sc	7.42	4.46	7.3	0.58	NS	NS
Quad. means		0.51	0.96	4.3	0.39		
OQ means		1.30	0.95	6.3	0.50		
NM means		4.49	2.26	10.2	0.84		

Albion July 10, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaco- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
14	21	1.98	1.06	10.4	1.15	NS	NS
4	24	1.47	0.42	12.2	1.11	NS	NS
8	29	0.96	1.73	9.2	0.94	NS	NS
2	22	3.76	2.10	33.2	2.73	NS	NS
9	25	1.58	1.04	21.0	2.03	NS	NS
6	4	3.76	1.47	13.0	0.90	NS	NS
13	11	1.20	0.67	8.9	0.64	NS	NS
12	28	2.20	2.10	13.1	1.16	NS	NS
11	7	1.76	1.51	21.0	1.60	NS	NS
3	16	2.94	1.27	17.8	1.19	NS	NS
OQ	A	2.47	1.03	8.0	0.60	NS	NS
OQ	B	3.91	1.39	9.6	0.78	NS	NS
OQ	C	2.78	1.52	25.1	2.03	NS	NS
OQ	D	3.36	1.24	13.0	0.97	NS	NS
OQ	E	NS	NS	15.6	1.02	NS	NS
OQ	F	1.67	0.62	6.7	0.71	NS	NS
OQ	G	1.94	1.43	12.8	1.07	NS	NS
OQ	H	0.84	0.53	10.1	0.81	NS	NS
NM	Sc	3.27	4.44	37.0	3.76	NS	NS
NM	Sc	1.87	2.03	10.8	0.91	NS	NS
NM	Sc	3.47	3.40	23.7	1.92	NS	NS
NM	Sc	3.55	4.80	38.2	2.53	NS	NS
Quad. means		2.16	1.34	16.0	1.35		
OQ means		2.42	1.11	12.6	1.00		
NM means		3.04	3.68	27.4	2.28		

Albion August 6, 1980

Row	Col.	Chlorophyll a (ug/cc)	Phaco- pigment (ug/cc)	Surface LOI (mg/cc)	Surface % LOI	Subsurface LOI (mg/cc)	Subsurface % LOI
2	2	3.07	1.32	20.0	1.04	13.0	0.74
13	11	7.13	1.20	14.0	0.94	17.0	0.85
11	7	4.42	2.63	18.0	0.96	8.0	0.49
12	28	3.52	2.20	16.0	0.87	14.0	0.82
9	25	5.34	0.99	15.0	0.85	13.0	0.65
6	5	4.98	0.79	26.0	1.42	13.0	0.77
3	16	3.70	1.12	9.0	0.64	9.0	0.53
8	29	3.76	0.72	9.0	0.67	12.0	0.71
14	20	5.66	1.64	15.0	0.90	14.0	0.77
OQ	B	6.54	2.01	18.0	0.94	12.0	0.69
OQ	F	5.47	3.27	15.0	0.88	10.0	0.59
NM	Sc	3.24	2.34	27.0	1.70	17.0	0.85
Quad. means		4.62	1.40	15.8	0.92	12.6	0.70
OQ means		6.01	2.64	16.5	0.91	11.0	0.64
NM means		3.24	2.34	27.0	1.70	17.0	0.85

Table 11. Subsurface (10 cm) sediment chlorophyll a and phaeopigment values for the Albion quadrat on March 1, 1979 and the Steveston quadrat on May 28, 1980.

ALBION				STEVESTON			
Row	Col.	Chloro- phyll <u>a</u> ( $\mu\text{g}/\text{cc}$ )	Phaeo- pigment ( $\mu\text{g}/\text{cc}$ )	Row	Col.	Chloro- phyll <u>a</u> ( $\mu\text{g}/\text{cc}$ )	Phaeo- pigment ( $\mu\text{g}/\text{cc}$ )
12	14	0.80	0.69	13	6	0.13	0.52
2	23	1.13	3.44	11	31	0.05	0.38
3	13	0.40	0.96	9	30	0.13	0.24
3	32	0.47	0.61	5	11	0.08	0.61
13	20	0.53	1.05	8	4	0.13	0.33
14	36	0.73	0.76	3	11	0.05	0.10
7	8	0.87	0.48	12	14	0.13	0.61
9	22	0.73	0.71	14	28	0.13	0.33
8	3	0.40	0.63				
12	34	0.53	0.63				
		0.69	1.00			0.10	0.39

Table 12. Surface and subsurface (10 cm) sediment water content (per cent of wet weight) at Albion and Steveston during 1979 and 1980.

OQ = samples from outside of the transplant quadrat as in Figure 2.

NS = not sampled.

Steveston 1979 (surface)

Row	Col.	Water Content (%)						
		May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	4	14.6	15.1					
	13	13.9	14.2	15.2				
	24	19.1	13.1	17.1	13.8	13.1	12.5	16.2
	28	12.7	14.0	11.4				
	34	14.6	11.0	13.9	13.3	12.1	12.1	12.4
	39	15.1	12.6	11.9				
3	5		14.1	14.3				
	18	14.7	13.7	15.1	13.3	13.1	13.5	12.9
	20	14.3	14.9	16.9				
4	8		15.1	17.2	12.2	12.8	12.9	9.2
	14	12.6	14.0	14.1				
	23		11.0	16.5				
	29	14.3	13.3	15.1	13.6	12.4	13.0	12.9
	34	14.0	12.9	14.2				
	36	12.1	14.6	14.1				
	39	13.8	14.7	14.9	13.9	12.6	12.9	9.7
5	18	12.6		15.3				
	7	7	14.0	11.2				
			13.8	14.9	8.1	10.2	12.5	9.4
		24		12.1	14.7			
		32	14.9	16.9	15.1	14.4	14.2	14.7
		38	11.3	14.0				6.0
8	4	12.6	11.3	16.3				
	14	12.7	11.9	14.9				
	26		12.4	15.1				
	37			13.7				
9	9	10.2	12.9	11.0				
	14	11.9		14.9				
	21	14.6	14.3	11.2				
	30	14.9		13.9	13.1	12.9	12.9	11.6
	34	11.3		14.1				
10	4	12.7	12.1	14.3				
	14	12.9	14.6	15.0				
	16	19.4	11.9	14.9				
11	7	11.7	16.1	13.6				
	16	11.8	14.9	14.9				
	31	14.9	13.0	12.8	12.1	14.3	11.8	9.1
	37	14.7	16.9	14.1				
12	4	12.6	14.0	13.6				
	14	12.9	14.1	15.9	8.3	10.2	11.9	4.6
	32	14.9	13.6	17.2				
13	8	15.2	11.9	11.9	3.4	12.4	8.6	4.2
	10	15.2	12.4	13.9				
	28	14.6	14.9	14.7				
14	4	14.9	11.3	15.1				
	15	14.7		16.2				
	28	19.2		14.3	11.5	12.1	12.3	5.1
	34	14.6	12.4	14.2				
	36	19.1		17.1	14.1	13.6	14.6	6.1
	39	14.3						
0Q	L	14.7	12.6	11.2	14.1	14.2		3.8
0Q	R	19.1	14.7	14.6	13.2	14.3		
0Q	U	11.9	13.9	12.7	14.4	13.4		
0Q	V	14.2	11.9	14.9	13.6	14.0	12.6	9.2
0Q means		14.1	13.6	14.5	11.8	12.6	-	13.6
0Q means		15.0	13.3	13.4	13.8	14.0	-	8.7

Steveston 1979 (subsurface)

Row	Col.	Water Content (%)					
		May 4	May 23	June 7	June 22	July 9	Aug. 22
2	4	12.1	14.3				
	13	14.6	13.1	13.6			
	24	14.9	12.6	13.7	14.1	13.9	14.2
	28	13.8	14.7	11.1			
	34	11.4		12.4	14.3	13.2	15.8
	38	12.9	13.7	10.9			
3	5	12.6	14.3	14.6			
	18	11.4	13.3	14.2	14.5	14.6	13.6
	20		14.9	15.1			
4	8		11.1	14.9		12.9	14.7
	14	25.0	10.1	13.6			
	23	11.4	13.6	13.8			
	29	12.6	13.8	14.0	14.0	13.6	14.5
	34	11.9	12.9	13.9			
	36	11.4		13.6			
	39	13.7		14.1		12.9	15.5
5	18	14.9	14.6	12.7			
7	7	12.6	12.0	13.2			
	13	11.0	13.9	14.1	13.3	12.1	13.3
	24	10.9	11.7	14.2			
	32	11.4	12.6	14.1	14.2	15.1	14.6
	38	13.6	12.0				
8	4		11.4	17.2			
	14		13.6	14.1			
	26		12.9	13.9			
	37		11.4	12.4			
9	9	14.9	13.2	9.5			
	14	11.3		10.9			
	21	12.0		14.1			
	30	12.1		13.5	14.2	13.6	14.4
	39	12.7	14.9	12.9			
10	4	11.9	13.6	13.5			
	14	13.2	12.1	14.1			
	16	12.2	11.0	13.8			
11	7	12.9	15.9	12.6			
	16	14.6	14.3	14.9			
	31		12.6	12.1	13.8	14.9	15.7
	37		17.1	12.0			
12	4	12.7	13.3	14.6			
	14	13.8	14.9	21.6	11.5	12.6	12.9
	32	14.9	12.6	13.2			
13	8		11.7	11.4	12.0	13.1	8.7
	10		11.4	13.2			
	28	12.6		13.5			
14	4	14.3	12.6	13.1			
	15	17.9	13.4	11.5			
	28	19.2	13.9	12.3	14.5	14.0	13.3
	34	11.2	13.1	14.4			
	31	14.2		13.9	14.1	14.1	14.9
	39						
QQ	L	12.6	12.6	11.4	14.6	14.6	
QQ	R	19.1	14.9	12.6	14.4	14.4	
QQ	U	12.6	12.4	12.1	15.2	14.6	
QQ	V	15.1	11.3	13.4	14.0	14.0	-
Quad. means		13.4	13.2	13.5	13.7	13.6	14.0
QQ means		14.9	12.8	12.4	14.6	14.6	-

Steveston 1980 (surface)

