1994 Summary Report for:

CRYSTAL RIVER 3 YEAR NPDES MONITORING PROJECT

FPC Contract S01100

Work Authorization 401 (Addendum 2)

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INTRODUCTION

Florida Power Corporation (FPC) and federal and state regulatory agencies seek to demonstrate that the operation of new helper cooling towers at the FPC Crystal River Station will lead to an expansion in the area of benthic habitat occupied by submerged aquatic vegetation (SAV: seagrasses and rhizophytic macroalgae). A monitoring program was begun in the Fall of 1993 and is continuing on an annual basis through the Fall of 1995. The monitoring program emphasizes near-shore waters within a two mile radius from the point of discharge (POD) of the Crystal River Station.

The 1993 Summary Report (Estevez and Marshall, 1993[1]) reviewed SAV information available for the Crystal River Station area, and also provided the technical rationale for the present monitoring study. To recapitulate highlights of the rationale:

-- Past efforts at aerial photography have often met with failure due usually to turbidity;

-- New monitoring should take advantage of successful photography but not depend upon it;

-- Surveys are needed to determine whether new SAV beds are recruiting into barren areas, especially the areas that once supported SAV;

-- In the event that barren areas are not recolonized, existing SAV beds should be monitored to determine whether they are expanding along their margins;

-- If SAV is not expanding or colonizing new areas, there may be signs of improvement within existing beds insofar as SAV condition (biomass, productivity) is concerned. Sav condition in August 1994 should be compared to condition in August of 1995 for indications of improvements, although the variances are expected to be high.

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[1]/ Estevez, E.D. and M.A. Marshall. 1993. 1993 summary report for Crystal River 3 year NPDES monitoring project, FPC Contract No. S01100. Mote Marine Laboratory Technical Report Number 343. Sarasota FL.

This report summarizes findings for barren area surveys, "perimeter" studies at intensive SAV beds, and the August 1994 condition assessment.

METHODS

Positioning

Several independent systems were employed. Approximate station locations were mapped onto charts carried in the field, to depict the orientation of a station to creeks, islands, day marks, levees, and other land marks. LORAN and GPS coordinates of all stations and transects, measured in 1993, were also taken into the field. As needed, the end points of transects that were marked on land or in marshes with steel bars, stones, colored paint, or other permanent material were replaced.

In 1994, transect end points and station locations were again measured using a Voyager LORAN Navigator and a Magellan NAVPRO global positioning system. Electronic positions also were measured for NOS benchmarks at the mouth of the discharge canal, and at the U.S. Geological Survey "Knott" benchmark on Drum Island. Preliminary analysis of the electronic data indicate high field accuracy but relatively low map precision (see Discussion).

Barren Area Transects

Barren area transects established in 1993 were revisited in October 1994. As shown in Figure 1, most effort was directed to Basins 1, 2 and 3, with some effort in the areas of Basins 4 and 5, closest to the POD (e.g, inside the 2-mile radius).

Barren areas were surveyed by a diver towed behind a shallow draft vessel. Most transects ran due north or south to pre-determined landmarks. For long transects, tows followed transect lines marked in advance with temporary buoys. Buoys marked end points and way points, as needed. Beginning and end points were permanently positioned and marked. Where needed, tows were made into the current to reduce drift.

If the diver encountered seagrass or rhizophytic algae in barren areas the vessel stopped and marked the site(s). The immediate area was reconnoitered to determine the extent of SAV. If it corresponded to a previously-mapped SAV bed, it was recorded as "mapped" and was discounted as barren area. If new, the area, centroid position, species composition, and percent cover (see below) of the SAV was to be recorded, unless the vegetation was found to be Sargassum attached to rock outcrops. SAV markers were then recovered, and the survey of the transect continued.

Intensive SAV BED Surveys

In October 1994, GPS and LORAN coordinates and compass sightings were used to relocate the seagrass beds selected for study. Several beds were marked by crab trap buoys anchored with screw-in tie down anchors to facilitate site recovery in 1995.

Within each bed, the position of a "center" marker was determined in 1993 by GPS, LORAN, and compass bearings. Center markers are hemispherical concrete parking lot markers. Each marker was painted with blue anti-fouling paint and anchored to the bottom with screw-in anchors. Concrete markers were tied to the anchors with 1" diameter nylon rope.

Edges of all 15 sites were marked during 1993 in order to determine whether the seagrass beds expand, contract, or remain unchanged during the duration of the three year study.

Seagrass bed edges were marked with short (<1.0 m) sections of 3/8" steel reinforcement rods driven into the bottom with a small sledge hammer. Each steel stake was allowed to extend about 10 cm upward from the sediment surface. Seagrass bed edges were usually very easy to define, based on the sharp delineations between bare bottom and vegetated bottom.

A surveyor's tape was strung out along the set of edge markers at each site. In 1993, distances between edge markers and the distance from the center marker to each edge marker were recorded.

In 1994, bed markers were found by wading, snorkeling, or pulling a weighted polypropylene line across the bottom. Center markers and edge markers were relocated or replaced as needed. The majority of markers was relocated, so that only a few needed to be replaced. PVC poles were installed next to

each edge marker to simplify working in turbid water. The distance of the actual SAV bed edge was tape-measured from the edge marker. Seaward changes were recorded as expansions. Changes toward the central bed marker were recorded as contractions.

As in 1993, the percentage of bottom covered by SAV on the edge of each bed (from 0.0 to 1.0 m into each bed) and deeper into the bed (at a distance of 2.0 to 3.0 m) was measured. Ten 1.0 m2 quadrat-based estimates of bottom cover were taken along the vegetated edge of each SAV bed. The quadrats were positioned on the vegetated side of a randomly selected subset of the 15 edge markers at each site. Ten 1.0 m2 additional cover estimates were made by flipping the quadrat frame over twice away from the perimeter of each seagrass bed.

Subdivisions (100 cm2) of the 1.0 m2 quadrat were used as the units for the cover estimates. SAV coverage was determined by counting the number of units in which various species of SAV were actually rooted. A barren square was defined as being devoid of any rooted vegetation. Seagrass blades from plants rooted in other units were not counted as cover in the otherwise completely barren units. Four seagrasses (Halodule, Syringodium, Thalassia, and Halophila) were encountered in the study sites. Two species of the rhizophytic algal genus, Caulerpa, were found at several of the sites. Divers recorded data on slates and the data were transferred to log books for later use.

SAV Condition

Condition was defined as SAV shoot count, above-ground biomass, and productivity. Methods and effort followed the 316 Demonstration Study (Mattson et al.,1986[2]) with some variations as noted below. SAV condition was measured at the 15 intensive beds that are used for perimeter measurements in the 1993-95 monitoring program.

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[2]/ Mattson, R., J.A. Derrenbacker, Jr. and R.R. Lewis. 1986. Effects of thermal addition from the Crystal River generating complex on the submerged macrophytic communities in Crystal Bay, Florida, pp. 11-67 in K. Mahadevan et al. (eds.), Proceedings, Southeastern Workshop on Aquatic Ecological Effects of Power Generation, Mote Marine Laboratory Technical Report Number 124. Sarasota FL.

At each station, 6 samples for biomass of seagrasses and rhizophytic macroalgae were collected with a 25x25 cm sampler. The sampler was a PVC frame partially covered by a dive bag. Macrophytes clipped at the sediment surface floated into the upturned bag, which was labelled, closed and removed before moving to the next clip site. Contents of 6 samples were sorted into seagrasses (by species) and algae (pooled). Sorted samples were dried to constant weight at 105° C and weighed.

Seagrass productivity was determined as 14 day regrowth. At least 4, and usually 5 or 6, replicate measurements were made in each bed, using 11.3 cm diameter clip rings for Halodule, or 16.7 cm diameter clip rings for other seagrasses. After clip rings were installed, all SAV was clipped level with the surface of the ring, and discarded. Two weeks later, new growth was harvested, sorted, preserved, and labelled. Samples were dried to constant weight at 70° C and weighed. Seagrass shoot densities were measured by counting the shoots collected in the clip rings after 14 days of regrowth.

As biomass and productivity samples were being made in the field, percent cover was measured within the interior of each bed. Percent cover was determined by the same methods employed in annual sampling.

RESULTS

All data collected from the 1994 sampling effort appear in the tables and appendix tables that follow. Data from 1993 are included where appropriate.

Barren Area Transects

Three SAV beds were encountered in 1994 that were not seen when the transects were established in 1993 (Table 1). Two were Halodule beds and the third was a mixed Halodule-Syringodium bed with small amounts of the green alga, Caulerpa.

One of the "new" beds was found on Transect 1N, which is Basin 1. It was a small (7x10 m), sparse (5% mean cover) Halodule bed with short (<5 cm) blades. The bed was growing in a silty sand underlain by rock. Many large

(10-20 cm) burrows were found in the rock near the bed and elsewhere on the Basin 1 flats crossed by Transects 1N, 1W and 2W. The burrows were not seen in 1993.

Another Halodule bed was found on Transect 3W, in Basin 2. The bed covered 40 m of transect on flats southwest of Thumb Island. The north end of the bed was characterized by sparse calcareous green algae and Halodule was the principal SAV at the bed's southern end. Average percent cover of Halodule near the south end of the bed was 48%.

A third novel bed was found on Transect 5W, which crosses from Basin 2 into Basin 3. The bed was found in the Basin 2 portion of the transect, south of Drum Island. The bed was a mixture of small, dense patches of either Caulerpa (4% mean cover) or Halodule (14% mean cover), with the two sometimes combined. Syringodium was present but rare (30% cover in 1 of 10 replicates.

Perimeter Beds

Thirteen of 15 intensively studied SAV beds had positive growth along their margins since 1993, based on the mean change observed at 10 to 16 reference markers per bed (Table 2). Mean expansion ranged from 0.06 m to 6.51 m. Standard deviations usually exceeded means because considerable variation was measured, ranging in expanding beds from 0.0 to 14.0 m.

Two stations, 3 in Basin 1 and 5 in Basin 2, contracted by -0.38 m and -0.21 m in terms of their respective mean values.

On a basin-wise basis, Basin 3 SAV beds showed approximately twice the mean expansion values as beds in Basins 1 or 2, or control beds south of the intake canal.

Percent Cover

The majority of cases in both 1993 and 1994 were such that percent cover measurements were made on algae-free SAV beds (Table 3). Although algae were present in some cases, the cover and changes in cover of seagrass generally represent the same values as data for "total vegetation".

In 1994, no basin-wise differences in mean cover were significant. Basin 3 had greater than 90% cover compared to mean covers of 71-78% in Basin 1 and 61-70% in Basin 2.

Percent cover was determined along the perimeters of beds and in the bed interior (Table 4). For both locations, as many beds had increases in seagrass cover as had decreases (7 each, 1 with no data). Perimeter samples averaged a decrease in percent cover of 5.1% from 1993 to 1994, whereas interior samples averaged a decrease of 3.4% over the same period. No basin-wise patterns or trends in cover change were seen.

Biomass

Biomass was evaluated for individual seagrass species, all seagrass, and all vegetation (Table 5). For Halodule, biomass had a bimodal distribution when plotted in terms of station proximity to the POD (Figure 2A). Stations 1 and 15 had maximum Halodule biomass values, but no significant differences occurred between station pairs.

Syringodium occurred at fewer stations but biomass data also displayed a bimodal distribution with respect to station order (Figure 2B). It is noteworthy that the relationship between percent cover and biomass of Syringodium was meaningful whereas the relationship for Halodule was not (Figure 3).

Combining all seagrass species biomass obscured the bimodal pattern seen for individual species biomass (Figure 4), although it is evident that stations closest to the POD had much lower mean biomass values than more distant stations. Mean seagrass biomass values for the six stations closest to the POD were significantly lower than mean biomass values for 3 more distant stations (9,11, and 12).

All vegetation (seagrass plus rhizophytic macroalgae) biomass accentuated the spatial pattern seen for all seagrass species combined (Figure 4). Distant stations north of the Intake Canal had greater mean biomass values than stations closer to the POD, due largely to the increased abundance of macroalgae.

Shoot Density

Mean numbers of Halodule shoots per square meter also displayed a bimodal distribution with respect to station order (Figure 5), whereas the pattern was not as evident for Syringodium.

Productivity

Clip data (Table 6) were normalized for regrowth period and sample size to calculate productivity as mg dry weight per square meter per day (Table 7). Halodule productivity data were bimodally distributed with respect to station proximity to the POD, whereas Syringodium productivity was not (Figure 6).

DISCUSSION

Based on data from 1993 and 1994, including data collected for the first time in 1994, the following points are offered.

1. "New" SAV beds appeared along barren-area transects. Three beds were found in 1994 that were not seen in 1993. Two are small Halodule beds in relatively close proximity (Basins 1 and 2) to the point of discharge. The apparent recruitment of beds into barren areas could be an artifact of sampling dates (November-December 1993 versus October 1994), especially for the multiple species bed on Transect 5 near Drum Island. Beds on transects closer to the point of discharge are more likely to be genuine additions, because the tidal flats in that area are shallow, easily surveyed, and frequently visited. Surveys in 1995 will determine whether these beds have persisted or grown, and whether additional new beds occur.

2. Recruitment of new beds into barren areas has not been extensive. During the first full year of monitoring, there was no evidence that SAV was colonizing extensive areas of barren sediment. This suggests that seasonal differences in SAV cover were not great from 1993 to 1994. Historical data indicate that losses of SAV along the southern side of Basin 3 were considerable. The record is moot as to whether the cause of this decline was thermal stress, turbidity, or other factor(s). To the extent that

thermal stress was involved, the southern side of Basin 3 remains a likely area to expect SAV colonization during the coming year.

3. The seaward edges of selected SAV beds have expanded. Thirteen of 15 SAV beds had positive growth along their margins since 1993, on the order of 0.7 to 1.4 m. Basin 3 SAV beds showed approximately twice the mean expansion values as beds in other basins. This trend could be an artifact of sampling a month earlier in 1994 than in 1993. Sampling in 1995 will be directly comparable to 1994 sampling and will provide insight to the permanence of bed expansion.

4. No significant patterns in 1994 SAV cover were observed. In 1994, Basin 3 beds had higher percent cover[3] averages than beds in other basins. Compared to 1993, there were small (<5.1%) decreases in percent cover along the perimeter and within the interior of beds. Neither temporal trends nor spatial patterns in percent cover were significant.

5. Other indicators of SAV condition covaried and were distributed in a bimodal pattern with respect to station proximity to the POD. Biomass, shoot density, and productivity rates increased, decreased (to minima at Station 5), and then increased relative to distance from the POD, especially for Halodule. This pattern suggests that more than one factor influences spatial variation in seagrass condition, a finding consistent with previous investigations.

6. Combining species of seagrass or adding rhizophytic macroalgae to condition data transforms spatial patterns. Mean station biomass values are bimodal on a species basis. Combining species or adding algae changes the spatial pattern so that biomass increases with distance from the POD. Total biomass is much lower at the 6 stations closest to the POD than at more distant stations, reflecting algal contributions.

Photography and Mapping

The 1993-94 aerial photography effort was unsuccessful due to low water clarity. A 1994-95 effort is in progress. If it is successful, images will be photo-interpreted, ground-truthed, and digitally mapped by a subcontractor. An effort will be made during ground-truthing to distinguish

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[3]/ Of seagrasses, the dominant component of total SAV.

lithophytic Sargassum from seagrasses and rhizophytic algae. A separate report will accompany the maps. Progress has also been made in producing an independent GIS map of the study area, at the level of detail needed to plot LORAN and GPS data collected in 1993 and 1994. A draft GIS product was submitted to FPC in October 1994 and a final version will be submitted for approval as soon as a computer hardware failure is repaired.

Conclusions

In 1994 the monitoring program at Crystal River produced repeat data and new data concerning the occurrence, spatial extent, and condition of SAV within a 2 mile radius of the point of discharge. Repeat data indicate that existing SAV beds are stable. No evidence was found that existing beds were retreating from their 1993 dimensions. Most beds expanded along their margins, by an amount that could be due to the one month difference in sampling time. Condition data suggest that the expansion was not an artifact of sampling date, and surveys in 1995 will determine whether expansion is continuing. Condition data were either uninformative (percent cover) or indicated a bimodal spatial pattern relative to proximity of stations to the POD. Shoot densities, biomass, and productivity tended to increase with distance from the POD but the pattern of increases indicates that several factors affect SAV condition. Data to be collected in 1995 will reveal the persistence of these patterns and allow for trends to be identified between years. In 1994, three beds of mostly Halodule were encountered along transects crossing areas that were barren in 1993. One bed was in Basin 1, very close to the POD. Other beds appeared in Basin 2, the area next closest to the POD. No new beds were found in Basin 3, where colonization of barren areas was expected on the basis of historic data, but colonization in Basins 1 and 2 offer hope that additional recruitment will be detected throughout the study area in 1995.

FIGURE 1

The base map employed in Figure 1A and 1B is a composite in which marsh and canal shorelines, and oyster reefs, have been added to the 1983 SAV map produced as part of the FPC 316 Demonstration Study. Shorelines were transferred from U.S. Geological Survey topographic quadrangles and oyster reefs were taken from unpublished data available at Mote Marine Laboratory. Spoil islands of the Cross-Florida Barge Canal appear at the top of the map, which is north. The discharge canal levee is the shorter feature depicted to the north of the longer levee on the intake canal. In the map, A denotes algal beds; S, seagrass beds; AS, mixed beds dominated by algae; SA, mixed beds dominated by seagrass; O, open or barren bottom.

Figure 1A

This figure depicts the number and orientation of barren area transects established for the present study. One transect, "13W", is not shown. It is north of the Barge Canal, extending from Green 35 day mark on the Canal, to Green 23A day mark on the Withlacoochee River. Note that most transects have at least one land-side end, which has been marked in the field with a permanent monument. Transect "9W" is 2 miles from the point of discharge.

The locations of 3 "new" barren area SAV beds encountered in 1994 are highlighted with asterisks (*).

Figure 1B

This figure depicts the locations of SAV beds selected for intensive surveys (percent cover, biomass, productivity, etc.). One station, "10", is immediately south of station "9" but off the figure. Stations 1-3 are in Basin 1. Stations 5-7 are in Basin 2. Four stations between the canals are in Basin 3. Station 11 is in Rocky Cove. Station 13 is 2 miles from the point of discharge.

