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MONITORING OF NATURAL AND PLANTED VEGETATION IN THE LAKE APOPKA MARSH FLOW-WAY RESTORATION PROJECT, AUGUST 1993-MARCH 1995

Final Report 1998

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EXECUTIVE SUMMARY

The objective of this project was to continue measurements of ecosystem succession in the Lake Apopka Marsh Flow-Way Demonstration Project and to initiate measurements in the Full Marsh. Earlier ecosystem succession studies (November 1990-February 1993) had revealed a pattern of increasing coverage by a few highly competitive plant species. To provide a more complete assessment of ecosystem development on the site, a second phase of the study was implemented from August 1993 to March 1995. An early part of the second phase of the Demonstration Project (August 1993-September 1994) has been reported in Stenberg J.R., M. Clark, and R. Conrow. 1997. *Development of Natural and Planted Vegetation and Wildlife Use in the Lake Apopka Marsh Flow-Way Demonstration Project: 1990-1994*. Special Publication SJ98-SP4. This report will include previously reported and final sample results. The report will focus on vegetation cover dynamics (Demonstration and Full Marshes), floating vegetation mats (Demonstration Marsh), and drawdown and fire (Demonstration Marsh).

Measurements from Demonstration Marsh experimental planting sites revealed patterns of continuing resistance to invasion of cattail (*Typha domingensis* and *T. latifolia*) by the most competitive species, *Pontederia cordata* and *Sagittaria lancifolia*, and decline of a number of planted target species. Measurements on Demonstration Marsh natural succession transects revealed that cattail species continued to maintain the greatest areal coverage in the marsh. Under conditions of an expanding cattail community in the "ambient" environment, resistance or aquiescence to invasion in the planted community revealed the competitive capabilities of planted target species.

During this monitoring phase, a number of planted communities continued large-scale senescence. Included in this group were spikerush (*Eleocharis interstincta*) and bulrush (*Scirpus validus*). This event was unexpected because the two species were surviving successfully during the early years of the project. It is likely that the two species experience a natural senescence after an initial growth period. Softstem bulrush peaked about one year after planting (August 1991-1992) then slowly declined until its decline accelerated after August 1993. In contrast, *Eleocharis interstincta* reached maximum cover after one year, then began a decline in August 1993. The senescent period will probably be followed by regrowth from remaining viable rhizomes if the species are not excluded by cattail. In this marsh it is likely that the target species would be replaced by cattail during a senescent period. *Hydrocotyle ranunculoides* became more prominent as an invader into experimental planting sites. More plots were found with *Hydrocotyle ranunculoides* coverages over 50% in March 1995 than in March 1994.

Vegetation biomass measurements provided information about the structure and successional state of the Demonstration Marsh. Total above-ground biomass ranged dynamically around 500-1000 g m^{-2}. Below-ground biomass continued to decline in the south marsh as roots and rhizomes shifted to floating vegetation mats. Floating vegetation mat biomass increased from 827 g m^{-2} (August 1993) to 989 g m^{-2} (September

1994). More south marsh transects contained floating mat biomass in September 1994 (3 transects) than in previous samples (1 transect for August 1993 and March 1994). The north marsh had a slowly increasing below-ground biomass until March 1994 followed by a decline in September 1994. Floating mat biomass also increased in the north marsh (647 g m^{-2} in August 1993 to 877 g m^{-2} September 1994).

In spring 1994 a drawdown in the north and south marshes was followed by an increase in coverage of species that were common during the initial phase of the project and were found in the seed bank. These species included: *Cyperus odoratus, Ludwigia leptocarpa, Panicum dichotomiflorum,* and *Polygonum punctatum.* A summer 1994 prescribed burn in the south marsh was followed by reduced biomass and cover of the more prominent species *Hydrocotyle ranunculoides* and cattail (*Typha domingensis* and *T. latifolia*)

Water depth measurements revealed that at least 73% of natural succession transect sample plots contained floating vegetation mats, while 55% of experimental planting sites were floating. Floating mats didn't float up without an intermediate stage. About 30% of planting site plots contained vegetation mats partially suspended in the water column. About 27% of natural succession plots were partially suspended. Floating vegetation mat biomass near the south marsh inlet was greater than at the outlet weir.

The most distinctive feature of the Full Marsh was its rapid colonization by cattail. In addition, it was invaded by the armyworm caterpillar (*Simyra henrici*). Herbivory by the caterpillar appeared to increase the cover of dead cattail biomass in the August 1994 sample. The lack of cattail in Full Marsh flow-way cell G seemed related to water depth being greater than its adaptive limit and possibly to distance from a substantial seed source.

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From the beginning of this project Bob Cooper has provided field assistance, natural history updates, and great evening discussion, we miss those times.

Last but not least, we hope this report provides some useful information to the restoration and management of the Apopka Marsh, specifically, and to other marshes in general.

I. INTRODUCTION

Early in ecosystem development, rapid biotic community changes are common, leading to conditions approaching what might be called a steady state (Odum 1969). These changes consist of rapidly increasing biomass, and invasions and replacements of species. With the absence of severe disturbance or major changes in environmental forcing functions (i.e. nutrient loading, hydroperiod, water depth, etc.) over time this ecosystem may slowly change in species composition and structure as a function of ambient environmental conditions, initial invading species, and long-term invading species. The adaptive capabilities of the biotic elements in the face of competition and the influence of environmental factors will determine the long-term character of an ecosystem (McCook 1994).

Previous reports (Stenberg et al. 1991, Stenberg and Best 1994, Stenberg et al. 1998) have chronicled ecosystem dynamics occurring during the conversion from farm field to cattail (*Typha domingensis* and *T. latifolia*) marsh (November 1990 - March 1994). This study continues documentation of plant community development within the Apopka Marsh Flow-Way Restoration Project (Stenberg et al. 1997). The study consisted of three components: (1) Vegetation monitoring of natural succession transects in the Demonstration Marsh, (2) Vegetation monitoring of experimental planting sites in the Demonstration Marsh, and (3) Establishing sample plots and beginning a vegetation community evaluation of the Full Marsh. Using methods and sample plots previously established in the Demonstration Marsh and newly established plots in the Full Marsh, this study will improve understanding of successional dynamics within the Apopka Marsh Flow-Way Restoration Project. The additional sampling provided by this study will extend the vegetation succession database, thus improving its quality (Strayer et al. 1986).

II. STUDY SITE DESCRIPTION

SITES

The study was conducted in the Lake Apopka Marsh Flow-Way Restoration Project (Fig. 1). A more detailed site description can be found in Stenberg et al. (1997). The site is located along the northwest edge of Lake Apopka, approximately 40 km west of Orlando, Florida. The project was developed in two stages. The first, known as the Demonstration Marsh (Fig. 2), became operational in November 1990 and was monitored through March 1995. The Demonstration Marsh consisted of two cells, the south marsh, and the north marsh. The second stage, the Full Marsh (Fig. 3), extended north from the northern border of the Demonstration Marsh and consisted of flow-way cells C through G. Eventually the Demonstration Marsh and the Full Marsh will be incorporated into a single system of flow-ways.

Demonstration Marsh

Studies in the Demonstration Marsh have included measurements of natural succession from transects in unaltered marsh (Fig. 4), as well as the effects of planting

and seeding treatments to accelerate succession (Fig. 5) (Best et al. 1991, Stenberg et al. 1991, Stenberg, et al. 1997). Ecosystem development in the Demonstration Marsh had progressed to a state of dominance by cattail and other hydrophytic plants (e.g. *Hydrocotyle ranunculoides* and *H. umbellata*; *Pontederia cordata*; *Sagittaria lancifolia* and *S. montevidensis*); and an extensive coverage of floating vegetation mats. The floating mats seem to have developed as a result of the combined effects of growth of buoyant cattail rhizomes, decomposition gases in the soil, and soil matrix disturbance by past agricultural activities. Water depth greater than the mat thickness, sustained over time, seems to have promoted mat flotation as buoyancy increased or attachments to the consolidated sediment degraded. These mats became mobile to the point where they behaved as icebergs; floating through the landscape reshaping vegetation structure as they moved. This was most evident along the edges of experimental planting site 1 in the south marsh, which had perimeter plots dislodged by floating vegetation mats (Fig.6).

As a means of counteracting floating mat development, during spring of 1994, after about 44 months of continuous flooding, the south marsh was drawn down, a diquat herbicide treatment applied, and the marsh was burned. This action led to the burning of plots in experimental planting site 2 (Fig. 7). The burning of interior plots seems to have been facilitated by the presence of dense cattail stands in the walkways between the planted plots. In addition, bulrush (*Scirpus californicus* and *S. validus*) seemed to have burned preferentially to other treatment species. Other interior plots may have been burned, but no evidence (burned or melted plot posts) remained to suggest impact.

Full Marsh

Early site history on the Full Marsh was similar to that of the north marsh in the Demonstration Project as inferred from a 1941 USGS aerial photograph and an early land survey. Both sites had been sawgrass (*Cladium jamaicense*) marsh prior to farming. Both had been farmed intensively until abandonment. Prior to re-flooding, differences existed during the early vegetation development on each site. The north marsh was colonized by an extensive dogfennel (*Eupatorium capillifolium*) community. Early in its vegetation development the Full Marsh was colonized by a more diverse weedy species community. The North Marsh gradually was filled in by an extensive cattail (*Typha latifolia*) community. In contrast, after being maintained in a flooded state since August 1993 the Full Marsh was rapidly colonized by cattail. This report documents its vegetative community development as viewed from samples taken in August 1993 and 1994.

HYDROLOGY

The hydrologic regime within the Flow-Way Restoration Project was managed independently of Lake Apopka stage regulation (Rao 1982). Except for three drawdowns, water levels in the Demonstration Marsh were maintained above soil surface for the duration of the project (Fig. 8). The Full Marsh was maintained in a continuously flooded state since the summer of 1993. The most recent Demonstration Marsh drawdown during spring/summer 1994 ended about one month prior to vegetation sampling along the natural succession transects.

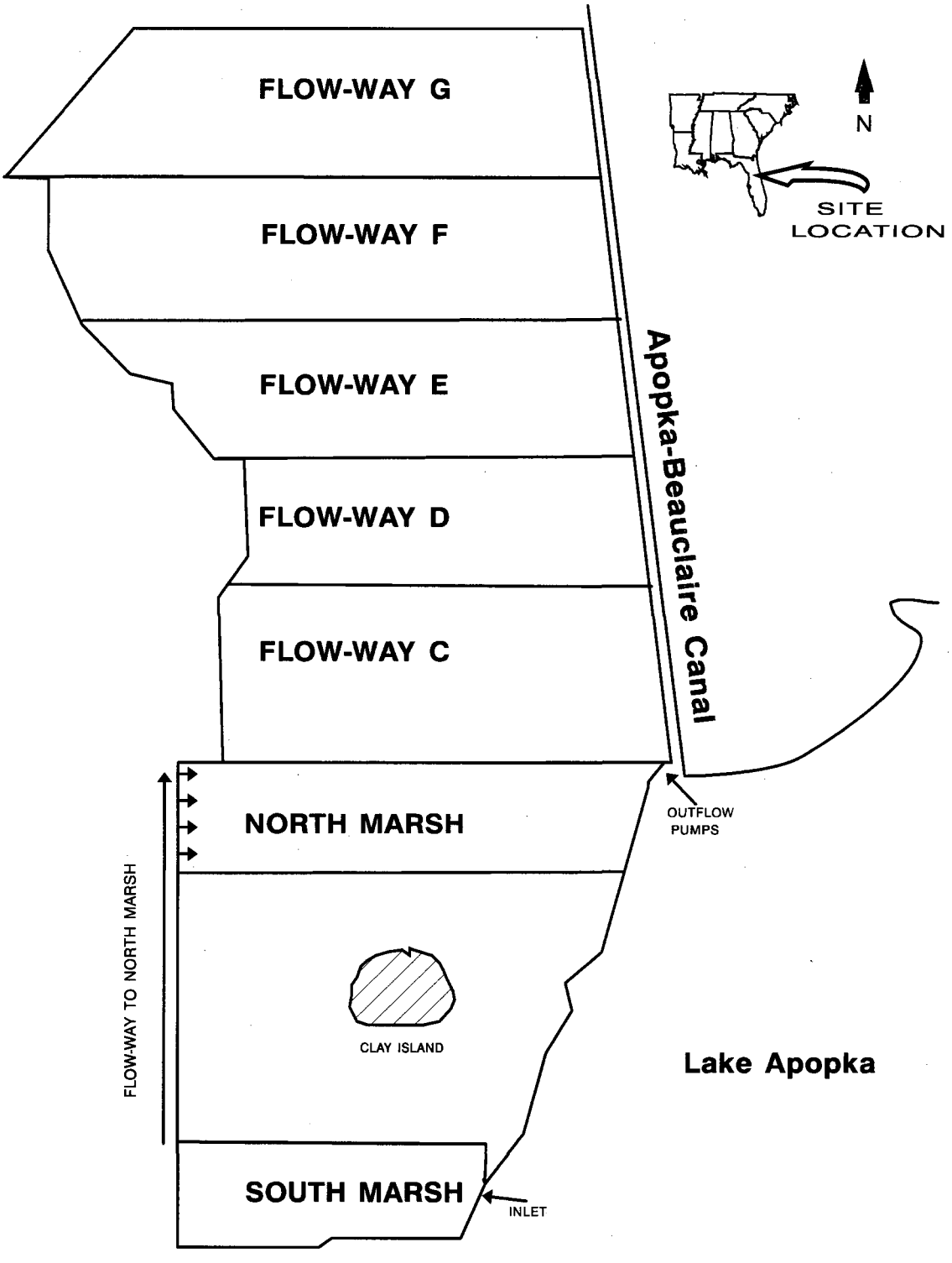

Figure 1. Plan view of the Apopka Marsh Flow-Way Restoration Project. The Demonstration Marsh contains the South and North Marshes. Full Marsh contains Flow-ways C through G.

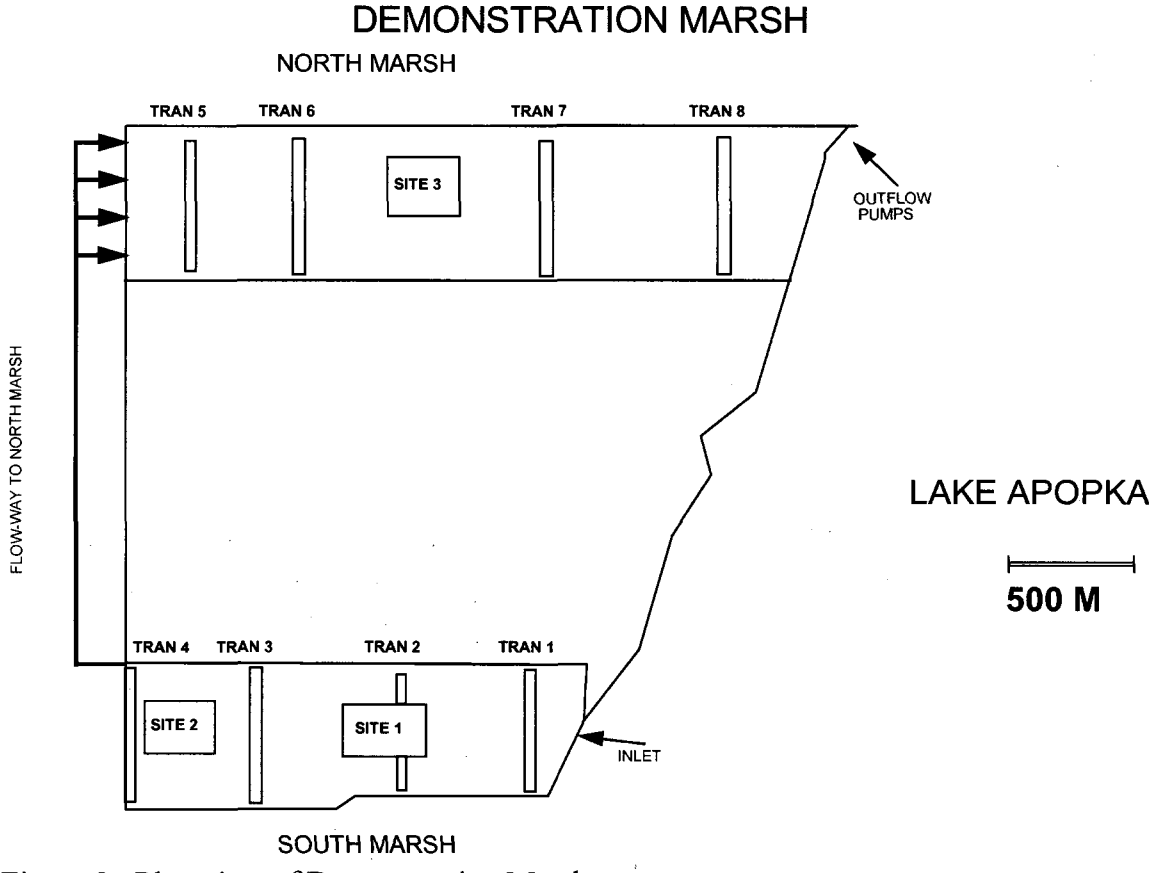

Figure 2. Plan view of Demonstration Marsh..