Row	Col.	Water Content (%)			
		May 28	June 24	July 10	Aug. 6
2	6	NS	NS	21.7	NS
3	11	17.5	16.4	23.4	NS
4	8	NS	NS	NS	17.6
	9	NS	13.2	21.8	NS
5	11	NS	16.3	22.2	NS
7	27	NS	11.4	21.3	NS
	32	NS	NS	NS	24.2
8	4	16.6	13.9	20.1	NS
9	29	NS	14.6	21.8	NS
	30	15.9	NS	NS	9.2
11	30	NS	15.6	22.0	NS
	31	17.3	NS	NS	NS
12	14	10.9	9.5	19.4	NS
13	6	11.4	8.7	16.0	12.4
14	28	16.1	8.6	21.0	10.3
OQ		15.7	NS	NS	NS
OQ	A	NS	7.6	19.5	NS
OQ	B	NS	9.3	17.0	NS
OQ	C	NS	18.4	19.4	16.8
OQ	D	NS	19.3	21.1	NS
OQ	E	NS	19.7	20.4	NS
OQ	F	NS	20.2	21.6	NS
OQ	G	NS	19.6	21.7	NS
OQ	H	NS	17.4	20.8	11.6
OQ	L	NS	8.0	NS	NS
OQ	R	NS	19.0	NS	NS
OQ	U	NS	20.0	NS	NS
OQ	V	NS	18.0	NS	NS
Quad. means		15.1	12.8	21.0	14.7
OQ means		15.7	16.4	20.2	14.2

Steveston 1980 (subsurface)

Row	Col.	Water Content (%)			
		May 28	June 24	July 10	Aug. 6
2	6	NS	NS	NS	NS
3	11	16.2	25.0	NS	NS
4	8	NS	NS	NS	20.2
	9	NS	24.0	NS	NS
5	11	16.6	24.0	NS	NS
7	27	NS	19.0	NS	NS
	32	NS	NS	NS	20.6
8	4	16.8	NS	NS	NS
9	29	NS	NS	NS	NS
	30	16.1	22.0	NS	18.6
11	30	NS	NS	NS	NS
	31	17.4	21.0	NS	NS
12	14	15.8	17.0	NS	NS
13	6	13.8	NS	NS	13.6
	11	16.2	NS	NS	NS
14	28	17.2	16.0	NS	13.4
OQ		17.4	NS	NS	NS
OQ	C	NS	NS	NS	21.2
OQ	H	NS	NS	NS	17.3
OQ	L	NS	10.0	NS	NS
OQ	R	NS	22.0	NS	NS
OQ	U	NS	24.0	NS	NS
OQ	V	NS	20.0	NS	NS
Quad. means		16.2	21.0	-	17.3
OQ means		17.4	19.0	-	19.3

Albion 1979 (surface)

Row	Col.	Water Content (%)						
		May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	7	15.4	13.1	14.2				
	15	16.4	12.9	15.1				
	22	16.2	12.3	14.2	10.7	12.6	12.9	
3	3	15.7	11.9	15.2				
	10	14.6	14.3	14.1	11.0	11.7	15.4	13.8
	24	14.8	10.3	14.9				
4	6	14.5	13.3	15.2				
	10	15.1	13.6	13.4				
	17	16.2	11.1	14.9				
	24	15.3	12.2	15.2	13.6	15.2	16.0	14.0
5	30	15.2	11.7	14.8				
6	4	13.2	12.9	13.9	14.7	13.1	15.0	15.9
	7	12.9	12.4	15.4				
	14	15.0	11.7	14.4				
	20	15.2		15.1	12.8	12.9	13.3	
	25	16.2		16.2				
	30	13.2	12.0	15.1				
7	10	15.3	13.2	14.8				
8	4	15.2	13.5	13.2	13.4	12.6	14.1	21.8
	10	15.6	13.9	15.1				
	19	13.9	12.7	15.9				
	24	14.2	14.0	17.1	14.6	13.1	14.6	14.7
	29	15.2	11.7	14.2				
	34	14.8	12.6	13.9				
9	5	13.7	13.8	16.1				
	25	15.0	14.1	14.1	14.5	13.2	14.9	13.5
	33	14.6	12.9	15.2				
11	7	12.2	15.1	13.1	15.2	14.1	13.3	13.9
	15	13.6	12.3	14.7				
	22	11.4	13.2	14.1				
12	4	15.6	11.9	15.9				
	28	15.3		13.9	15.4	16.1	13.6	14.2
	31	16.1	7.0	14.3				
13	11	14.9	12.0	13.1	15.2	14.1	14.5	15.0
	19	14.5	12.1	14.7				
	25	14.7		14.2				
14	1	14.6		15.1				
	3	13.2	13.9	14.7				
	7	14.8	13.9	14.3				
	20	15.9		16.1	15.1	13.2		16.4
	29	16.0	11.9	14.3				
	33	14.8			15.3	14.1		15.2
0Q	L	13.6	11.2	11.9	14.3	14.2		15.8
0Q	S	13.7	13.1	13.4	13.2	13.1		14.7
0Q	R	14.2	11.9	13.9	14.7	14.1		
0Q	M	14.6	14.9	14.7	12.1	14.6		
Quad. means		14.8	12.6	14.7	14.0	13.5	14.3	15.3
0Q means		14.0	12.8	13.5	13.6	14.0	-	15.3

## Albion 1979 (subsurface)

Row	Col.	Water Content (%)						
		May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	7	14.1	11.4	13.8				
	15	14.7	12.4	14.0				
	22	13.9		13.7	14.3	14.0	13.4	NS
3	3	13.3	10.9	13.6				
	10	12.9	13.2	13.9	14.3	13.2	13.9	NS
	24	14.3	9.9	14.1				
4	6	15.0		15.1				
	10	14.9	12.4	14.6				
	17	15.9	10.9	13.1				
	24	14.3	11.3	14.3	15.7	15.7	14.3	NS
5	30	11.2	10.1	13.5				
6	4	12.8	11.6	13.4	14.3	13.9	14.8	NS
	7	12.7	11.9	13.8				
	14	14.6	12.0	13.9				
	20	14.1		14.2	13.9	13.4	14.3	NS
	25	17.1		14.9				
	30	14.9	11.4	14.2				
7	10	13.8	12.1	15.0				
8	4	15.2	11.9	13.7	14.4	13.4	14.8	NS
	10	13.8	12.6	13.8				
	19	13.8	11.4	13.6				
	24	16.7	14.0	13.0	14.6	14.2	13.4	NS
	29	13.7		12.4				
	34	13.2	12.1	13.8				
9	5	14.1	13.6	14.7				
	25	13.8	12.1	13.9	15.0	15.1	14.3	NS
	33	12.9	11.0	12.7				
11	7	11.4	13.9	17.1	15.4	14.9	15.1	NS
	15	12.1	14.0	13.6				
	22	10.9	12.1	12.9				
12	4	15.2	11.1	14.1				
	28	14.8	10.0	13.1	14.3	15.3	14.1	NS
	31	13.6		13.2				
13	11	14.3	11.0	12.0	14.9	15.0	15.1	NS
	19	13.2		13.6				
	25	11.7	11.2	13.2				
14	1	13.3	9.4					
	3	12.9	12.1	13.5				
	7	13.3	11.1	13.8				
	20	14.2	13.3	13.1	14.7	14.9	15.5	NS
	29	11.9	13.2					
	33	12.8			14.8	14.7	15.0	NS
0Q	L	14.9	10.4	12.2	14.9	14.7		
0Q	S	12.1	12.7	15.9	14.4	15.2		
0Q	R	14.1	17.2	13.9	15.3	15.1		
0Q	M	12.4	12.7	14.2	14.1	14.8		
Quad. means		13.7	11.9	13.8	14.7	14.4	14.5	
0Q means		13.4	13.3	14.1	14.7	15.0	-	

Albion 1980 (surface)

Row	Col.	Water Content (%)			
		May 28	June 25	July 10	Aug. 6
2	2				18.7
	22		20.5	32.8	
3	10		21.0		
	16	7.5	21.4	16.5	9.7
4	24	6.8	20.2	9.6	
6	4	14.1	23.2	20.3	22.4
8	29	7.2	21.4	17.8	10.7
9	25	12.4	21.7	17.5	11.2
11	7	12.1	22.7	21.1	18.9
12	28	12.4	22.7	14.5	14.8
13	11	14.0	22.8	18.9	15.8
14	20		23.0	19.6	17.9
OQ	L	12.7	22.0		
OQ	S	14.7	25.0		
OQ	R	NS	24.0		
OQ	M	NS	21.0		
OQ	A	NS	21.9	3.5	
OQ	B	NS	23.4	19.6	19.0
OQ	C	NS	20.7	24.0	
OQ	D	NS	22.4	17.8	
OQ	E	NS	41.5	18.4	
OQ	F	NS	23.3	11.6	21.9
OQ	G	NS	23.7	20.5	
OQ	H	NS	24.2	19.9	
Quad. means		10.8	21.9	18.9	15.6
OQ means		13.7	24.4	16.9	20.5

Albion 1980 (subsurface)

Row	Col.	Water Content (%)			
		May 28	June 25	July 10	Aug. 6
2	2	NS		NS	20.3
	22	NS	22.0	NS	
3	10	NS	22.0	NS	
	16	16.7		NS	22.3
4	24	15.8	22.0	NS	
6	4	15.6	25.0	NS	14.8
8	29	14.7	21.0	NS	16.3
9	25	17.3	24.0	NS	20.7
11	7	18.1	24.0	NS	19.8
12	28	16.1	25.0	NS	18.7
13	11	15.2	24.0	NS	19.4
14	20		24.0	NS	19.8
OQ	L	17.1	22.0	NS	
OQ	S	17.2	24.0	NS	
OQ	R	NS	24.0	NS	
OQ	M	NS	22.0	NS	
OQ	B	NS	NS	NS	19.5
OQ	F	NS	NS	NS	21.7
Quad. means		16.2	23.3		19.7
OQ means		17.2	23.0		20.6

Table 13. Surface and subsurface (10 cm) sediment water content (per cent of wet weight) at the Steveston Island Carex lyngbyei and Scirpus americanus donor sites.