FIGURE 1A: Barren Area Transects

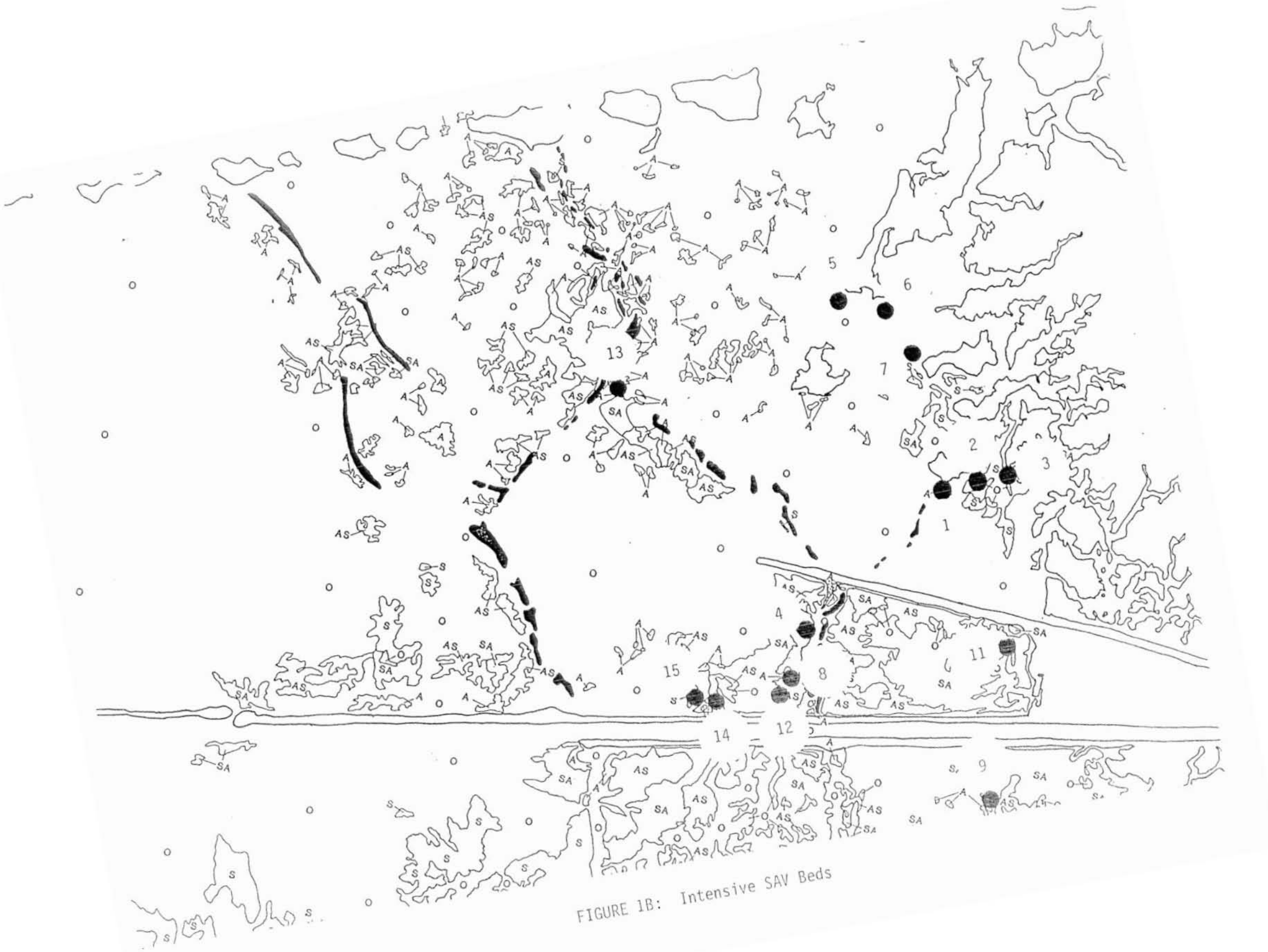

FIGURE 1B: Intensive SAV Beds

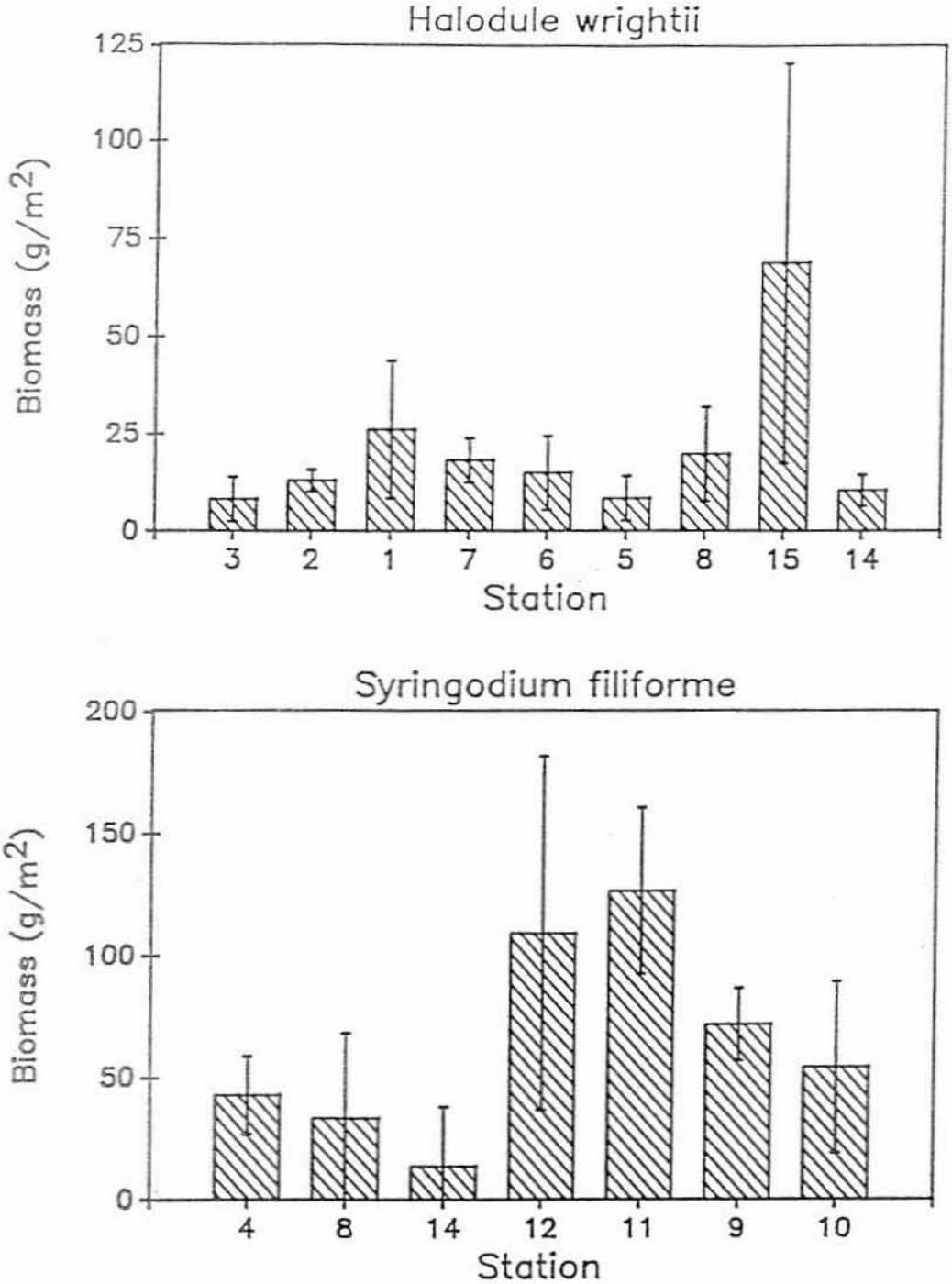

Figure 2. Biomass in order of station proximity to POD. A, Halodule; B, Syringodium.

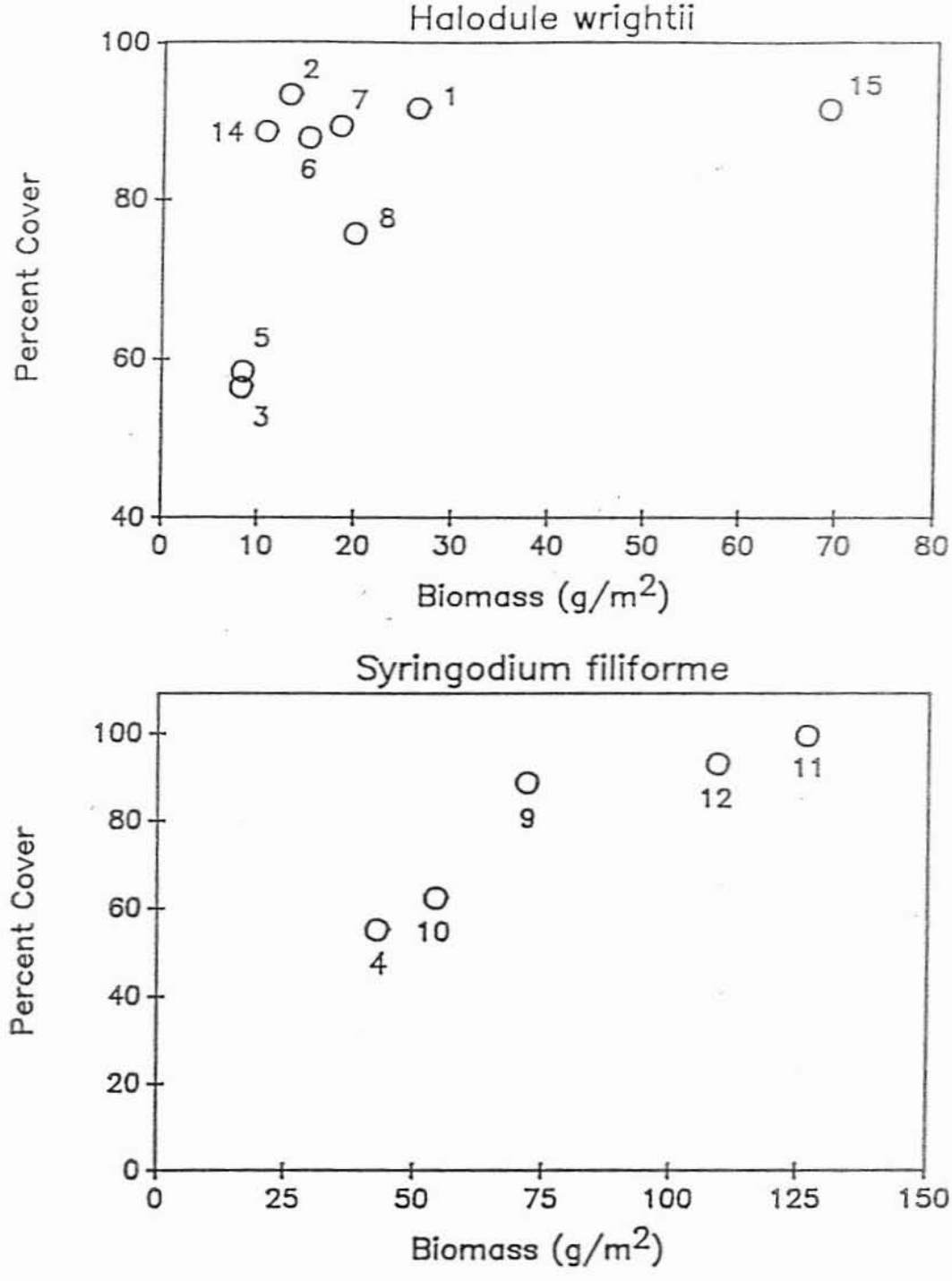

Figure 3. Biomass vs. Percent Cover (mean station values). A, Halodule; B, Syringodium.

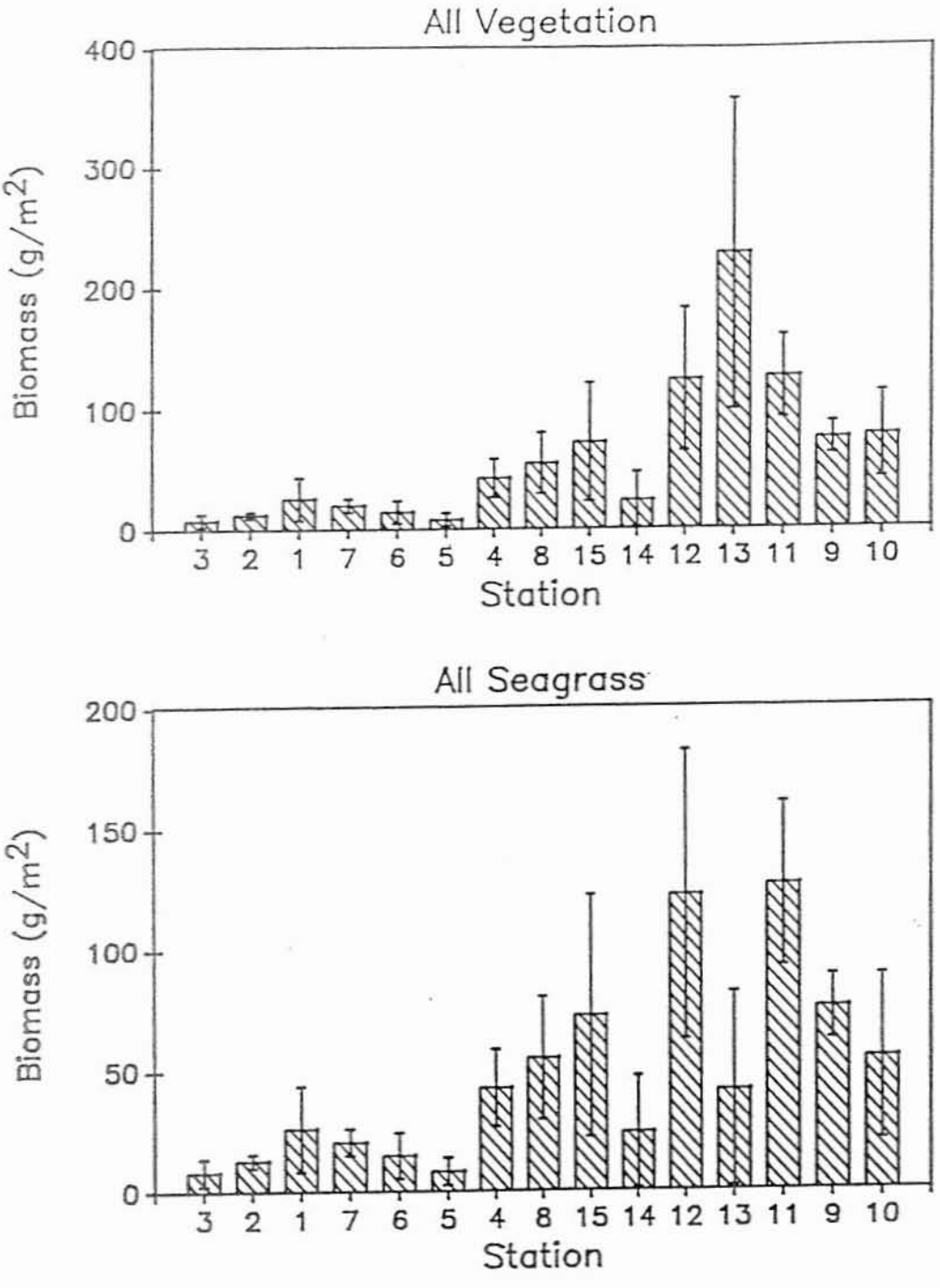

Figure 4. Biomass in order of station proximity to POD. A, All vegetation; B, All seagrass.

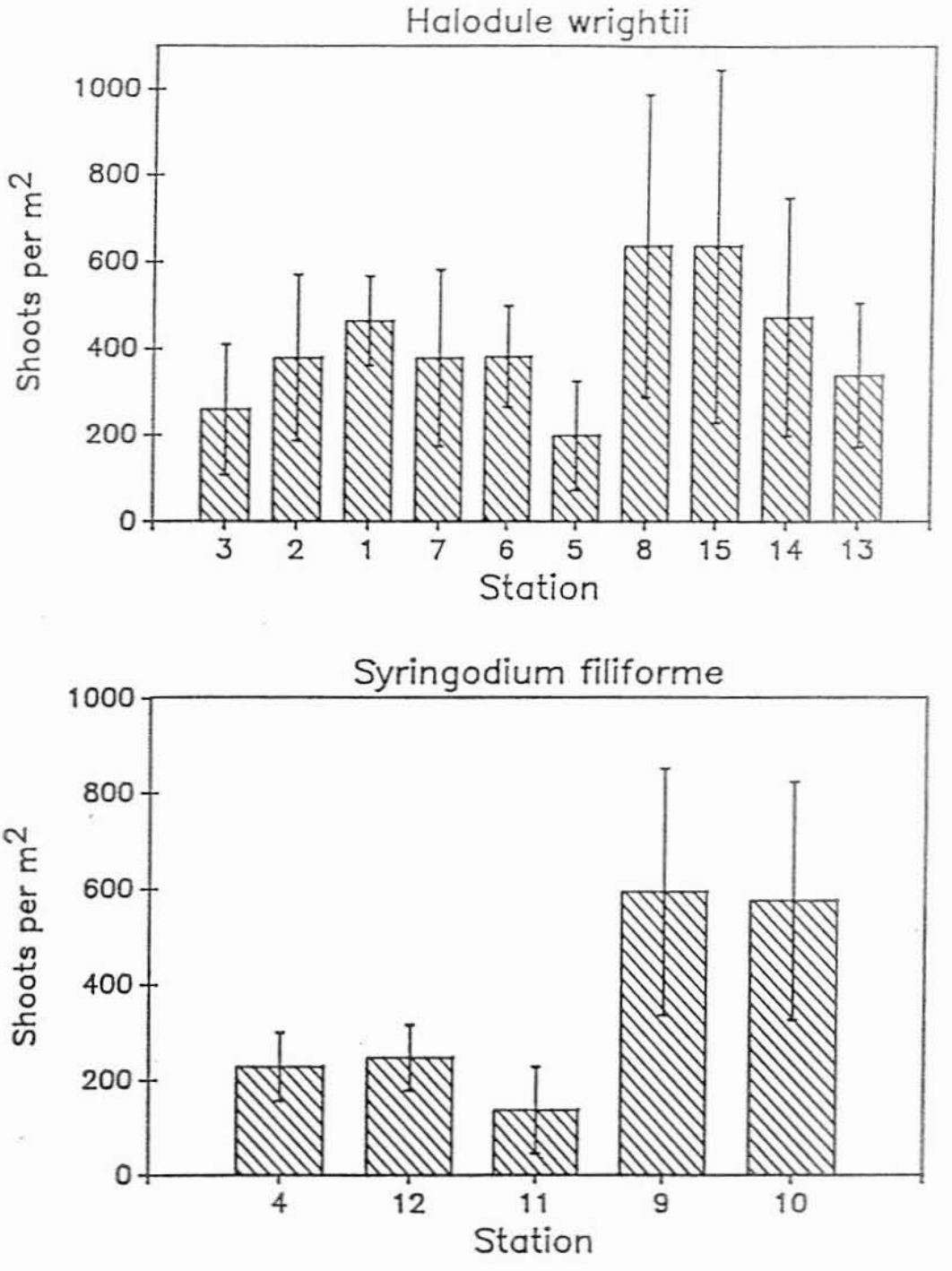

Figure 5. Shoot density in order of station proximity to POD. A, Halodule. B, Syringodium.

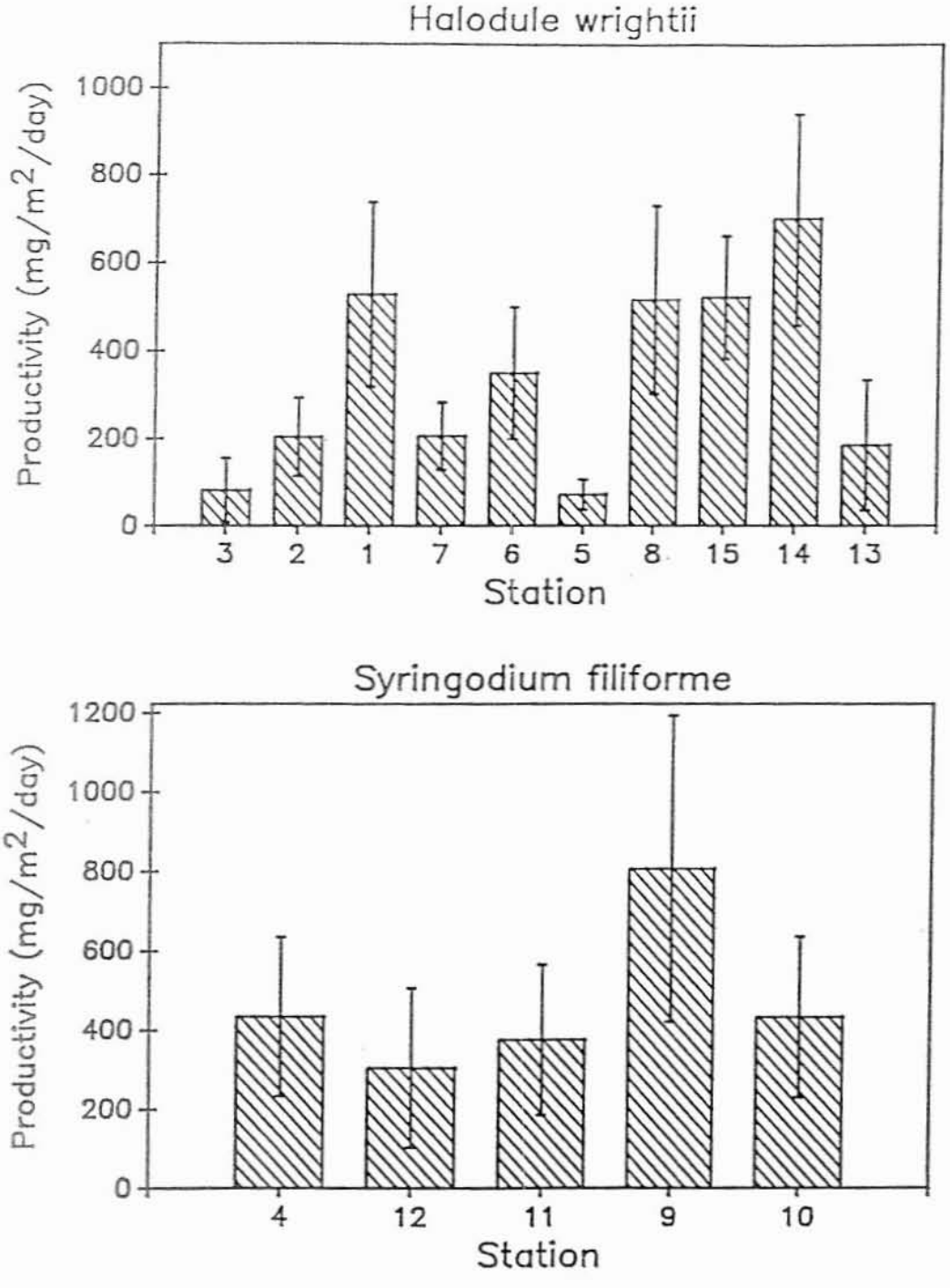

Figure 6. Productivity in order of station proximity to POD. A, Halodule; B, Syringodium.