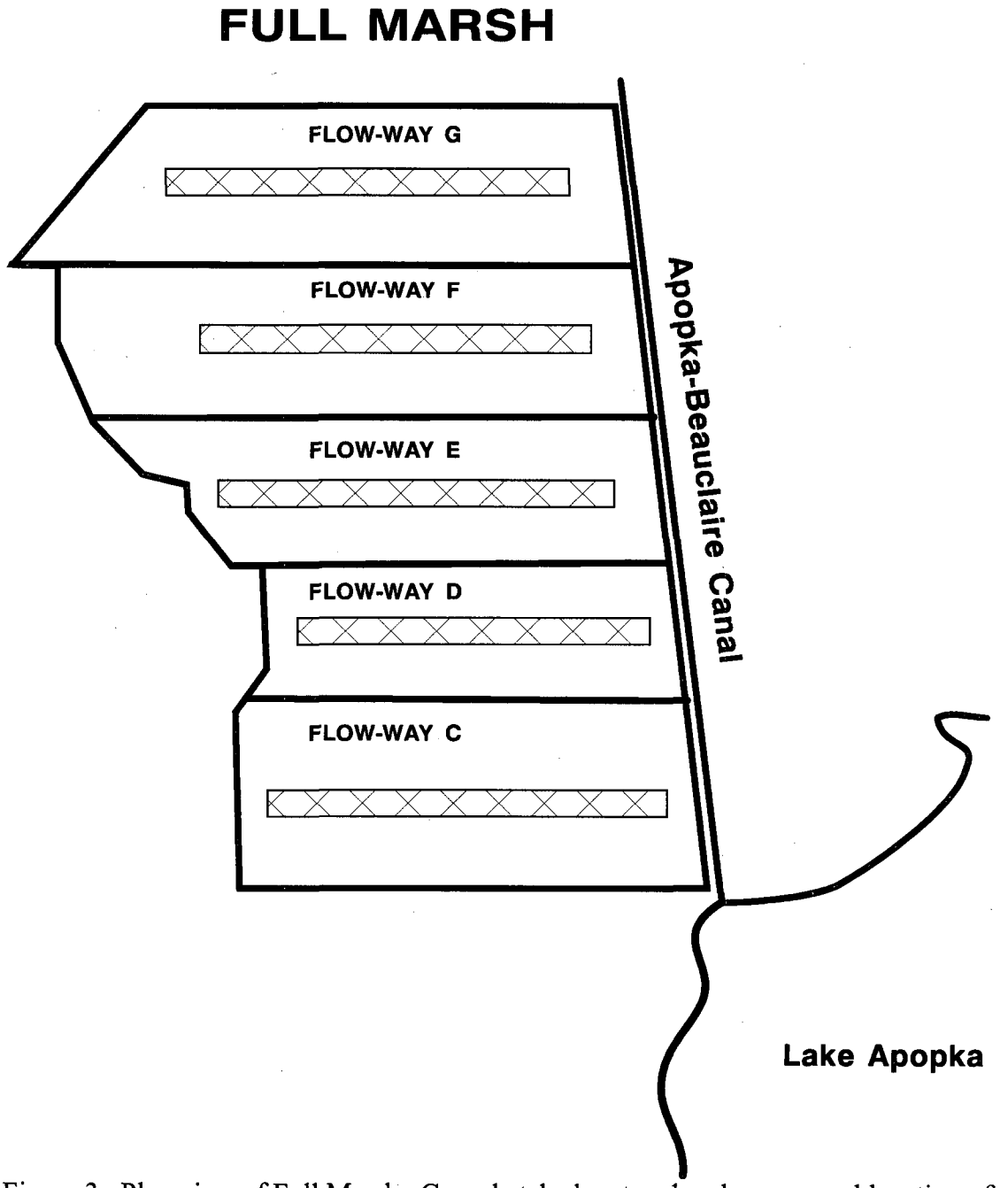

Figure 3. Plan view of Full Marsh. Cross hatched rectangles show general location of the east-west transect. Sample nodes were evenly spaced along each flow-way. See Appendix A for sample node positions (Latitude/Longitude).

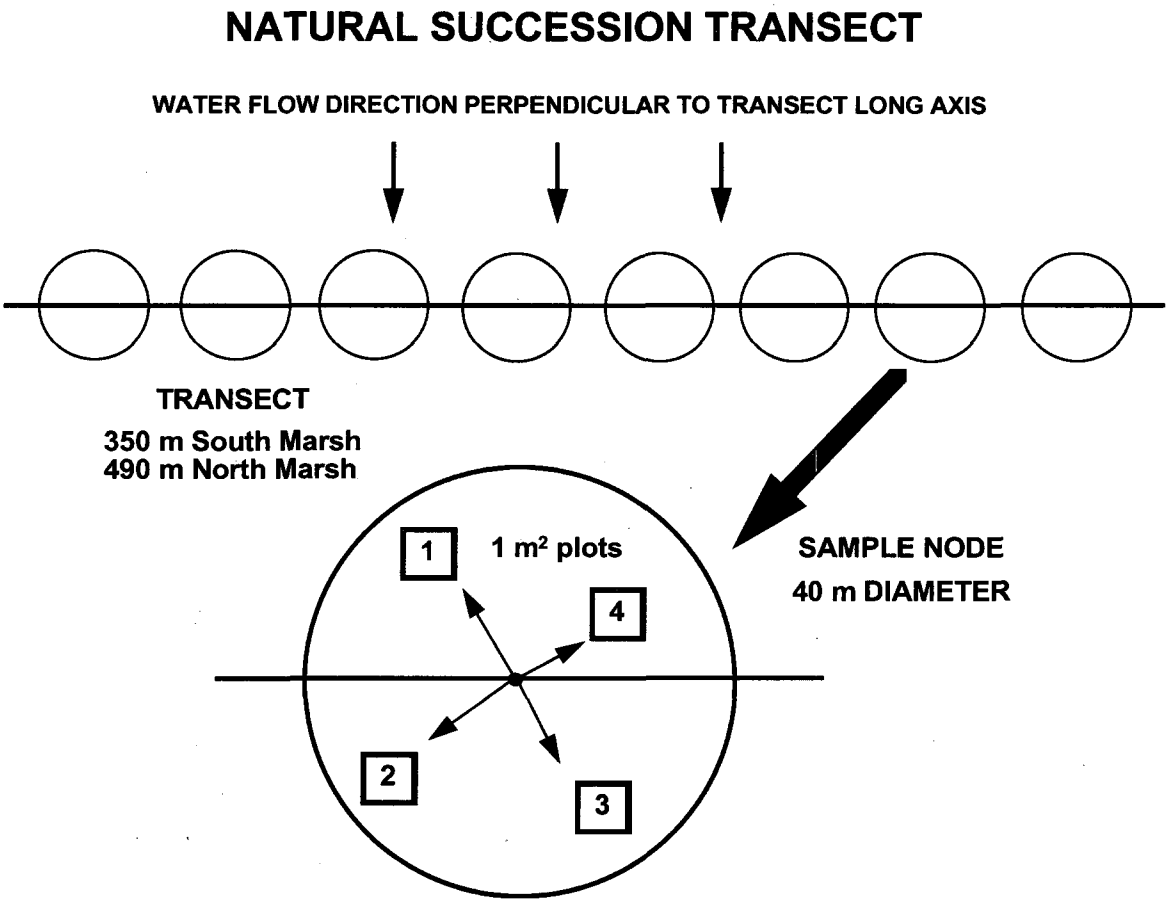

Figure 4. Plan view of natural succession transect.

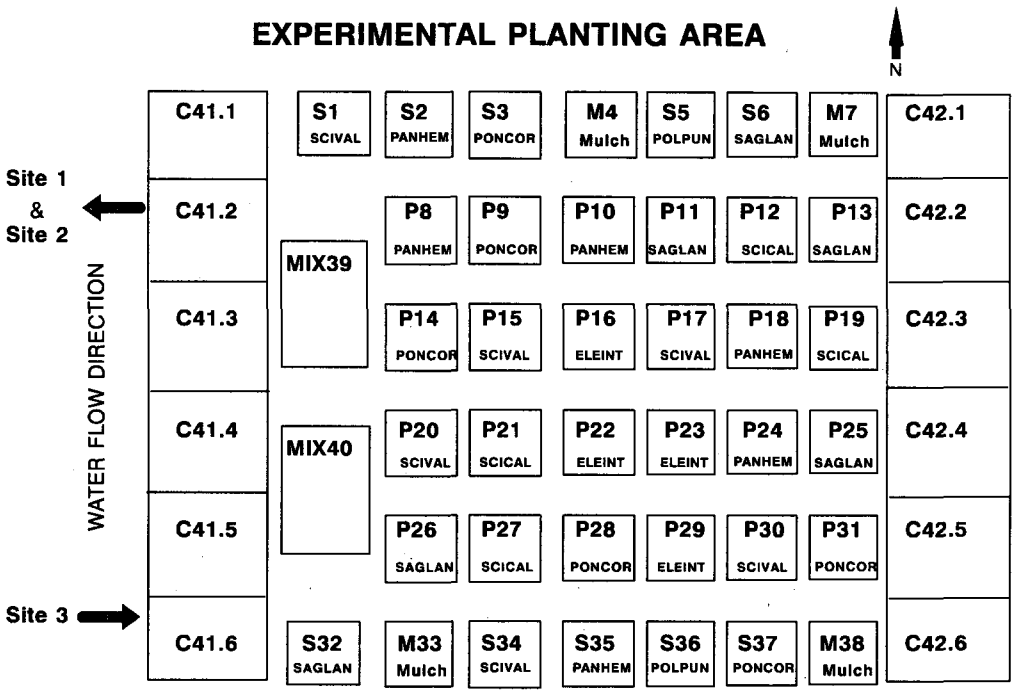

Figure 5. Plan view of experimental planting site, Demonstration Marsh. Plots are represented by boxes. Codes in each box are explained as follows:

Treatments		Alpha-Numeric codes
Single species seeded plots	=	S1-3, 5, 6, 32, 34-37
Single species planted plots	=	P8-31
Mulch (donor soil) plots	=	M4, 7, 33, 38
Mixed species planted plots	=	M39, 40
Control plots	=	C41.1-41.6, 42.1-42.6.

Species codes		Species Names
ELEINT	=	*Eleocharis interstincta*
PANHEM	=	*Panicum hemitomon*
POLPUN	=	*Polygonum punctatum*
PONCOR	=	*Pontederia cordata*
SAGLAN	=	*Sagittaria lancifolia*
SCICAL	=	*Scirpus californicus*
SCIVAL	=	*Scirpus validus*

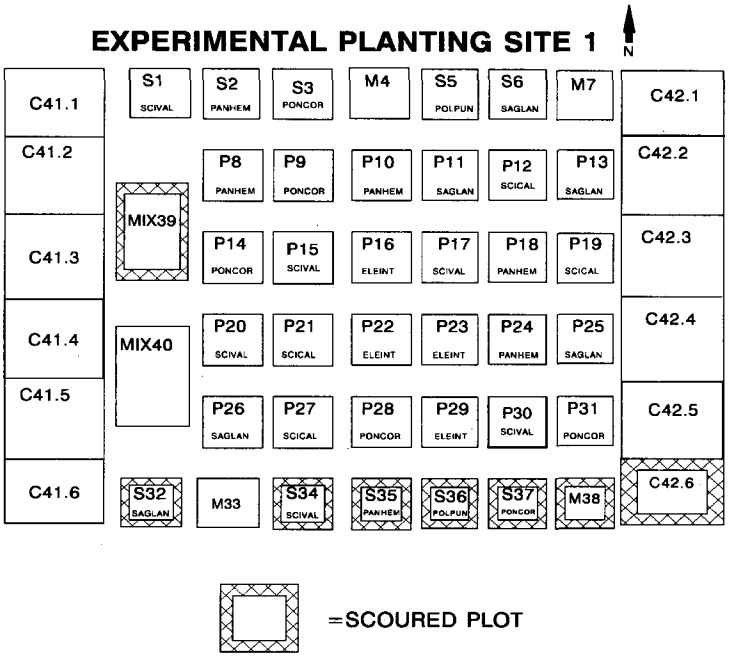

Figure 6. Plan view of experimental planting site 1 showing positions of plots floating away from planting area, March 1995.

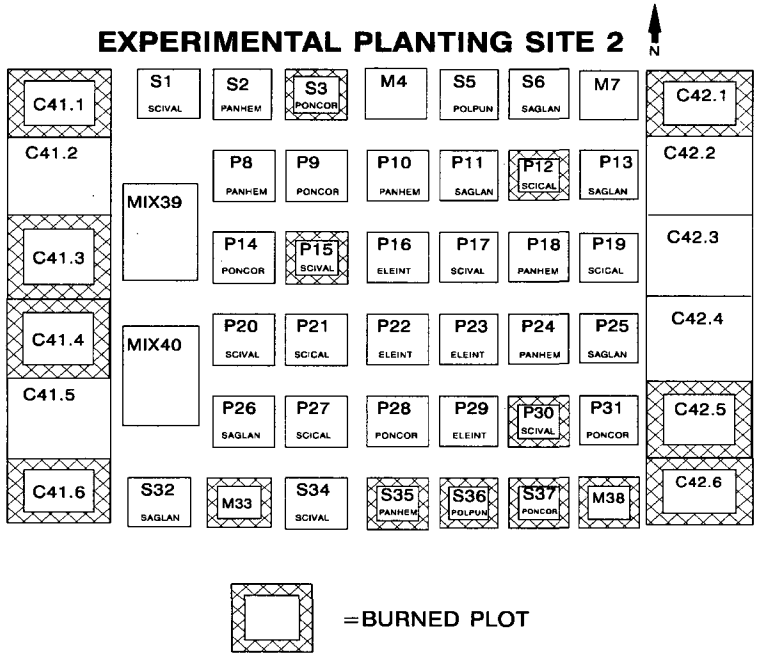

Figure 7. Plan view of experimental planting site 2 showing positions of plots burned during Spring 1994 fire, March 1995.