<u>Carex lyngbyei</u> donor site								
	1979				1980			
	May 9	June 7	June 22	July 9	May 28	June 24	July 10	Aug. 6
Surface	14.1	15.1	17.1	17.3	NS	57.3	58.5	NS
	13.1	18.2	15.1	17.0	NS	58.1	60.2	NS
	15.7	17.9	15.3	16.4	NS	53.6	55.5	NS
	21.7	24.1	21.4	24.1	NS	51.9	56.8	NS
	21.4	26.7	24.0	20.3	NS			NS
	20.6	14.2	18.9	22.4	NS			NS
$\bar{x}$		17.8	19.4	18.6	19.6	55.2	57.8	
Subsurface	17.2	14.2	18.3	17.9	NS	NS	NS	NS
	18.1	16.9	16.9	16.9	NS	NS	NS	NS
	19.3	15.4	17.4	17.4	NS	NS	NS	NS
	21.4	37.2	24.4	24.9	NS	NS	NS	NS
	26.9	19.6	27.1	22.1	NS	NS	NS	NS
	17.9	18.4	22.1	24.0	NS	NS	NS	NS
$\bar{x}$		20.1	20.3	21.0	20.5			
<u>Scirpus americanus</u> donor site								
	1979				1980			
	May 23	June 7	June 22	July 9	May 28	June 24	July 10	Aug. 6
Surface	14.9	18.0	13.7	13.4	17.2	15.9	8.4	18.0
	15.1	13.0	14.5	13.6		15.4	18.4	
	16.7	14.4	14.1	14.2		19.7	21.9	
						18.9	19.3	
	$\bar{x}$	15.6	15.1	14.1	13.7	17.2	17.5	17.0
								18.0
Subsurface	15.1	16.1	15.7	14.1	16.9	NS	NS	NS
	16.2	14.2	15.0	14.8	19.8			
	16.7	14.8	16.2	13.1				
$\bar{x}$		16.0	15.0	15.6	14.0	18.4		19.1

Table 14. Grain size distribution of surface and subsurface (10 cm) sediments from the Albion and Steveston transplant quadrats and the Steveston Island donor sites, during 1979 and 1980. The values shown are grams of sediment retained on screens of different mesh size (850, 500, 250, 125, and 63  $\mu\text{m}$ ), the ratio (F/S) of "fine material" ( $<63 \mu\text{m}$ ) to sand ( $>63 \mu\text{m}$ ) as determined from a sub-sample, the weight of "fines" in the sample calculated from the F/S ratio, and the per cent "fine" values.

DS S = Scirpus americanus donor site at Steveston Island.

DS C = Carex lyngbyei donor site at Steveston Island.

OQ = samples taken from outside of the transplant quadrats as shown in Figure 2.

NM = samples taken from a natural Scirpus americanus marsh nearby the Albion transplant quadrat.

S or T = this, the last letter of the location code, designates whether the sample was taken from the surface (S) or 10 cm depth (T).

ALBION

79/03/01

		850	500	250	125	63	F/S	FINE	%FINE
13	32S	0.0	0.13	26.59	24.40	0.62	0.010	0.52	0.99
14	36S	0.0	0.45	33.75	18.85	0.32	0.055	2.94	5.21
13	6S	0.0	0.08	38.62	23.50	0.85	0.048	3.03	4.58
3	32S	0.0	0.11	32.93	24.53	0.57	0.014	0.81	1.38
12	14S	0.0	0.47	40.41	29.21	0.56	0.018	1.27	1.77
12	34S	0.0	0.53	27.76	20.46	0.21	0.127	6.22	11.27
4	4S	0.0	0.34	20.66	22.27	0.43	0.013	0.57	1.28
6	17S	0.0	0.96	21.29	27.61	0.38	0.010	0.50	0.99
2	23S	0.0	0.39	24.44	31.29	1.47	0.036	2.07	3.47
3	13S	0.0	0.05	36.73	14.99	0.62	0.023	1.20	2.25
9	22S	0.0	1.00	35.15	38.27	0.58	0.017	1.27	1.67
20	18S	0.0	2.28	37.59	17.74	0.39	0.017	0.99	1.67
13	20S	0.0	0.35	33.58	28.86	0.53	0.017	1.08	1.67
7	35S	0.0	0.34	43.11	36.92	0.64	0.011	0.89	1.09
13	20T	0.0	0.46	44.38	26.73	2.22	0.019	1.40	1.86
3	13T	0.0	0.42	29.76	29.73	3.53	0.044	2.79	4.21
8	3T	0.0	0.26	36.29	23.33	2.27	0.009	0.56	0.89
2	23T	0.0	0.17	31.36	25.70	5.21	0.116	7.24	10.39
12	14T	0.0	0.34	38.36	12.25	1.37	0.042	2.20	4.03
2	23T	0.0	0.17	31.36	25.70	5.21	0.116	7.24	10.39
7	8T	0.0	0.30	32.07	22.85	1.21	0.027	1.52	2.63
13	6T	0.0	0.18	41.17	12.14	0.87	0.018	0.98	1.77
OQ	A S	0.0	1.03	47.21	31.34	0.27	0.008	0.64	0.79
OQ	B S	0.0	0.17	39.51	15.63	0.40	0.024	1.34	2.34
OQ	C S	0.0	0.11	43.11	15.44	0.42	0.015	0.89	1.48
OQ	E S	0.0	0.26	32.61	22.87	0.54	0.048	2.70	4.58
OQ	F S	0.0	0.10	49.25	16.61	1.15	0.023	1.54	2.25
OQ	M S	0.0	0.22	31.85	23.31	0.29	0.023	1.28	2.25
OQ	R S	0.0	0.24	58.47	13.63	0.28	0.009	0.65	0.89
OQ	S S	0.0	0.17	26.66	15.26	0.31	0.024	1.02	2.34
OQ	A T	0.0	0.37	40.87	20.26	0.75	0.006	0.37	0.60
OQ	B T	0.0	0.40	37.19	14.17	2.35	0.088	4.76	8.09
OQ	E T	0.0	0.12	41.22	19.21	1.44	0.026	1.61	2.53
OQ	F T	0.0	0.04	13.35	35.01	5.77	0.142	7.69	12.43
OQ	L T	0.0	0.48	28.75	27.67	1.26	0.047	2.73	4.49

ALBION 79/05/23

		850	500	250	125	63	F/S	FINE	%FINE
14	5S	0.0	0.24	47.92	24.55	0.68	0.005	0.37	0.50
2	2S	0.0	0.67	55.14	25.27	0.94	0.003	0.25	0.30
9	6S	0.0	0.63	32.13	30.59	0.55	0.029	1.85	2.82
7	8S	0.0	0.65	48.43	15.60	0.51	0.020	1.30	1.96
12	38S	0.0	7.78	66.48	5.41	0.12	0.007	0.56	0.70
1	25S	0.0	12.23	58.20	8.20	0.12	0.007	0.55	0.70
5	14S	0.0	3.78	66.25	6.75	0.10	0.007	0.54	0.70
3	2S	0.0	3.89	68.57	6.95	0.11	0.014	1.11	1.38
11	4S	0.0	3.22	75.64	10.14	0.10	0.009	0.80	0.89
9	8S	0.0	3.94	48.66	10.40	0.09	0.003	0.19	0.30
14	27S	0.0	3.47	96.00	8.88	0.24	0.026	2.82	2.53
5	25S	0.0	4.44	70.54	10.87	0.08	0.006	0.52	0.60
9	10S	0.0	6.16	79.22	9.68	0.12	0.008	0.76	0.79
14	32S	0.0	3.57	77.97	8.06	0.18	0.003	0.27	0.30
12	38S	0.0	0.20	74.66	9.94	0.01	0.010	0.85	0.99
10	21S	0.10	8.64	82.42	8.75	0.07	0.003	0.30	0.30
6	6S	0.23	7.02	85.13	9.82	0.05	0.005	0.51	0.50
13	4S	0.05	4.52	97.90	10.08	0.21	0.003	0.34	0.30
7	31S	0.10	10.84	79.77	5.42	0.04	0.010	0.96	0.99
2	17S	0.24	6.92	73.74	8.05	0.03	0.007	0.62	0.70
OQ	A S	0.36	4.92	75.73	11.03	0.14	0.005	0.46	0.50
OQ	B S	0.0	2.45	67.11	8.82	0.15	0.012	0.94	1.19
OQ	C S	0.16	5.76	68.15	5.82	0.15	0.009	0.72	0.89
OQ	D S	0.0	0.54	51.84	14.83	0.24	0.049	3.31	4.67
OQ	E S	0.0	2.07	73.54	12.89	0.26	0.003	0.26	0.50
OQ	F S	0.0	0.14	34.35	15.47	0.28	0.039	1.96	3.75
OQ	H S	0.12	0.50	59.80	6.43	0.25	0.011	0.74	1.09
OQ	S S	0.0	3.00	71.47	10.22	0.18	0.016	1.36	1.57
OQ	L S	0.12	3.17	78.42	8.76	0.28	0.011	1.00	1.09
OQ	M S	0.0	5.34	75.65	9.50	0.09	0.032	2.90	3.10
OQ	M S	0.22	12.23	99.03	10.70	0.11	0.005	0.61	0.50

ALBION 79/06/22

		850	500	250	125	63	F/S	FINE	%FINE
5	35S	0.0	0.40	52.31	23.35	0.71	0.003	0.23	0.30
3	22S	0.0	1.13	60.30	13.68	0.52	0.018	1.36	1.77
4	4S	0.0	0.40	50.64	23.08	0.93	0.027	2.03	2.63
7	33S	0.0	1.91	50.48	12.38	0.30	0.013	0.85	1.28
6	17S	0.0	0.53	60.33	16.71	0.48	0.009	0.70	0.89
2	23S	0.0	0.56	40.84	24.08	0.51	0.010	0.66	0.99
12	34S	0.0	0.43	51.93	24.61	0.35	0.018	1.39	1.77
3	13S	0.0	0.24	42.85	23.87	0.43	0.010	0.67	0.99
14	30S	0.0	0.24	38.91	16.53	0.24	0.021	1.17	2.06
8	3S	0.0	0.08	52.74	24.66	0.72	0.030	2.35	2.91
4	17S	0.0	0.24	56.66	35.56	0.61	0.007	0.67	0.70
13	20S	0.0	0.62	57.10	12.99	0.45	0.041	2.92	3.94
13	36S	0.0	0.45	55.71	10.82	0.35	0.011	0.74	1.09
OQ	A S	0.0	0.51	62.41	25.55	0.46	0.028	2.49	2.72
OQ	C S	0.0	0.29	36.39	33.47	1.06	0.017	1.21	1.67
OQ	D S	0.0	0.24	40.66	30.03	1.03	0.016	1.15	1.57
OQ	E S	0.0	0.36	60.78	17.83	0.47	0.015	1.19	1.48
OQ	G S	0.0	0.29	50.99	25.59	0.89	0.020	1.56	1.96
OQ	L S	0.0	0.59	40.60	21.74	0.42	0.028	1.77	2.72
OQ	S S	0.0	0.15	58.16	15.36	0.52	0.011	0.82	1.09
OQ	M S	0.0	0.28	36.67	31.67	1.16	0.011	0.77	1.09