Table 1. SAV beds found in October 1994 on 1993 barren area transects.

	Bed 1	Bed 2	Bed 3
Transect No.	1N	3W	5W
Basin No.	1	2	2/3
LORAN			
45-	229.16	236.00	240.85
62-	880.75	885.49	888.81
Near to:	POD	Thumb I.	Drum I.
Mean % Cover			
Halodule	5	48	14
Syringodium	0	0	3
Caulerpa	0	0	4
Bare	95	52	85
N	10	9	10

Table 2. Expansion of seagrass beds measured along staked edges: December 1993-October 1994.

Station	No. of Stakes	Mean Expansion (m)	S.D.	Min (m)	Max (m)
1	13	1.90	1.42	-1.40	4.10
2	15	0.98	1.58	-2.30	3.30
3	15	-0.38	0.93	-2.00	1.40
4	14	0.06	0.41	-0.60	0.80
5	16	-0.21	0.52	-1.00	0.70
6	13	0.48	0.99	-0.70	2.30
7	12	2.52	1.99	0.00	6.00
8	10	6.51	4.02	1.30	14.00
9	14	0.83	0.60	0.00	2.30
10	14	0.71	0.79	0.00	2.70
11	12	0.58	0.27	0.00	1.00
12	14	0.30	1.05	-1.40	3.10
13	13	0.05	3.29	-6.00	4.60
14	15	0.56	0.59	-0.60	1.40
15	15	0.56	0.75	-0.10	2.70

Table 3. Counts of presence of seagrass and algae species in $1m^2$ quadrats inside (I) and on perimeters (P) of grass beds.

Date	Station	*Halodule wrightii* P	*Halodule wrightii* I	*Halophila englemannii* P	*Halophila englemannii* I	*Syringodium filiforme* P	*Syringodium filiforme* I	*Thalassia testudinum* P	*Thalassia testudinum* I	*Caulerpa prolifera* P	*Caulerpa prolifera* I	*Caulerpa mexicana* P	*Caulerpa mexicana* I
1993-12	1	9	10	0	0	0	0	0	0	0	0	0	0
1994-08	1	10	10	0	0	0	0	0	0	0	0	0	0
1994-10	1	10	10	0	0	0	0	0	0	0	0	0	0
1993-12	2	10	10	0	0	0	0	0	0	0	0	0	0
1994-08	2	10	10	0	0	0	0	0	0	0	0	0	0
1994-10	2	10	10	0	0	0	0	0	0	0	0	0	0
1993-12	3	10	10	0	0	0	0	0	0	0	0	0	0
1994-08	3	10	10	0	0	0	0	0	0	0	0	0	0
1994-10	3	9	10	0	0	0	0	0	0	0	0	0	0
1993-12	4	9	9	1	0	0	0	0	0	0	2	0	0
1994-08	4	0	0	1	0	10	10	0	0	0	0	0	0
1994-10	4	0	0	0	1	11	10	0	0	4	1	0	0
1993-12	5	10	10	0	0	0	0	0	0	0	0	0	0
1994-08	5	10	10	0	0	0	0	0	0	1	0	0	0
1994-10	5	10	10	0	1	0	0	0	0	0	0	0	0
1993-12	6	9	9	4	2	0	0	0	0	0	0	0	0
1994-08	6	8	8	6	5	0	0	0	0	0	0	0	0
1994-10	6	10	10	7	5	0	0	0	0	0	0	0	0
1993-12	7	10	10	0	1	0	0	0	0	0	0	0	0
1994-08	7	10	10	0	6	0	0	0	0	0	0	0	1
1994-10	7	9	8	1	1	1	2	0	0	1	0	0	0
1993-12	8	9	9	2	4	0	0	0	0	1	0	0	0
1994-08	8	7	7	2	1	4	5	0	0	0	2	0	0
1994-10	8	4	4	0	0	10	10	0	0	0	0	0	0
1993-12	9	0	1	6	2	10	10	0	0	1	0	0	0
1994-08	9	0	0	7	5	10	10	0	0	6	3	0	0
1994-10	9	1	0	6	6	10	10	0	0	0	0	0	0
1993-12	10	0	0	1	1	10	9	0	0	4	3	0	0
1994-08	10	0	0	0	0	9	10	0	0	10	9	0	0
1994-10	10	0	0	0	0	10	10	0	0	0	0	0	0
1993-12	11	0	0	2	0	10	10	0	0	0	0	0	0

Table 3. Continued.

Date	Station	*Halodule wrightii* P	*Halodule wrightii* I	*Halophila englemannii* P	*Halophila englemannii* I	*Syringodium filiforme* P	*Syringodium filiforme* I	*Thalassia testudinum* P	*Thalassia testudinum* I	*Caulerpa prolifera* P	*Caulerpa prolifera* I	*Caulerpa mexicana* P	*Caulerpa mexicana* I
1994-08	11	0	0	1	0	10	10	0	0	0	0	0	0
1994-10	11	1	0	0	0	10	10	0	0	2	2	0	0
1993-12	12	0	2	0	0	10	10	0	0	3	4	0	0
1994-08	12	0	0	0	0	10	10	0	0	0	0	0	0
1994-10	12	9	6	2	2	0	0	2	3	8	2	6	7
1993-12	13	4	1	0	0	0	0	1	3	4	7	7	7
1994-08	13	2	0	1	0	0	0	7	0	12	0	8	0
1994-10	13	9	10	0	0	0	0	1	1	1	0	0	0
1993-12	14	9	10	0	0	0	0	1	1	0	1	0	0
1994-08	14	8	10	0	0	0	0	3	0	0	0	0	0
1994-10	14	8	8	1	1	0	0	2	2	2	0	0	0
1993-12	15	7	8	0	0	0	0	3	3	1	0	0	0
1994-08	15	10	10	0	0	0	0	0	0	1	0	0	0

Table 4. Average percent cover (n = 10) of 1 m quadrats on the perimeter and 2 m inside the perimeter of seagrass beds for each station and date.

Date	Station	Perimeter Total Vegetation	Perimeter Seagrass	Perimeter Algae	Inside Vegetation	Inside Total Seagrass	Inside Algae
1993-12	1	79.6	79.6	0.0	80.0	80.0	0.0
1994-08	1	100.0	100.0	0.0	100.0	100.0	0.0
1994-10	1	96.1	96.1	0.0	92.5	92.5	0.0
1993-12	2	87.1	87.1	0.0	96.4	96.4	0.0
1994-08	2	99.0	99.0	0.0	98.9	98.9	0.0
1994-10	2	81.5	81.5	0.0	97.1	97.1	0.0
1993-12	3	80.1	80.1	0.0	93.7	93.7	0.0
1994-08	3	42.0	42.0	0.0	36.9	36.9	0.0
1994-10	3	34.7	34.7	0.0	45.3	45.3	0.0
1993-12	4	76.3	76.3	0.0	87.0	86.6	1.3
1994-08	4	73.5	73.5	0.0	72.5	72.5	0.0
1994-10	4	85.0	84.8	4.9	71.8	71.6	2.5
1993-12	5	90.4	90.4	0.0	83.2	83.2	0.0
1994-08	5	59.7	59.7	0.3	49.7	49.7	0.0
1994-10	5	26.1	26.1	0.0	39.4	39.2	0.0
1993-12	6	91.8	91.8	0.0	98.7	98.7	0.0
1994-08	6	83.9	83.9	0.0	91.1	91.1	0.0
1994-10	6	74.4	74.4	0.0	92.3	92.3	0.0
1993-12	7	91.5	91.5	0.0	98.5	98.5	0.0
1994-08	7	73.1	73.1	0.0	85.8	85.8	0.3
1994-10	7	91.1	91.1	0.3	98.2	98.2	0.0
1993-12	8	94.7	94.7	0.5	93.2	93.2	0.0
1994-08	8	95.5	95.5	0.0	92.0	92.0	2.3
1994-10	8	93.8	93.8	0.0	95.5	95.5	0.0
1993-12	9	87.6	87.6	0.2	81.2	81.2	0.0
1994-08	9	88.7	87.6	9.8	94.2	94.2	1.3
1994-10	9	92.0	92.0	0.2	98.5	98.5	0.4
1993-12	10	76.8	74.7	4.4	57.0	56.7	1.7
1994-08	10	96.4	43.0	75.8	94.8	84.3	38.8
1993-12	11	98.0	98.0	0.0	98.3	98.3	0.0
1994-08	11	99.6	99.6	0.0	100.0	100.0	0.0
1994-10	11	99.8	99.8	0.0	100.0	100.0	0.0
1993-12	12	90.3	86.6	2.2	92.7	88.9	3.8
1994-08	12	98.9	98.9	0.0	95.5	95.5	0.0
1994-10	12	91.8	91.8	0.9	98.0	98.0	0.8
1993-12	13	72.2	31.7	40.5	80.4	19.4	63.4
1994-08	13	N/A	N/A	N/A	82.6	31.8	54.9
1994-10	13	75.7	53.9	40.9	60.4	49.6	13.8
1993-12	14	90.7	90.7	0.0	91.2	91.2	0.3
1994-08	14	85.4	85.4	0.0	87.8	87.8	0.7
1994-10	14	87.4	87.5	0.2	88.0	88.0	0.0
1993-12	15	83.9	83.9	2.7	96.9	96.9	0.0
1994-08	15	86.9	86.9	0.5	98.4	98.4	0.8
1994-10	15	95.2	90.7	24.9	96.5	90.9	17.6

Table 5. Dry Weight biomass (g) per m^2. Means and standard deviations from six replicate 25 x 25 cm quadrats.

	Syringodium filiforme	*Halophila englemannii*	*Halodule wrightii*	*Thalassia testudinum*	*Caulerpa prolifera*	*Caulerpa mexicana*	Drift Algae
Station 1							
Count (>0g)			6				
Mean			26.2				
S.D.			17.7				
Station 2							
Count (>0g)			6				
Mean			13.1				
S.D.			2.8				
Station 3							
Count (>0g)			6				
Mean			8.3				
S.D.			5.7				
Station 4							
Count (>0g)	6						2
Mean	42.9						27.4
S.D.	15.9						42.4
Station 5							
Count (>0g)			6				
Mean			8.5				
S.D.			5.7				
Station 6							
Count (>0g)			6				
Mean			20.3				
S.D.			14.3				
Station 7							
Count (>0g)		2	6				
Mean		2.3	18.3				
S.D.		4.4	5.7				
Station 8							
Count (>0g)	5	4	5				5
Mean	33.4	1.8	19.9				24.3
S.D.	34.9	2.1	12.1				38.1

Table 5. Continued.

	Syringodium filiforme	*Halophila englemannii*	*Halodule wrightii*	*Thalassia testudinum*	*Caulerpa prolifera*	*Caulerpa mexicana*	Drift Algae
Station 9							
Count (>0g)	6	4	1				3
Mean	71.8	3.4	0.5				4.9
S.D.	14.8	3.6	1.1				8.8
Station 10							
Count (>0g)	5	1			6		2
Mean	54.2	0.6			23.4		76.2
S.D.	35.1	1.6			22.5		118.1
Station 11							
Count (>0g)	6						
Mean	126.7						
S.D.	34.0						
Station 12							
Count (>0g)	6		1		5		4
Mean	109.2		13.3		1.6		182.4
S.D.	72.5		32.5		1.9		198.4
Station 13							
Count (>0g)				5	5	4	6
Mean				38.4	18.3	171.8	124.0
S.D.				42.3	15.9	163.0	194.2
Station 14							
Count (>0g)	4		6				5
Mean	13.7		10.6				50.7
S.D.	24.3		4.0				60.8
Station 15							
Count (>0g)			6	2			3
Mean			69.1	3.3			14.5
S.D.			51.5	6.6			29.1

Table 6. Dry weights (ug) from clipped 14-day growth samples.

Station	Species	Clip Area Weight Mean	Clip Area Weight S.D.	Shoot Weight Mean	Shoot Weight S.D.
1	*Halodule wrightii*	743	293	153	34
2	*Halodule wrightii*	288	125	81	29
3	*Halodule wrightii*	117	102	41	13
5	*Halodule wrightii*	110	52	63	26
6	*Halodule wrightii*	492	210	132	68
7	*Halodule wrightii*	291	109	87	38
8	*Halodule wrightii*	621	257	109	32
13	*Halodule wrightii*	261	209	69	43
14	*Halodule wrightii*	843	290	208	82
15	*Halodule wrightii*	629	166	125	60
4	*Syringodium filiforme*	1332	617	260	86
9	*Syringodium filiforme*	2476	1184	189	45
10	*Syringodium filiforme*	1328	623	105	32
11	*Syringodium filiforme*	988	500	355	117
12	*Syringodium filiforme*	934	615	170	113

Table 7. Productivity (mg/m2/day) and number of shoots (m2) from grass clip sample and dry weight biomass (mg/m2) from quadrat collections.

		Productivity				Biomass	
		(mg/m2/day)		Shoots per m2		(g/m2)	
Station	Species	Mean	S.D.	Mean	S.D.	Mean	S.D.
3	Halodule wrightii	83	73	259	151	8.3	5.7
2	Halodule wrightii	205	89	379	192	13.1	2.8
1	Halodule wrightii	529	209	465	103	26.2	17.7
7	Halodule wrightii	207	77	379	204	18.3	5.7
6	Halodule wrightii	350	150	382	117	15.1	9.5
5	Halodule wrightii	73	34	199	126	8.5	5.7
8	Halodule wrightii	516	213	638	350	19.9	12.1
15	Halodule wrightii	522	138	638	409	69.1	51.5
14	Halodule wrightii	700	241	474	275	10.6	4.0
13	Halodule wrightii	186	149	339	167	--	--
4	Syringodium filiforme	434	201	228	72	42.9	15.9
12	Syringodium filiforme	305	201	247	69	109.2	72.5
11	Syringodium filiforme	376	190	137	91	126.7	34.0
9	Syringodium filiforme	807	386	594	258	71.8	14.8
10	Syringodium filiforme	433	203	575	249	54.2	35.1

Appendix Table 1. Station locations for the seagrass bed edge observations in 1994.

Station	Latitude	Longitude	Loran (45)	Loran (62)
1	28 57 58.39	82 43 56.35	45234.56	62883.88
2	28 58 00.79	82 43 50.00	45234.06	62883.08
3	28 58 03.88	82 43 41.91	45233.61	62882.21
4	28 57 17.67	82 44 21.52	45232.47	62887.19
5	28 58 35.81	82 44 33.48	45244.78	62888.00
6	N/A	N/A	45240.33	62885.49
7	28 58 25 00	82 44 09 00	45237.91	62884.67
8	28 57 07.30	82 44 19.26	45230.70	62887.06
9	28 56 49.65	82 43 25.10	45220.91	62880.80
10	28 56 41.19	82 43 14.31	45218.47	62879.68
11	28 57 23.73	82 43 38.31	45227.68	62882.13
12	28 57 10.49	82 44 17.21	45230.03	62886.80
13	28 58 12.34	82 45 15.62	45274.30	67893.40
14	28 57 04.40	82 44 35.00	45232.39	67889.09
15	28 57 05.90	82 44 39.40	45232.91	62889.56

Appendix Table 2. Vegetation coverage (percent) in seagrass beds for $1m^2$ quadrats along bed perimeters and 2 meters inside beds.

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	1	1	I	43	43	0	*Halodule wrightii*	43
1993-12	1	2	I	93	93	0	*Halodule wrightii*	93
1993-12	1	2	P	74	74	0	*Halodule wrightii*	74
1993-12	1	3	I	85	85	0	*Halodule wrightii*	85
1993-12	1	3	P	89	89	0	*Halodule wrightii*	89
1993-12	1	4	I	97	97	0	*Halodule wrightii*	97
1993-12	1	4	P	79	79	0	*Halodule wrightii*	79
1993-12	1	5	I	71	71	0	*Halodule wrightii*	71
1993-12	1	5	P	79	79	0	*Halodule wrightii*	79
1993-12	1	6	I	96	96	0	*Halodule wrightii*	96
1993-12	1	6	P	82	82	0	*Halodule wrightii*	82
1993-12	1	7	I	94	94	0	*Halodule wrightii*	94
1993-12	1	7	P	87	87	0	*Halodule wrightii*	87
1993-12	1	8	I	96	96	0	*Halodule wrightii*	96
1993-12	1	8	P	73	73	0	*Halodule wrightii*	73
1993-12	1	9	I	90	90	0	*Halodule wrightii*	90
1993-12	1	9	P	73	73	0	*Halodule wrightii*	73
1993-12	1	10	I	35	35	0	*Halodule wrightii*	35
1993-12	1	10	P	80	80	0	*Halodule wrightii*	80
1993-12	2	1	I	96	96	0	*Halodule wrightii*	96
1993-12	2	1	P	94	94	0	*Halodule wrightii*	94
1993-12	2	2	I	98	98	0	*Halodule wrightii*	98
1993-12	2	2	P	80	80	0	*Halodule wrightii*	80
1993-12	2	3	I	98	98	0	*Halodule wrightii*	98
1993-12	2	3	P	95	95	0	*Halodule wrightii*	95
1993-12	2	4	I	98	98	0	*Halodule wrightii*	98
1993-12	2	4	P	100	100	0	*Halodule wrightii*	100
1993-12	2	5	I	100	100	0	*Halodule wrightii*	100
1993-12	2	5	P	100	100	0	*Halodule wrightii*	100
1993-12	2	6	I	97	97	0	*Halodule wrightii*	97
1993-12	2	6	P	87	87	0	*Halodule wrightii*	87
1993-12	2	7	I	95	95	0	*Halodule wrightii*	95
1993-12	2	7	P	93	93	0	*Halodule wrightii*	93
1993-12	2	8	I	96	96	0	*Halodule wrightii*	96
1993-12	2	8	P	82	82	0	*Halodule wrightii*	82
1993-12	2	9	I	92	92	0	*Halodule wrightii*	92
1993-12	2	9	P	83	83	0	*Halodule wrightii*	83
1993-12	2	10	I	94	94	0	*Halodule wrightii*	94
1993-12	2	10	P	57	57	0	*Halodule wrightii*	57
1993-12	3	1	I	88	88	0	*Halodule wrightii*	88
1993-12	3	1	P	70	70	0	*Halodule wrightii*	70
1993-12	3	2	I	87	87	0	*Halodule wrightii*	87
1993-12	3	2	P	84	84	0	*Halodule wrightii*	84
1993-12	3	3	I	100	100	0	*Halodule wrightii*	100
1993-12	3	3	P	92	92	0	*Halodule wrightii*	92
1993-12	3	4	I	100	100	0	*Halodule wrightii*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	3	4	P	94	94	0	*Halodule wrightii*	94
1993-12	3	5	I	98	98	0	*Halodule wrightii*	98
1993-12	3	5	P	64	64	0	*Halodule wrightii*	64
1993-12	3	6	I	81	81	0	*Halodule wrightii*	81
1993-12	3	6	P	84	84	0	*Halodule wrightii*	84
1993-12	3	7	I	91	91	0	*Halodule wrightii*	91
1993-12	3	7	P	98	98	0	*Halodule wrightii*	98
1993-12	3	8	I	100	100	0	*Halodule wrightii*	100
1993-12	3	8	P	46	46	0	*Halodule wrightii*	46
1993-12	3	9	I	100	100	0	*Halodule wrightii*	100
1993-12	3	9	P	93	93	0	*Halodule wrightii*	93
1993-12	3	10	I	92	92	0	*Halodule wrightii*	92
1993-12	3	10	P	76	76	0	*Halodule wrightii*	76
1993-12	4	1	I	84	84	0	*Halodule wrightii*	84
1993-12	4	1	P	92	92	0	*Halodule wrightii*	92
1993-12	4	2	I	74	74	0	*Halodule wrightii*	74
1993-12	4	2	P	71	71	0	*Halodule wrightii*	71
1993-12	4	3	I	71	71	0	*Halodule wrightii*	71
1993-12	4	3	P	68	68	0	*Halodule wrightii*	68
1993-12	4	4	I	87	87	0	*Halodule wrightii*	87
1993-12	4	4	P	66	66	0	*Halodule wrightii*	65
1993-12	4	4	P	66	66	0	*Halophila englemannii*	1
1993-12	4	5	I	94	94	0	*Halodule wrightii*	94
1993-12	4	5	P	73	73	0	*Halodule wrightii*	73
1993-12	4	6	I	96	96	0	*Halodule wrightii*	96
1993-12	4	6	P	78	78	0	*Halodule wrightii*	78
1993-12	4	7	I	89	87	2	*Caulerpa prolifera*	2
1993-12	4	7	I	89	87	2	*Halodule wrightii*	87
1993-12	4	7	P	70	70	0	*Halodule wrightii*	70
1993-12	4	8	I	95	95	5	*Caulerpa prolifera*	5
1993-12	4	8	I	95	95	5	*Halodule wrightii*	90
1993-12	4	8	P	89	89	0	*Halodule wrightii*	89
1993-12	4	9	I	83	83	0	*Halodule wrightii*	83
1993-12	4	9	P	90	90	0	*Halodule wrightii*	90
1993-12	5	1	I	40	40	0	*Halodule wrightii*	40
1993-12	5	1	P	92	92	0	*Halodule wrightii*	92
1993-12	5	2	I	96	96	0	*Halodule wrightii*	96
1993-12	5	2	P	93	93	0	*Halodule wrightii*	93
1993-12	5	3	I	91	91	0	*Halodule wrightii*	91
1993-12	5	3	P	93	93	0	*Halodule wrightii*	93
1993-12	5	4	I	93	93	0	*Halodule wrightii*	93
1993-12	5	4	P	83	83	0	*Halodule wrightii*	83
1993-12	5	5	I	84	84	0	*Halodule wrightii*	84
1993-12	5	5	P	88	88	0	*Halodule wrightii*	88
1993-12	5	6	I	77	77	0	*Halodule wrightii*	77
1993-12	5	6	P	89	89	0	*Halodule wrightii*	89
1993-12	5	7	I	80	80	0	*Halodule wrightii*	80
1993-12	5	7	P	88	88	0	*Halodule wrightii*	88