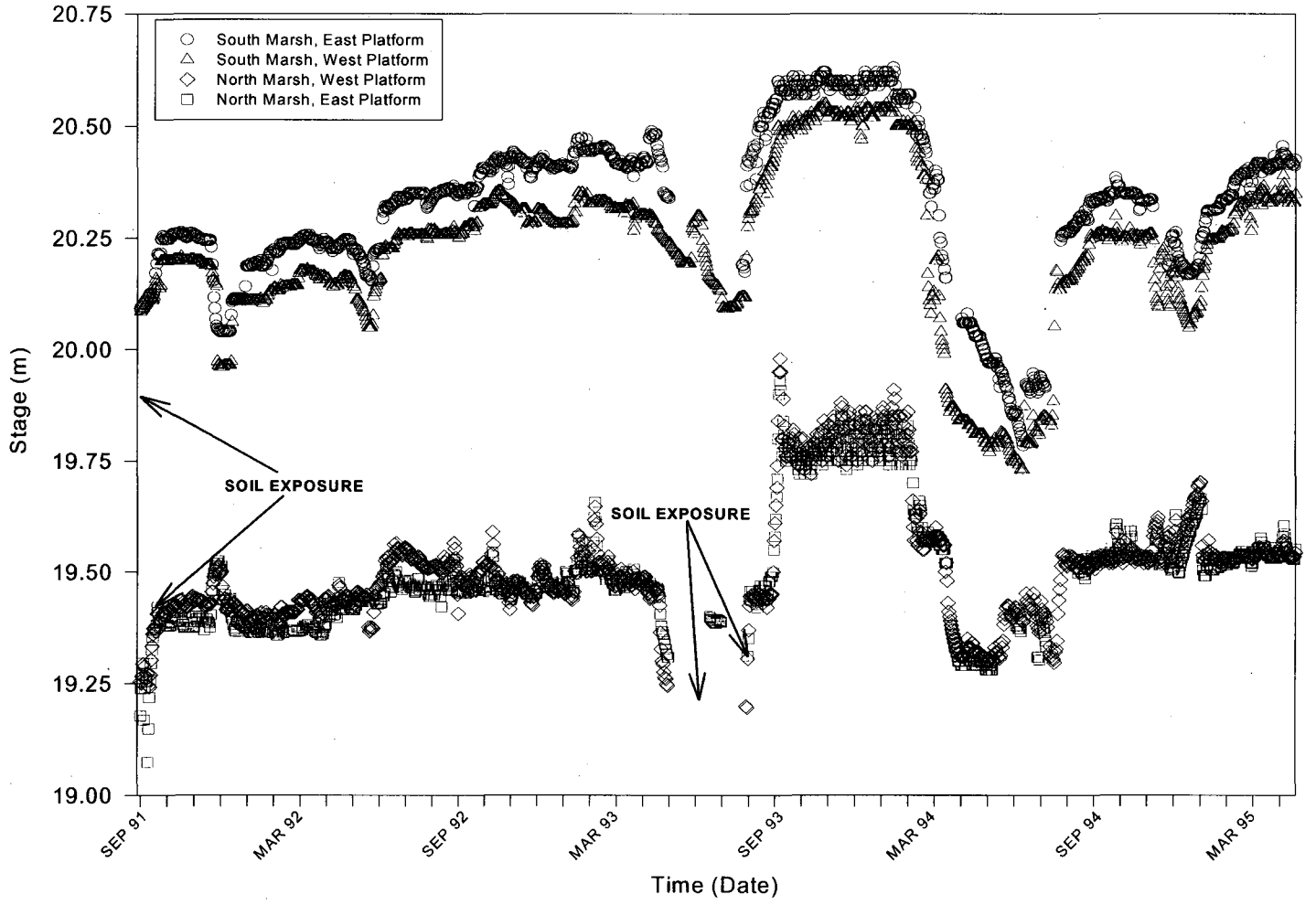

Figure 8. Demonstration marsh stage time series (m, MSL). Soil exposure occurs when stage is below ~19.75 m (south marsh and ~19.25 (north marsh)

III. METHODS

COMMON TO ALL SITES

Within each sample plot, qualitative and quantitative data were collected. Vegetation data for each species and hydrologic data were collected from each 1 m^2 subplot. Vegetation data consisted of: cover (%), stem density (#), height (maximum cm), and phenology (canopy index). Vegetation cover was estimated in 5% increments, except for trace levels (<5%). Trace cover estimates were assigned a 1% cover value. Phenological measurements consisted of estimating the state of flowering and fruiting (immature and mature) using a canopy dominance index (1=1/3 of canopy, 2=2/3 of canopy, and 3=total canopy) (Best et al. 1991). To simplify the presentation of this report only species composition, cover, and water level data are reported. The additional measurements are available in Appendices (C, D, E) for review.

Due to the linkage between water depth and mat flotation, water depth and depth relative to mat elevation in the water column, were collected simultaneously. Within each subplot (1 m^2) three measurements evenly spaced along the long axis of the subplot were collected. The first element of each measurement consisted of placing a meter stick vertically into the water until a consolidated soil was contacted. This was called WL1 (water level 1). If a mat was present the meter stick was pushed through the mat until it again contacted a consolidated surface. The second element was called WL2 (water level 2). WL1 was used with vegetation measurements because it represents water depth on top of the sediment surface, and thus depth most relevant to vegetation. The position of the mat surface relative to water depth was calculated from the following:

$$\text{Relative mat position} = \text{WL2-WL1/WL2} * 100$$

A single vertical measurement (WL1) represented anchored soil; while two vertical measurements suggested mat detachment (Fig. 9). Finally, the relative mat position calculation provided information about the mat surface as it detached and floated. Stage measurements were made at the nearest continuous recording station to provide a stage reference.

Botanical nomenclature followed Godfrey and Wooten (1979; 1981) for wetland species, Radford et al. (1968) for upland species, Hitchcock (1971) for grasses, and Lakela and Long (1976) for ferns.

Water Depth Measurements

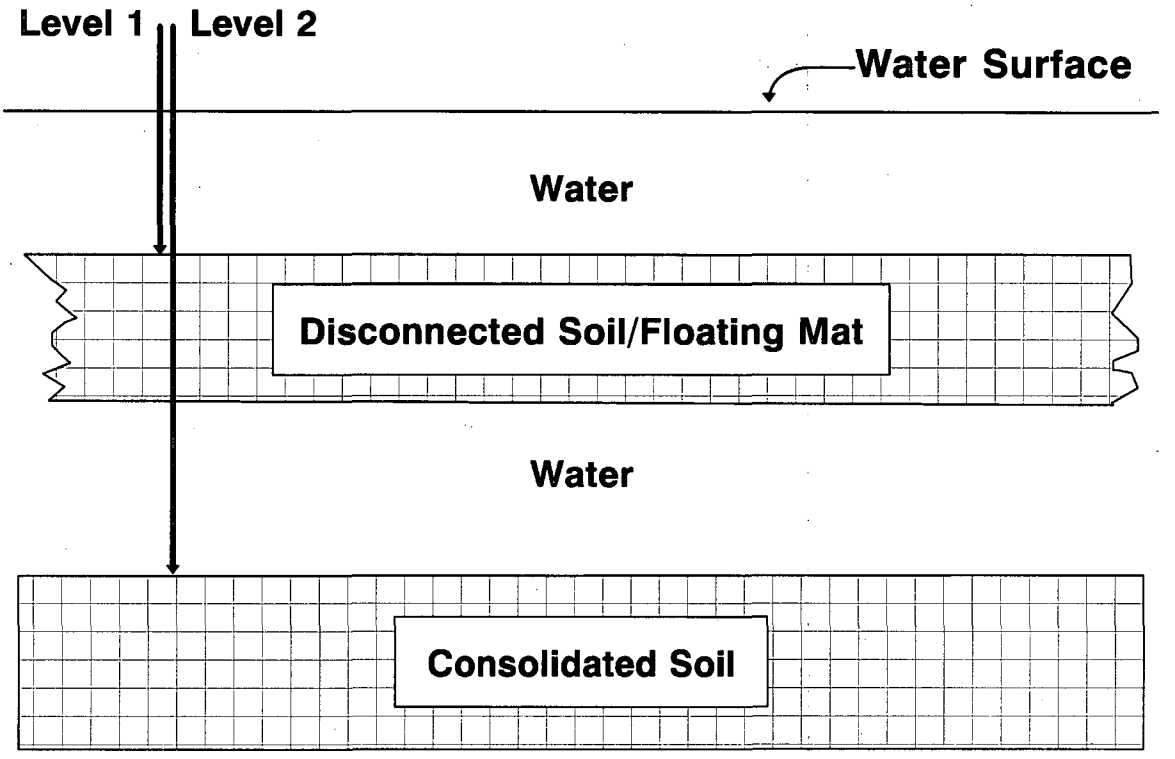

Figure 9. Water depth measurement schematic. Level 1 refers to the first measurement from water surface to a soil or mat surface hard enough to support a meter stick. Level 2 refers to a measurement taken by pushing the meter stick through the surface to the next hard surface capable of supporting a meter stick.

DEMONSTRATION MARSH

Experimental Planting Sites

Experimental planting sites were established in three locations in the Demonstration Marsh (Fig. 2). Two sites were in the south marsh and one site in the north marsh. Each site was prepared for experimental treatments by mowing, herbicide application, and burning to remove the established plant community. Experimental treatments consisted of control, planted-single species, planted-mixed species, mulched and seeded (Fig.5, and Table 1-3). Donor soils for mulch treatment plots were from two wetlands near Sebring, Florida (Table 4). Treatment plots were delineated at each corner by 0.102 m diameter, 1.5 m tall white PVC posts. Treatment plots were separated by 4.5 m wide paths. In all but the mixed species plots, a single randomly positioned permanent $1m^2$ subplot was established for sampling. In the mixed species plot, two permanent subplots were established.

Vegetative cover (%) of each species was estimated in the larger treatment plots and in the $1m^2$ subplots. These data are reported as overall cover and subplot cover, respectively. Collecting overall cover required the observer to walk around within the larger treatment plot, recording species presence and estimating the percentage cover of the entire plot. The remaining data collection methods, including subplot cover, height, density, and phenology were similar to those used for the natural succession transect.

Table 1. Data collection schedule for experimental planting sites, Demonstration Marsh.

Data Collection Event	Date
Initial Conditions (sprigged plots only)	Sep 1991*
First Winter Season	Jan 1992*
First Spring Season	May 1992*
First Summer Season	Aug 1992*
Second Winter Season	Feb 1993*
Second Summer Season	Aug 1993**
Third Spring Season	Mar 1994**
Fourth Spring	Mar 1995**

* = Previously reported in Stenberg et al. 1997

** = Data collected as a part of this project.

Table 2. Experimental treatment plot description.

Name	Treatment Description[a]	Dimensions (m)	Per Site
Mulch (M)	Wetland donor soil	15.2x15.2	4
Mixed Spp (X)	Planted sprigs of an assortment of species	24.4x24.4	2
Planted (P)	Planted sprigs of a single species.[b]	15.2x15.2	24
Seeded (S)	Seeded by a single species	15.2x15.2	10
Control (C)	Site preparation only	18.3x18.3	12
TOTAL/SITE			52
GRAND TOTAL (3 sites)			152

[a] All treatment plots received site preparation to remove competing vegetation.
[b] 12 plots planted at LOW DENSITY=1.2 m (4') centers yielding 1.56 plants m^{-2} and 12 plots planted at HIGH DENSITY=0.6 m (2') centers yielding 6.25 plants m^{-2}.

Table 3. Planted plot treatment species and codes. Treatment codes refers to the treatment associated with each species.

Plant Species List	Species Codes	Treatment Codes
1. *Sagittaria lancifolia*	(SAGLAN)	(P,S,X)
2. *Pontederia cordata*	(PONCOR)	(P,S,X)
3. *Scirpus validus*	(SCIVAL)	(P,S,X)
4. *S. californicus*	(SCICAL)	(P,-,X)
5. *Panicum hemitomom*	(PANHEM)	(P,S,X)
6. *Eleocharis interstincta*	(ELEINT)	(P,-,X)
7. *Peltandra virginica*	(PELVIR)	(-,-,X)
8. *Juncus effusus*	(JUNEFF)	(-,-,X)*
9. *Kosteletzkya* spp.	(KOSSPP)	(-,-,X)
10. *Thalia geniculata*	(THAGEN)	(-,-,X)
11. *Polygonum punctatum*	(POLPUN)	(-,S,-)

Treatment Code Explanation

(P,S)	=	SPRIGS AND SEEDS
(X)	=	MIXED SPECIES PLOTS
(P)	=	SPRIGS
(S)	=	SEEDS ONLY
(-)	=	SPECIES NOT INCLUDED IN TREATMENT
M	=	MULCHED PLOT

* Replaced *Cladium jamaicense* after failure of initial planting.

Table 4. Vegetation species composition from donor soil sites for soils applied to mulch treatments in Experimental Planting Sites.

Soil A: Depressional wetland

Species Name	Common Name
Andropogon virginicus	Bushy Beardgrass
Drosera brevifolia	Sundew
Erianthus strictus	Beard Grass
Eriocaulon spp.	Hat Pins
Hypericum fasciculatum	St. Johns Wort
Lacnanthes caroliniana	Redroot
Leersia spp.	Cutgrass
Panicum hemitomon	Maidencane
Xyris spp.	Yellow-Eyed Grass

Soil B: Bayhead

Species Name	Common Name
Gordonia lasianthus	Loblolly Bay
Hypericum fasciculatum	St. Johns Wort
Ilex glabra	Gallberry
Leersia spp.	Cutgrass
Lyonia lucida	Fetterbush
Magnolia virginiana	Sweetbay
Myrica cerifera	Waxmyrtle
Osmunda cinnamomea	Cinnamon Fern
Panicum abscissum	Cutthroat Grass
Persea palustris	Redbay
Pontederia cordata	Pickerel Weed
Rhexia cubensis	Meadow Beauty
Sagittaria lancifolia	Arrowhead
Woodwardia areolata	Chain Fern

Natural Succession Transects

Successional development of the natural marsh was compared to succession in the experimental planting areas. Sampling was conducted along six of the permanent transects (1, 2, 3, 4, 6, 8) established during Phase I (Fig. 2, Best et al. 1991, Stenberg et al. 1991). Vegetation community structure data were collected from randomly placed 1 m^2 plots within each sample node which contained three permanent community plots and one temporary community structure and biomass clip plot (Fig. 4). Data were collected according to the sample schedule in Table 5. These data consisted of species composition, percent cover (%), density (Numbers of stems, culms, bunches), height (tallest leaf), phenology index (canopy dominance of flowers, immature and mature fruit in increments of 1=1/3 , 2=2/3 , 3=Full Canopy), and water depth (cm).

Vegetative biomass collection and preparation for nutrient analyses were only conducted for the natural succession transects. Within each biomass plot (plot #4 per sample node) we collected above-ground and below-ground biomass.

The above-ground component was collected as follows:

(1) From within the $1m^2$ subplot all plant material was clipped to soil surface level. Vegetation hanging into the plot was clipped through a vertical plane that intersected the plot boundaries.

(2) Clipped plant material was stored in large plastic bags with a numbered aluminum identification tag.

(3) Material was processed immediately or stored at 4^oC up to one week prior to processing.

(4) Plant material was separated into live (by species) and standing dead (all species combined) portions.

(5) Material was dried at 70^oC to constant mass, then weighed to nearest 0.1 g.

Below-ground biomass was collected from each biomass subplot in the following manner:

(1) Three cores (10 cm dia. X 20 cm long) were extracted using a section of sharpened PVC pipe. Soil and an aluminum identification tag were placed in a plastic sealable bag for transport.

(2) Soils were stored at 4^oC until processed.

(3) Biomass was separated from soil by washing through a 2 mm (No. 10, USA Standard Testing Sieve) sieve.

(4) Biomass was dried at 70^oC to constant mass, then weighed to nearest 0.001 g.

The floating vegetation mat component was collected as follows:

(1) From within the $1m^2$ subplot a 0.25m by 0.25m section of floating mat was clipped through to free water below. The sampled mat block was cut cleanly with hedge clippers (50 cm blade length).

Table 5. Sampling schedule for natural succession transects. Table entries are nodes sampled, *= all nodes sampled, numbers=specific nodes, NS=no sample. Lower case a and b next to transect number represent type of data collected: a=Structure and Composition, and b=Biomass.

	SAMPLE DATES							
TRANSECT	NOV90*	AUG91*	JAN92*	AUG92*	FEB93*	AUG93**	MAR94**	SEP94**
1 a	*	*	*	*	*	*	*	1-6
b	*	*	*	*	*	2, 4, 6, 8	1, 3, 5, 7	1-6
2 a	*	1-2, 6-8	1-2, 6-8	1-2, 6-8	1-2, 6-8	NS	1-2, 7	1, 2, 7
b	NS	NS	NS	NS	NS	NS	1-2, 7	1, 2
3 a	*	*	*	*	*	*	*	*
b	*	*	*	*	*	2, 4, 6, 8	1, 3, 5, 7	1-8
4 a	*	*	*	*	*	NS	1, 3, 5, 7	2-8
b	NS	NS	NS	NS	NS	NS	1, 3, 5, 7	2-8
6 a	*	*	*	*	*	*	*	*
b	*	*	*	*	*	2, 4, 6, 8	1, 3, 5, 7	2, 4, 6, 8
8 a	*	*	*	*	*	*	*	*
b	*	*	*	*	*	2, 4, 6, 8	1, 3, 5, 7	2, 4, 6, 8

*Previously reported in Stenberg et al. 1997
**Data collected as a part of this project.

(2) The clipped mat block was stored in large plastic bags with a numbered aluminum identification tag.
(3) Material was processed immediately or stored at 4°C up to one week prior to processing.
(4) Biomass was separated from soil and flocculent material by washing through a 2 mm (No. 10, USA Standard Testing Sieve) sieve.
(5) Material was dried at 70°C to constant mass, then weighed to nearest 0.1 g.

FULL MARSH

Initial measurements in the Full Marsh were designed to determine the pre-flooded plant community composition and coverage. A vegetation survey of the site was conducted during the summer of 1993. During the survey the composition and distributions of plant communities were noted on a USGS 1:24,000 scale topographic map. Approximate areas of each community were estimated from the drawn distributions.

The Full Marsh sampling network was established in February 1994, after the Demonstration Marsh had been operating for about three years. The Full Marsh configuration consisted of five east to west oriented flow-ways located north of the Demonstration Marsh (Fig.1, 3). For the purposes of identification they have been labelled as flow-ways C-G. Five sampling nodes similar to those described for the natural succession transects (Fig. 4) were established at approximately evenly spaced intervals (Appendix A) along the centerline of the east-west orientation (Fig. 3). Within these nodes four randomly placed permanent sample subplots were established (Appendix B). Sampling took place in the Full Marsh during February 1994 (first winter), and August 1994 (first summer).