ALBION 79/08/22

		850	500	250	125	63	F/S	FINE	%FINE
6	20S	0.0	0.49	44.79	14.28	1.10	0.100	6.07	9.09
8	24S	0.0	0.43	39.70	10.24	0.72	0.093	4.75	8.51
12	28S	0.0	0.36	36.07	12.24	1.13	0.101	5.03	9.17
6	4S	0.0	0.35	37.99	4.89	0.87	0.069	3.04	6.45
11	7S	0.0	0.37	34.51	17.07	1.80	0.093	5.00	8.51
9	25S	0.0	0.39	45.01	11.97	0.85	0.087	5.07	8.00
6	4T	0.0	0.32	41.33	17.60	1.07	0.105	6.33	9.50
11	7T	0.0	0.34	39.34	18.02	1.29	0.016	0.94	1.57
9	25T	0.0	0.18	40.66	18.81	1.48	0.048	2.93	4.58
8	4T	0.0	0.24	40.25	13.52	0.87	0.011	0.60	1.09
14	33T	0.0	0.29	33.58	16.11	1.35	0.033	1.69	3.19
8	24T	0.0	0.31	45.98	19.47	1.27	0.042	2.82	4.03
6	22T	0.0	0.33	30.62	20.85	3.08	0.122	6.70	10.87
13	11T	0.0	0.32	41.20	17.73	2.07	0.029	1.78	2.82
14	20T	0.0	0.16	32.98	25.38	2.64	0.078	4.77	7.24
2	22T	0.0	0.44	42.84	13.56	1.08	0.014	0.81	1.38
4	24T	0.0	0.22	30.16	15.18	1.18	0.018	0.84	1.77
12	28T	0.0	1.20	51.65	16.50	1.89	0.028	1.99	2.72

ALBION 79/09/18

		850	500	250	125	63	F/S	FINE	%FINE
9	25S	0.0	0.41	44.85	14.64	1.90	0.075	4.63	6.98
4	24S	0.0	0.23	33.06	17.55	2.41	0.080	4.26	7.41
11	7S	0.0	0.20	24.22	18.78	1.42	0.063	2.81	5.93
8	24S	0.0	0.22	32.32	18.15	1.42	0.050	2.61	4.76
13	11S	0.0	0.20	30.97	20.07	1.91	0.083	4.41	7.66
12	28S	0.0	0.24	48.15	7.57	1.13	0.086	4.91	7.92
3	10S	0.0	0.57	52.68	10.50	1.32	0.033	2.15	3.19
OQ	S	0.0	0.21	26.22	11.35	1.49	0.147	5.77	12.82

ALBION 79/10/17

		850	500	250	125	63	F/S	FINE	%FINE
8	24S	0.0	0.28	35.54	10.94	0.40	0.048	2.26	4.58
6	4S	0.0	0.35	34.32	11.07	0.48	0.049	2.26	4.67
3	10S	0.0	0.16	25.84	12.18	0.40	0.016	0.62	1.57
6	20S	0.0	0.28	31.63	18.00	2.63	0.103	5.41	9.34
13	11S	0.0	0.45	40.01	18.95	2.16	0.090	5.54	8.26
4	24S	0.0	0.39	33.11	19.48	2.60	0.086	4.78	7.92
12	28S	0.0	0.34	31.49	17.59	1.86	0.106	5.44	9.58
14	20S	0.0	0.34	28.66	21.79	1.72	0.093	4.88	8.51
2	22S	0.0	0.74	48.84	13.77	0.40	0.018	1.15	1.77
8	4S	0.0	0.32	38.32	19.95	1.50	0.032	1.92	3.10
11	7S	0.0	0.32	49.53	19.33	2.11	0.040	2.85	3.85
9	25S	0.0	0.62	62.54	9.45	0.48	0.027	1.97	2.63
OQ	S	0.0	0.23	11.49	16.69	5.00	0.300	10.02	23.08
OQ	S	0.0	0.59	34.54	15.15	0.67	0.027	1.38	2.63
OQ	S	0.0	0.27	36.72	12.09	2.66	0.099	5.12	9.01
NM	S	0.0	0.24	17.95	25.29	6.20	0.093	4.62	8.51

ALBION 80/05/28

		850	500	250	125	63	F/S	FINE	%FINE
9	25S	0.0	0.83	37.96	12.49	0.43	0.003	0.16	0.30
13	11S	0.0	0.83	45.61	7.05	0.26	0.003	0.16	0.30
11	7S	0.02	0.37	38.26	11.82	0.29	0.008	0.41	0.79
4	24S	0.01	0.38	38.20	10.00	0.29	0.020	0.98	1.96
13	6S	0.0	0.34	45.62	12.02	0.26	0.001	0.06	0.10
8	29S	0.0	0.62	41.93	10.20	0.20	0.001	0.05	0.10
12	28S	0.0	0.39	48.38	12.04	0.36	0.002	0.12	0.20
6	4S	0.0	0.31	34.69	26.61	0.66	0.007	0.44	0.70
11	7T	0.02	0.46	23.46	20.02	0.43	0.026	1.15	2.53
13	11T	0.0	0.13	23.46	16.03	0.82	0.008	0.32	0.79
8	29T	0.0	0.23	37.15	14.03	0.65	0.003	0.16	0.30
9	25T	0.0	0.19	32.00	15.42	0.71	0.008	0.39	0.79
12	28T	0.03	0.22	38.17	12.13	0.66	0.011	0.56	1.09
4	24T	0.0	0.18	31.44	17.20	1.84	0.035	1.77	3.38
6	4T	0.0	0.42	25.45	23.72	0.94	0.670	33.86	40.12
3	16T	0.0	0.12	32.13	19.48	0.61	0.004	0.21	0.40
OQ	S	0.0	0.37	40.53	12.13	0.26	0.002	0.11	0.20
OQ	S	0.0	0.18	41.48	18.06	0.59	0.004	0.24	0.40
OQ	T	0.0	0.41	44.05	18.71	1.49	0.008	0.52	0.79
OQ	T	0.0	0.15	42.28	28.25	1.15	0.032	2.30	3.10
NM	S	0.0	0.07	20.39	25.71	3.87	0.061	3.05	5.75
NM	T	0.0	0.21	11.91	23.56	6.13	0.192	8.03	16.11

ALBION

80/06/25

		850	500	250	125	63	F/S	FINE	%FINE
12	28S	0.0	0.70	45.82	14.99	1.03	0.018	1.13	1.77
6	4S	0.0	0.63	35.25	17.87	1.87	0.012	0.67	1.19
14	21S	0.02	0.0	30.31	14.96	1.18	0.009	0.42	0.89
3	16S	0.0	1.78	36.29	9.91	0.56	0.005	0.24	0.50
11	7S	0.01	0.55	26.48	13.25	1.29	0.037	1.54	3.57
2	22S	0.0	0.24	25.27	13.92	1.08	0.067	2.71	6.28
13	11S	0.01	0.47	40.76	12.12	1.72	0.008	0.44	0.79
4	24S	0.0	0.45	34.72	14.05	0.48	0.012	0.60	1.19
8	29S	0.04	0.82	37.79	14.36	0.33	0.004	0.21	0.40
9	25S	0.0	0.44	41.56	18.76	1.39	0.007	0.44	0.70
11	7T	0.0	0.62	37.09	17.96	2.45	0.037	2.15	3.57
3	16T	0.0	0.26	42.30	23.15	0.70	0.003	0.20	0.30
6	4T	0.0	0.29	34.45	29.24	1.00	0.040	2.60	3.85
14	21T	0.0	0.29	39.54	21.34	0.97	0.010	0.62	0.99
12	28T	0.0	0.19	23.00	20.46	1.82	0.045	2.05	4.31
4	24T	0.0	0.51	40.41	19.82	1.62	0.012	0.75	1.19
13	11T	0.02	1.28	39.90	19.15	0.96	0.036	2.21	3.47
9	25T	0.01	1.25	30.09	16.55	0.82	0.006	0.29	0.60
2	22T	0.0	0.14	25.98	17.21	1.61	0.009	0.40	0.89
8	29T	0.0	0.74	38.75	13.54	0.68	0.006	0.32	0.60
OQ	A S	0.02	0.64	44.78	35.86	1.12	0.014	1.15	1.38
OQ	B S	0.02	0.74	46.62	20.10	2.75	0.011	0.77	1.09
OQ	C S	0.0	0.36	34.31	17.01	2.30	0.090	4.86	8.26
OQ	D S	0.0	0.50	40.21	25.22	3.99	0.026	1.82	2.53
OQ	E S	0.0	0.44	28.36	21.54	1.37	0.009	0.47	0.89
OQ	F S	0.01	0.23	17.52	26.89	7.09	0.385	19.92	27.80
OQ	G S	0.02	0.23	21.93	17.74	4.30	0.314	13.89	23.90
OQ	H S	0.0	0.76	43.91	14.37	0.46	0.004	0.24	0.40
OQ	A T	0.0	0.60	43.06	28.84	1.26	0.100	7.38	9.09
OQ	B T	0.03	1.44	33.60	32.34	1.83	0.007	0.48	0.70
OQ	C T	0.0	1.16	30.61	21.95	1.30	0.031	1.71	3.01
OQ	D T	0.0	0.19	25.45	24.64	0.92	0.014	0.72	1.38
OQ	E T	0.03	0.28	27.05	27.81	0.69	0.004	0.22	0.40
OQ	F T	0.0	0.21	28.26	29.54	3.71	0.010	0.62	0.99
OQ	G T	0.0	0.29	37.32	28.97	3.61	0.075	5.26	6.98
OQ	H T	0.0	0.26	34.46	34.49	1.94	0.032	2.28	3.10
NM	1 S	0.01	0.28	30.52	15.79	1.92	0.180	8.73	15.25
NM	2 S	0.0	0.14	29.01	17.15	5.01	0.188	9.65	15.82
NM	3 S	0.0	0.15	26.88	18.61	2.96	0.108	5.25	9.75
NM	4 S	0.0	0.14	7.15	23.23	6.96	0.293	10.98	22.66
NM	1 T	0.0	0.27	30.12	23.85	4.71	0.124	7.31	11.03
NM	2 T	0.0	0.23	24.90	23.56	1.37	0.025	1.25	2.44
NM	3 T	0.0	0.07	16.33	20.17	2.52	0.145	5.67	12.66
NM	4 T	0.02	0.18	17.10	26.62	5.63	0.325	16.10	24.53