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	5	8	I	79	79	0	*Halodule wrightii*	79
1993-12	5	8	P	100	100	0	*Halodule wrightii*	100
1993-12	5	9	I	96	96	0	*Halodule wrightii*	96
1993-12	5	9	P	88	88	0	*Halodule wrightii*	88
1993-12	5	10	I	96	96	0	*Halodule wrightii*	96
1993-12	5	10	P	90	90	0	*Halodule wrightii*	90
1993-12	6	1	I	100	100	0	*Halodule wrightii*	100
1993-12	6	1	P	100	100	0	*Halodule wrightii*	100
1993-12	6	2	I	97	97	0	*Halodule wrightii*	59
1993-12	6	2	I	97	97	0	*Halophila englemannii*	38
1993-12	6	2	P	75	75	0	*Halodule wrightii*	75
1993-12	6	3	I	99	99	0	*Halodule wrightii*	99
1993-12	6	3	I	99	99	0	*Halophila englemannii*	1
1993-12	6	3	P	83	83	0	*Halodule wrightii*	83
1993-12	6	3	P	83	83	0	*Halophila englemannii*	10
1993-12	6	4	I	100	100	0	*Halodule wrightii*	100
1993-12	6	4	P	94	94	0	*Halodule wrightii*	92
1993-12	6	4	P	94	94	0	*Halophila englemannii*	2
1993-12	6	5	I	99	99	0	*Halodule wrightii*	99
1993-12	6	5	P	90	90	0	*Halodule wrightii*	90
1993-12	6	6	I	99	99	0	*Halodule wrightii*	99
1993-12	6	6	P	98	98	0	*Halodule wrightii*	97
1993-12	6	6	P	98	98	0	*Halophila englemannii*	1
1993-12	6	7	I	99	99	0	*Halodule wrightii*	99
1993-12	6	7	P	94	94	0	*Halodule wrightii*	94
1993-12	6	8	I	99	99	0	*Halodule wrightii*	99
1993-12	6	8	P	98	98	0	*Halodule wrightii*	98
1993-12	6	9	I	98	98	0	*Halodule wrightii*	98
1993-12	6	9	P	93	93	0	*Halodule wrightii*	93
1993-12	6	9	P	93	93	0	*Halophila englemannii*	15
1993-12	7	1	I	100	100	0	*Halodule wrightii*	100
1993-12	7	1	P	93	93	0	*Halodule wrightii*	93
1993-12	7	2	I	88	88	0	*Halodule wrightii*	88
1993-12	7	2	P	86	86	0	*Halodule wrightii*	86
1993-12	7	3	I	95	95	0	*Halodule wrightii*	95
1993-12	7	3	P	66	66	0	*Halodule wrightii*	66
1993-12	7	4	I	100	100	0	*Halodule wrightii*	100
1993-12	7	4	P	100	100	0	*Halodule wrightii*	100
1993-12	7	5	I	100	100	0	*Halodule wrightii*	100
1993-12	7	5	P	90	90	0	*Halodule wrightii*	90
1993-12	7	6	I	100	100	0	*Halodule wrightii*	100
1993-12	7	6	P	94	94	0	*Halodule wrightii*	94
1993-12	7	7	I	100	100	0	*Halodule wrightii*	100
1993-12	7	7	P	96	96	0	*Halodule wrightii*	96
1993-12	7	8	I	100	100	0	*Halodule wrightii*	100
1993-12	7	8	P	100	100	0	*Halodule wrightii*	100
1993-12	7	9	I	100	100	0	*Halodule wrightii*	100
1993-12	7	9	I	100	100	0	*Halophila englemannii*	2

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	7	9	P	97	97	0	*Halodule wrightii*	97
1993-12	7	10	I	100	100	0	*Halodule wrightii*	100
1993-12	7	10	P	93	93	0	*Halodule wrightii*	93
1993-12	8	1	I	91	91	0	*Halodule wrightii*	91
1993-12	8	1	I	91	91	0	*Halophila englemannii*	6
1993-12	8	1	P	99	99	2	*Caulerpa prolifera*	2
1993-12	8	1	P	99	99	2	*Halodule wrightii*	99
1993-12	8	1	P	99	99	2	*Halophila englemannii*	2
1993-12	8	2	I	97	97	0	*Halodule wrightii*	97
1993-12	8	2	I	97	97	0	*Halophila englemannii*	2
1993-12	8	2	P	94	94	0	*Halodule wrightii*	94
1993-12	8	3	I	98	98	0	*Halodule wrightii*	98
1993-12	8	3	I	98	98	0	*Halophila englemannii*	6
1993-12	8	3	P	100	100	0	*Halodule wrightii*	100
1993-12	8	4	I	100	100	0	*Halodule wrightii*	100
1993-12	8	4	I	100	100	0	*Halophila englemannii*	4
1993-12	8	4	P	95	95	0	*Halodule wrightii*	95
1993-12	8	5	I	94	94	0	*Halodule wrightii*	94
1993-12	8	5	P	94	94	0	*Halodule wrightii*	94
1993-12	8	5	P	94	94	0	*Halophila englemannii*	4
1993-12	8	6	I	90	90	0	*Halodule wrightii*	90
1993-12	8	6	P	76	76	0	*Halodule wrightii*	76
1993-12	8	7	I	75	75	0	*Halodule wrightii*	75
1993-12	8	7	P	100	100	0	*Halodule wrightii*	100
1993-12	8	8	I	86	86	0	*Halodule wrightii*	86
1993-12	8	8	P	96	96	0	*Halodule wrightii*	96
1993-12	8	9	I	94	94	0	*Halodule wrightii*	94
1993-12	8	9	P	90	90	0	*Halodule wrightii*	90
1993-12	9	1	I	56	56	0	*Syringodium filiforme*	56
1993-12	9	1	P	94	94	0	*Halophila englemannii*	2
1993-12	9	1	P	94	94	0	*Syringodium filiforme*	94
1993-12	9	2	I	94	94	0	*Syringodium filiforme*	94
1993-12	9	2	P	96	96	0	*Syringodium filiforme*	96
1993-12	9	3	I	94	94	0	*Halodule wrightii*	6
1993-12	9	3	I	94	94	0	*Syringodium filiforme*	94
1993-12	9	3	P	93	93	0	*Syringodium filiforme*	93
1993-12	9	4	I	85	85	0	*Syringodium filiforme*	85
1993-12	9	4	P	80	80	1	*Caulerpa prolifera*	1
1993-12	9	4	P	80	80	1	*Halophila englemannii*	3
1993-12	9	4	P	80	80	1	*Syringodium filiforme*	80
1993-12	9	5	I	93	93	0	*Syringodium filiforme*	93
1993-12	9	5	P	86	86	0	*Syringodium filiforme*	86
1993-12	9	6	I	84	84	0	*Halophila englemannii*	2
1993-12	9	6	I	84	84	0	*Syringodium filiforme*	82
1993-12	9	6	P	92	92	0	*Syringodium filiforme*	92
1993-12	9	7	I	28	28	0	*Syringodium filiforme*	28
1993-12	9	7	P	89	89	0	*Halophila englemannii*	11
1993-12	9	7	P	89	89	0	*Syringodium filiforme*	78

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	9	8	I	91	91	0	*Halophila englemannii*	10
1993-12	9	8	I	91	91	0	*Syringodium filiforme*	91
1993-12	9	8	P	79	79	0	*Halophila englemannii*	10
1993-12	9	8	P	79	79	0	*Syringodium filiforme*	79
1993-12	9	9	I	67	67	0	*Syringodium filiforme*	67
1993-12	9	9	P	89	89	0	*Halophila englemannii*	7
1993-12	9	9	P	89	89	0	*Syringodium filiforme*	89
1993-12	9	10	I	94	94	0	*Syringodium filiforme*	94
1993-12	9	10	P	90	90	0	*Halophila englemannii*	3
1993-12	9	10	P	90	90	0	*Syringodium filiforme*	90
1993-12	10	1	I	24	24	0	*Halophila englemannii*	17
1993-12	10	1	I	24	24	0	*Syringodium filiforme*	7
1993-12	10	1	P	90	90	4	*Caulerpa prolifera*	4
1993-12	10	1	P	90	90	4	*Syringodium filiforme*	90
1993-12	10	2	I	78	78	0	*Syringodium filiforme*	78
1993-12	10	2	P	77	77	8	*Caulerpa prolifera*	8
1993-12	10	2	P	77	77	8	*Syringodium filiforme*	77
1993-12	10	3	I	84	84	4	*Caulerpa prolifera*	4
1993-12	10	3	I	84	84	4	*Syringodium filiforme*	84
1993-12	10	3	P	84	68	16	*Caulerpa prolifera*	16
1993-12	10	3	P	84	68	16	*Syringodium filiforme*	84
1993-12	10	4	I	59	59	0	*Syringodium filiforme*	59
1993-12	10	4	P	80	80	0	*Syringodium filiforme*	80
1993-12	10	5	I	68	68	6	*Caulerpa prolifera*	6
1993-12	10	5	I	68	68	6	*Syringodium filiforme*	68
1993-12	10	5	P	77	77	0	*Syringodium filiforme*	77
1993-12	10	6	I	60	58	2	*Caulerpa prolifera*	2
1993-12	10	6	I	60	58	2	*Syringodium filiforme*	58
1993-12	10	6	P	6	6	0	*Syringodium filiforme*	6
1993-12	10	7	I	0	0	0	Bare	0
1993-12	10	7	P	13	13	0	*Syringodium filiforme*	13
1993-12	10	8	I	19	19	0	*Syringodium filiforme*	19
1993-12	10	8	P	87	87	5	*Caulerpa prolifera*	5
1993-12	10	8	P	87	87	5	*Syringodium filiforme*	87
1993-12	10	9	I	76	76	0	*Syringodium filiforme*	76
1993-12	10	9	P	100	100	0	*Halophila englemannii*	3
1993-12	10	9	P	100	100	0	*Syringodium filiforme*	100
1993-12	10	10	I	94	94	0	*Syringodium filiforme*	94
1993-12	10	10	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	1	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	1	P	99	99	0	*Syringodium filiforme*	99
1993-12	11	2	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	2	P	100	100	0	*Halophila englemannii*	1
1993-12	11	2	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	3	I	99	99	0	*Syringodium filiforme*	99
1993-12	11	3	P	97	97	0	*Syringodium filiforme*	97
1993-12	11	4	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	4	P	98	98	0	*Syringodium filiforme*	98

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	11	5	I	94	94	0	*Syringodium filiforme*	94
1993-12	11	5	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	6	I	95	95	0	*Syringodium filiforme*	95
1993-12	11	6	P	93	93	0	*Halophila englemannii*	2
1993-12	11	6	P	93	93	0	*Syringodium filiforme*	93
1993-12	11	7	I	95	95	0	*Syringodium filiforme*	95
1993-12	11	7	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	8	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	8	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	9	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	9	P	100	100	0	*Syringodium filiforme*	100
1993-12	11	10	I	100	100	0	*Syringodium filiforme*	100
1993-12	11	10	P	96	96	0	*Syringodium filiforme*	96
1993-12	12	1	I	100	100	0	*Halodule wrightii*	100
1993-12	12	1	I	100	100	0	*Syringodium filiforme*	100
1993-12	12	1	P	88	88	0	*Syringodium filiforme*	88
1993-12	12	2	I	98	92	6	*Caulerpa prolifera*	6
1993-12	12	2	I	98	92	6	*Syringodium filiforme*	92
1993-12	12	2	P	88	88	0	*Syringodium filiforme*	88
1993-12	12	3	I	70	68	2	*Caulerpa prolifera*	2
1993-12	12	3	I	70	68	2	*Halodule wrightii*	34
1993-12	12	3	I	70	68	2	*Syringodium filiforme*	34
1993-12	12	3	P	89	88	1	*Caulerpa prolifera*	1
1993-12	12	3	P	89	88	1	*Syringodium filiforme*	88
1993-12	12	4	I	100	80	20	*Caulerpa prolifera*	20
1993-12	12	4	I	100	80	20	*Syringodium filiforme*	80
1993-12	12	4	P	88	66	12	*Caulerpa prolifera*	12
1993-12	12	4	P	88	66	12	*Syringodium filiforme*	66
1993-12	12	5	I	97	97	0	*Syringodium filiforme*	97
1993-12	12	5	P	94	93	1	*Caulerpa prolifera*	1
1993-12	12	5	P	94	93	1	*Syringodium filiforme*	93
1993-12	12	6	I	100	99	1	*Caulerpa prolifera*	1
1993-12	12	6	I	100	99	1	*Syringodium filiforme*	99
1993-12	12	6	P	96	96	0	*Syringodium filiforme*	96
1993-12	12	7	I	97	97	0	*Syringodium filiforme*	97
1993-12	12	7	P	95	95	0	*Syringodium filiforme*	95
1993-12	12	8	I	89	89	0	*Syringodium filiforme*	89
1993-12	12	8	P	95	95	0	*Syringodium filiforme*	95
1993-12	12	9	I	96	96	0	*Syringodium filiforme*	96
1993-12	12	9	P	78	78	0	*Syringodium filiforme*	78
1993-12	12	10	I	98	98	0	*Syringodium filiforme*	98
1993-12	12	10	P	92	92	0	*Syringodium filiforme*	92
1993-12	13	1	I	96	96	15	*Caulerpa prolifera*	15
1993-12	13	1	I	96	96	15	*Halodule wrightii*	96
1993-12	13	1	I	96	96	15	*Thalassia testudinum*	5
1993-12	13	1	P	82	76	6	*Caulerpa prolifera*	6
1993-12	13	1	P	82	76	6	*Halodule wrightii*	78
1993-12	13	2	I	94	10	84	*Caulerpa prolifera*	6

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	13	2	I	94	10	84	*Caulerpa mexicana*	78
1993-12	13	2	I	94	10	84	*Thalassia testudinum*	10
1993-12	13	2	P	68	55	13	*Caulerpa mexicana*	13
1993-12	13	2	P	68	55	13	*Halodule wrightii*	55
1993-12	13	2	P	68	55	13	*Thalassia testudinum*	3
1993-12	13	3	I	53	16	37	*Caulerpa mexicana*	37
1993-12	13	3	I	53	16	37	*Thalassia testudinum*	16
1993-12	13	3	P	55	0	55	*Caulerpa mexicana*	55
1993-12	13	4	I	97	0	97	*Caulerpa prolifera*	70
1993-12	13	4	I	97	0	97	*Caulerpa mexicana*	27
1993-12	13	4	P	100	0	100	*Caulerpa prolifera*	80
1993-12	13	4	P	100	0	100	*Caulerpa mexicana*	20
1993-12	13	5	I	50	0	50	*Caulerpa prolifera*	20
1993-12	13	5	I	50	0	50	*Caulerpa mexicana*	30
1993-12	13	5	P	72	0	72	*Caulerpa mexicana*	72
1993-12	13	6	I	90	0	90	*Caulerpa prolifera*	80
1993-12	13	6	I	90	0	90	*Caulerpa mexicana*	10
1993-12	13	6	P	60	0	60	*Caulerpa mexicana*	60
1993-12	13	7	I	70	0	70	*Caulerpa prolifera*	70
1993-12	13	7	P	70	0	70	*Caulerpa prolifera*	70
1993-12	13	8	I	42	0	42	*Caulerpa prolifera*	42
1993-12	13	8	P	40	0	40	*Caulerpa mexicana*	40
1993-12	13	9	I	95	0	95	*Caulerpa mexicana*	95
1993-12	13	9	P	60	20	40	*Caulerpa mexicana*	40
1993-12	13	9	P	60	20	40	*Halodule wrightii*	20
1993-12	13	10	I	90	0	90	*Caulerpa mexicana*	90
1993-12	13	10	P	85	75	10	*Caulerpa prolifera*	10
1993-12	13	10	P	85	75	10	*Halodule wrightii*	75
1993-12	14	1	I	69	69	0	*Halodule wrightii*	69
1993-12	14	1	P	100	100	0	*Halodule wrightii*	100
1993-12	14	2	I	98	98	0	*Halodule wrightii*	98
1993-12	14	2	P	100	100	0	*Halodule wrightii*	100
1993-12	14	3	I	95	95	0	*Halodule wrightii*	95
1993-12	14	3	P	82	82	0	*Halodule wrightii*	82
1993-12	14	4	I	97	97	0	*Halodule wrightii*	97
1993-12	14	4	P	73	73	0	*Halodule wrightii*	73
1993-12	14	5	I	95	95	0	*Halodule wrightii*	95
1993-12	14	5	P	95	95	0	*Halodule wrightii*	95
1993-12	14	6	I	93	93	2	*Caulerpa prolifera*	2
1993-12	14	6	I	93	93	2	*Halodule wrightii*	91
1993-12	14	6	P	97	97	0	*Halodule wrightii*	97
1993-12	14	7	I	93	93	0	*Halodule wrightii*	93
1993-12	14	7	P	96	96	0	*Halodule wrightii*	96
1993-12	14	8	I	95	95	0	*Halodule wrightii*	95
1993-12	14	8	P	89	89	0	*Halodule wrightii*	89
1993-12	14	9	I	83	83	0	*Halodule wrightii*	3
1993-12	14	9	I	83	83	0	*Thalassia testudinum*	83
1993-12	14	9	P	77	77	0	*Thalassia testudinum*	77