A baseline vegetation map of the Full Marsh was created by delineating areas of similar spectral quality from a 1:1200 color infrared aerial photography (SJRWMD, 18 September 1994 flight date). Vegetation delineation was verified by ground-truthing and reference to the Full Marsh vegetation structure and composition sample data.

IV. RESULTS

DEMONSTRATION MARSH

Floating Mats

Floating vegetation mat formation was a phenomenon common to both experimental planting sites and the natural succession transects. An evaluation of mat position relative to water depth revealed that the experimental planting sites and the natural succession transects had similar patterns of distinct (90-100%) mat formation (Fig.10). The experimental planting sites had the most plots with distinct open water characteristics. The remaining plots were floating in an intermediate level and may still have had attachment to a consolidated base soil. Observation of the marsh suggests that the mat may be breaking up or sinking in some instances, especially in the south marsh.

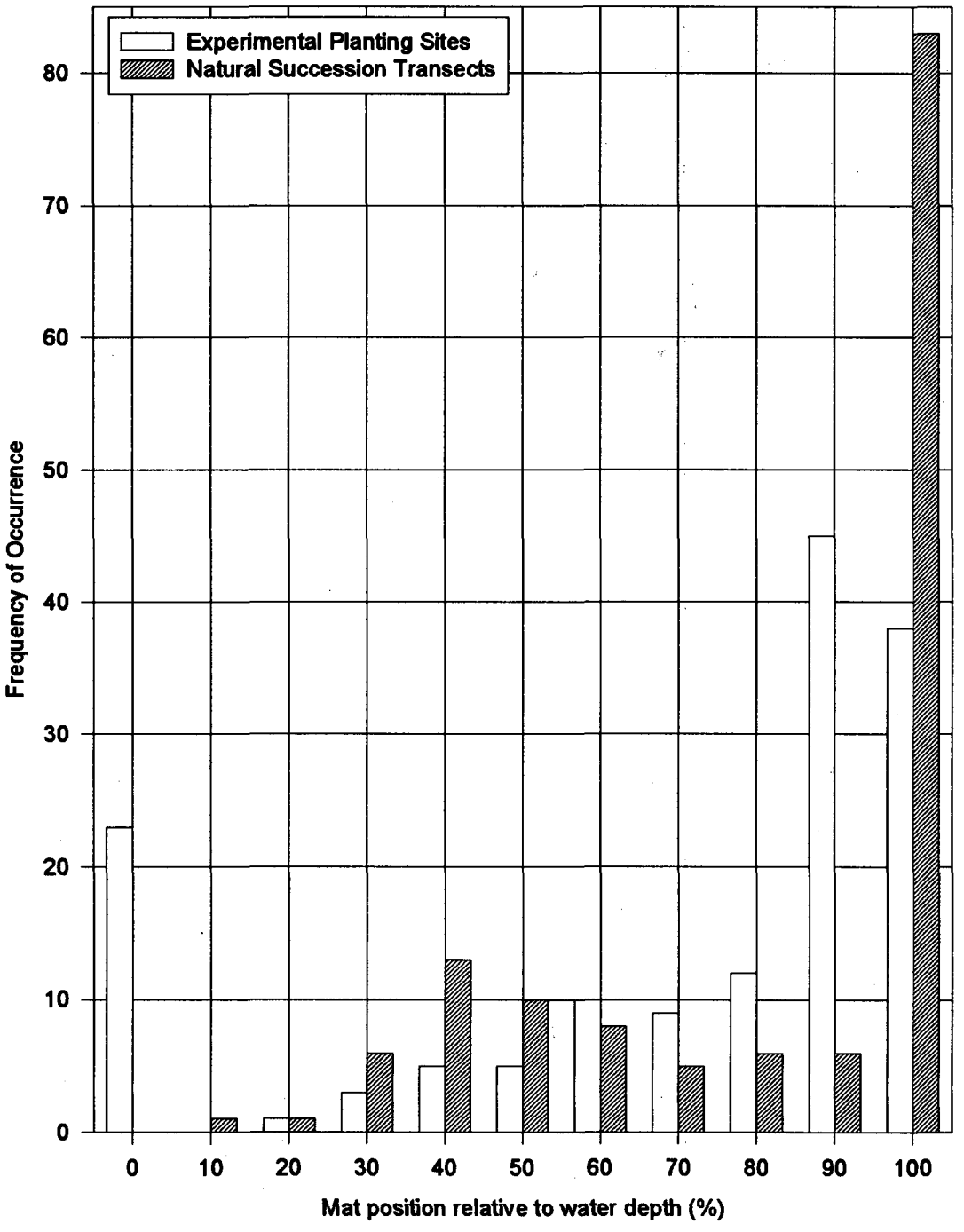

Figure 10. Floating vegetation mat position relative to water depth as a percentage from Demonstration Marsh, March 1995. Formula used = ((Water depth to consolidated sediment - Water depth to top of mat)/ Water depth to consolidated sediment)*100.

Experimental Planting Sites – Structure and Composition

Planted treatments exhibited a decline for some species and stability for others. Cattail continued to slowly invade.

Eleocharis interstincta cover continued to decline. This trend began in August 1993 (Fig.11). A floating mat consisting of live and dead biomass developed at the sites. The decline in spikerush was accompanied by a gradual increase in coverage by *Typha latifolia*. However, in March 1995 *Hydrocotyle ranunculoides* also increased and replaced cattail as the most prolific invader with a coverage of 41%, 41%, and 76% at sites 1, 2, and 3, respectively (Appendix C).

At sites 1 and 2, planted *Panicum hemitomon* maintained a coverage between 1 and 2 percent. It was not found at site 3. *Typha latifolia* increased its coverage at sites 1 and 2. At site 3 *Hydrocotyle ranunculoides* was the dominant species (74%) (Appendix C; Fig. 12).

At most sites, planted *Pontederia cordata* maintained a relatively stable coverage since establishment. However, at site 1 it began to decline in August 1993. This trend continued through March 1995 (Fig. 13). Neither *Hydrocotyle ranunculoides* nor *Typha latifolia* had competed successfully. At site 1, dead *Pontederia cordata* biomass replaced live biomass, though still maintaing nearly full coverage at the site. At sites 2 and 3 *Pontederia cordata* maintained coverage at around 50%. At site 2 *Typha latifolia* filled in the spaces; while at site 3 *Hydrocotyle ranunculoides* (28%) did the same (Appendix C).

Planted *Sagittaria lancifolia* maintained a stable coverage in an environment of invasion by *Hydrocotyle ranunculoides* (20-55%) and *Typha latifolia* (2-24%) (Appendix C, Fig. 14). Dead *Ludwigia leptocarpa* (20%) was found at site 1.

Planted *Scirpus californicus* had developed a pattern of cover dynamics fluctuating around 25-50% (Fig.15). This pattern seemed independent of season. *Typha latifolia* had minimal influence in this treatment. But, *Hydrocotyle ranunculoides* had successfully invaded all sites (15%, 26%, 53%, for sites 1, 2, 3, respectively) (Appendix C).

Planted *Scirpus validus* remained at less than 25% at all sites (Fig. 16). *Typha latifolia* increased coverage at site 1; was well established at site 2; and was outcompeted by *Hydrocotyle ranunculoides* (76%) at site 3 (Appendix C). *Hydrocotyle ranunculoides* was relatively successful at sites 1 (36%) and 2 (25%). Dead *Ludwigia leptocarpa* was found at sites 1 (19%) and 3 (9%).

Dominant coverage in the mixed species plantings was partitioned between the planted species *Peltandra virgininia* (Site 1), *Pontederia cordata, Sagittaria lancifolia, Scirpus californicus,* and *Thalia geniculata* (Fig.s 17a, b, c). *Typha latifolia* was a minor component of the vegetation. In contrast, *Hydrocotyle ranunculoides* maintained a relatively large coverage in sites 2 (35%) and 3 (38%) (Appendix C).

The seeded treatments were unsuccessful in most cases at establishing a target plant community (Fig.s 18-22). The *Pontederia cordata* seeded treatment maintained

coverages around 25% at sites 1 and 2. At site 3 it was more successful with cover of 35%. Both *Hydrocotyle ranunculoides* and *Typha latifolia* have colonized all seeded treatment plots (Appendix C).

There remains no evidence that the mulch treatments imported any new plant species into the marsh. As with the seeded treatments, *Hydrocotyle ranunculoides* and *Typha latifolia* were most successful colonizers. *Pontederia cordata* also successfully colonized site 3 with a dramatic coverage increase from 10% to 25% during the August 1993 to March 1994. In March 1995 it covered a total of about 40% of the plot (Figs. 23a-c).

The control treatments had minimal vegetation cover until after the spring/summer 1994 drawdown (Figs. 24a-c). This event may have enhanced a slowly increasing cover by *Hydrocotyle ranunculoides* and *Typha latifolia*.

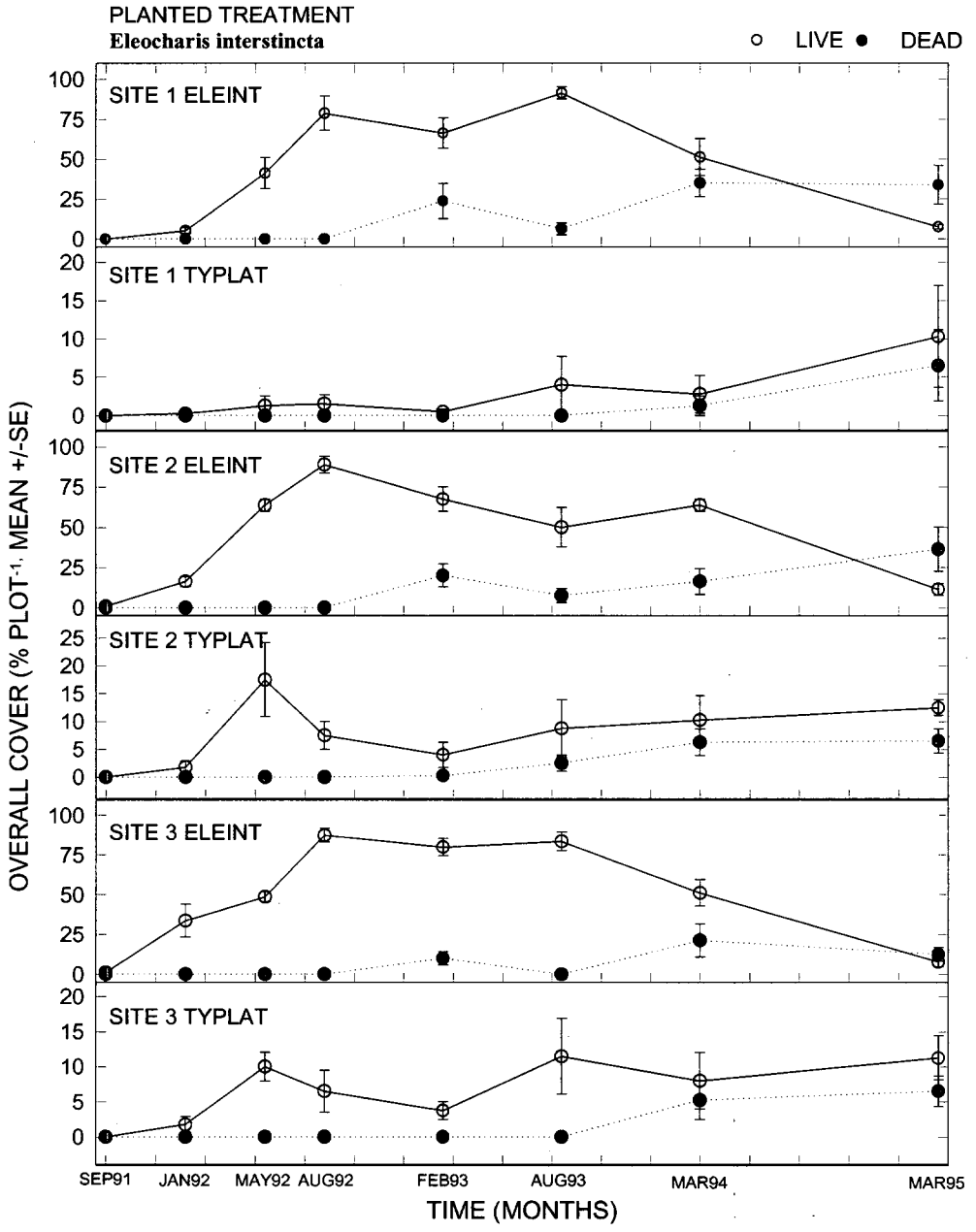

Figure 11. Mean overall cover (% plot^{-1}) of *Eleocharis interstincta* and *Typha latifolia* in the *Eleocharis interstincta* planted treatment plots, Demonstration Marsh.

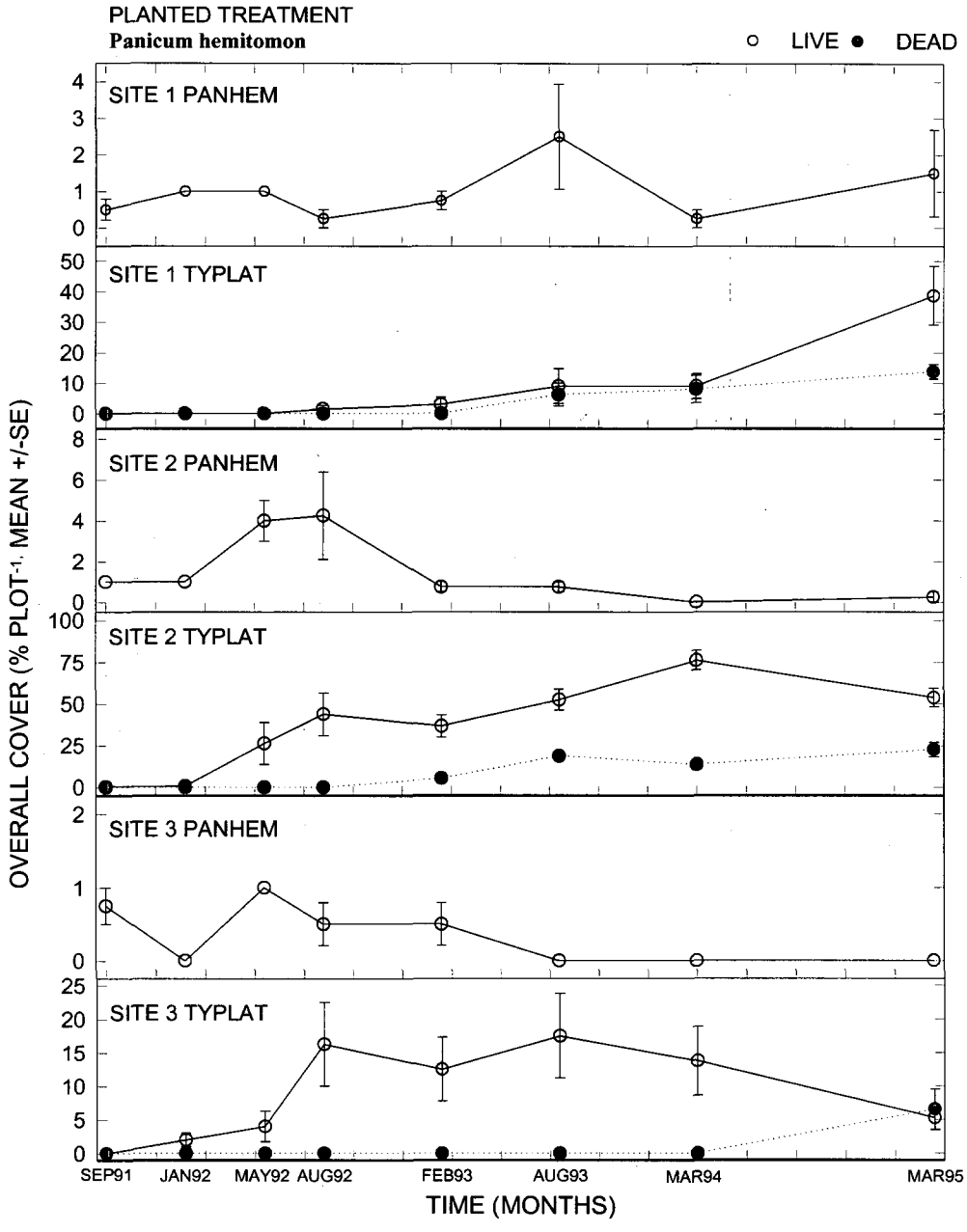

Figure 12. Mean overall cover (% plot^{-1}) of *Panicum hemitomon* and *Typha latifolia* in the *Panicum hemitomon* planted treatment plots, Demonstration Marsh.