ALBION 80/07/10

		850	500	250	125	63	F/S	FINE	%FINE
2	22S	0.0	0.18	2.41	5.42	6.98	1.802	27.01	64.31
9	25S	0.0	0.91	41.90	10.75	0.75	0.016	0.87	1.57
4	24S	0.0	0.32	24.96	19.50	3.65	0.068	3.29	6.37
13	11S	0.0	0.62	39.26	8.53	1.61	0.047	2.35	4.49
12	28S	0.0	0.65	35.10	11.81	2.08	0.050	2.48	4.76
3	16S	0.0	0.43	36.81	14.14	4.19	0.113	6.28	10.15
6	9S	0.0	0.44	33.96	11.85	3.61	0.187	9.32	15.75
8	29S	0.0	0.64	36.19	15.11	4.19	0.083	4.66	7.66
14	21S	0.0	0.75	56.59	15.30	2.97	0.047	3.55	4.49
11	7S	0.0	0.36	30.06	17.35	5.66	0.259	13.84	20.57
12	28T	0.0	0.39	32.22	12.37	0.65	0.004	0.18	0.40
6	4T	0.0	0.35	35.61	21.96	1.52	0.006	0.36	0.60
11	7T	0.0	0.24	36.49	18.10	0.91	0.005	0.28	0.50
9	25T	0.0	0.23	20.15	16.50	0.87	0.002	0.08	0.20
4	24T	0.0	0.40	29.23	14.43	1.77	0.010	0.46	0.99
2	22T	0.0	0.11	31.94	20.86	2.96	0.021	1.17	2.06
13	11T	0.0	0.41	39.51	16.16	1.14	0.009	0.51	0.89
3	16T	0.0	0.26	31.36	15.54	0.69	0.011	0.53	1.09
8	29T	0.0	0.46	45.84	17.62	0.79	0.003	0.19	0.30
14	21T	0.0	0.38	38.11	16.58	1.01	0.008	0.45	0.79
OQ	A S	0.0	0.44	35.20	12.96	3.89	0.103	5.41	9.34
OQ	B S	0.0	0.41	22.67	11.38	4.16	0.644	24.87	39.17
OQ	C S	0.0	0.28	21.99	10.19	1.69	0.208	7.10	17.22
OQ	D S	0.0	0.46	27.19	17.63	4.01	0.331	16.31	24.87
OQ	E S	0.0	0.40	35.34	13.82	3.88	0.124	6.63	11.03
OQ	F S	0.0	0.60	28.05	10.62	3.09	0.193	8.18	16.18
OQ	G S	0.0	0.59	32.21	15.54	3.90	0.398	20.79	28.47
OQ	H S	0.0	0.34	35.28	15.68	3.39	0.075	4.10	6.98
OQ	A T	0.0	0.54	36.11	18.17	1.04	0.007	0.39	0.70
OQ	B T	0.0	0.36	35.15	23.71	1.31	0.030	1.82	2.91
OQ	C T	0.0	0.42	45.50	18.76	1.26	0.013	0.86	1.28
OQ	D T	0.0	0.17	49.35	24.54	2.43	0.007	0.54	0.70
OQ	E T	0.0	0.21	35.15	16.37	1.10	0.005	0.26	0.50
OQ	F T	0.0	0.31	31.42	20.41	4.79	0.040	2.28	3.85
OQ	G T	0.0	0.32	22.67	16.50	3.53	0.140	6.02	12.28
OQ	H T	0.0	0.16	26.51	17.19	1.10	0.016	0.72	1.57
NM	1 S	0.0	0.05	3.95	2.97	4.90	2.350	27.89	70.15
NM	2 S	0.0	0.11	14.21	8.75	2.63	1.178	30.27	54.09
NM	3 S	0.0	0.11	6.51	12.19	9.93	0.824	23.68	45.18
NM	4 S	0.0	0.27	20.54	20.61	7.80	0.458	22.54	31.41
NM	1 T	0.0	0.48	12.63	14.09	7.06	0.358	12.27	26.36
NM	2 T	0.0	0.33	25.51	15.13	1.46	0.022	0.93	2.15
NM	3 T	0.0	0.10	10.50	16.00	8.17	0.381	13.25	27.59
NM	4 T	0.0	0.24	18.73	19.13	6.91	0.394	17.73	28.26

ALBION 80/08/06

		850	500	250	125	63	F/S	FINE	%FINE
9	25S	0.0	1.75	46.19	13.88	1.30	0.352	22.22	26.04
13	11S	0.0	0.47	41.81	13.29	1.94	0.025	1.44	2.44
11	7S	0.0	0.78	34.21	21.69	4.83	0.070	4.31	6.54
2	2S	0.0	0.18	27.81	24.42	5.35	0.053	3.06	5.03
3	16S	0.0	0.36	38.84	8.35	0.86	0.021	1.02	2.06
12	28S	0.0	1.04	56.16	11.29	1.54	0.035	2.45	3.38
14	20S	0.0	0.51	43.40	11.71	1.62	0.023	1.32	2.25
8	29S	0.0	0.63	40.82	11.46	1.20	0.014	0.76	1.38
6	5S	0.0	0.39	32.16	13.28	2.68	0.124	6.02	11.03
OQ	F S	0.0	0.29	42.71	18.25	2.54	0.029	1.85	2.82
OQ	B S	0.0	0.86	36.45	19.63	4.26	0.051	3.12	4.85
NM	S	0.0	0.42	30.11	15.30	4.09	0.544	27.16	35.23

STEVESTON 79/06/22

		850	500	250	125	63	F/S	FINE	%FINE
2	22S	0.15	0.0	31.95	14.83	0.46	0.006	0.28	0.60
3	18S	2.94	2.94	43.33	4.41	0.10	0.007	0.38	0.70
2	34S	0.21	3.44	44.95	7.49	0.18	0.020	1.13	1.96
6	4S	0.0	0.31	21.03	9.43	0.74	0.158	4.98	13.64
4	38S	0.18	2.30	38.29	7.59	0.15	0.064	3.10	6.02
9	25S	0.10	0.29	20.90	9.46	0.64	0.091	2.86	8.34
14	33S	0.09	0.35	26.11	5.53	0.54	0.013	0.42	1.28
12	14S	0.15	2.75	40.85	6.27	0.17	0.001	0.05	0.10
13	8S	0.18	3.14	37.94	5.50	0.10	0.002	0.09	0.20
4	29S	0.11	1.61	29.39	6.02	0.17	0.038	1.42	3.66
1	4S	0.13	0.45	28.10	11.34	0.92	0.014	0.57	1.38
11	31S	0.15	2.18	38.39	4.49	0.08	0.009	0.41	0.89
8	4S	0.16	0.60	30.60	12.13	1.56	0.033	1.49	3.19
9	30S	0.18	2.33	28.95	3.44	0.03	0.011	0.38	1.09
7	13S	0.31	2.66	26.51	4.25	0.15	0.007	0.24	0.70
12	28S	0.14	0.54	27.43	7.70	0.41	0.057	2.06	5.39
14	28S	0.06	1.12	37.71	6.18	0.11	0.007	0.32	0.70
8	24S	0.15	0.41	27.70	13.10	0.75	0.009	0.38	0.89
2	24S	0.09	2.79	39.59	7.06	0.09	0.016	0.79	1.57
14	20S	0.07	0.31	22.60	10.81	0.56	0.006	0.21	0.60
4	8S	0.10	3.28	40.52	5.24	0.10	0.003	0.15	0.30
11	7S	0.09	0.18	20.11	10.68	0.96	0.009	0.29	0.89
7	32S	0.0	1.87	26.83	5.75	0.10	0.006	0.21	0.60
6	20S	0.12	0.31	15.58	8.86	0.35	0.012	0.30	1.19
4	24S	0.11	0.34	21.48	9.31	0.43	0.013	0.41	1.28
13	11S	0.09	0.28	15.24	8.72	0.57	0.061	1.52	5.75
14	36S	0.09	1.01	22.75	3.36	0.09	0.005	0.14	0.50
3	10S	0.10	0.39	27.84	5.18	0.41	0.052	1.76	4.94

STEVESTON 79/08/22

		850	500	250	125	63	F/S	FINE	%FINE
12	14S	0.0	4.26	69.11	18.33	0.22	0.005	0.46	0.50
3	18S	0.0	2.44	75.45	27.36	0.57	0.014	1.48	1.38
7	32S	0.20	7.83	81.51	7.79	0.32	0.009	0.88	0.89
4	8S	0.03	3.60	47.33	22.21	0.50	0.009	0.66	0.89
13	8S	0.08	1.83	66.91	6.41	0.20	0.003	0.23	0.30
2	24S	0.0	1.89	46.58	18.02	0.63	0.020	1.34	1.96
7	13S	0.0	2.82	58.39	20.72	0.32	0.006	0.49	0.60
14	36S	0.15	1.88	54.23	14.11	0.52	0.009	0.64	0.89
4	38S	0.20	5.42	63.89	9.40	0.59	0.012	0.95	1.19
9	30S	0.11	5.07	63.57	10.60	0.22	0.006	0.48	0.60
4	29S	0.17	2.69	66.58	16.28	0.36	0.003	0.26	0.30
2	34S	0.17	2.65	55.57	15.16	0.31	0.009	0.66	0.89
11	31S	0.25	2.85	56.54	8.80	0.17	0.008	0.55	0.79
12	14T	0.05	4.87	77.39	20.57	0.47	0.004	0.41	0.40
14	36T	0.09	2.43	47.56	19.03	0.59	0.007	0.49	0.70
7	32T	0.04	3.20	83.81	23.15	0.54	0.005	0.55	0.50
2	34T	0.05	2.54	87.05	35.75	3.38	0.007	0.90	0.70
4	29T	0.21	3.90	69.12	12.92	0.33	0.002	0.17	0.20
13	8T	0.15	2.38	68.90	13.74	0.33	0.003	0.26	0.30
9	30T	0.17	2.59	74.88	15.55	0.45	0.001	0.09	0.10
14	28T	0.13	1.73	39.51	14.91	0.10	0.002	0.11	0.20
3	18T	0.12	3.54	76.21	18.30	0.59	0.003	0.30	0.30
7	13T	0.18	1.81	91.70	22.82	0.43	0.001	0.12	0.10
4	38T	0.21	5.09	95.26	21.14	0.84	0.007	0.86	0.70
4	8T	0.23	2.58	87.00	21.03	0.57	0.002	0.22	0.20
2	24T	0.14	2.83	93.02	18.50	0.47	0.003	0.34	0.30
11	31T	0.16	2.01	65.90	23.48	1.02	0.005	0.46	0.50