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1993-12	14	10	I	100	100	0	*Halodule wrightii*	100
1993-12	14	10	P	98	98	0	*Halodule wrightii*	98
1993-12	15	1	I	95	95	0	*Thalassia testudinum*	95
1993-12	15	1	P	90	90	0	*Thalassia testudinum*	90
1993-12	15	2	I	95	95	0	*Thalassia testudinum*	95
1993-12	15	2	P	88	88	0	*Thalassia testudinum*	88
1993-12	15	3	I	89	89	0	*Halodule wrightii*	18
1993-12	15	3	I	89	89	0	*Thalassia testudinum*	86
1993-12	15	3	P	28	28	0	*Thalassia testudinum*	28
1993-12	15	4	I	100	100	0	*Halodule wrightii*	100
1993-12	15	4	P	89	89	0	*Halodule wrightii*	89
1993-12	15	5	I	100	100	0	*Halodule wrightii*	100
1993-12	15	5	P	100	100	0	*Halodule wrightii*	100
1993-12	15	6	I	100	100	0	*Halodule wrightii*	100
1993-12	15	6	P	78	78	0	*Halodule wrightii*	78
1993-12	15	7	I	100	100	0	*Halodule wrightii*	100
1993-12	15	7	P	100	100	0	*Halodule wrightii*	100
1993-12	15	8	I	100	100	0	*Halodule wrightii*	100
1993-12	15	8	P	75	75	15	*Caulerpa prolifera*	15
1993-12	15	8	P	75	75	15	*Halodule wrightii*	75
1993-12	15	9	I	100	100	0	*Halodule wrightii*	100
1993-12	15	9	P	100	100	0	*Halodule wrightii*	100
1993-12	15	10	I	98	98	0	*Halodule wrightii*	98
1993-12	15	10	P	100	100	0	*Halodule wrightii*	100
1994-08	1	1	P	100	100	0	*Halodule wrightii*	100
1994-08	1	1	I	100	100	0	*Halodule wrightii*	100
1994-08	1	2	P	100	100	0	*Halodule wrightii*	100
1994-08	1	2	I	100	100	0	*Halodule wrightii*	100
1994-08	1	3	P	100	100	0	*Halodule wrightii*	100
1994-08	1	3	I	100	100	0	*Halodule wrightii*	100
1994-08	1	4	P	100	100	0	*Halodule wrightii*	100
1994-08	1	4	I	100	100	0	*Halodule wrightii*	100
1994-08	1	5	P	100	100	0	*Halodule wrightii*	100
1994-08	1	5	I	100	100	0	*Halodule wrightii*	100
1994-08	1	6	P	100	100	0	*Halodule wrightii*	100
1994-08	1	6	I	100	100	0	*Halodule wrightii*	100
1994-08	1	7	P	100	100	0	*Halodule wrightii*	100
1994-08	1	7	I	100	100	0	*Halodule wrightii*	100
1994-08	1	8	P	100	100	0	*Halodule wrightii*	100
1994-08	1	8	I	100	100	0	*Halodule wrightii*	100
1994-08	1	9	P	100	100	0	*Halodule wrightii*	100
1994-08	1	9	I	100	100	0	*Halodule wrightii*	100
1994-08	1	10	P	100	100	0	*Halodule wrightii*	100
1994-08	1	10	I	100	100	0	*Halodule wrightii*	100
1994-08	2	1	P	94	94	0	*Halodule wrightii*	94
1994-08	2	1	I	92	92	0	*Halodule wrightii*	92
1994-08	2	2	P	100	100	0	*Halodule wrightii*	100
1994-08	2	2	I	100	100	0	*Halodule wrightii*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	2	3	P	100	100	0	*Halodule wrightii*	100
1994-08	2	3	I	100	100	0	*Halodule wrightii*	100
1994-08	2	4	P	100	100	0	*Halodule wrightii*	100
1994-08	2	4	I	100	100	0	*Halodule wrightii*	100
1994-08	2	5	P	100	100	0	*Halodule wrightii*	100
1994-08	2	5	I	100	100	0	*Halodule wrightii*	100
1994-08	2	6	P	100	100	0	*Halodule wrightii*	100
1994-08	2	6	I	100	100	0	*Halodule wrightii*	100
1994-08	2	7	P	100	100	0	*Halodule wrightii*	100
1994-08	2	7	I	100	100	0	*Halodule wrightii*	100
1994-08	2	8	P	100	100	0	*Halodule wrightii*	100
1994-08	2	8	I	100	100	0	*Halodule wrightii*	100
1994-08	2	9	P	100	100	0	*Halodule wrightii*	100
1994-08	2	9	I	99	99	0	*Halodule wrightii*	99
1994-08	2	10	P	96	96	0	*Halodule wrightii*	96
1994-08	2	10	I	98	98	0	*Halodule wrightii*	98
1994-08	3	1	P	46	46	0	*Halodule wrightii*	46
1994-08	3	1	I	30	30	0	*Halodule wrightii*	30
1994-08	3	2	P	15	15	0	*Halodule wrightii*	15
1994-08	3	2	I	25	25	0	*Halodule wrightii*	25
1994-08	3	3	P	64	64	0	*Halodule wrightii*	64
1994-08	3	3	I	81	81	0	*Halodule wrightii*	81
1994-08	3	4	P	28	28	0	*Halodule wrightii*	28
1994-08	3	4	I	36	36	0	*Halodule wrightii*	36
1994-08	3	5	P	54	54	0	*Halodule wrightii*	54
1994-08	3	5	I	30	30	0	*Halodule wrightii*	30
1994-08	3	6	P	0	0	0	*Halodule wrightii*	0
1994-08	3	6	I	15	15	0	*Halodule wrightii*	15
1994-08	3	7	P	80	80	0	*Halodule wrightii*	80
1994-08	3	7	I	15	15	0	*Halodule wrightii*	15
1994-08	3	8	P	65	65	0	*Halodule wrightii*	65
1994-08	3	8	I	90	90	0	*Halodule wrightii*	90
1994-08	3	9	P	42	42	0	*Halodule wrightii*	42
1994-08	3	9	I	20	20	0	*Halodule wrightii*	20
1994-08	3	10	P	26	26	0	*Halodule wrightii*	26
1994-08	3	10	I	27	27	0	*Halodule wrightii*	27
1994-08	4	1	P	98	98	0	*Syringodium filiforme*	98
1994-08	4	1	I	100	100	0	*Syringodium filiforme*	100
1994-08	4	2	P	73	73	0	*Syringodium filiforme*	73
1994-08	4	2	I	94	94	0	*Syringodium filiforme*	94
1994-08	4	3	P	91	91	0	*Syringodium filiforme*	91
1994-08	4	3	I	58	58	0	*Syringodium filiforme*	58
1994-08	4	4	P	70	70	0	*Syringodium filiforme*	70
1994-08	4	4	I	83	83	0	*Syringodium filiforme*	83
1994-08	4	5	P	48	48	0	*Syringodium filiforme*	48
1994-08	4	5	I	58	58	0	*Syringodium filiforme*	58
1994-08	4	6	P	76	76	0	*Syringodium filiforme*	76
1994-08	4	6	I	84	84	0	*Syringodium filiforme*	84

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	4	7	P	76	76	0	*Syringodium filiforme*	76
1994-08	4	7	I	95	95	0	*Syringodium filiforme*	95
1994-08	4	8	P	80	80	0	*Syringodium filiforme*	80
1994-08	4	8	I	18	18	0	*Syringodium filiforme*	18
1994-08	4	8	P	80	80	0	*Halophila englemannii*	1
1994-08	4	9	P	96	96	0	*Syringodium filiforme*	96
1994-08	4	9	I	91	91	0	*Syringodium filiforme*	91
1994-08	4	10	P	21	21	0	*Syringodium filiforme*	21
1994-08	4	10	I	44	44	0	*Syringodium filiforme*	44
1994-08	5	1	P	56	56	0	*Halodule wrightii*	56
1994-08	5	1	I	50	50	0	*Halodule wrightii*	50
1994-08	5	2	P	53	53	0	*Halodule wrightii*	53
1994-08	5	2	I	65	65	0	*Halodule wrightii*	65
1994-08	5	3	P	71	71	0	*Halodule wrightii*	71
1994-08	5	3	I	18	18	0	*Halodule wrightii*	18
1994-08	5	3	P	71	71	3	*Caulerpa prolifera*	3
1994-08	5	4	P	48	48	0	*Halodule wrightii*	48
1994-08	5	4	I	9	9	0	*Halodule wrightii*	9
1994-08	5	5	P	37	37	0	*Halodule wrightii*	37
1994-08	5	5	I	16	16	0	*Halodule wrightii*	16
1994-08	5	6	P	50	50	0	*Halodule wrightii*	50
1994-08	5	6	I	74	74	0	*Halodule wrightii*	74
1994-08	5	7	P	85	85	0	*Halodule wrightii*	85
1994-08	5	7	I	98	98	0	*Halodule wrightii*	98
1994-08	5	8	P	74	74	0	*Halodule wrightii*	74
1994-08	5	8	I	85	85	0	*Halodule wrightii*	85
1994-08	5	9	P	55	55	0	*Halodule wrightii*	55
1994-08	5	9	I	4	4	0	*Halodule wrightii*	4
1994-08	5	10	P	57	57	0	*Halodule wrightii*	57
1994-08	5	10	I	78	78	0	*Halodule wrightii*	78
1994-08	6	1	P	66	66	0	*Halodule wrightii*	66
1994-08	6	1	I	85	85	0	*Halodule wrightii*	85
1994-08	6	1	P	66	66	0	*Halophila englemannii*	3
1994-08	6	1	I	85	85	0	*Halophila englemannii*	4
1994-08	6	2	P	63	63	0	*Halodule wrightii*	63
1994-08	6	2	I	81	81	0	*Halodule wrightii*	81
1994-08	6	2	P	63	63	0	*Halophila englemannii*	1
1994-08	6	2	I	81	81	0	*Halophila englemannii*	1
1994-08	6	3	P	93	93	0	*Halodule wrightii*	93
1994-08	6	3	I	97	97	0	*Halodule wrightii*	97
1994-08	6	3	P	93	93	0	*Halophila englemannii*	7
1994-08	6	4	P	92	92	0	*Halodule wrightii*	92
1994-08	6	4	I	92	92	0	*Halodule wrightii*	92
1994-08	6	4	P	92	92	0	*Halophila englemannii*	5
1994-08	6	4	I	92	92	0	*Halophila englemannii*	6
1994-08	6	5	P	84	84	0	*Halodule wrightii*	84
1994-08	6	5	I	91	91	0	*Halodule wrightii*	91
1994-08	6	5	P	84	84	0	*Halophila englemannii*	6

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	6	5	I	91	91	0	*Halophila englemannii*	1
1994-08	6	6	P	92	92	0	*Halodule wrightii*	92
1994-08	6	6	I	99	99	0	*Halodule wrightii*	99
1994-08	6	7	P	94	94	0	*Halodule wrightii*	94
1994-08	6	7	I	95	95	0	*Halodule wrightii*	95
1994-08	6	7	P	94	94	0	*Halophila englemannii*	3
1994-08	6	7	I	95	95	0	*Halophila englemannii*	5
1994-08	6	8	P	98	98	0	*Halodule wrightii*	98
1994-08	6	8	I	100	100	0	*Halodule wrightii*	100
1994-08	7	1	P	61	61	0	*Halodule wrightii*	61
1994-08	7	2	P	58	58	0	*Halodule wrightii*	58
1994-08	7	3	P	49	49	0	*Halodule wrightii*	49
1994-08	7	4	P	79	79	0	*Halodule wrightii*	79
1994-08	7	5	P	78	78	0	*Halodule wrightii*	78
1994-08	7	6	P	75	75	0	*Halodule wrightii*	75
1994-08	7	7	P	87	87	0	*Halodule wrightii*	87
1994-08	7	8	P	80	80	0	*Halodule wrightii*	80
1994-08	7	9	P	76	76	0	*Halodule wrightii*	76
1994-08	7	10	P	88	88	0	*Halodule wrightii*	88
1994-08	7	1	I	73	73	2	*Halodule wrightii*	73
1994-08	7	2	I	56	56	0	*Halodule wrightii*	56
1994-08	7	3	I	90	90	0	*Halodule wrightii*	90
1994-08	7	4	I	75	75	0	*Halodule wrightii*	75
1994-08	7	5	I	89	89	0	*Halodule wrightii*	89
1994-08	7	6	I	99	99	0	*Halodule wrightii*	99
1994-08	7	7	I	94	94	0	*Halodule wrightii*	94
1994-08	7	8	I	97	97	0	*Halodule wrightii*	97
1994-08	7	9	I	98	98	0	*Halodule wrightii*	98
1994-08	7	10	I	96	96	0	*Halodule wrightii*	96
1994-08	7	1	I	73	73	0	*Caulerpa mexicana*	2
1994-08	7	2	I	56	56	0	*Halophila englemannii*	10
1994-08	7	4	I	75	75	3	*Halophila englemannii*	3
1994-08	7	6	I	99	99	0	*Halophila englemannii*	15
1994-08	7	7	I	94	94	0	*Halophila englemannii*	3
1994-08	7	9	I	98	98	0	*Halophila englemannii*	7
1994-08	7	10	I	96	96	0	*Halophila englemannii*	7
1994-08	8	1	P	99	99	0	*Halodule wrightii*	99
1994-08	8	2	P	100	100	0	*Halodule wrightii*	100
1994-08	8	3	P	88	88	0	*Halodule wrightii*	88
1994-08	8	4	P	96	96	0	*Halodule wrightii*	96
1994-08	8	5	P	94	94	0	*Halodule wrightii*	94
1994-08	8	6	P	91	91	0	*Syringodium filiforme*	91
1994-08	8	6	P	91	91	0	*Halophila englemannii*	3
1994-08	8	7	P	95	95	0	*Halodule wrightii*	95
1994-08	8	7	P	95	95	0	*Halophila englemannii*	1
1994-08	8	8	P	100	100	0	*Syringodium filiforme*	100
1994-08	8	9	P	98	98	0	*Halodule wrightii*	73
1994-08	8	9	P	98	98	0	*Syringodium filiforme*	83