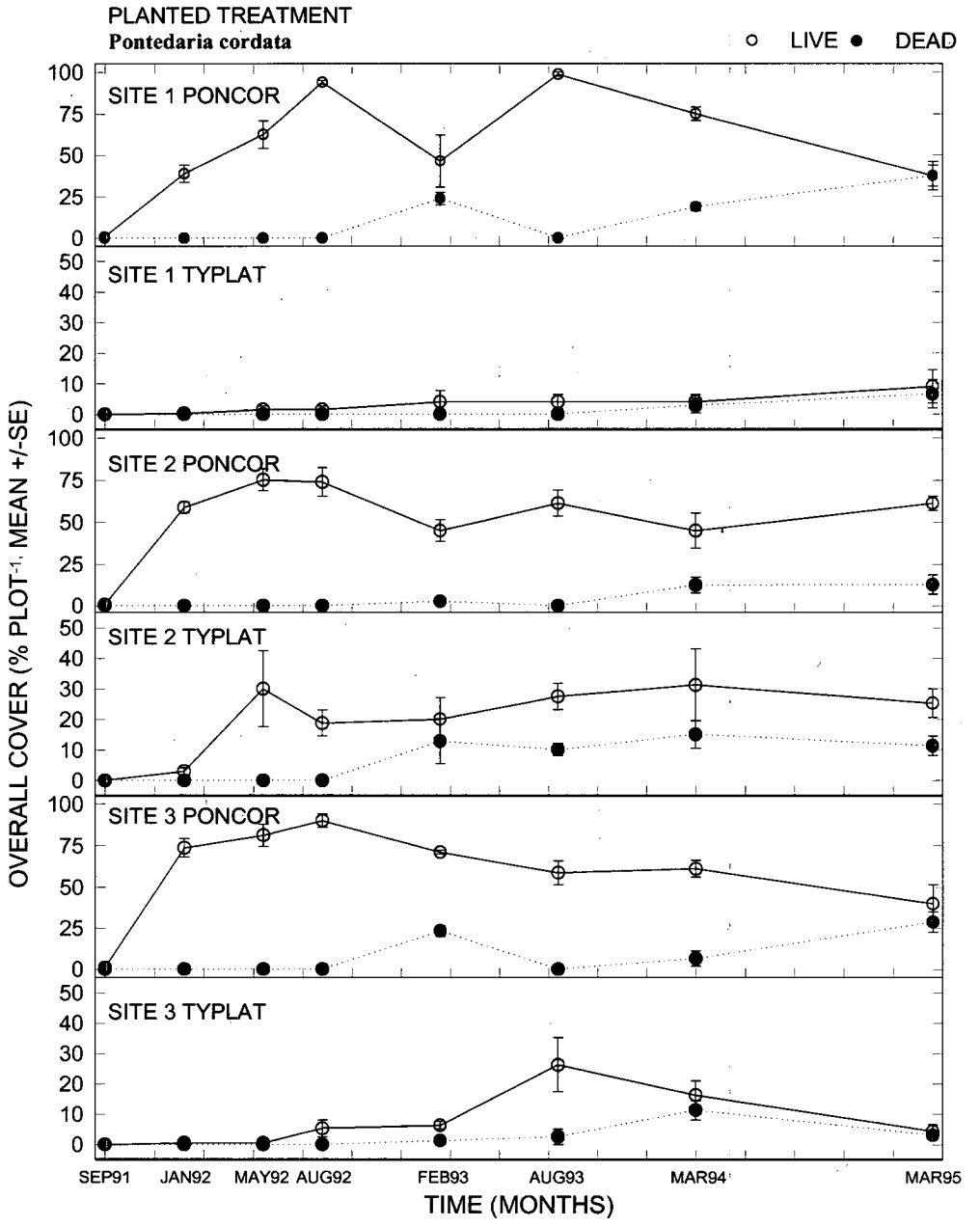

Figure 13. Mean overall cover (% plot^{-1}) of *Pontederia cordata* and *Typha latifolia* in the *Pontederia cordata* planted treatment plots, Demonstration Marsh.

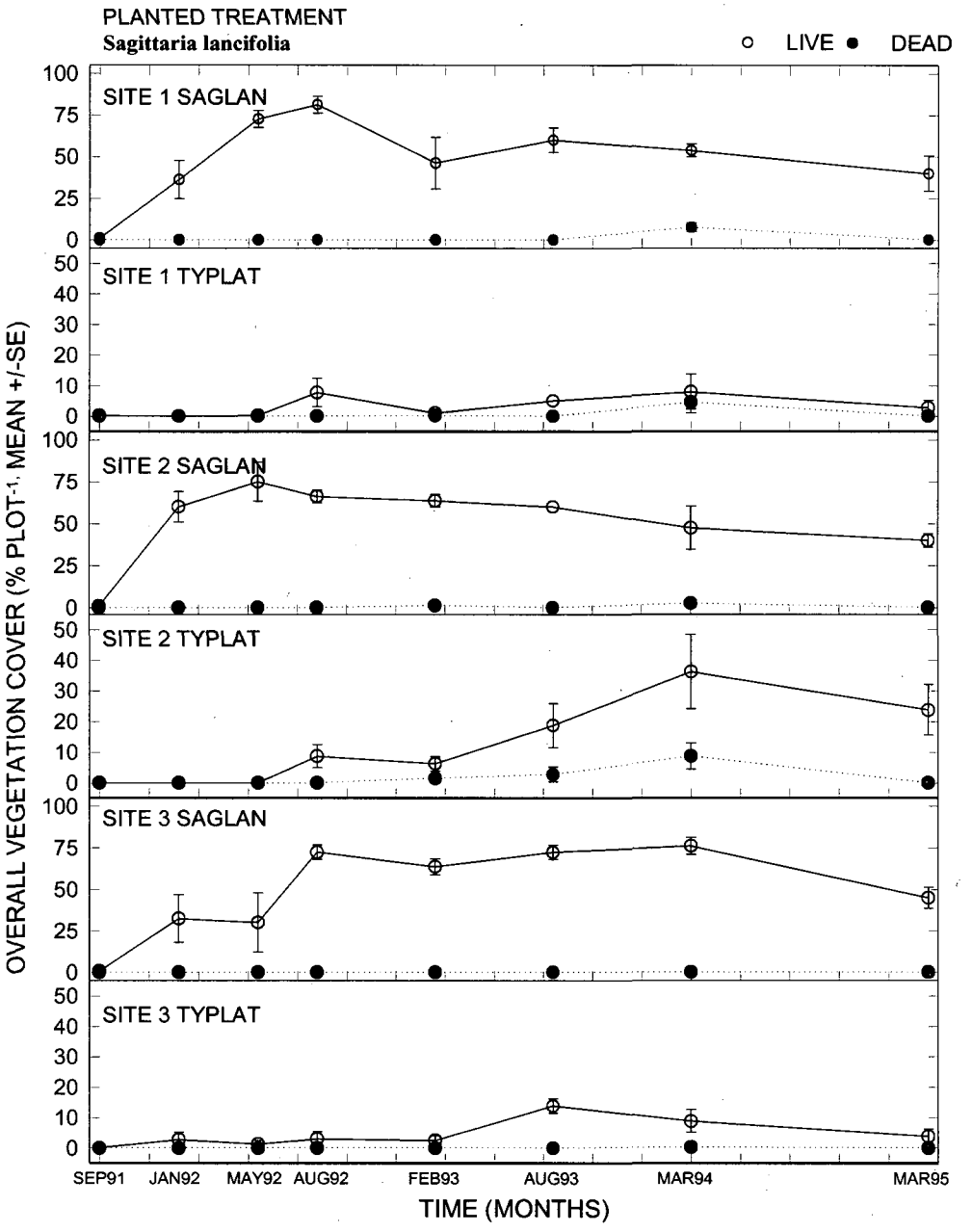

Figure 14. Mean overall cover (% plot^{-1}) of *Sagittaria lancifolia* and *Typha latifolia* in the *Sagittaria lancifolia* planted treatment plots, Demonstration Marsh.

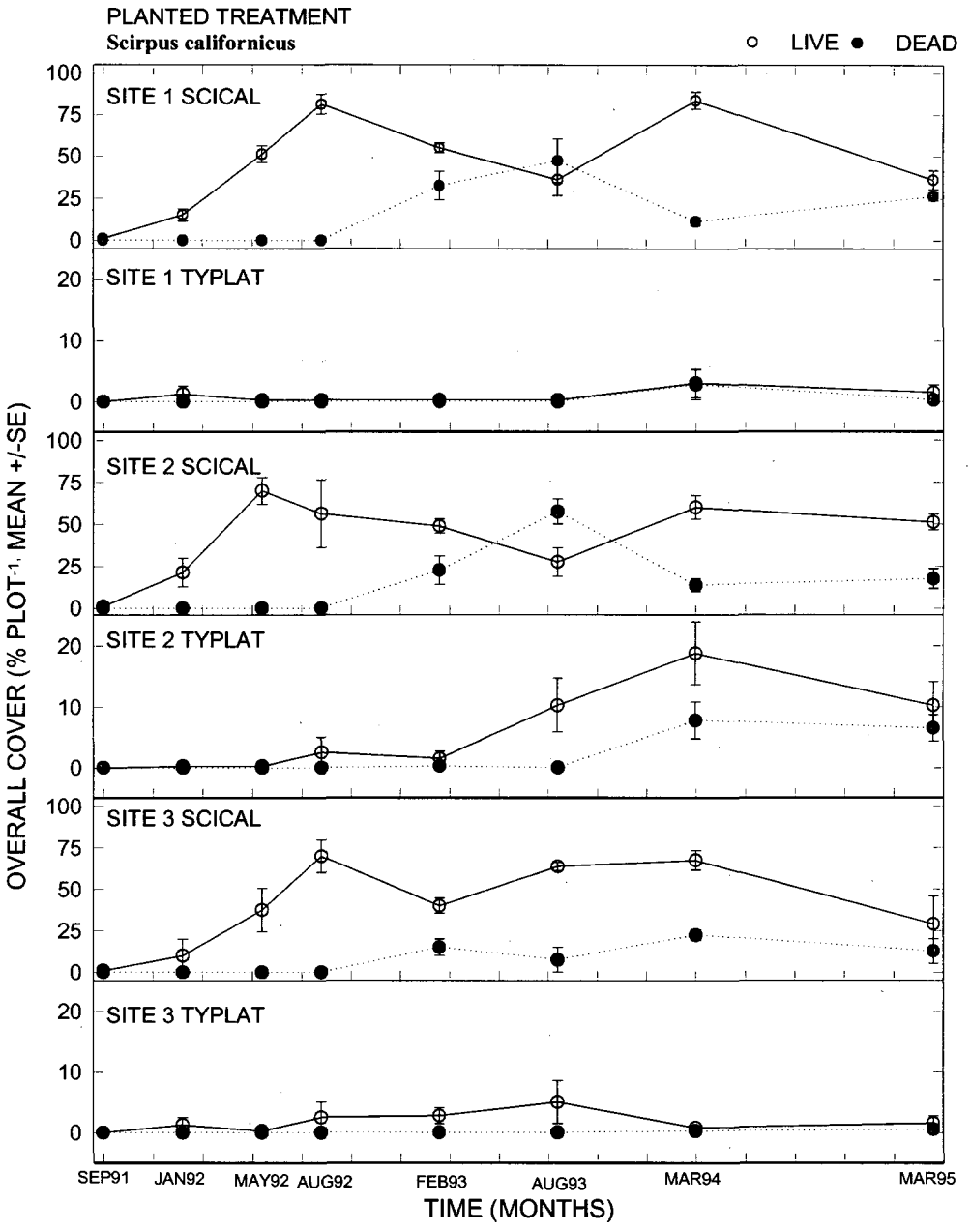

Figure 15. Mean overall cover (% plot^{-1}) of *Scirpus californicus* and *Typha latifolia* in the *Scirpus californicus* planted treatment plots, Demonstration Marsh.

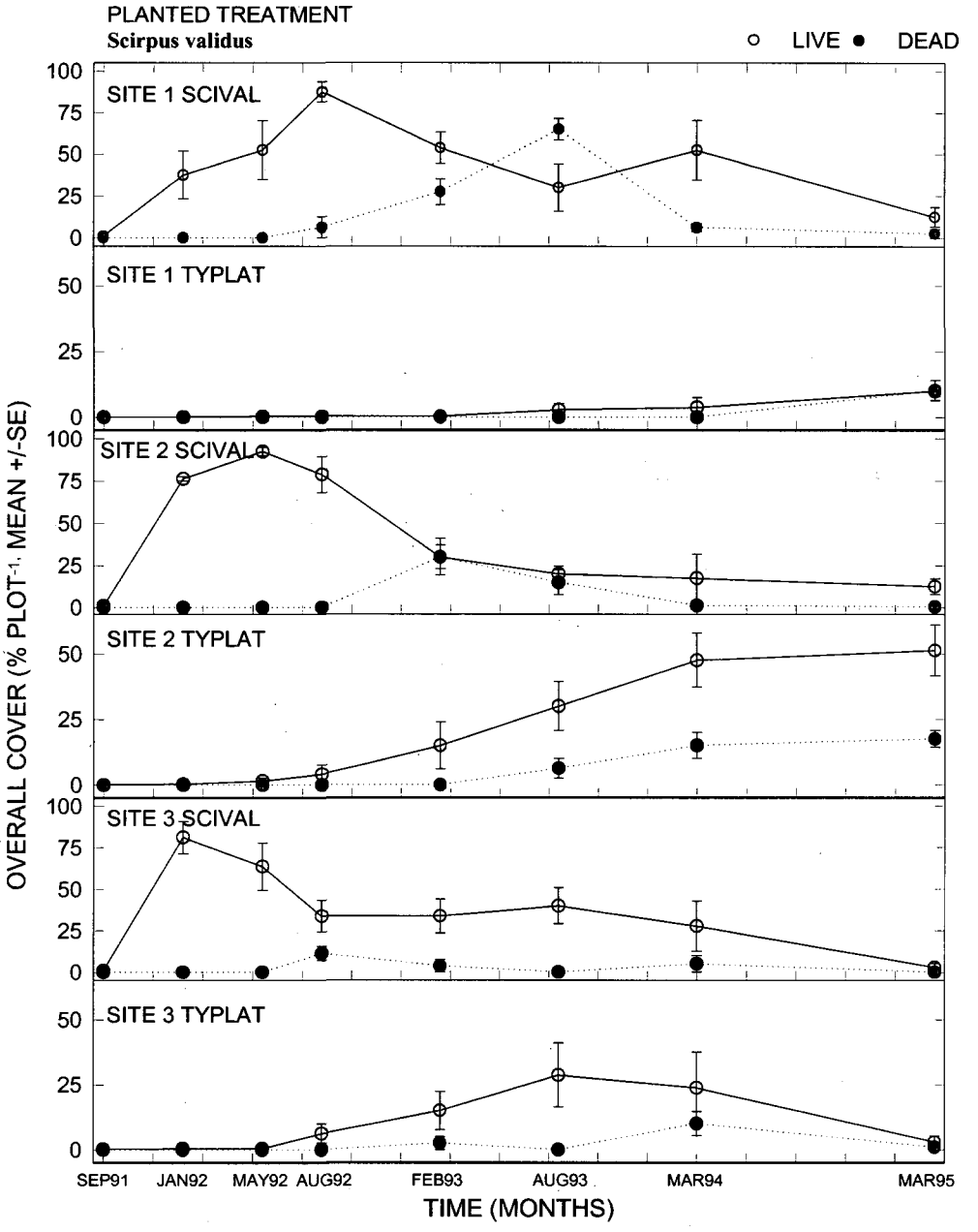

Figure 16. Mean overall cover (% plot^{-1}) of *Scirpus validus* and *Typha latifolia* in the *Scirpus validus* planted treatment plots, Demonstration Marsh.