STEVESTON 79/09/18

		850	500	250	125	63	F/S	FINE	%FINE
2	34S	0.16	4.62	56.61	8.54	0.25	0.006	0.42	0.60
14	36S	0.15	2.19	56.56	10.99	0.23	0.006	0.42	0.60
7	13S	0.16	6.30	62.92	10.79	0.29	0.007	0.56	0.70
7	32S	0.20	5.46	79.31	10.91	0.32	0.003	0.29	0.30
4	8S	0.14	4.74	74.31	15.94	0.45	0.005	0.48	0.50
13	8S	0.0	2.71	75.63	18.97	0.36	0.003	0.29	0.30
4	29S	0.21	5.30	52.46	7.46	0.19	0.005	0.33	0.50
12	14S	0.23	3.66	74.33	9.38	0.21	0.010	0.88	0.99
3	18S	0.56	12.34	75.36	8.82	0.30	0.006	0.58	0.60
14	28S	0.24	2.39	67.38	6.59	0.19	0.022	1.69	2.15
11	31S	0.22	6.36	71.99	11.30	0.10	0.004	0.36	0.40
9	30S	0.27	4.10	58.18	9.28	0.16	0.003	0.22	0.30
4	38S	0.40	35.12	56.27	5.72	0.08	0.003	0.29	0.30
2	24S	0.16	6.81	56.25	10.90	0.25	0.009	0.67	0.89
OQ	S	0.18	1.15	94.61	20.36	0.32	0.003	0.35	0.30
OQ	S	0.30	6.86	72.19	12.10	0.29	0.007	0.64	0.70
DS	S S	0.08	4.18	57.81	14.28	0.55	0.006	0.46	0.60

STEVESTON 79/11/29

		850	500	250	125	63	F/S	FINE	%FINE
24	3S	0.0	2.95	60.42	8.63	0.29	0.001	0.07	0.10
23	22S	0.0	1.44	66.02	12.47	0.57	0.002	0.16	0.20
16	17S	0.0	1.63	74.59	8.28	0.50	0.007	0.59	0.70
2	12S	0.27	2.38	48.69	3.75	0.18	0.006	0.33	0.60
5	7S	0.0	2.04	78.51	12.47	0.59	0.003	0.28	0.30
10	15S	0.23	2.61	69.72	7.87	0.49	0.002	0.16	0.20
10	11S	0.27	3.46	69.74	10.45	0.96	0.004	0.34	0.40
12	4S	0.32	5.41	69.87	23.61	1.47	0.008	0.81	0.79
2	12S	0.36	10.02	97.40	15.15	0.85	0.006	0.74	0.60
15	10S	0.16	3.23	73.32	15.81	0.85	0.001	0.09	0.10
23	12S	0.14	1.00	63.51	11.75	0.29	0.002	0.15	0.20
12	4S	0.22	19.30	60.63	3.22	0.33	0.005	0.42	0.50
12	24S	0.30	2.48	83.94	13.33	0.71	0.002	0.20	0.20
12	8S	0.18	0.90	67.01	15.86	0.50	0.003	0.25	0.30
6	20S	0.18	1.14	61.51	17.90	0.64	0.009	0.73	0.89
17	24S	0.19	1.79	64.43	22.14	1.20	0.014	1.26	1.38
20	5S	0.21	57.86	47.97	5.95	0.33	0.014	1.57	1.38
2	2S	0.20	5.71	71.90	6.56	0.32	0.011	0.93	1.09
12	24T	0.11	3.17	90.98	12.11	0.46	0.008	0.85	0.79
23	12T	0.92	6.29	39.12	6.01	0.20	0.024	1.26	2.34
5	7T	0.24	3.47	60.02	15.97	4.64	0.023	1.94	2.25
6	20T	0.19	2.17	59.74	12.60	0.61	0.002	0.15	0.20
16	17T	0.12	4.04	83.94	15.49	0.45	0.003	0.31	0.30
10	15T	0.25	3.73	92.41	13.63	0.48	0.003	0.33	0.30
2	2T	0.17	3.18	59.20	11.63	4.50	0.032	2.52	3.10
15	10T	0.13	4.56	77.26	19.14	1.29	0.006	0.61	0.60
20	5T	0.19	22.98	76.63	1.97	0.46	0.007	0.72	0.70
12	8T	0.21	3.24	79.77	10.89	0.49	0.013	1.23	1.28
17	24T	0.17	2.03	69.65	11.61	1.38	0.020	1.70	1.96
23	22T	0.18	3.54	85.12	10.90	1.58	0.007	0.71	0.70
10	11T	0.15	3.49	78.62	10.30	0.60	0.008	0.75	0.79
24	3T	0.22	4.98	87.69	12.16	0.32	0.004	0.42	0.40

STEVESTON 80/05/28

		850	500	250	125	63	F/S	FINE	%FINE
14	28S	0.0	0.71	38.70	6.29	0.01	0.001	0.05	0.10
12	14S	0.0	0.50	29.36	3.92	0.02	0.002	0.07	0.20
11	31S	0.05	0.30	42.74	5.90	0.01	0.002	0.10	0.20
8	4S	0.0	1.51	33.84	6.13	0.03	0.001	0.04	0.10
5	11S	0.04	2.04	44.87	6.88	0.01	0.003	0.16	0.30
13	6S	0.0	0.75	34.10	5.02	0.01	0.015	0.60	1.48
3	11S	0.04	2.47	42.84	7.97	0.03	0.001	0.05	0.10
9	30S	0.0	0.34	44.43	7.43	0.01	0.004	0.21	0.40
5	11T	0.02	1.62	37.40	8.05	0.29	0.017	0.81	1.67
3	11T	0.01	0.99	38.65	7.89	0.07	0.001	0.05	0.10
12	14T	0.02	2.13	38.40	11.73	0.34	0.010	0.53	0.99
8	4T	0.0	1.50	46.37	10.82	0.28	0.002	0.12	0.20
11	31T	0.02	1.38	43.68	9.28	0.35	0.006	0.33	0.60
14	28T	0.06	1.60	32.38	10.23	0.16	0.004	0.18	0.40
13	6T	0.01	0.95	28.51	11.96	0.31	0.007	0.29	0.70
9	30T	0.02	1.19	31.75	8.25	0.27	0.006	0.25	0.60
OQ	S	0.01	0.42	38.94	8.73	0.03	0.004	0.19	0.40
OQ	T	0.01	1.23	53.86	11.54	0.17	0.002	0.13	0.20
DS	S S	0.0	0.16	37.17	9.41	0.02	0.006	0.28	0.60
DS	S S	0.01	0.91	39.98	7.51	0.01	0.004	0.19	0.40
DS	S S	0.0	0.50	40.53	6.08	0.01	0.004	0.19	0.40
DS	S T	0.0	0.69	27.61	10.59	0.35	0.003	0.12	0.30
DS	S T	0.01	1.41	38.96	12.14	0.32	0.013	0.69	1.28
DS	S T	0.03	1.61	37.37	11.17	0.21	0.002	0.10	0.20

STEVESTON 80/06/24

		850	500	250	125	63	F/S	FINE	%FINE
13	6S	0.0	0.95	39.08	8.49	0.04	0.019	0.92	1.86
11	30S	0.0	0.45	45.24	7.61	0.04	0.020	1.07	1.96
4	9S	0.03	1.87	37.17	8.31	0.04	0.010	0.47	0.99
3	11S	0.02	1.59	39.55	9.46	0.04	0.014	0.71	1.38
8	4S	0.05	1.80	40.08	13.03	0.10	0.003	0.17	0.30
5	11S	0.03	1.33	37.97	8.00	0.62	0.012	0.58	1.19
9	29S	0.02	0.57	42.32	6.27	0.01	0.003	0.15	0.30
12	14S	0.0	0.76	42.27	6.02	0.02	0.003	0.15	0.30
14	28S	0.0	0.33	31.50	3.40	0.01	0.001	0.04	0.10
7	27S	0.0	0.76	43.42	6.25	0.07	0.002	0.10	0.20
7	27T	0.03	1.08	39.19	11.38	0.66	0.003	0.16	0.30
9	29T	0.05	1.63	37.13	6.09	0.18	0.001	0.05	0.10
11	30T	0.03	1.59	40.66	8.95	0.21	0.003	0.15	0.30
8	4T	0.08	1.07	37.61	9.90	0.48	0.003	0.15	0.30
4	9T	0.04	2.61	76.84	12.50	0.13	0.004	0.37	0.40
13	6T	0.01	0.47	45.28	7.00	0.01	0.004	0.21	0.40
14	28T	0.03	2.27	37.38	12.25	0.17	0.008	0.42	0.79
5	11T	0.03	1.55	38.14	9.79	0.16	0.012	0.60	1.19
12	14T	0.06	1.03	29.75	10.37	0.27	0.005	0.21	0.50
3	11T	0.08	3.36	42.36	8.14	0.06	0.005	0.27	0.50
OQ	A S	0.04	0.39	37.84	6.40	0.02	0.002	0.09	0.20
OQ	B S	0.03	1.41	36.15	10.28	0.16	0.002	0.10	0.20
OQ	C S	0.01	0.70	35.60	0.87	0.03	0.002	0.09	0.20
OQ	D S	0.03	0.91	45.65	10.03	0.04	0.008	0.45	0.79
OQ	E S	0.0	2.06	42.66	5.43	0.04	0.010	0.50	0.99
OQ	F S	0.02	1.53	45.10	11.34	0.27	0.012	0.70	1.19
OQ	G S	0.01	0.20	48.75	5.17	0.02	0.031	1.68	3.01
OQ	H S	0.06	1.34	35.84	11.14	0.20	0.004	0.19	0.40
OQ	A T	0.02	1.00	30.88	6.29	0.12	0.001	0.04	0.10
OQ	B T	0.06	1.70	30.77	10.70	0.29	0.010	0.44	0.99
OQ	C T	0.03	1.91	30.19	10.43	0.19	0.004	0.17	0.40
OQ	D T	0.03	1.45	31.62	11.79	0.57	0.005	0.23	0.50
OQ	E T	0.21	0.53	41.85	10.11	0.25	0.001	0.05	0.10
OQ	F T	0.06	1.77	35.13	11.85	0.17	0.007	0.34	0.70
OQ	G T	0.03	2.03	48.18	14.24	0.31	0.009	0.58	0.89
OQ	H T	0.06	2.63	34.63	8.83	0.02	0.004	0.18	0.40
DS	C S	0.0	0.08	0.42	0.23	0.44	6.220	7.28	86.15
DS	C S	0.0	0.27	0.37	0.27	0.42	4.370	5.81	81.38
DS	C S	0.0	0.17	0.60	0.35	0.41	4.434	6.78	81.60
DS	C S	0.0	0.09	0.44	0.23	0.50	7.065	8.90	87.60
DS	C T	0.0	0.09	0.72	0.69	0.52	5.101	10.30	83.61
DS	C T	0.0	0.13	3.15	2.35	0.81	4.796	30.89	82.75
DS	C T	0.0	0.02	0.45	0.38	0.33	5.797	6.84	85.29
DS	C T	0.0	0.03	0.62	0.59	0.43	6.732	11.24	87.07
DS	S S	0.02	1.11	42.37	8.34	0.07	0.003	0.16	0.30
DS	S S	0.02	1.88	36.99	10.97	0.19	0.003	0.15	0.30
DS	S S	0.0	0.61	40.62	8.41	0.07	0.002	0.10	0.20
DS	S S	0.0	0.61	31.31	7.50	0.11	0.002	0.08	0.20
DS	S T	0.03	1.43	39.42	9.84	0.19	0.029	1.48	2.82
DS	S T	0.04	1.86	44.52	12.42	0.21	0.001	0.06	0.10
DS	S T	0.05	0.69	29.18	9.97	0.57	0.007	0.28	0.70
DS	S T	0.0	0.67	30.84	8.25	0.41	0.002	0.08	0.20