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	8	10	P	97	97	0	*Syringodium filiforme*	97
1994-08	8	1	I	100	100	0	*Halodule wrightii*	100
1994-08	8	2	I	96	96	0	*Halodule wrightii*	96
1994-08	8	3	I	60	60	0	*Syringodium filiforme*	6
1994-08	8	3	I	60	60	0	*Halodule wrightii*	60
1994-08	8	4	I	100	100	0	*Halodule wrightii*	100
1994-08	8	5	I	95	95	0	*Halodule wrightii*	95
1994-08	8	6	I	99	99	0	*Syringodium filiforme*	99
1994-08	8	7	I	96	96	11	*Halodule wrightii*	96
1994-08	8	7	I	96	96	11	*Caulerpa prolifera*	1
1994-08	8	7	I	96	96	11	*Udotea conglutinata*	11
1994-08	8	8	I	92	92	1	*Halodule wrightii*	55
1994-08	8	8	I	92	92	1	*Caulerpa prolifera*	1
1994-08	8	8	I	92	92	1	*Syringodium filiforme*	28
1994-08	8	9	I	99	99	0	*Syringodium filiforme*	98
1994-08	8	9	I	99	99	0	*Halophila englemannii*	2
1994-08	8	10	I	100	100	0	*Syringodium filiforme*	100
1994-08	9	1	P	100	100	4	*Syringodium filiforme*	100
1994-08	9	1	P	100	100	4	*Halophila englemannii*	8
1994-08	9	1	P	100	100	4	*Caulerpa prolifera*	4
1994-08	9	2	P	11	11	1	*Syringodium filiforme*	11
1994-08	9	2	P	11	11	1	*Caulerpa prolifera*	1
1994-08	9	3	P	71	71	0	*Syringodium filiforme*	71
1994-08	9	3	P	71	71	0	*Halophila englemannii*	5
1994-08	9	4	P	93	93	0	*Syringodium filiforme*	93
1994-08	9	5	P	96	96	0	*Syringodium filiforme*	96
1994-08	9	6	P	100	92	20	*Syringodium filiforme*	92
1994-08	9	6	P	100	92	20	*Halophila englemannii*	38
1994-08	9	6	P	100	92	20	*Caulerpa prolifera*	18
1994-08	9	6	P	100	92	20	*Udotea conglutinata*	2
1994-08	9	7	P	93	93	8	*Syringodium filiforme*	88
1994-08	9	7	P	93	93	8	*Halophila englemannii*	46
1994-08	9	7	P	93	93	8	*Udotea conglutinata*	8
1994-08	9	8	P	96	96	5	*Syringodium filiforme*	81
1994-08	9	8	P	96	96	5	*Halophila englemannii*	60
1994-08	9	8	P	96	96	5	*Caulerpa prolifera*	5
1994-08	9	9	P	96	96	20	*Syringodium filiforme*	87
1994-08	9	9	P	96	96	20	*Halophila englemannii*	32
1994-08	9	9	P	96	96	20	*Caulerpa prolifera*	15
1994-08	9	9	P	96	96	20	*Udotea conglutinata*	5
1994-08	9	10	P	98	98	13	*Syringodium filiforme*	86
1994-08	9	10	P	98	98	13	*Halophila englemannii*	42
1994-08	9	10	P	98	98	13	*Caulerpa prolifera*	9
1994-08	9	10	P	98	98	13	*Udotea conglutinata*	4
1994-08	9	1	I	73	73	1	*Syringodium filiforme*	73
1994-08	9	1	I	73	73	1	*Udotea conglutinata*	1
1994-08	9	1	I	73	73	1	*Halophila englemannii*	3
1994-08	9	2	I	100	100	2	*Syringodium filiforme*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	9	2	I	100	100	2	*Halophila englemannii*	8
1994-08	9	2	I	100	100	2	*Caulerpa prolifera*	2
1994-08	9	3	I	97	97	0	*Syringodium filiforme*	97
1994-08	9	3	I	97	97	0	*Halophila englemannii*	2
1994-08	9	4	I	95	95	3	*Syringodium filiforme*	95
1994-08	9	4	I	95	95	3	*Caulerpa prolifera*	3
1994-08	9	5	I	100	100	0	*Syringodium filiforme*	100
1994-08	9	6	I	98	98	0	*Syringodium filiforme*	98
1994-08	9	7	I	96	96	0	*Syringodium filiforme*	96
1994-08	9	8	I	100	100	0	*Syringodium filiforme*	100
1994-08	9	9	I	100	100	3	*Syringodium filiforme*	100
1994-08	9	9	I	100	100	3	*Halophila englemannii*	12
1994-08	9	9	I	100	100	3	*Caulerpa prolifera*	3
1994-08	9	10	I	96	96	0	*Syringodium filiforme*	95
1994-08	9	10	I	96	96	0	*Halophila englemannii*	29
1994-08	10	1	P	74	42	32	*Syringodium filiforme*	42
1994-08	10	1	P	74	42	32	*Caulerpa prolifera*	32
1994-08	10	2	P	92	55	40	*Syringodium filiforme*	55
1994-08	10	2	P	92	55	40	*Caulerpa prolifera*	40
1994-08	10	3	P	99	6	99	*Syringodium filiforme*	6
1994-08	10	3	P	99	6	99	*Caulerpa prolifera*	99
1994-08	10	4	P	100	47	96	*Syringodium filiforme*	47
1994-08	10	4	P	100	47	96	*Caulerpa prolifera*	96
1994-08	10	5	P	100	64	36	*Syringodium filiforme*	64
1994-08	10	5	P	100	64	36	*Caulerpa prolifera*	36
1994-08	10	6	P	100	74	90	*Syringodium filiforme*	74
1994-08	10	6	P	100	74	90	*Udotea conglutinata*	2
1994-08	10	6	P	100	74	90	*Caulerpa prolifera*	90
1994-08	10	7	P	100	50	80	*Syringodium filiforme*	50
1994-08	10	7	P	100	50	80	*Caulerpa prolifera*	80
1994-08	10	7	P	100	50	80	*Udotea conglutinata*	2
1994-08	10	8	P	99	11	99	*Syringodium filiforme*	11
1994-08	10	8	P	99	11	99	*Caulerpa prolifera*	99
1994-08	10	9	P	99	0	99	*Caulerpa prolifera*	99
1994-08	10	10	P	99	40	89	*Syringodium filiforme*	40
1994-08	10	10	P	99	40	89	*Caulerpa prolifera*	89
1994-08	10	1	I	52	30	22	*Syringodium filiforme*	30
1994-08	10	1	I	52	30	22	*Caulerpa prolifera*	22
1994-08	10	2	I	100	100	7	*Syringodium filiforme*	100
1994-08	10	2	I	100	100	7	*Caulerpa prolifera*	7
1994-08	10	3	I	96	89	9	*Syringodium filiforme*	89
1994-08	10	3	I	96	89	9	*Caulerpa prolifera*	9
1994-08	10	4	I	100	36	66	*Syringodium filiforme*	35
1994-08	10	4	I	100	36	66	*Caulerpa prolifera*	66
1994-08	10	5	I	100	100	0	*Syringodium filiforme*	100
1994-08	10	6	I	100	100	8	*Syringodium filiforme*	100
1994-08	10	6	I	100	100	8	*Caulerpa prolifera*	8
1994-08	10	7	I	100	100	46	*Syringodium filiforme*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	10	7	I	100	100	46	*Caulerpa prolifera*	46
1994-08	10	8	I	100	94	89	*Syringodium filiforme*	94
1994-08	10	8	I	100	94	89	*Caulerpa prolifera*	89
1994-08	10	8	I	100	94	89	*Udotea conglutinata*	5
1994-08	10	9	I	100	99	10	*Syringodium filiforme*	99
1994-08	10	9	I	100	99	10	*Caulerpa prolifera*	10
1994-08	10	10	I	100	98	86	*Syringodium filiforme*	98
1994-08	10	10	I	100	98	86	*Caulerpa prolifera*	86
1994-08	11	1	P	98	98	0	*Syringodium filiforme*	98
1994-08	11	1	P	98	98	0	*Halophila englemannii*	2
1994-08	11	2	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	3	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	4	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	5	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	6	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	7	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	8	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	9	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	10	P	100	100	0	*Syringodium filiforme*	100
1994-08	11	1	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	2	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	3	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	4	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	5	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	6	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	7	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	8	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	9	I	100	100	0	*Syringodium filiforme*	100
1994-08	11	10	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	1	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	1	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	2	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	2	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	3	P	99	99	0	*Syringodium filiforme*	99
1994-08	12	3	I	99	99	0	*Syringodium filiforme*	99
1994-08	12	4	P	90	90	0	*Syringodium filiforme*	90
1994-08	12	4	I	90	90	0	*Syringodium filiforme*	90
1994-08	12	5	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	5	I	70	70	0	*Syringodium filiforme*	70
1994-08	12	6	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	6	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	7	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	7	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	8	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	8	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	9	P	100	100	0	*Syringodium filiforme*	100
1994-08	12	9	I	100	100	0	*Syringodium filiforme*	100
1994-08	12	10	P	100	100	0	*Syringodium filiforme*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	12	10	I	96	96	0	*Syringodium filiforme*	96
1994-08	14	1	P	91	91	0	*Halodule wrightii*	89
1994-08	14	1	P	91	91	0	*Thalassia testudinum*	2
1994-08	14	2	P	92	92	0	*Halodule wrightii*	92
1994-08	14	3	P	90	90	0	*Halodule wrightii*	90
1994-08	14	4	P	81	81	0	*Halodule wrightii*	81
1994-08	14	5	P	93	93	0	*Halodule wrightii*	93
1994-08	14	6	P	100	100	0	*Halodule wrightii*	100
1994-08	14	7	P	100	100	0	*Halodule wrightii*	100
1994-08	14	8	P	100	100	0	*Halodule wrightii*	100
1994-08	14	9	P	90	90	0	*Thalassia testudinum*	90
1994-08	14	10	P	11	11	0	*Thalassia testudinum*	89
1994-08	14	1	I	97	97	4	*Halodule wrightii*	97
1994-08	14	1	I	97	97	4	*Halimeda incrassata*	4
1994-08	14	2	I	77	77	0	*Halodule wrightii*	77
1994-08	14	3	I	85	85	0	*Halodule wrightii*	85
1994-08	14	4	I	97	97	0	*Halodule wrightii*	97
1994-08	14	5	I	13	13	0	*Halodule wrightii*	13
1994-08	14	6	I	100	100	0	*Halodule wrightii*	100
1994-08	14	7	I	100	100	0	*Halodule wrightii*	100
1994-08	14	8	I	100	100	0	*Halodule wrightii*	100
1994-08	14	9	I	100	100	0	*Halodule wrightii*	100
1994-08	14	10	I	100	100	0	*Halodule wrightii*	100
1994-08	15	1	P	90	90	0	*Halodule wrightii*	90
1994-08	15	2	P	88	88	0	*Halodule wrightii*	88
1994-08	15	3	P	78	78	0	*Halodule wrightii*	78
1994-08	15	4	P	71	71	0	*Halodule wrightii*	71
1994-08	15	5	P	80	80	0	*Halodule wrightii*	80
1994-08	15	6	P	99	99	3	*Halodule wrightii*	99
1994-08	15	6	P	99	99	3	*Caulerpa prolifera*	3
1994-08	15	7	P	98	98	0	*Halodule wrightii*	98
1994-08	15	8	P	99	99	0	*Halodule wrightii*	99
1994-08	15	9	P	56	56	0	*Halodule wrightii*	56
1994-08	15	10	P	98	98	0	*Halodule wrightii*	98
1994-08	15	1	I	98	98	0	*Halodule wrightii*	98
1994-08	15	2	I	94	94	0	*Halodule wrightii*	94
1994-08	15	3	I	93	93	0	*Halodule wrightii*	93
1994-08	15	4	I	100	100	0	*Halodule wrightii*	100
1994-08	15	5	I	100	100	0	*Halodule wrightii*	100
1994-08	15	6	I	99	99	3	*Halodule wrightii*	99
1994-08	15	7	I	99	99	3	*Halimeda incrassata*	3
1994-08	15	7	I	99	99	2	*Halodule wrightii*	99
1994-08	15	8	I	99	99	2	*Halimeda incrassata*	2
1994-08	15	8	I	100	100	0	*Halodule wrightii*	100
1994-08	15	9	I	100	100	0	*Halodule wrightii*	100
1994-08	15	10	I	100	100	0	*Halodule wrightii*	100
1994-08	13	1	P/I	99	0	99	*Caulerpa prolifera*	99
1994-08	13	2	P/I	65	1	66	*Caulerpa prolifera*	65

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-08	13	2	P/I	65	1	66	*Thalassia testudinum*	1
1994-08	13	3	P/I	74	74	0	*Thalassia testudinum*	74
1994-08	13	4	P/I	95	7	88	*Caulerpa prolifera*	88
1994-08	13	4	P/I	95	7	88	*Thalassia testudinum*	7
1994-08	13	5	P/I	28	0	28	*Caulerpa prolifera*	21
1994-08	13	5	P/I	28	0	28	*Caulerpa mexicana*	7
1994-08	13	6	P/I	65	31	34	*Caulerpa prolifera*	18
1994-08	13	6	P/I	65	31	34	*Caulerpa mexicana*	16
1994-08	13	6	P/I	65	31	34	*Thalassia testudinum*	10
1994-08	13	6	P/I	65	31	34	*Halophila englemannii*	21
1994-08	13	7	P/I	87	0	87	*Caulerpa mexicana*	87
1994-08	13	8	P/I	56	0	56	*Caulerpa mexicana*	56
1994-08	13	9	P/I	97	0	97	*Caulerpa prolifera*	97
1994-08	13	10	P/I	94	0	94	*Caulerpa prolifera*	94
1994-08	13	11	P/I	96	96	18	*Thalassia testudinum*	55
1994-08	13	11	P/I	96	96	18	*Halodule wrightii*	41
1994-08	13	11	P/I	96	96	18	*Caulerpa prolifera*	18
1994-08	13	12	P/I	100	61	65	*Thalassia testudinum*	61
1994-08	13	12	P/I	100	61	65	*Caulerpa prolifera*	57
1994-08	13	12	P/I	100	61	65	*Caulerpa mexicana*	8
1994-08	13	13	P/I	87	67	16	*Thalassia testudinum*	42
1994-08	13	13	P/I	87	67	16	*Caulerpa mexicana*	9
1994-08	13	13	P/I	87	67	16	*Halodule wrightii*	15
1994-08	13	13	P/I	87	67	16	*Caulerpa prolifera*	7
1994-08	13	14	P/I	100	0	100	*Caulerpa prolifera*	29
1994-08	13	14	P/I	100	0	100	*Caulerpa mexicana*	100
1994-08	13	15	P/I	100	0	100	*Caulerpa prolifera*	2
1994-08	13	15	P/I	100	0	100	*Caulerpa mexicana*	100
1994-10	1	1	P	71	71	0	*Halodule wrightii*	71
1994-10	1	1	I	54	54	0	*Halodule wrightii*	54
1994-10	1	2	P	100	100	0	*Halodule wrightii*	100
1994-10	1	2	I	99	99	0	*Halodule wrightii*	99
1994-10	1	3	P	96	96	0	*Halodule wrightii*	96
1994-10	1	3	I	77	77	0	*Halodule wrightii*	77
1994-10	1	4	P	100	100	0	*Halodule wrightii*	100
1994-10	1	4	I	97	97	0	*Halodule wrightii*	97
1994-10	1	5	P	99	99	0	*Halodule wrightii*	99
1994-10	1	5	I	99	99	0	*Halodule wrightii*	99
1994-10	1	6	P	96	96	0	*Halodule wrightii*	96
1994-10	1	6	I	100	100	0	*Halodule wrightii*	100
1994-10	1	7	P	100	100	0	*Halodule wrightii*	100
1994-10	1	7	I	100	100	0	*Halodule wrightii*	100
1994-10	1	8	P	99	99	0	*Halodule wrightii*	99
1994-10	1	8	I	99	99	0	*Halodule wrightii*	99
1994-10	1	9	P	100	100	0	*Halodule wrightii*	100
1994-10	1	9	I	100	100	0	*Halodule wrightii*	100
1994-10	1	10	P	100	100	0	*Halodule wrightii*	100
1994-10	1	10	I	100	100	0	*Halodule wrightii*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	2	1	P	85	85	0	*Halodule wrightii*	85
1994-10	2	1	I	93	93	0	*Halodule wrightii*	93
1994-10	2	2	P	93	93	0	*Halodule wrightii*	93
1994-10	2	2	I	96	96	0	*Halodule wrightii*	96
1994-10	2	3	P	92	92	0	*Halodule wrightii*	92
1994-10	2	3	I	92	92	0	*Halodule wrightii*	92
1994-10	2	4	P	98	98	0	*Halodule wrightii*	98
1994-10	2	4	I	100	100	0	*Halodule wrightii*	100
1994-10	2	5	P	96	96	0	*Halodule wrightii*	96
1994-10	2	5	I	100	100	0	*Halodule wrightii*	100
1994-10	2	6	P	65	65	0	*Halodule wrightii*	65
1994-10	2	6	I	99	99	0	*Halodule wrightii*	99
1994-10	2	7	P	81	81	0	*Halodule wrightii*	81
1994-10	2	7	I	99	99	0	*Halodule wrightii*	99
1994-10	2	8	P	50	50	0	*Halodule wrightii*	50
1994-10	2	8	I	100	100	0	*Halodule wrightii*	100
1994-10	2	9	P	87	87	0	*Halodule wrightii*	87
1994-10	2	9	I	97	97	0	*Halodule wrightii*	97
1994-10	2	10	P	68	68	0	*Halodule wrightii*	68
1994-10	2	10	I	95	95	0	*Halodule wrightii*	95
1994-10	3	1	P	22	22	0	*Halodule wrightii*	22
1994-10	3	1	I	26	26	0	*Halodule wrightii*	26
1994-10	3	2	P	6	6	0	*Halodule wrightii*	6
1994-10	3	2	I	8	8	0	*Halodule wrightii*	8
1994-10	3	3	P	91	91	0	*Halodule wrightii*	91
1994-10	3	3	I	6	6	0	*Halodule wrightii*	6
1994-10	3	4	P	72	72	0	*Halodule wrightii*	72
1994-10	3	4	I	12	12	0	*Halodule wrightii*	12
1994-10	3	5	P	17	17	0	*Halodule wrightii*	17
1994-10	3	5	I	16	16	0	*Halodule wrightii*	16
1994-10	3	6	P	46	46	0	*Halodule wrightii*	46
1994-10	3	6	I	55	55	0	*Halodule wrightii*	55
1994-10	3	7	P	28	28	0	*Halodule wrightii*	28
1994-10	3	7	I	96	96	0	*Halodule wrightii*	96
1994-10	3	8	P	4	4	0	*Halodule wrightii*	4
1994-10	3	8	I	74	74	0	*Halodule wrightii*	74
1994-10	3	9	P	0	0	0	Bare	0
1994-10	3	9	I	86	86	0	*Halodule wrightii*	86
1994-10	3	10	P	61	61	0	*Halodule wrightii*	61
1994-10	3	10	I	74	74	0	*Halodule wrightii*	74
1994-10	4	1	P	92	92	8	*Halimeda incrassata*	3
1994-10	4	1	P	92	92	8	*Udotea conglutinata*	5
1994-10	4	1	P	92	92	8	*Syringodium filiforme*	92
1994-10	4	1	I	99	99	0	*Syringodium filiforme*	99
1994-10	4	2	P	78	78	0	*Syringodium filiforme*	78
1994-10	4	2	I	83	83	9	*Syringodium filiforme*	83
1994-10	4	2	I	83	83	9	*Halimeda incrassata*	3
1994-10	4	2	I	83	83	9	*Halophila englemannii*	6

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	4	3	P	75	75	0	*Syringodium filiforme*	75
1994-10	4	3	I	87	87	0	*Syringodium filiforme*	87
1994-10	4	4	P	91	89	2	*Caulerpa prolifera*	2
1994-10	4	4	P	91	89	2	*Syringodium filiforme*	89
1994-10	4	4	I	88	88	3	*Syringodium filiforme*	88
1994-10	4	4	I	88	88	3	*Halimeda incrassata*	3
1994-10	4	5	P	57	57	0	*Syringodium filiforme*	57
1994-10	4	5	I	2	2	0	*Syringodium filiforme*	2
1994-10	4	6	P	13	13	0	*Syringodium filiforme*	13
1994-10	4	6	I	22	22	0	*Syringodium filiforme*	22
1994-10	4	7	P	89	89	2	*Syringodium filiforme*	89
1994-10	4	7	P	89	89	2	*Caulerpa prolifera*	2
1994-10	4	7	I	79	78	1	*Caulerpa prolifera*	1
1994-10	4	7	I	79	78	1	*Syringodium filiforme*	78
1994-10	4	8	P	100	100	14	*Penicillus* sp.	2
1994-10	4	8	P	100	100	14	*Syringodium filiforme*	4
1994-10	4	8	P	100	100	14	*Caulerpa prolifera*	8
1994-10	4	8	P	100	100	14	*Syringodium filiforme*	100
1994-10	4	8	I	88	88	0	*Syringodium filiforme*	88
1994-10	4	9	P	80	80	0	*Syringodium filiforme*	80
1994-10	4	9	I	30	30	0	*Syringodium filiforme*	30
1994-10	4	10	P	92	92	2	*Halimeda incrassata*	1
1994-10	4	10	P	92	92	2	*Caulerpa prolifera*	1
1994-10	4	10	P	92	92	2	*Syringodium filiforme*	92
1994-10	4	10	I	94	94	0	*Syringodium filiforme*	94
1994-10	5	1	P	46	46	0	*Halodule wrightii*	46
1994-10	5	1	I	24	24	0	*Halodule wrightii*	24
1994-10	5	2	P	52	52	0	*Halodule wrightii*	52
1994-10	5	2	I	29	29	0	*Halodule wrightii*	29
1994-10	5	3	P	14	14	0	*Halodule wrightii*	14
1994-10	5	3	I	60	60	0	*Halodule wrightii*	60
1994-10	5	4	P	15	15	0	*Halodule wrightii*	15
1994-10	5	4	I	51	51	0	*Halodule wrightii*	51
1994-10	5	5	P	22	22	0	*Halodule wrightii*	22
1994-10	5	5	I	53	53	0	*Halodule wrightii*	53
1994-10	5	6	P	73	73	0	*Halodule wrightii*	73
1994-10	5	6	I	6	5	0	*Halodule wrightii*	5
1994-10	5	6	I	6	5	0	*Halophila englemannii*	1
1994-10	5	7	P	13	13	0	*Halodule wrightii*	13
1994-10	5	7	I	19	19	0	*Halodule wrightii*	19
1994-10	5	8	P	8	8	0	*Halodule wrightii*	8
1994-10	5	8	I	15	15	0	*Halodule wrightii*	15
1994-10	5	9	P	12	12	0	*Halodule wrightii*	12
1994-10	5	9	I	84	84	0	*Halodule wrightii*	84
1994-10	5	10	P	6	6	0	*Halodule wrightii*	6
1994-10	5	10	I	86	86	0	*Halodule wrightii*	86
1994-10	6	1	P	65	65	0	*Halodule wrightii*	65
1994-10	6	1	P	65	65	0	*Halophila englemannii*	8

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	6	1	I	90	90	0	*Halodule wrightii*	90
1994-10	6	1	I	90	90	0	*Halophila englemannii*	6
1994-10	6	2	P	86	86	0	*Halodule wrightii*	86
1994-10	6	2	P	86	86	0	*Halophila englemannii*	4
1994-10	6	2	I	97	97	0	*Halodule wrightii*	97
1994-10	6	2	I	97	97	0	*Halophila englemannii*	1
1994-10	6	3	P	94	94	0	*Halodule wrightii*	94
1994-10	6	3	I	100	100	0	*Halodule wrightii*	100
1994-10	6	3	I	100	100	0	*Halophila englemannii*	16
1994-10	6	4	P	100	100	0	*Halodule wrightii*	100
1994-10	6	4	I	100	100	0	*Halodule wrightii*	100
1994-10	6	4	I	100	100	0	*Halophila englemannii*	4
1994-10	6	5	P	67	67	0	*Halodule wrightii*	53
1994-10	6	5	P	67	67	0	*Halophila englemannii*	16
1994-10	6	5	I	81	81	0	*Halodule wrightii*	81
1994-10	6	6	P	71	71	0	*Halodule wrightii*	66
1994-10	6	6	P	71	71	0	*Halophila englemannii*	8
1994-10	6	6	I	97	97	0	*Halodule wrightii*	97
1994-10	6	7	P	68	68	0	*Halodule wrightii*	55
1994-10	6	7	P	68	68	0	*Halophila englemannii*	28
1994-10	6	7	I	98	98	0	*Halodule wrightii*	98
1994-10	6	8	P	87	87	0	*Halodule wrightii*	87
1994-10	6	8	P	87	87	0	*Halophila englemannii*	7
1994-10	6	8	I	68	68	0	*Halodule wrightii*	62
1994-10	6	8	I	68	68	0	*Halophila englemannii*	21
1994-10	6	9	P	70	70	0	*Halodule wrightii*	70
1994-10	6	9	P	70	70	0	*Halophila englemannii*	11
1994-10	6	9	I	99	99	0	*Halodule wrightii*	99
1994-10	6	10	P	43	43	0	*Halodule wrightii*	43
1994-10	6	10	I	100	100	0	*Halodule wrightii*	100
1994-10	7	1	P	96	96	0	*Halodule wrightii*	96
1994-10	7	1	I	96	96	0	*Halodule wrightii*	96
1994-10	7	2	P	99	99	0	*Halodule wrightii*	99
1994-10	7	2	I	97	97	0	*Halodule wrightii*	97
1994-10	7	3	P	73	73	0	*Halodule wrightii*	73
1994-10	7	3	I	100	100	0	*Halodule wrightii*	100
1994-10	7	4	P	100	100	0	*Halodule wrightii*	100
1994-10	7	4	I	100	100	0	*Halodule wrightii*	100
1994-10	7	5	P	97	97	0	*Halodule wrightii*	97
1994-10	7	5	I	98	98	0	*Halodule wrightii*	98
1994-10	7	6	P	76	76	0	*Halodule wrightii*	76
1994-10	7	6	I	98	98	0	*Halodule wrightii*	98
1994-10	7	7	P	99	99	0	*Halodule wrightii*	99
1994-10	7	7	I	100	100	0	*Halodule wrightii*	100
1994-10	7	8	P	91	91	1	*Caulerpa prolifera*	1
1994-10	7	8	P	91	91	1	*Halodule wrightii*	88
1994-10	7	8	P	91	91	1	*Halophila englemannii*	16
1994-10	7	8	I	96	96	0	*Halodule wrightii*	96