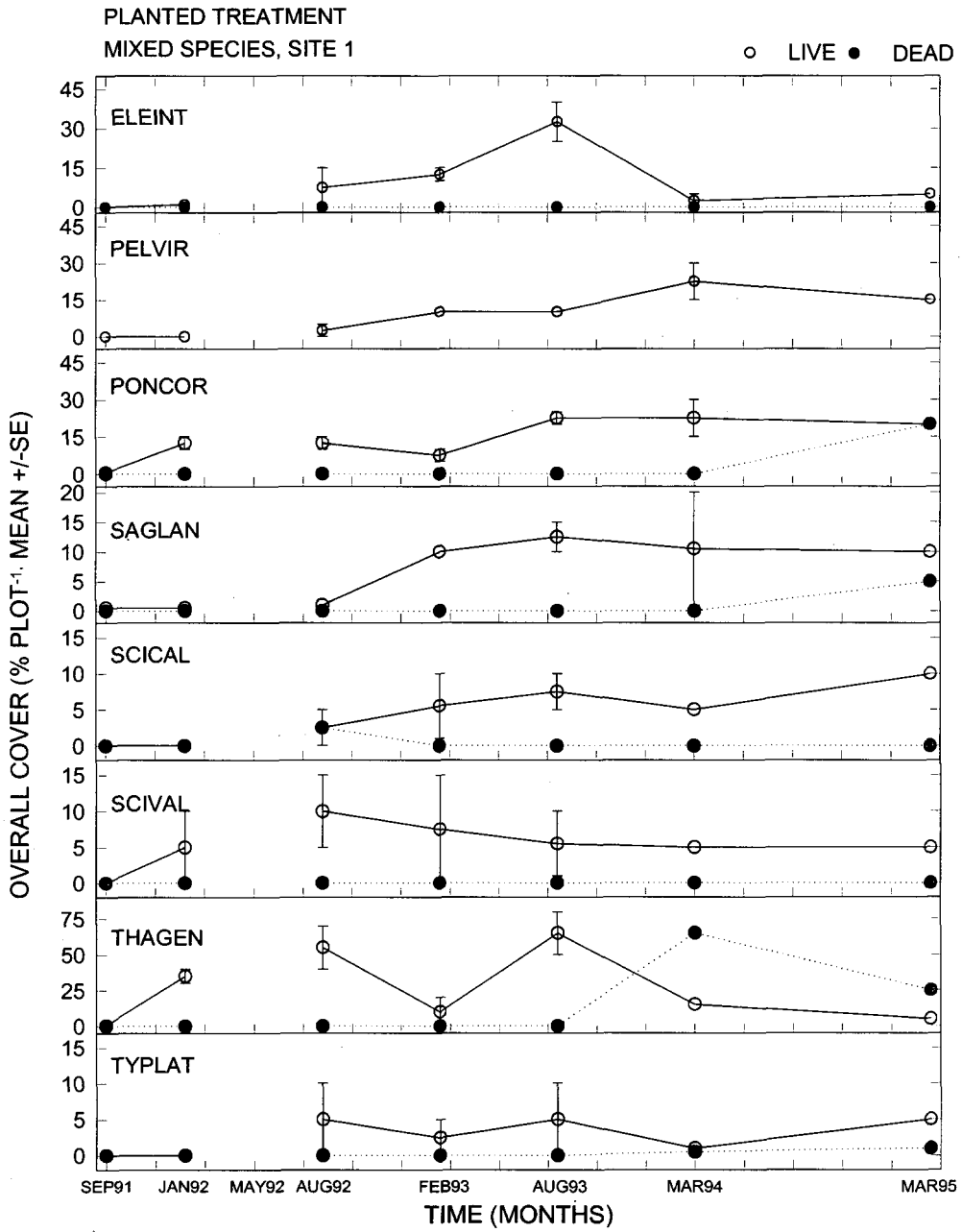

Figure 17a. Mean overall cover (% plot^{-1}) of mixed species planted treatment plots, site 1, Demonstration Marsh. May 1992 sample data missing.

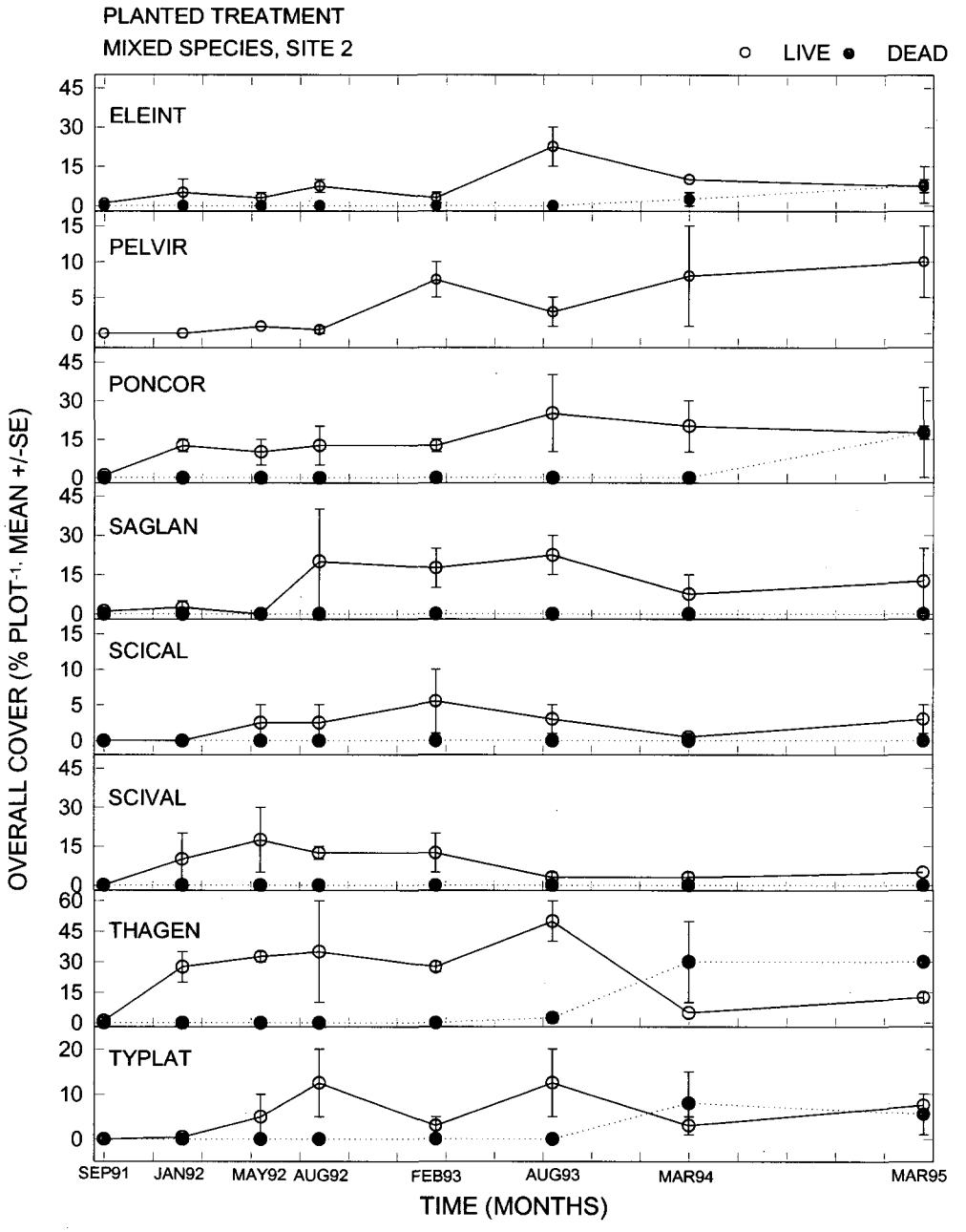

Figure 17b. Mean overall cover (% plot^{-1}) of mixed species planted treatment plots, site 2, Demonstration Marsh.

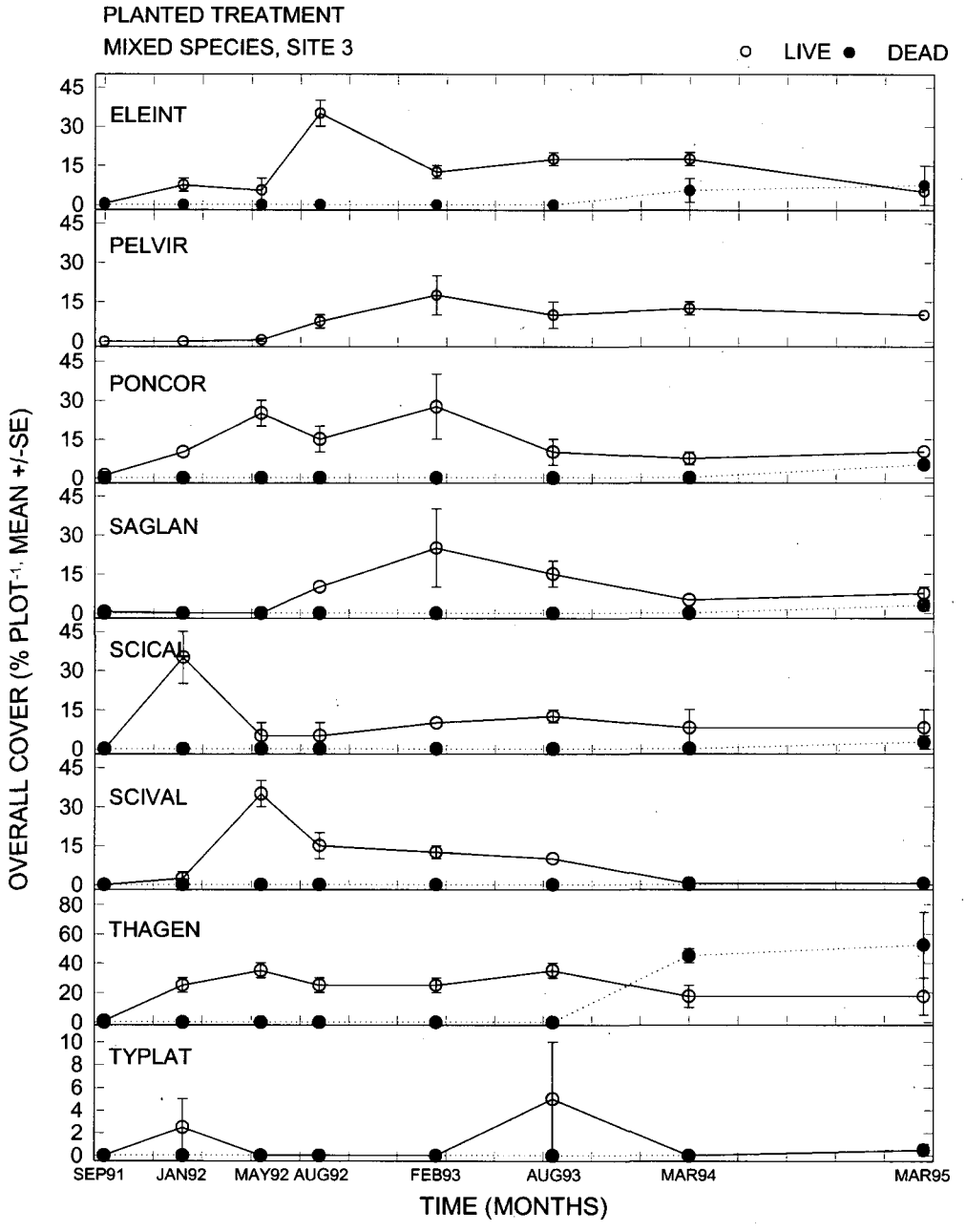

Figure 17c. Mean overall cover (% plot^{-1}) of mixed species planted treatment plots, site 3, Demonstration Marsh.

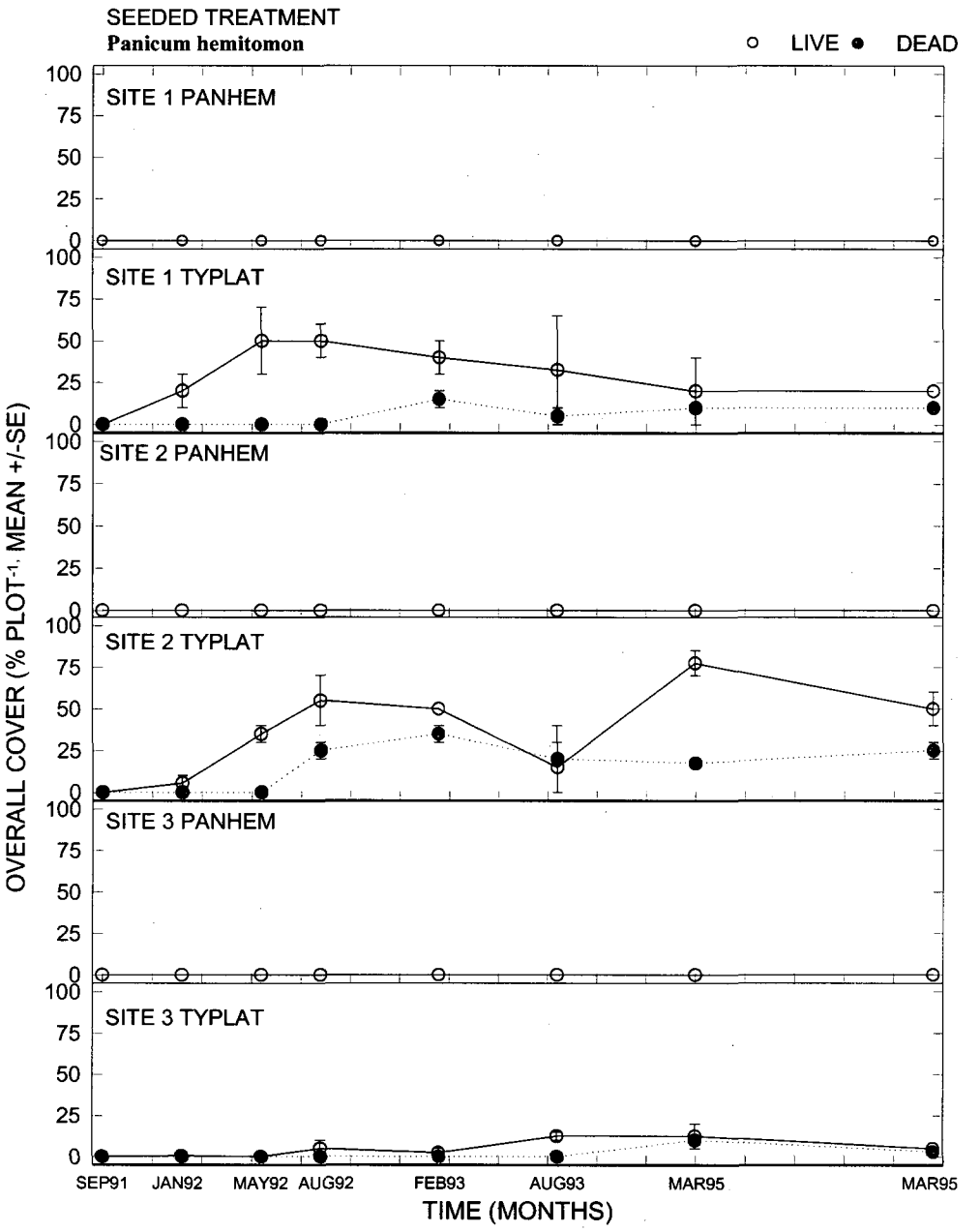

Figure 18. Mean overall cover (% plot^{-1}) of *Panicum hemitomon* and *Typha latifolia* in the *Panicum hemitomon* seeded treatment plots, Demonstration Marsh.

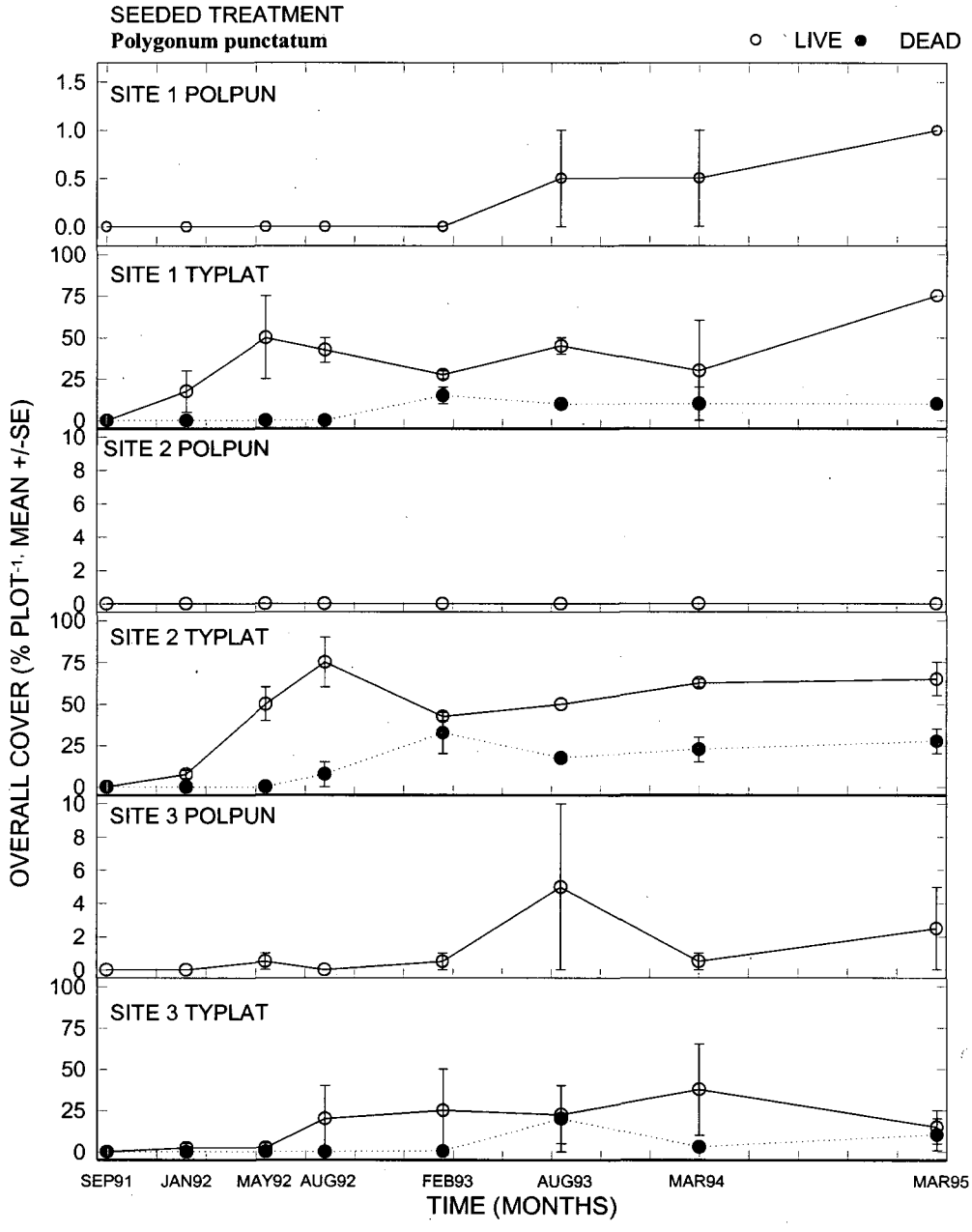

Figure 19. Mean overall cover (% plot^{-1}) of *Polygonum punctatum* and *Typha latifolia* in the *Polygonum punctatum* seeded treatment plots, Demonstration Marsh.