STEVESTON 80/07/10

		850	500	250	125	63	F/S	FINE	%FINE
14	28S	0.0	1.07	57.07	5.63	0.01	0.002	0.13	0.20
11	30S	0.0	0.85	63.81	5.14	0.03	0.001	0.07	0.10
7	27S	0.0	1.58	54.24	9.61	0.09	0.004	0.26	0.40
5	11S	0.02	1.63	42.89	7.58	0.13	0.008	0.42	0.79
2	6S	0.05	1.21	44.88	7.51	0.20	0.003	0.16	0.30
4	9S	0.05	1.64	45.50	5.20	0.01	0.004	0.21	0.40
12	14S	0.0	1.49	44.18	9.05	0.21	0.003	0.16	0.30
3	11S	0.0	1.82	53.37	6.71	0.49	0.009	0.56	0.89
9	29S	0.03	2.22	56.25	5.06	0.02	0.003	0.19	0.30
8	4S	0.0	1.88	47.96	8.35	0.36	0.004	0.23	0.40
13	6S	0.08	3.16	64.96	4.54	0.07	0.0	0.0	0.0
12	14T	0.0	1.69	43.18	6.62	0.11	0.001	0.05	0.10
11	30T	0.08	1.42	45.97	13.07	0.38	0.002	0.12	0.20
2	6T	0.0	1.66	58.37	9.47	0.18	0.004	0.28	0.40
13	6T	0.0	0.10	42.25	9.38	0.17	0.033	1.71	3.19
14	28T	0.0	0.81	52.57	10.79	0.18	0.003	0.19	0.30
9	29T	0.0	1.18	49.69	10.73	0.27	0.001	0.06	0.10
3	11T	0.0	1.66	53.88	9.12	0.15	0.003	0.19	0.30
8	4T	0.0	1.46	52.42	8.00	0.08	0.002	0.12	0.20
5	11T	0.06	1.17	53.93	6.45	0.09	0.001	0.06	0.10
7	27T	0.0	1.73	50.86	6.62	0.13	0.002	0.12	0.20
4	9T	0.0	1.46	47.82	8.66	0.19	0.009	0.52	0.89
OQ	A S	0.0	0.69	45.35	12.43	0.24	0.001	0.06	0.10
OQ	B S	0.0	0.37	34.33	7.28	0.10	0.0	0.0	0.0
OQ	C S	0.05	2.20	55.07	6.64	0.05	0.001	0.06	0.10
OQ	D S	0.08	0.62	43.88	7.87	0.10	0.002	0.11	0.20
OQ	E S	0.0	1.47	37.05	10.01	0.45	0.034	1.67	3.29
OQ	F S	0.0	0.74	44.17	7.06	0.21	0.032	1.67	3.10
OQ	G S	0.0	0.50	44.04	6.18	0.07	0.004	0.20	0.40
OQ	H S	0.0	0.45	44.47	6.75	0.04	0.001	0.05	0.10
OQ	A T	0.03	1.48	27.81	8.32	0.19	0.002	0.08	0.20
OQ	B T	0.10	1.75	40.87	5.03	0.13	0.005	0.24	0.50
OQ	C T	0.0	1.10	35.76	8.13	0.23	0.005	0.23	0.50
OQ	D T	0.10	2.83	49.81	9.31	0.11	0.004	0.25	0.40
OQ	E T	0.20	2.32	49.21	12.23	0.20	0.003	0.19	0.30
OQ	F T	0.17	3.76	58.62	10.27	0.43	0.005	0.37	0.50
OQ	G T	0.06	1.42	51.17	11.52	0.54	0.003	0.19	0.30
OQ	H T	0.08	2.67	51.44	8.39	0.08	0.001	0.06	0.10
DS	C S	0.0	0.11	0.42	0.40	0.53	6.849	10.00	87.26
DS	C S	0.0	0.19	0.52	0.44	0.29	21.043	30.30	95.46
DS	C S	0.0	0.02	0.46	0.34	0.44	18.947	23.87	94.99
DS	C S	0.0	0.0	0.20	0.17	0.43	15.967	12.77	94.11
DS	C T	0.0	0.12	0.99	0.81	0.41	6.549	15.26	86.75
DS	C T	0.0	0.02	0.16	0.16	0.22	66.000	36.96	98.51
DS	C T	0.0	0.0	0.32	0.17	0.49	12.614	12.36	92.65
DS	C T	0.0	0.08	1.00	0.59	0.49	8.213	17.74	89.15
DS	S S	0.0	0.55	37.31	10.80	0.30	0.004	0.20	0.40
DS	S S	0.0	0.93	35.14	5.40	0.02	0.001	0.04	0.10
DS	S S	0.0	1.27	43.88	7.68	0.07	0.001	0.05	0.10
DS	S S	0.0	0.98	43.19	13.92	0.66	0.004	0.23	0.40
DS	S T	0.0	0.90	40.34	13.38	0.26	0.001	0.05	0.10
DS	S T	0.0	1.08	46.99	9.30	0.20	0.002	0.12	0.20
DS	S T	0.10	2.55	55.04	4.94	0.15	0.001	0.06	0.10
DS	S T	0.0	0.66	38.72	13.06	0.49	0.002	0.11	0.20

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		850	500	250	125	63	F/S	FINE	%FINE
14	28S	0.0	1.30	46.81	4.71	0.04	0.003	0.16	0.30
13	6S	0.0	1.48	51.72	4.54	0.02	0.001	0.06	0.10
4	8S	0.0	2.45	62.90	9.94	0.21	0.006	0.45	0.60
9	30S	0.0	2.03	57.61	7.64	0.13	0.005	0.34	0.50
7	32S	0.0	1.52	55.81	6.09	0.07	0.019	1.21	1.86
OQ	C S	0.0	1.41	63.19	5.84	0.11	0.003	0.21	0.30
OQ	H S	0.0	2.96	52.04	7.62	0.05	0.007	0.44	0.70
DS	S S	0.0	0.94	50.31	10.24	0.10	0.004	0.25	0.40

Table 15. Surface and subsurface (10 cm) sediment salinities at Albion and Steveston during 1979 and 1980.

OQ = samples from outside of the transplant quadrat  
as shown in Figure 2.

NS = not sampled.

Steveston 1979 (surface)

Row	Col.	Salinity (o/oo)						
		May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	4	8	2	2				
	13	10	2	1				
	24	8	2	2	2	3	4	3
	28	10	3	2				
	34	10	2	2	2	2	2	3
	38	10	3	4				
3	5	10	2	1				
	18	10	3	2	2	2	2	4
	20	8	3	2				
4	8	8	3	3	2	3	2	3
	14	8	3	3				
	23	10	2	2				
	29	10	3	1	2	2	2	4
	34	10	2	2				
	36	8	2	2				
	38	8	2	2	2	2	2	4
5	18	8		3				
7	7	10		3				
	13	10	2	2	2	2	2	4
	24	10		1				
	32	12	2	2	2	2	2	4
	39	12	3	3				
8	4	10	3	3				
	14		3	2				
	28		2	1				
	37		1	2				
9	9	10	3	1				
	14	10	3	2				
	21		2	3				
	30	10	3	2	1	3	2	3
	32	10	2	2				
10	4	10		3				
	14	12		3				
	16	12	2	3				
11	7	12		2				
	18	14	3	3				
	31	12	3	2	2	3	2	4
	37		2	2				
12	4	10	3	2				
	14	8	3	3	2	2	2	3
	32		2	3				
13	8		3	2	2	2	2	4
	10	10	3	3				
	28	8	3	2				
14	4	10	4	2				
	15		2	3				
	28	10	1	2	1	2	2	4
	34	10	3	1				
	36	10	3	2	2	2	1	5
	39	10	3	2				
OQ	L		2	2	2	2		5
OQ	R		2	2	1	3		4
OQ	U		1	2	2	2		4
OQ	D		2	1	2	2		4
Quad. means		9.9	2.5	2.2	1.9	2.3	2.1	3.7
OQ means		-	1.8	1.8	1.8	2.3	-	4.3

Steveston 1979 (subsurface)