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	7	8	I	96	96	0	*Halophila englemannii*	9
1994-10	7	9	P	100	100	0	*Syringodium filiforme*	100
1994-10	7	9	I	100	100	0	*Syringodium filiforme*	100
1994-10	7	10	P	80	80	0	*Halodule wrightii*	80
1994-10	7	10	I	99	99	0	*Syringodium filiforme*	99
1994-10	8	1	P	86	86	0	*Syringodium filiforme*	86
1994-10	8	1	I	100	100	0	*Syringodium filiforme*	100
1994-10	8	2	P	96	96	0	*Syringodium filiforme*	96
1994-10	8	2	I	93	93	0	*Syringodium filiforme*	93
1994-10	8	2	I	93	93	0	*Halodule wrightii*	40
1994-10	8	3	P	94	94	0	*Syringodium filiforme*	94
1994-10	8	3	P	94	94	0	*Halodule wrightii*	6
1994-10	8	3	I	92	92	0	*Syringodium filiforme*	92
1994-10	8	4	P	94	94	0	*Syringodium filiforme*	94
1994-10	8	4	I	100	100	0	*Syringodium filiforme*	100
1994-10	8	5	P	92	92	0	*Syringodium filiforme*	92
1994-10	8	5	P	92	92	0	*Halodule wrightii*	26
1994-10	8	5	I	93	93	0	*Syringodium filiforme*	93
1994-10	8	5	I	93	93	0	*Halodule wrightii*	28
1994-10	8	6	P	100	100	0	*Syringodium filiforme*	100
1994-10	8	6	I	100	100	0	*Syringodium filiforme*	100
1994-10	8	7	P	95	95	0	*Syringodium filiforme*	95
1994-10	8	7	P	95	95	0	*Halodule wrightii*	5
1994-10	8	7	I	100	100	0	*Syringodium filiforme*	100
1994-10	8	7	I	100	100	0	*Halodule wrightii*	3
1994-10	8	8	P	75	75	0	*Syringodium filiforme*	75
1994-10	8	8	I	88	88	0	*Syringodium filiforme*	88
1994-10	8	8	I	88	88	0	*Halodule wrightii*	3
1994-10	8	9	P	100	100	0	*Syringodium filiforme*	100
1994-10	8	9	I	98	98	0	*Syringodium filiforme*	98
1994-10	8	10	P	100	100	0	*Syringodium filiforme*	100
1994-10	8	10	P	100	100	0	*Halodule wrightii*	2
1994-10	8	10	I	99	99	0	*Syringodium filiforme*	99
1994-10	9	1	P	92	92	0	*Syringodium filiforme*	92
1994-10	9	1	I	98	98	0	*Syringodium filiforme*	98
1994-10	9	1	I	98	98	0	*Halophila englemannii*	2
1994-10	9	2	P	98	98	0	*Syringodium filiforme*	98
1994-10	9	2	P	98	98	0	*Halophila englemannii*	2
1994-10	9	2	I	95	95	0	*Syringodium filiforme*	95
1994-10	9	2	I	95	95	0	*Halophila englemannii*	12
1994-10	9	3	P	97	97	0	*Syringodium filiforme*	97
1994-10	9	3	I	100	100	0	*Syringodium filiforme*	100
1994-10	9	3	I	100	100	0	*Halophila englemannii*	10
1994-10	9	4	P	92	92	0	*Syringodium filiforme*	92
1994-10	9	4	I	98	98	2	*Syringodium filiforme*	98
1994-10	9	4	I	98	98	2	*Halophila englemannii*	8
1994-10	9	4	I	98	98	2	*Udotea conglutinata*	2
1994-10	9	5	P	85	85	2	*Syringodium filiforme*	85

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	9	5	P	85	85	2	*Udotea conglutinata*	2
1994-10	9	5	I	100	100	0	*Syringodium filiforme*	100
1994-10	9	5	I	100	100	0	*Halophila englemannii*	8
1994-10	9	6	P	100	100	0	*Syringodium filiforme*	100
1994-10	9	6	P	100	100	0	*Halophila englemannii*	14
1994-10	9	6	I	100	100	0	*Syringodium filiforme*	100
1994-10	9	7	P	95	95	0	*Syringodium filiforme*	95
1994-10	9	7	P	95	95	0	*Halophila englemannii*	2
1994-10	9	7	I	97	97	0	*Syringodium filiforme*	97
1994-10	9	8	P	97	97	0	*Syringodium filiforme*	89
1994-10	9	8	P	97	97	0	*Halophila englemannii*	8
1994-10	9	8	P	97	97	0	*Halodule wrightii*	5
1994-10	9	8	I	100	100	0	*Syringodium filiforme*	100
1994-10	9	8	I	100	100	0	*Halophila englemannii*	4
1994-10	9	9	P	80	80	0	*Syringodium filiforme*	80
1994-10	9	9	P	80	80	0	*Halophila englemannii*	1
1994-10	9	9	I	99	99	0	*Syringodium filiforme*	99
1994-10	9	10	P	84	84	0	*Syringodium filiforme*	84
1994-10	9	10	P	84	84	0	*Halophila englemannii*	5
1994-10	9	10	I	98	98	0	*Syringodium filiforme*	98
1994-10	11	1	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	1	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	2	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	2	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	3	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	3	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	4	P	99	99	0	*Syringodium filiforme*	99
1994-10	11	4	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	5	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	5	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	6	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	6	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	7	P	99	99	0	*Syringodium filiforme*	99
1994-10	11	7	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	8	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	8	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	9	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	9	I	100	100	0	*Syringodium filiforme*	100
1994-10	11	10	P	100	100	0	*Syringodium filiforme*	100
1994-10	11	10	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	1	P	98	98	0	*Syringodium filiforme*	98
1994-10	12	1	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	2	P	99	99	0	*Syringodium filiforme*	99
1994-10	12	2	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	3	P	92	92	2	*Syringodium filiforme*	65
1994-10	12	3	P	92	92	2	*Halodule wrightii*	25
1994-10	12	3	P	92	92	2	*Caulerpa prolifera*	2
1994-10	12	3	I	93	93	3	*Syringodium filiforme*	93

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	12	3	I	93	93	3	*Caulerpa prolifera*	3
1994-10	12	4	P	100	100	0	*Syringodium filiforme*	100
1994-10	12	4	I	90	90	0	*Syringodium filiforme*	90
1994-10	12	5	P	100	100	0	*Syringodium filiforme*	100
1994-10	12	5	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	6	P	100	100	0	*Syringodium filiforme*	100
1994-10	12	6	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	7	P	100	100	3	*Syringodium filiforme*	100
1994-10	12	7	P	100	100	3	*Caulerpa prolifera*	3
1994-10	12	7	I	100	100	2	*Syringodium filiforme*	100
1994-10	12	7	I	100	100	2	*Caulerpa prolifera*	2
1994-10	12	8	P	100	100	0	*Syringodium filiforme*	100
1994-10	12	8	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	9	P	21	21	0	*Syringodium filiforme*	21
1994-10	12	9	I	100	100	0	*Syringodium filiforme*	100
1994-10	12	10	P	100	100	0	*Syringodium filiforme*	100
1994-10	12	10	I	100	100	0	*Syringodium filiforme*	100
1994-10	13	1	P	99	90	77	*Halodule wrightii*	90
1994-10	13	1	P	99	90	77	*Caulerpa prolifera*	77
1994-10	13	1	I	99	81	18	*Thalassia testudinum*	81
1994-10	13	1	I	99	81	18	*Caulerpa mexicana*	18
1994-10	13	1	I	99	81	18	*Halodule wrightii*	1
1994-10	13	2	P	96	80	69	*Thalassia testudinum*	72
1994-10	13	2	P	96	80	69	*Halodule wrightii*	8
1994-10	13	2	P	96	80	69	*Caulerpa mexicana*	60
1994-10	13	2	P	96	80	69	*Caulerpa prolifera*	9
1994-10	13	2	I	96	96	8	*Thalassia testudinum*	96
1994-10	13	2	I	96	96	8	*Caulerpa mexicana*	8
1994-10	13	3	P	94	23	84	*Thalassia testudinum*	12
1994-10	13	3	P	94	23	84	*Halodule wrightii*	11
1994-10	13	3	P	94	23	84	*Caulerpa prolifera*	32
1994-10	13	3	P	94	23	84	*Caulerpa mexicana*	52
1994-10	13	3	I	72	8	64	*Caulerpa mexicana*	64
1994-10	13	3	I	72	8	64	*Thalassia testudinum*	8
1994-10	13	4	P	92	0	92	*Caulerpa mexicana*	78
1994-10	13	4	P	92	0	92	*Caulerpa prolifera*	16
1994-10	13	4	I	68	57	11	*Halodule wrightii*	57
1994-10	13	4	I	68	57	11	*Caulerpa prolifera*	10
1994-10	13	4	I	68	57	11	*Caulerpa mexicana*	1
1994-10	13	5	P	25	25	5	*Halodule wrightii*	25
1994-10	13	5	P	25	25	5	*Caulerpa prolifera*	5
1994-10	13	6	P	70	60	19	*Halodule wrightii*	59
1994-10	13	6	P	70	60	19	*Caulerpa prolifera*	15
1994-10	13	6	P	70	60	19	*Caulerpa mexicana*	4
1994-10	13	6	P	70	60	19	*Halophila englemannii*	1
1994-10	13	7	P	70	70	6	*Halodule wrightii*	70
1994-10	13	7	P	70	70	6	*Caulerpa mexicana*	6
1994-10	13	7	P	70	70	6	*Halophila englemannii*	1

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	13	7	I	40	40	7	*Halodule wrightii*	40
1994-10	13	7	I	40	40	7	*Caulerpa prolifera*	6
1994-10	13	7	I	40	40	7	*Caulerpa mexicana*	1
1994-10	13	8	P	80	80	10	*Halodule wrightii*	80
1994-10	13	8	P	80	80	10	*Caulerpa mexicana*	5
1994-10	13	8	P	80	80	10	*Caulerpa prolifera*	5
1994-10	13	8	I	20	20	10	*Halodule wrightii*	20
1994-10	13	8	I	20	20	10	*Caulerpa mexicana*	10
1994-10	13	9	P	83	83	0	*Halodule wrightii*	83
1994-10	13	9	I	30	30	0	*Halodule wrightii*	30
1994-10	13	9	I	30	30	0	*Halophila englemannii*	5
1994-10	13	10	P	20	20	10	*Halodule wrightii*	20
1994-10	13	10	P	20	20	10	*Caulerpa prolifera*	10
1994-10	13	10	I	50	50	1	*Halodule wrightii*	40
1994-10	13	10	I	50	50	1	*Halophila englemannii*	10
1994-10	13	10	I	50	50	1	*Caulerpa mexicana*	1
1994-10	14	1	P	96	96	0	*Halodule wrightii*	96
1994-10	14	1	I	84	84	0	*Halodule wrightii*	84
1994-10	14	2	P	91	91	0	*Thalassia testudinum*	91
1994-10	14	2	I	72	72	0	*Halodule wrightii*	72
1994-10	14	2	I	72	72	0	*Thalassia testudinum*	2
1994-10	14	3	P	67	67	0	*Halodule wrightii*	67
1994-10	14	3	I	84	84	0	*Halodule wrightii*	84
1994-10	14	4	P	96	96	0	*Halodule wrightii*	96
1994-10	14	4	I	99	99	0	*Halodule wrightii*	99
1994-10	14	5	P	99	99	0	*Halodule wrightii*	99
1994-10	14	5	I	97	97	0	*Halodule wrightii*	97
1994-10	14	6	P	95	95	0	*Halodule wrightii*	95
1994-10	14	6	I	98	98	0	*Halodule wrightii*	98
1994-10	14	7	P	76	76	0	*Halodule wrightii*	76
1994-10	14	7	I	97	97	0	*Halodule wrightii*	97
1994-10	14	8	P	87	88	1	*Halodule wrightii*	87
1994-10	14	8	P	87	88	1	*Caulerpa prolifera*	1
1994-10	14	8	I	86	86	0	*Halodule wrightii*	86
1994-10	14	9	P	88	88	0	*Halodule wrightii*	88
1994-10	14	9	I	88	88	0	*Halodule wrightii*	88
1994-10	14	10	P	79	79	0	*Halodule wrightii*	79
1994-10	14	10	I	91	91	0	*Halodule wrightii*	91
1994-10	15	1	P	87	87	0	*Thalassia testudinum*	87
1994-10	15	1	I	87	87	0	*Thalassia testudinum*	87
1994-10	15	2	P	91	91	0	*Thalassia testudinum*	91
1994-10	15	2	I	84	84	0	*Thalassia testudinum*	84
1994-10	15	3	P	86	86	0	*Halodule wrightii*	86
1994-10	15	3	I	97	97	0	*Halodule wrightii*	97
1994-10	15	4	P	96	96	1	*Halodule wrightii*	96
1994-10	15	4	P	96	96	1	*Udotea conglutinata*	1
1994-10	15	4	I	86	86	0	*Halodule wrightii*	86
1994-10	15	5	P	100	100	0	*Halodule wrightii*	100

Date	Station	Rep.	Perimeter/ Interior (P/I)	Total Vegetation	Total Seagrass	Total Algae	Species	Cover
1994-10	15	5	I	100	100	0	*Halodule wrightii*	100
1994-10	15	6	P	91	91	0	*Halodule wrightii*	83
1994-10	15	6	P	91	91	0	*Halophila englemannii*	11
1994-10	15	6	I	100	100	0	*Halodule wrightii*	100
1994-10	15	6	I	100	100	0	*Halophila englemannii*	4
1994-10	15	7	P	94	94	70	*Halodule wrightii*	94
1994-10	15	7	P	94	94	70	*Halimeda incrassata*	70
1994-10	15	7	I	100	96	22	*Halodule wrightii*	96
1994-10	15	7	I	100	96	22	*Halimeda incrassata*	22
1994-10	15	8	P	96	76	78	*Halodule wrightii*	76
1994-10	15	8	P	96	76	78	*Halimeda incrassata*	76
1994-10	15	8	P	96	76	78	*Udotea conglutinata*	2
1994-10	15	8	I	100	65	98	*Halimeda incrassata*	98
1994-10	15	8	I	100	65	98	*Halodule wrightii*	65
1994-10	15	9	P	100	95	23	*Halodule wrightii*	95
1994-10	15	9	P	100	95	23	*Halimeda incrassata*	2
1994-10	15	9	P	100	95	23	*Caulerpa prolifera*	19
1994-10	15	9	P	100	95	23	*Udotea conglutinata*	2
1994-10	15	9	I	100	100	3	*Halodule wrightii*	100
1994-10	15	9	I	100	100	3	*Halimeda incrassata*	3
1994-10	15	10	P	97	95	3	*Halodule wrightii*	95
1994-10	15	10	P	97	95	3	*Caulerpa prolifera*	3
1994-10	15	10	I	97	97	0	*Halodule wrightii*	97

Appendix Table 3. Expansion or contraction of seagrass beds measured from staked edges: December 1993-October 1994. The "Perimeter" and "Radius" distances identify the stakes.

Station	Perimeter ID	Radius ID	Grass Expansion (m)	
1	0.0	15.7	3.10	
1	16.1	12.5	3.35	
1	27.2	10.2	2.10	
1	40.3	8.7	2.20	
1	54.0	8.5	2.20	
1	73.0	10.3	-1.40	
1	88.0	7.6	well inside bed	
1	99.0	7.4	well inside bed	
1	114.0	11.1	1.30	
1	130.0	14.0	3.10	
1	138.7	16.6	1.60	
1	149.0	18.9	4.10	
1	166.5	21.5	1.50	
1	184.8	19.3	0.60	
1	198.7	15.8	1.00	
2	0.0	12.7	0.00	
2	11.4	12.9	1.60	
2	21.6	14.0	0.30	
2	32.1	11.5	3.30	
2	44.4	8.1	-0.10	
2	60.0	6.4	2.70	
2	71.6	8.2	2.60	
2	79.1	9.7	1.70	
2	90.3	11.8	1.60	
2	99.2	13.9	0.00	
2	105.1	13.8	0.00	
2	113.6	11.6	-2.30	in hole; filled
2	126.3	14.7	0.00	
2	139.4	15.9	0.00	
2	147.1	15.9	3.30	
3	0.0	13.3	1.40	
3	10.7	12.3	-1.50	
3	22.8	11.1	0.00	
3	34.9	9.1	0.00	
3	43.1	7.3	-1.00	
3	62.2	8.4	-0.30	
3	83.3	13.7	0.00	
3	93.0	17.5	0.02	
3	102.3	19.5	1.10	
3	112.6	20.4	-0.10	
3	120.2	22.1	0.00	
3	132.6	22.6	-2.00	
3	141.6	22.7	-1.10	
3	163.0	27.2	-1.10	
3	176.2	31.3	-1.10	

Station	Perimeter ID	Radius ID	Grass Expansion (m)	
4	0.0	18.0	0.50	
4	9.5	15.4	-0.50	
4	20.4	12.5	0.60	
4	36.1	7.2	0.10	
4	50.5	4.3	-0.60	
4	57.5	2.1	0.00	
4	84.2	9.8	-0.40	
4	92.3	9.9	0.00	
4	97.8	10.4	0.80	
4	103.8	11.8	0.40	
4	108.8	12.9	0.10	
4	124.5	17.5	0.10	
4	132.3	18.4	0.00	
4	139.8	19.1	-0.20	
5	0.0	9.2	0.50	
5	5.8	8.5	0.00	
5	13.5		0.50	
5	21.6	10.8	0.00	
5	31.6	12.5	-0.20	
5	38.8	11.4	0.00	
5	45.4	10.0	-0.80	
5	52.0	8.4	-0.60	
5	57.4	8.0	-0.30	
5	63.5	7.3	0.70	
5	70.8	8.2	-0.60	
5	82.3	9.4	-1.00	
5	89.0	11.3	0.00	
5	97.0	12.4	-0.60	
5	102.3	14.4	-1.00	
5	111.2	14.8	0.00	
6	0.0	13.1	0.70	
6	11.1	7.9	-0.50	
6	18.6	7.9	-0.70	
6	27.9	7.6	-0.60	
6	33.4	7.6	2.30	
6	40.6	8.1	0.00	
6	54.6	10.7	0.30	new stake
6	66.4	13.5	2.00	new stake
6	72.8	15.4	0.60	
6	84.5	18.9	-0.40	
6	101.2	22.3	0.00	
6	110.4	20.8	1.10	
6	120.9	27.8	1.40	
7	0.0	10.6	4.40	
7	7.4	10.8	4.00	
7	16.2	13.0	missing	
7	22.1	14.4	1.10	
7	37.3	8.6	2.50	

Appendix Table 3. Continued.