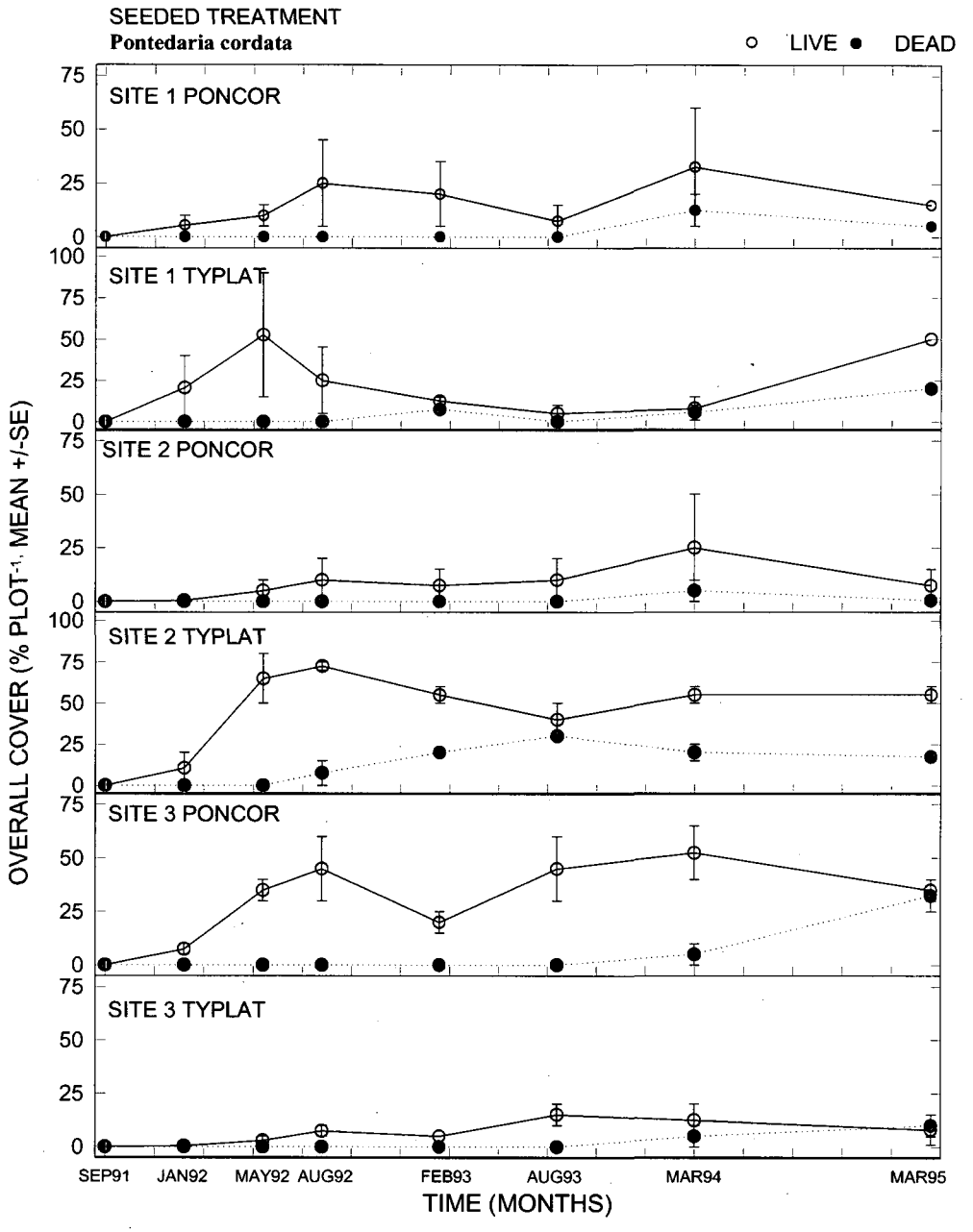

Figure 20. Mean overall cover (% plot^{-1}) of *Pontederia cordata* and *Typha latifolia* in the *Pontederia cordata* seeded treatment plots, Demonstration Marsh.

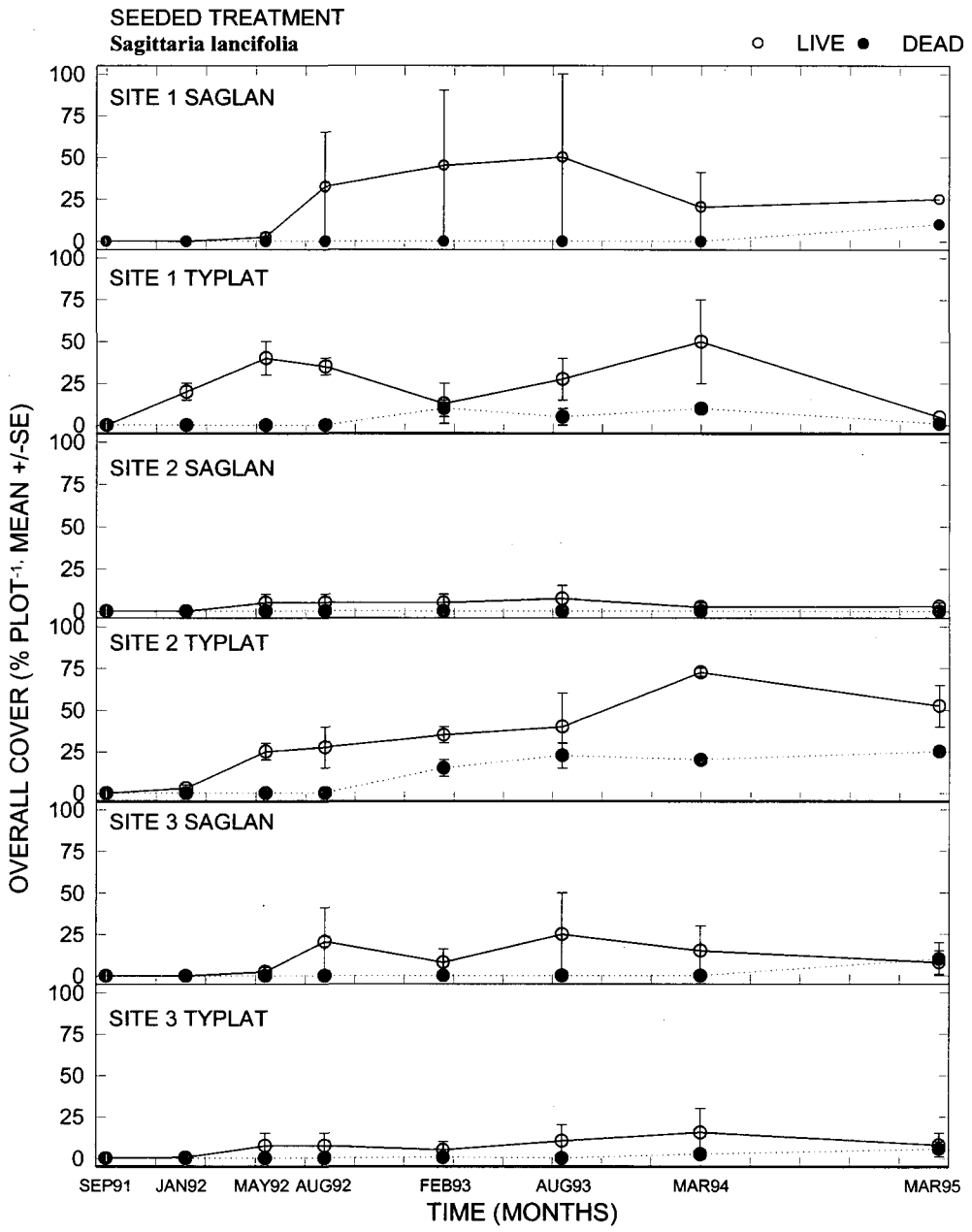

Figure 21. Mean overall cover (% plot^{-1}) of *Sagittaria lancifolia* and *Typha latifolia* in the *Sagittaria lancifolia* seeded treatment plots, Demonstration Marsh.

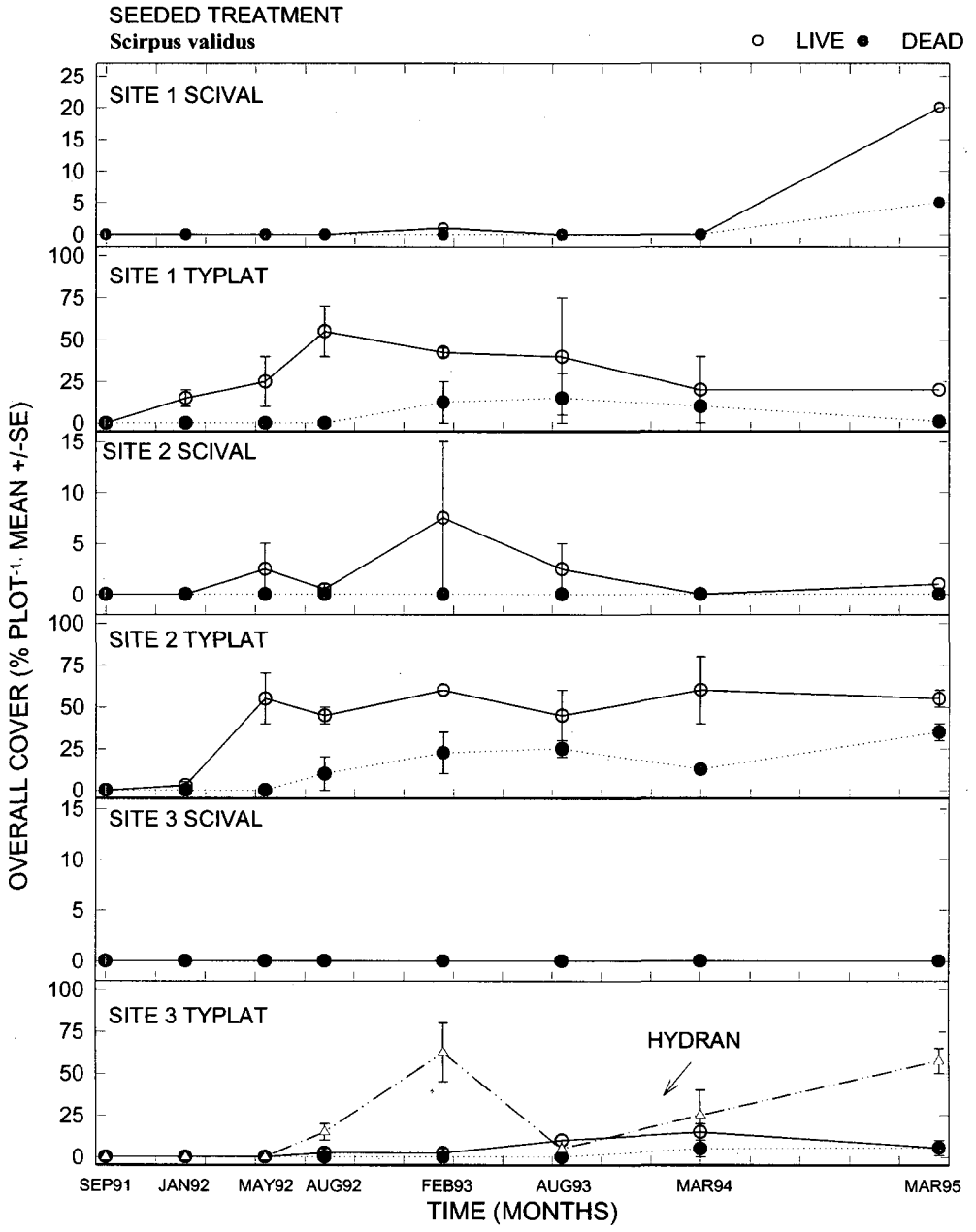

Figure 22. Mean overall cover (% plot^{-1}) of *Scirpus validus* and *Typha latifolia* in the *Scirpus validus* seeded treatment plots, Demonstration Marsh. *Hydrocotyle ranunculoides* represented by triangle.

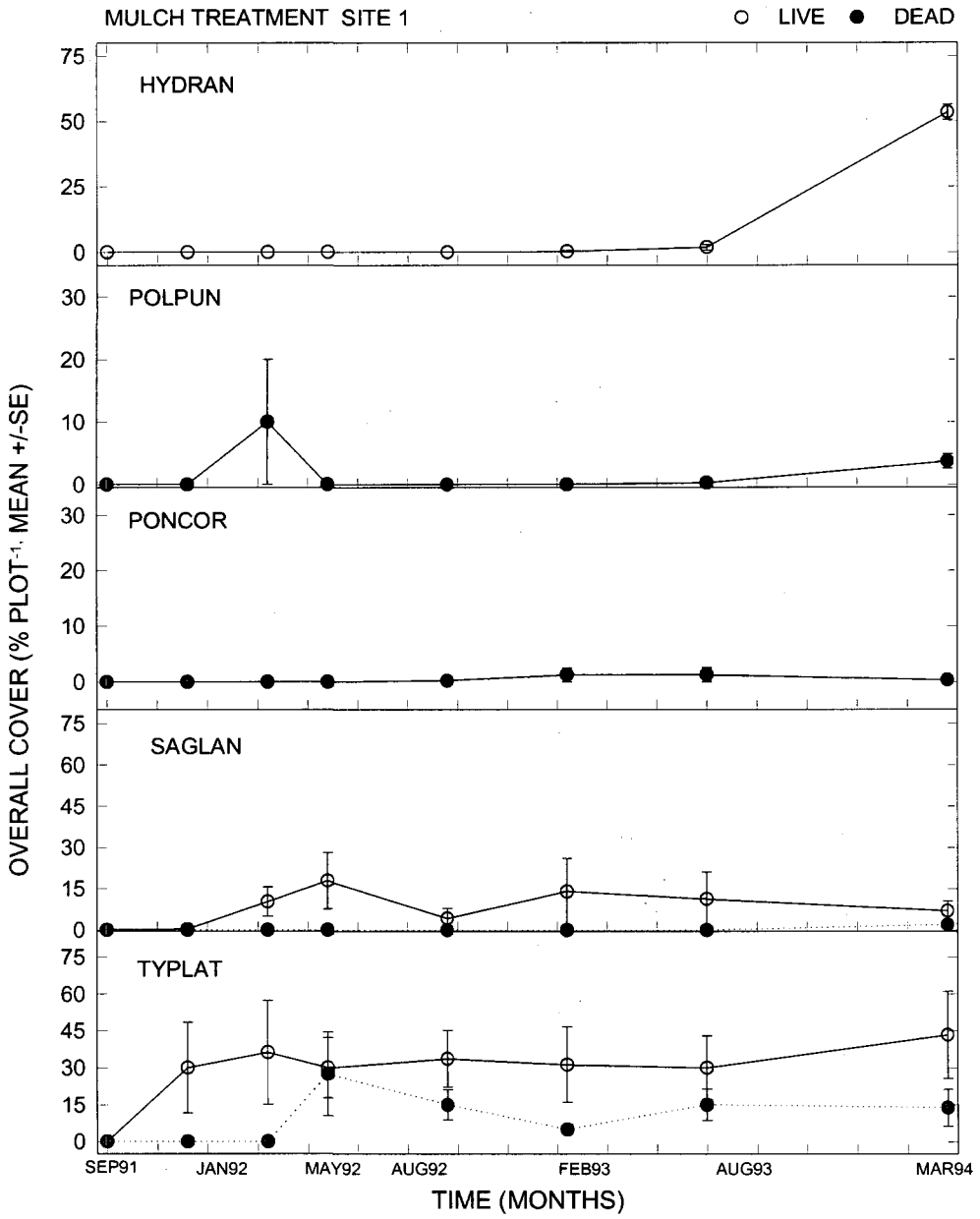

Figure 23a. Mean overall cover (% plot^{-1}) of mulch treatment plots, site 1, Demonstration Marsh.