Row	Col.	Salinity (o/oo)						
		May 9	May 23	June 7	June 22	July 9	Aug. 27	Sept. 18
2	4	10	2	3				
	L3	8	2	2				
	24	10	3	3	1	2	1	
	28	10	2	2				
	34	10	2	2	1	2	1	
	38	14	2	2				
3	5	12	3	3				
	18	10	3	2	1	2	1	
	20	8	3	2				
4	8		3	4	2	1	2	
	14		3	3				
	23	8	3	1				
	29	10		2	1	1	1	
	34			4				
	36		3					
	38	10	2		2	2	1	
5	18			2				
7	7	10	3	1				
	13	10	2		1	2	2	
	24	8	2	4				
	32	10	2	3	2	2	2	
	39	10	3	1				
8	4		3	2				
	14	10	2	2				
	28	10	2	2				
	37	8	1	2				
9	9	8	2	3				
	14	10	2	1				
	21		3	2				
	30	10	3		1	2	2	
	39	12	3	2				
10	4	12	3	2				
	14	10	2	3				
	16	14	3	3				
11	7	14	1	4				
	18	10	3	3				
	31	14	3	2	2	3	2	
	37	12	2	1				
12	4	14	3	2				
	14	10	3	3	1	2	2	
	32	14	3	3				
13	8	14	3	2	2	2	2	
	10	10	3	1				
	28	14	3	2				
14	4	10	3	2				
	15	10	3	2		2	1	
	28	10	2		1			
	34	10	2					
	36	10			1	2	2	
	39	10	4					
OQ	L		2	2	2	2		
OQ	R		2	1	1	2		
OQ	U		2	2	1	2		
OQ	D		2	2	2	2		
Quadr. means		10.7	2.6	2.3	1.4	1.9	1.6	
OQ means		-	2.0	1.8	1.5	2.0	-	

Steveston 1980 (surface)

Row	Col.	Salinity (o/oo)			
		May 28	June 24	July 10	Aug. 6
2	24	2	1	NS	NS
	34	1	1	NS	NS
3	11	1	1	NS	NS
4	9	2		NS	NS
	29	2	1	NS	NS
	38	1		NS	NS
5	11		2	NS	NS
7	13	1	1	NS	NS
	27		2	NS	NS
	32	2		NS	NS
9	30	1	1	NS	NS
11	31	1	1	NS	NS
12	14	2	1	NS	NS
13	8	2	1	NS	NS
14	28	2	1	NS	NS
	36	2		NS	NS
OQ	L	2	1	NS	NS
	R	1		NS	NS
	U	1	1	NS	NS
	V	1	1	NS	NS
Quad. means		1.6	1.2		
OQ means		1.3	1.0		

Steveston 1980 (subsurface)

Row	Col.	Salinity (o/oo)			
		May 28	June 24	July 10	Aug. 6
2	24	1	1		
	34	1	1		
3	11	1	1		
4	9	1	1	0	0
	29	2	2		
	38	2			
5	11		1	0	
7	13	1	1		
	27		1	0	
	32	2			0
8	4			0	
9	30	1	1		0
11	31	2	1		
12	14	2	2		
13	8	1	1		
14	28	1	1		0
	36	2			
OQ	L	2	1		
OQ	R	1			
OQ	U	1	1		
OQ	V	1	1		
OQ	B			0	
OQ	C			1	0
OQ	F			0	
OQ	G			0	
OQ	H			0	0
Quad. means		1.5	1.2	0.0	0.0
OQ means		1.3	1.0	0.2	0.0

Albion 1979 (surface)

Row	Col.	Salinity (o/oo)						
		May 9	May 23	June 7	June 22	July 9	Aug. 22	Sept. 18
2	7	10	2	2				
	15	9	2	3				
	22	12	1	3	2	2	6	
3	3	10	2	2			5	
	10	10	3	3	2	2		10
	24	12	3	2				
4	6	8	2	2				
	10	10	2	2				
	17	12	2	3				
	24	10		4	3	2	5	11
5	30	10		3				
6	4	10	2	2	2	1	5	10
	7	12	1					
	14	10	3	3				
	20	8	3		2	2	6	10
	25	10	2	2				
	30		3	2				
7	10		3	2				
8	4	10	2	2	2	2	6	11
	10	10	1	3				
	19	8	3					
	24	12	2		2	2	6	10
	29	12	2	3				
	34	12	3	2				
9	5	10	3					
	25	10	3	3	2	1	4	10
	33	10		3				
11	7	10	3	3	2	2	6	11
	15	10	2	2				
	22	5	3	1				
12	4	10	1	3				
	28	20	3	2	2	2	6	11
	31	10	3					
13	11	12	3		2	2	6	11
	19	12	3					
	25	8	3	3				
14	1	12	3					
	3	12	1	3				
	7	12	3	2				
	20			2	2	2	6	11
	29		2	2				
	33		2	2	1	2	6	10
0Q	L	10		3	2	2		11
0Q	S	12		3	2	2		10
0Q	R	10		2	2	2		11
0Q	M	10		3	1	2		11
Quad. mean		10.5	2.4	2.5	2.0	1.8	5.6	10.5
0Q mean		10.5	-	2.8	1.8	2.0	-	10.8

Albion 1979 (subsurface)

Row	Col.	Salinity (o/oo)						Aug. 22	Sept. 18
		May 9	May 23	June 7	June 22	July 9			
2	7	12	3	4					
	15	10	2	3					
	22	12	3	3			1	6	
3	3	14	3	3					
	10	10	2	4	2	2			
	24	12	3	4					
4	6	12	3	6					
	10	12	3	3					
	17	14	4	2					
	24	15	3	4	1	2		6	
5	30	10	2						
6	4	10	1	3	2	1		5	
	7	10	2	2					
	14	12	3	4					
	20	12	3	1	1	2		5	
	25	14	2	2					
	30	10	3	4					
7	10		3	1					
8	4	14	3	1	1	2		5	
	10	14							
	19	20	3	3					
	24	12		2	2	2		6	
	29	14		4					
	39	16		1					
9	5	10	3						
	25	8	2	4	2	2		5	
	33	10	3	4					
11	7	12	3	3	1	2		6	
	15	12	2	5					
	22	10	3	1					
12	4	10	3	4					
	28	12	2	1	1	2		5	
	31	10	2	3					
13	11	14	2	2	2	2		6	
	19	14	2	3					
	25	16	2	2					
14	1	12	2	1					
	3	14	1	2					
	7	16	2	1					
	20	16	3	1	1	1		7	
	29	10	3	1					
	33	10	3	2	2	1		6	
OQ	L	10		4	2	2			
OQ	S	12		3	1	2			
OQ	R	12		3	1	2			
OQ	M	12		3	1	1			
Quad. means		12.4	2.6	2.7	1.5	1.7		5.7	
OQ means		11.5	-	3.3	1.3	1.8		-	

Albion 1980 (surface)

Row	Col.	Salinity (o/oo)			
		May 28	June 25	July 10	Aug. 6
2	2			NS	NS
	22		2	NS	NS
3	10		2	NS	NS
	16			NS	NS
4	24		2	NS	NS
6	4	2	1	MS	NS
	5			NS	NS
8	29	2	2	NS	NS
9	25	2	1	NS	NS
11	7	2	2	NS	NS
12	28	2	2	NS	NS
13	11	2	2	NS	NS
14	20		1	NS	NS
OQ	L	1	2	NS	NS
OQ	S	1	2	NS	NS
OQ	R		1	NS	NS
OQ	M		2	NS	NS
Quad. means		2.0	1.7		
OQ means		1.0	1.8		

Albion 1980 (subsurface)

Row	Col.	Salinity (o/oo)			
		May 28	June 25	July 10	Aug. 6
2	2			3	2
	22		2		
3	10	2	1		3
	16				
4	24	2	2		
6	4	2	2	3	
	5				2
8	29	2	2		2
9	25	1	2	2	2
11	7	0	1	2	
12	28	0	2	4	2
13	11	0	1		2
14	20		1		
OQ	L	0	1		3
OQ	S	1	2		3
OQ	R		1		
OQ	M		2		
Quad. means		1.1	1.6	2.8	2.1
OQ means		0.5	1.5	3.0	3.0

Table 16. Interstitial salinity of subsurface (10 cm) sediments from the Steveston Island Scirpus americanus and Carex lyngbyei donor sites.

	1979								1980			
	Jan. 22	Feb. 27	May 9	May 23	June 7	June 9	Aug. 22		May 28	June 24	July 10	Aug. 6
	S. <u>americanus</u> donor site	15.0	11.0	9.5	3.0	2.4	2.4	2.2	NS	NS	0.5	0.0
C. <u>lyngbyei</u> donor site	17.0	14.5	10.0	4.1	3.0	3.5	2.8		NS	NS	0.0	0.0

Table 17. Interstitial salinity of subsurface (10 cm) sediments from the Francis Road donor site and Iona during 1979 and 1980.

	1979								1980			
	Jan. 19	Feb. 18	May 18	June 20	July 17	Aug. 15			June 26	July 11		
Francis Road	24.7	21.5	11.3	8.9	4.1	8.0						
Iona	24.2	23.0	22.3	17.3	14.3	12.5	14.1	16.0			10.9	13.4

Table 18. Climatological conditions recorded at the Vancouver International Airport at the time of transplanting.

Date	Temperature (C°)		Precipitation (mm)	Relative Humidity	
	max.	min.		max.	min.
<b>1979</b>					
January 9	2.7	-4.1	0.0	69	37
10	2.2	0.1	18.3 *	93	64
11	5.7	1.0	trace	93	81
30	2.6	-6.3	0.0	86	57
31	4.4	-6.6	0.0	93	48
February 16	5.2	1.5	4.6	87	79
17	8.1	1.3	13.6	87	70
18	9.1	2.0	0.6	93	70
19	8.8	0.4	1.2	93	53
20	8.6	1.1	0.2	87	49
21	6.3	-3.1	0.0	80	52
22	6.4	-3.5	0.0	86	52
23	4.4	0.6	5.7	93	65
27	9.4	2.9	6.2	87	53
28	8.2	1.2	trace	87	53
March 6	15.1	8.8	3.1	100	82
7	11.5	4.1	0.0	100	66
8	8.8	0.5	0.0	100	76
9	10.4	0.2	0.0	93	66
10	13.3	0.0	0.0	93	40
11	10.7	3.8	trace	93	66
12	9.8	2.4	0.0	100	66
13	12.7	0.2	0.0	93	50
<b>1980</b>					
February 19	12.1	6.0	0.6	93	67
20	7.6	4.1	8.0	93	87
21	7.4	0.1	0.0	100	76

\* 18.3 = 1 cm of snow + 17.4 mm of rain.