Station	Perimeter ID	Radius ID	Grass Expansion (m)
7	44.9	9.6	4.50
7	52.3	10.0	3.00
7	59.2	11.1	6.00
7	64.7	10.7	3.00
7	74.0	9.5	1.50
7	80.7	11.8	missing; not replaced
7	93.4	14.2	missing; not replaced
7	101.0	15.4	0.20
7	107.0	11.9	0.00
7	116.8	18.4	0.00
8	0.0	11.8	14.00
8	5.7	10.9	7.40
8	10.4	8.8	10.20
8	13.6	N/A	--
8	22.9	9.9	3.20
8	28.3	10.2	4.30
8	43.9	9.8	7.20
8	48.7	9.2	7.60
8	57.6	8.6	8.50
8	79.0	11.7	1.30
8	86.6	11.9	1.40
9	0.0	25.5	--
9	11.0	22.7	0.20
9	24.0	1880.0	0.50
9	37.3	15.4	0.00
9	49.6	12.4	found on leaving
9	63.5	13.2	0.00
9	78.3	11.8	0.60
9	95.1	9.0	1.20
9	107.1	9.6	2.30
9	116.3	12.4	1.30
9	126.8	14.3	1.10
9	136.9	16.3	0.70
9	145.1	18.1	0.80
9	153.8	20.7	0.80
9	160.4	22.4	1.10
9	167.4	24.1	1.00
10	0.0	18.5	0.40
10	14.0	15.2	0.25
10	25.1	12.2	0.40
10	36.8	9.0	0.80
10	48.2	6.3	replaced
10	63.7	4.0	0.10
10	75.8	7.4	0.30
10	91.1	11.6	1.30
10	101.0	14.1	0.00
10	118.8	18.7	0.00
10	126.0	20.2	1.20

Station	Perimeter ID	Radius ID	Grass Expansion (m)
10	136.7	18.6	2.70
10	149.4	15.1	0.70
10	158.0	12.8	0.00
10	166.3	10.4	1.80
11	0.0	12.8	1.00
11	11.1	11.2	0.50
11	21.0	11.1	0.40
11	29.6	10.2	0.70
11	40.6	12.1	0.00
11	51.1	13.4	0.70
11	61.0	14.2	0.30
11	81.0	8.8	0.70
11	87.6	8.2	0.80
11	97.0	8.9	0.80
11	104.2	8.8	0.50
11	115.0	12.5	0.60
12	0.0	18.9	0.00
12	10.0	19.1	--
12	18.5	20.2	0.10
12	28.1	18.9	0.50
12	34.8	17.0	0.55
12	42.2	15.9	0.40
12	52.5	14.3	0.30
12	61.6	12.8	0.40
12	71.0	12.3	0.80
12	76.8	12.4	1.10
12	85.5	12.6	-0.90
12	92.6	12.6	-1.40
12	100.6	12.7	-0.70
12	110.4	11.7	3.10
12	124.3	14.8	0.00
13	0.0	14.4	0.00
13	14.5	13.9	0.00
13	30.3	12.7	0.00
13	48.8	14.7	-1.40
13	56.8	16.9	-4.00
13	63.9	18.8	-6.00
13	75.4	17.4	-1.30
13	80.5	17.9	-1.60
13	87.0	19.5	-1.50
13	94.9	20.9	2.80
13	105.5	20.6	4.40
13	114.9	23.3	4.60
13	122.1	24.2	found on leaving
13	127.5	24.9	4.60
14	0.0	17.9	1.00
14	11.9	14.4	0.80
14	22.2	11.3	1.00

Station	Perimeter ID	Radius ID	Grass Expansion (m)
14	31.1	8.9	1.20
14	41.4	8.6	0.80
14	50.6	7.6	-0.40
14	59.1	5.0	1.40
14	69.5	4.2	0.90
14	77.9	3.8	0.00
14	87.3	6.4	-0.60
14	98.1	8.1	0.00
14	109.7	10.4	replaced
14	119.9	13.5	0.70
14	129.3	16.1	0.20
14	139.5	11.3	0.70
14	149.2	10.6	0.70
15	0.0	19.0	2.70
15	9.4	17.7	0.80
15	19.3	15.3	0.40
15	32.4	11.3	-0.10
15	41.4	9.2	0.30
15	50.3	10.2	0.00
15	62.0	6.7	1.40
15	69.8	4.3	0.10
15	80.2	5.0	0.00
15	90.1	6.2	0.10
15	102.1	8.7	0.00
15	109.4	10.8	0.60
15	116.5	12.1	0.35
15	125.0	14.6	0.50
15	133.6	17.1	1.30

Appendix Table 4. Dry weight biomass from 25 cm x 25 cm quadrats.

Station	Rep.	Spp.	Biomass (g)
1	1	*Halodule wrightii*	1.53
1	2	*Halodule wrightii*	1.66
1	3	*Halodule wrightii*	0.55
1	4	*Halodule wrightii*	1.37
1	5	*Halodule wrightii*	0.98
1	6	*Halodule wrightii*	3.74
2	1	*Halodule wrightii*	0.63
2	2	*Halodule wrightii*	1.06
2	3	*Halodule wrightii*	0.70
2	4	*Halodule wrightii*	0.97
2	5	*Halodule wrightii*	0.87
2	6	*Halodule wrightii*	0.67
3	1	*Halodule wrightii*	0.48
3	2	*Halodule wrightii*	0.12
3	3	*Halodule wrightii*	0.56
3	4	*Halodule wrightii*	0.40
3	5	*Halodule wrightii*	1.18
3	6	*Halodule wrightii*	0.39
4	1	Drift Algae	4.96
4	1	*Syringodium filiforme*	4.14
4	2	*Syringodium filiforme*	1.51
4	3	*Syringodium filiforme*	1.90
4	4	Drift Algae	5.30
4	4	*Syringodium filiforme*	2.76
4	5	*Syringodium filiforme*	2.27
4	6	*Syringodium filiforme*	3.49
5	1	*Halodule wrightii*	0.50
5	2	*Halodule wrightii*	0.16
5	3	*Halodule wrightii*	1.13
5	4	*Halodule wrightii*	0.29
5	5	*Halodule wrightii*	0.35
5	6	*Halodule wrightii*	0.75
6	1	*Halodule wrightii*	1.15
6	2	*Halodule wrightii*	0.43
6	3	*Halodule wrightii*	1.96
6	3	*Halodule wrightii*	0.70
6	4	*Halodule wrightii*	2.04
6	5	*Halodule wrightii*	0.51
6	6	*Halodule wrightii*	0.83
7	1	*Halodule wrightii*	0.83
7	2	*Halodule wrightii*	1.31
7	3	*Halodule wrightii*	1.51
7	4	*Halodule wrightii*	1.55
7	4	*Halophila englemannii*	0.19
7	5	*Halodule wrightii*	0.73
7	5	*Halophila englemannii*	0.69
7	6	*Halodule wrightii*	0.94
8	1	Drift Algae	0.56
8	1	*Halodule wrightii*	1.25

Station	Rep.	Spp.	Biomass (g)
8	1	*Halophila englemannii*	0.21
8	1	*Syringodium filiforme*	3.66
8	2	Drift Algae	0.08
8	2	*Syringodium filiforme*	5.74
8	3	Drift Algae	2.23
8	3	*Halodule wrightii*	1.18
8	3	*Halophila englemannii*	0.32
8	3	*Syringodium filiforme*	0.73
8	4	Drift Algae	0.18
8	4	*Halodule wrightii*	2.03
8	4	*Halophila englemannii*	0.09
8	5	Drift Algae	6.08
8	5	*Halodule wrightii*	2.02
8	5	*Syringodium filiforme*	0.94
8	6	*Halodule wrightii*	0.99
8	6	*Halophila englemannii*	0.04
8	6	*Syringodium filiforme*	1.44
9	1	*Halophila englemannii*	0.11
9	1	*Syringodium filiforme*	3.29
9	2	Drift Algae	0.11
9	2	*Halodule wrightii*	0.17
9	2	*Halophila englemannii*	0.56
9	2	*Syringodium filiforme*	4.09
9	3	*Halophila englemannii*	0.38
9	3	*Syringodium filiforme*	3.85
9	4	Drift Algae	1.40
9	4	*Syringodium filiforme*	5.52
9	5	Drift Algae	0.31
9	5	*Syringodium filiforme*	5.58
9	6	*Halophila englemannii*	0.21
9	6	*Syringodium filiforme*	4.61
10	1	*Caulerpa prolifera*	0.61
10	1	*Syringodium filiforme*	4.41
10	2	*Caulerpa prolifera*	0.78
10	2	Drift Algae	14.16
10	2	*Syringodium filiforme*	5.23
10	3	*Caulerpa prolifera*	2.80
10	3	*Syringodium filiforme*	5.85
10	4	*Caulerpa prolifera*	0.52
10	4	*Syringodium filiforme*	2.77
10	5	*Caulerpa prolifera*	3.67
10	5	Drift Algae	14.42
10	5	*Halophila englemannii*	0.24
10	6	*Caulerpa prolifera*	0.38
10	6	*Syringodium filiforme*	2.06
11	1	*Syringodium filiforme*	9.12
11	2	*Syringodium filiforme*	7.84
11	3	*Syringodium filiforme*	6.77
11	4	*Syringodium filiforme*	11.45

Station	Rep.	Spp.	Biomass (g)
11	5	*Syringodium filiforme*	6.97
11	6	*Syringodium filiforme*	5.37
12	1	*Caulerpa prolifera*	0.02
12	1	*Syringodium filiforme*	5.96
12	2	*Caulerpa prolifera*	0.04
12	2	*Syringodium filiforme*	8.36
12	3	Drift Algae	13.16
12	3	*Halodule wrightii*	4.97
12	3	*Syringodium filiforme*	1.45
12	4	*Caulerpa prolifera*	0.17
12	4	Drift Algae	32.31
12	4	*Syringodium filiforme*	9.63
12	5	*Caulerpa prolifera*	0.31
12	5	Drift Algae	5.62
12	5	*Syringodium filiforme*	2.25
12	6	*Caulerpa prolifera*	0.06
12	6	Drift Algae	17.30
12	6	*Syringodium filiforme*	13.30
13	1	*Caulerpa prolifera*	2.58
13	1	Drift Algae	2.34
13	1	*Thalassia testudinum*	7.34
13	2	*Caulerpa mexicana*	20.91
13	2	Drift Algae	2.11
13	3	*Caulerpa prolifera*	2.15
13	3	Drift Algae	3.19
13	3	*Thalassia testudinum*	3.14
13	4	*Caulerpa mexicana*	18.84
13	4	*Caulerpa prolifera*	0.86
13	4	Drift Algae	32.43
13	4	*Thalassia testudinum*	1.70
13	5	*Caulerpa mexicana*	19.90
13	5	*Caulerpa prolifera*	0.70
13	5	Drift Algae	1.74
13	5	*Thalassia testudinum*	1.56
13	6	*Caulerpa mexicana*	4.78
13	6	*Caulerpa prolifera*	0.59
13	6	Drift Algae	4.68
13	6	*Thalassia testudinum*	0.66
14	1	Drift Algae	1.34
14	1	*Halodule wrightii*	0.85
14	1	*Syringodium filiforme*	0.37
14	2	Drift Algae	3.01
14	2	*Halodule wrightii*	0.86
14	3	*Halodule wrightii*	0.41
14	3	*Syringodium filiforme*	0.53
14	4	Drift Algae	4.13
14	4	*Halodule wrightii*	0.37
14	4	*Syringodium filiforme*	0.30
14	5	Drift Algae	0.32

Station	Rep.	Spp.	Biomass (g)
14	5	*Halodule wrightii*	0.95
14	6	Drift Algae	10.23
14	6	*Halodule wrightii*	0.55
14	6	*Syringodium filiforme*	3.92
15	1	*Halodule wrightii*	1.06
15	1	*Thalassia testudinum*	0.21
15	2	Drift Algae	0.09
15	2	*Halodule wrightii*	1.39
15	3	*Halodule wrightii*	8.35
15	4	Drift Algae	4.56
15	4	*Halodule wrightii*	7.63
15	5	Drift Algae	0.79
15	5	*Halodule wrightii*	5.27
15	6	*Halodule wrightii*	2.20
15	6	*Thalassia testudinum*	1.03

Appendix Table 5. Biomass (ug) of 14-day growth clip samples.

Station	Rep.	Species	Number of Shoots	Grass Wt. (µg)	Wt./Shoot (µg)
1	A	*Halodule wrightii*	3	275	92
1	B	*Halodule wrightii*	5	762	152
1	C	*Halodule wrightii*	5	848	170
1	D	*Halodule wrightii*	5	881	176
1	E	*Halodule wrightii*	4	566	142
1	F	*Halodule wrightii*	6	1128	188
2	A	*Halodule wrightii*	3	385	128
2	B	*Halodule wrightii*	2	170	85
2	C	*Halodule wrightii*	7	456	65
2	D	*Halodule wrightii*	3	216	72
2	E	*Halodule wrightii*	4	215	54
3	A	*Halodule wrightii*	3	77	26
3	B	*Halodule wrightii*	2	90	45
3	C	*Halodule wrightii*	1	31	31
3	D	*Halodule wrightii*	5	295	59
3	E	*Halodule wrightii*	2	93	47
4	A	*Syringodium filiforme*	7	1428	204
4	B	*Syringodium filiforme*	6	2190	365
4	C	*Syringodium filiforme*	4	1279	320
4	D	*Syringodium filiforme*	5	1312	262
4	E	*Syringodium filiforme*	3	451	150
5	A	*Halodule wrightii*	3	130	43
5	B	*Halodule wrightii*	1	90	90
5	C	*Halodule wrightii*	1	103	103
5	D	*Halodule wrightii*	1	49	49
5	E	*Halodule wrightii*	2	88	44
5	F	*Halodule wrightii*	4	201	50
6	A	*Halodule wrightii*	5	494	99
6	B	*Halodule wrightii*	3	802	267
6	C	*Halodule wrightii*	4	430	108
6	D	*Halodule wrightii*	2	154	77
6	E	*Halodule wrightii*	4	497	124
6	F	*Halodule wrightii*	5	575	115
7	A	*Halodule wrightii*	2	304	152
7	B	*Halodule wrightii*	2	156	78
7	C	*Halodule wrightii*	6	455	76
7	D	*Halodule wrightii*	6	295	49
7	E	*Halodule wrightii*	3	246	82
8	A	*Halodule wrightii*	2	258	129
8	B	*Halodule wrightii*	4	508	127
8	C	*Halodule wrightii*	8	794	99
8	D	*Halodule wrightii*	11	626	57
8	E	*Halodule wrightii*	7	919	131
9	A	*Syringodium filiforme*	17	3420	201
9	B	*Syringodium filiforme*	9	2054	228
9	C	*Syringodium filiforme*	9	1941	216
9	D	*Syringodium filiforme*	21	3940	188
9	E	*Syringodium filiforme*	9	1023	114

Appendix Table 5. Continued.

Station	Rep.	Species	Number of Shoots	Grass Wt. (µg)	Wt./Shoot (µg)
10	A	*Syringodium filiforme*	8	1066	133
10	B	*Syringodium filiforme*	18	1968	109
10	C	*Syringodium filiforme*	19	1851	97
10	D	*Syringodium filiforme*	8	433	54
10	E	*Syringodium filiforme*	10	1322	132
11	A	*Syringodium filiforme*	2	478	239
11	B	*Syringodium filiforme*	2	818	409
11	C	*Syringodium filiforme*	6	1668	278
11	D	*Syringodium filiforme*	2	986	493
12	A	*Syringodium filiforme*	3	246	82
12	B	*Syringodium filiforme*	5	1764	353
12	C	*Syringodium filiforme*	6	1068	178
12	D	*Syringodium filiforme*	7	1181	169
12	E	*Syringodium filiforme*	6	413	69
13	A	*Halodule wrightii*	6	538	90
13	B	*Halodule wrightii*	3	398	133
13	C	*Halodule wrightii*	2	72	36
13	D	*Halodule wrightii*	4	246	62
13	E	*Halodule wrightii*	2	51	26
14	A	*Halodule wrightii*	6	743	124
14	B	*Halodule wrightii*	3	859	286
14	C	*Halodule wrightii*	8	1230	154
14	D	*Halodule wrightii*	2	540	270
15	A	*Halodule wrightii*	3	533	178
15	B	*Halodule wrightii*	6	468	78
15	C	*Halodule wrightii*	13	688	53
15	D	*Halodule wrightii*	7	889	127
15	E	*Halodule wrightii*	3	565	188

Appendix Table 6. Productivity (mg/m2/day) and number of shoots per m2 calculated from grass clip samples

Station	Rep.	Species	Number of Shoots	Productivity (mg/m2/day)	Shoots/m2	Regrowth Days
1	A	Halodule wrightii	3	196	299	14
1	B	Halodule wrightii	5	543	499	14
1	C	Halodule wrightii	5	604	499	14
1	D	Halodule wrightii	5	627	499	14
1	E	Halodule wrightii	4	403	399	14
1	F	Halodule wrightii	6	803	598	14
2	A	Halodule wrightii	3	274	299	14
2	B	Halodule wrightii	2	121	199	14
2	C	Halodule wrightii	7	325	698	14
2	D	Halodule wrightii	3	154	299	14
2	E	Halodule wrightii	4	153	399	14
3	A	Halodule wrightii	3	55	299	14
3	B	Halodule wrightii	2	64	199	14
3	C	Halodule wrightii	1	22	100	14
3	D	Halodule wrightii	5	210	499	14
3	E	Halodule wrightii	2	66	199	14
5	A	Halodule wrightii	3	86	299	15
5	B	Halodule wrightii	1	60	100	15
5	C	Halodule wrightii	1	68	100	15
5	D	Halodule wrightii	1	33	100	15
5	E	Halodule wrightii	2	58	199	15
5	F	Halodule wrightii	4	134	399	15
6	A	Halodule wrightii	5	352	499	14
6	B	Halodule wrightii	3	571	299	14
6	C	Halodule wrightii	4	306	399	14
6	D	Halodule wrightii	2	110	199	14
6	E	Halodule wrightii	4	354	399	14
6	F	Halodule wrightii	5	409	499	14
7	A	Halodule wrightii	2	216	199	14
7	B	Halodule wrightii	2	111	199	14
7	C	Halodule wrightii	6	324	598	14
7	D	Halodule wrightii	6	210	598	14
7	E	Halodule wrightii	3	175	299	14
8	A	Halodule wrightii	2	214	199	12
8	B	Halodule wrightii	4	422	399	12
8	C	Halodule wrightii	8	660	798	12
8	D	Halodule wrightii	11	520	1097	12
8	E	Halodule wrightii	7	764	698	12
13	A	Halodule wrightii	6	383	598	14
13	B	Halodule wrightii	3	283	299	14
13	C	Halodule wrightii	2	51	199	14
13	D	Halodule wrightii	4	175	399	14
13	E	Halodule wrightii	2	36	199	14
14	A	Halodule wrightii	6	617	598	12
14	B	Halodule wrightii	3	714	299	12
14	C	Halodule wrightii	8	1022	798	12
14	D	Halodule wrightii	2	449	199	12
15	A	Halodule wrightii	3	443	299	12

Station	Rep.	Species	Number of Shoots	Productivity (mg/m2/day)	Shoots/m2	Regrowth Days
15	B	Halodule wrightii	6	389	598	12
15	C	Halodule wrightii	13	572	1296	12
15	D	Halodule wrightii	7	739	698	12
15	E	Halodule wrightii	3	469	299	12
4	A	Syringodium filiforme	7	466	320	14
4	B	Syringodium filiforme	6	714	274	14
4	C	Syringodium filiforme	4	417	183	14
4	D	Syringodium filiforme	5	428	228	14
4	E	Syringodium filiforme	3	147	137	14
9	A	Syringodium filiforme	17	1115	776	14
9	B	Syringodium filiforme	9	670	411	14
9	C	Syringodium filiforme	9	633	411	14
9	D	Syringodium filiforme	21	1285	959	14
9	E	Syringodium filiforme	9	334	411	14
10	A	Syringodium filiforme	8	348	365	14
10	B	Syringodium filiforme	18	642	822	14
10	C	Syringodium filiforme	19	604	868	14
10	D	Syringodium filiforme	8	141	365	14
10	E	Syringodium filiforme	10	431	457	14
11	A	Syringodium filiforme	2	182	91	12
11	B	Syringodium filiforme	2	311	91	12
11	C	Syringodium filiforme	6	635	274	12
11	D	Syringodium filiforme	2	375	91	12
12	A	Syringodium filiforme	3	80	137	14
12	B	Syringodium filiforme	5	575	228	14
12	C	Syringodium filiforme	6	348	274	14
12	D	Syringodium filiforme	7	385	320	14
12	E	Syringodium filiforme	6	135	274	14