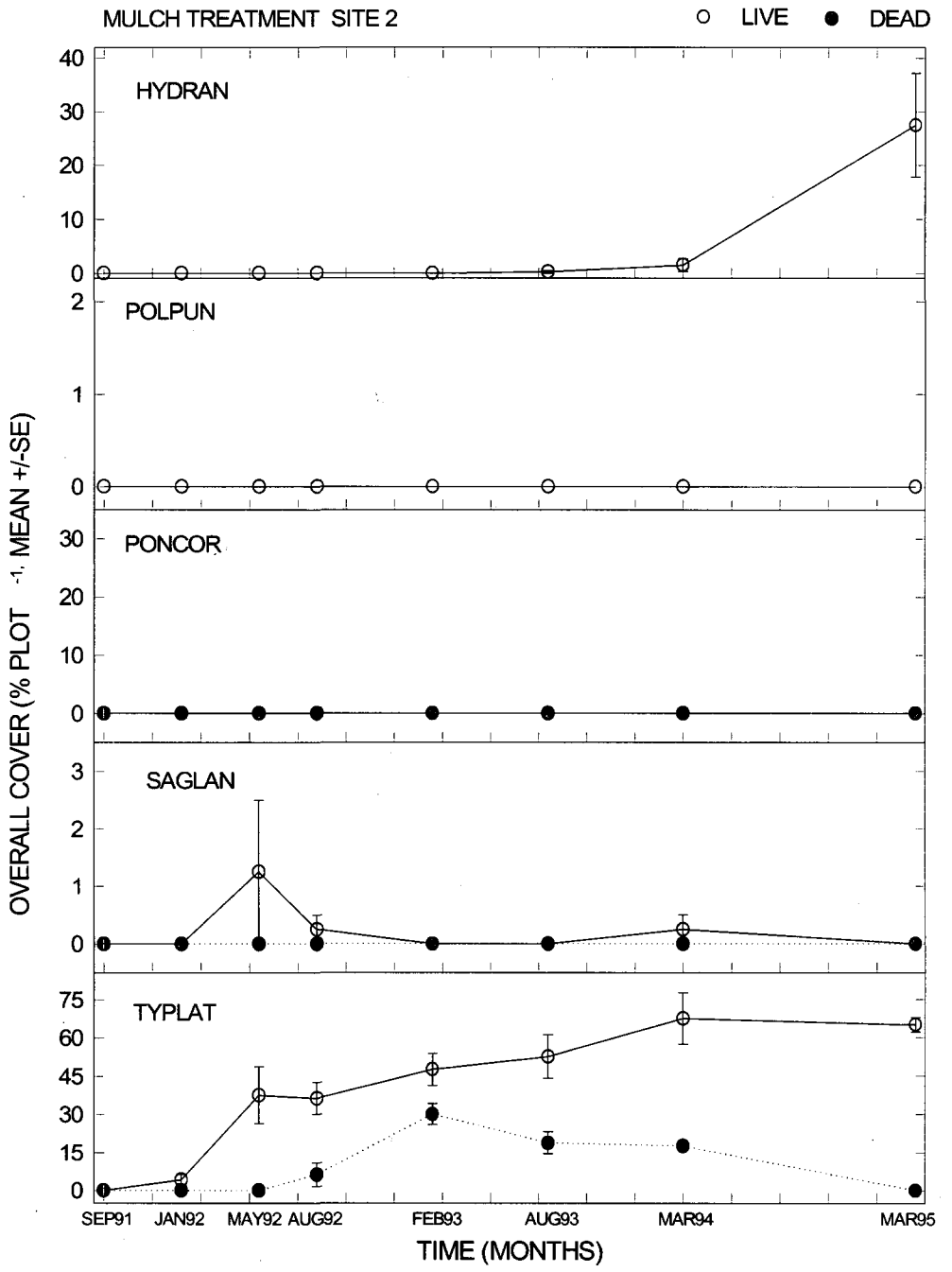

Figure 23b. Mean overall cover (% plot^{-1}) of mulch treatment plots, site 2, Demonstration Marsh.

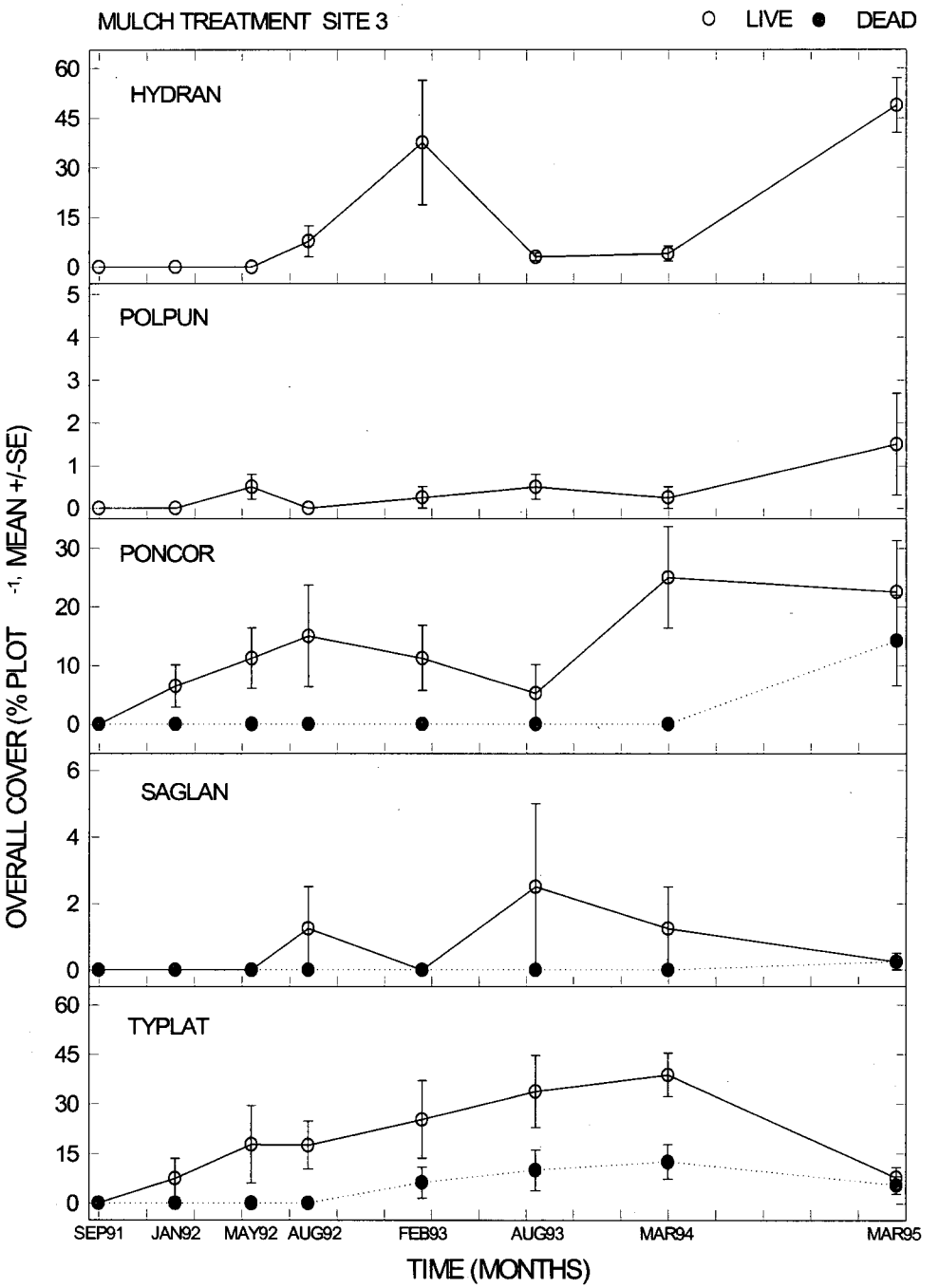

Figure 23c. Mean overall cover (% plot^{-1}) of mulch treatment plots, site 3, Demonstration Marsh.

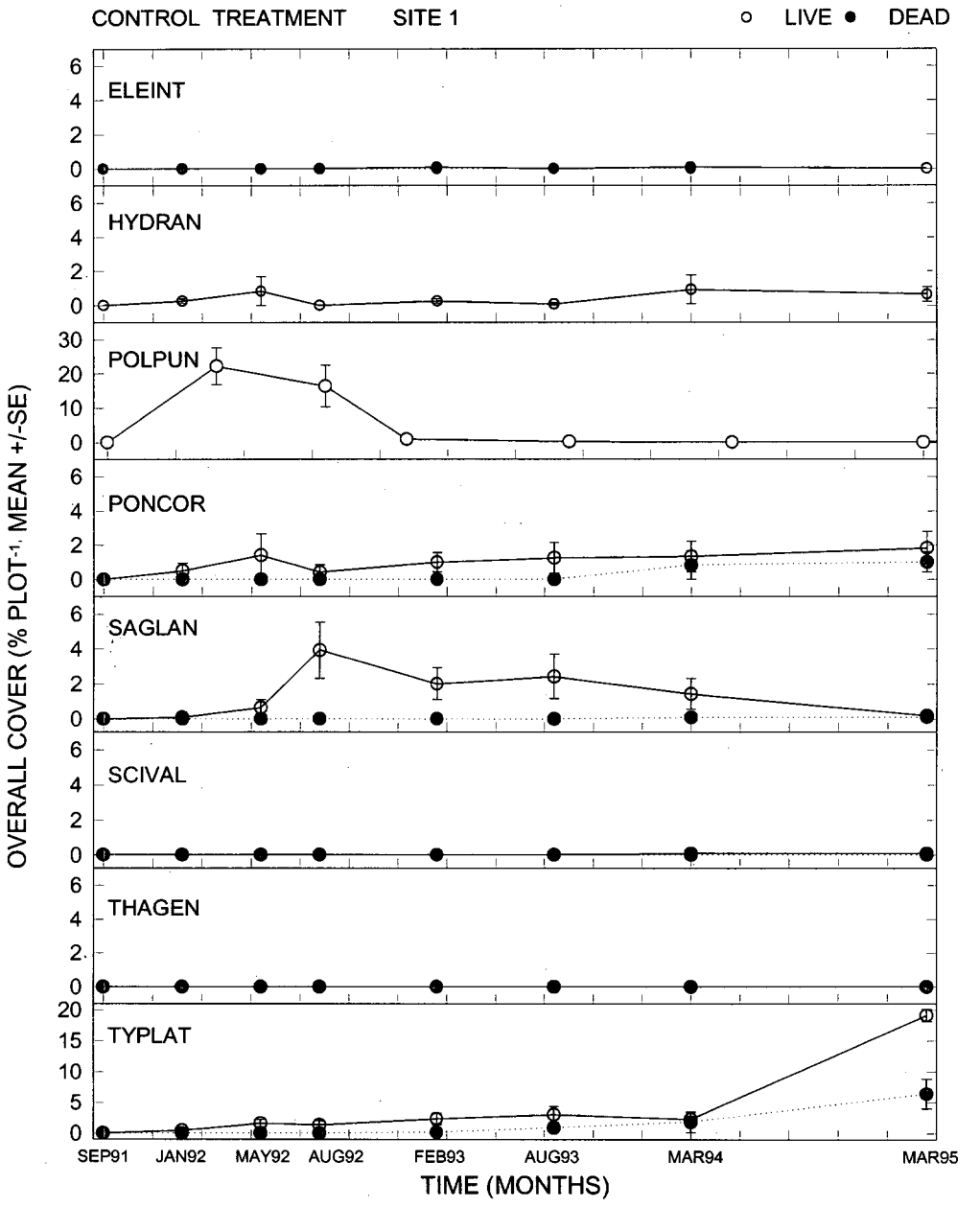

Figure 24a. Mean overall cover (% plot^{-1}) of dominant species from control treatment plots, site 1, Demonstration Marsh.

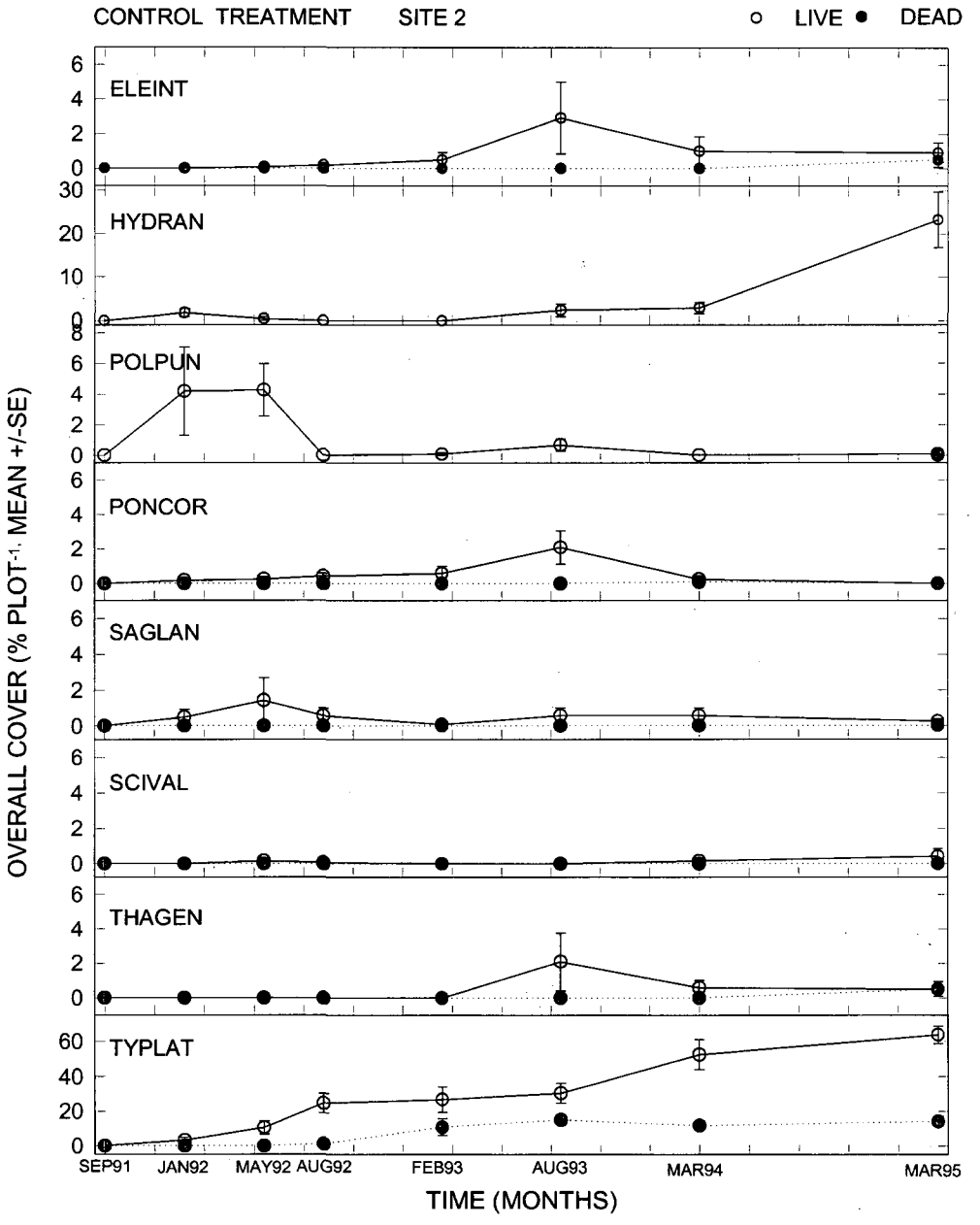

Figure 24b. Mean overall cover (% plot^{-1}) of dominant species from control treatment plots, site 2 Demonstration Marsh.

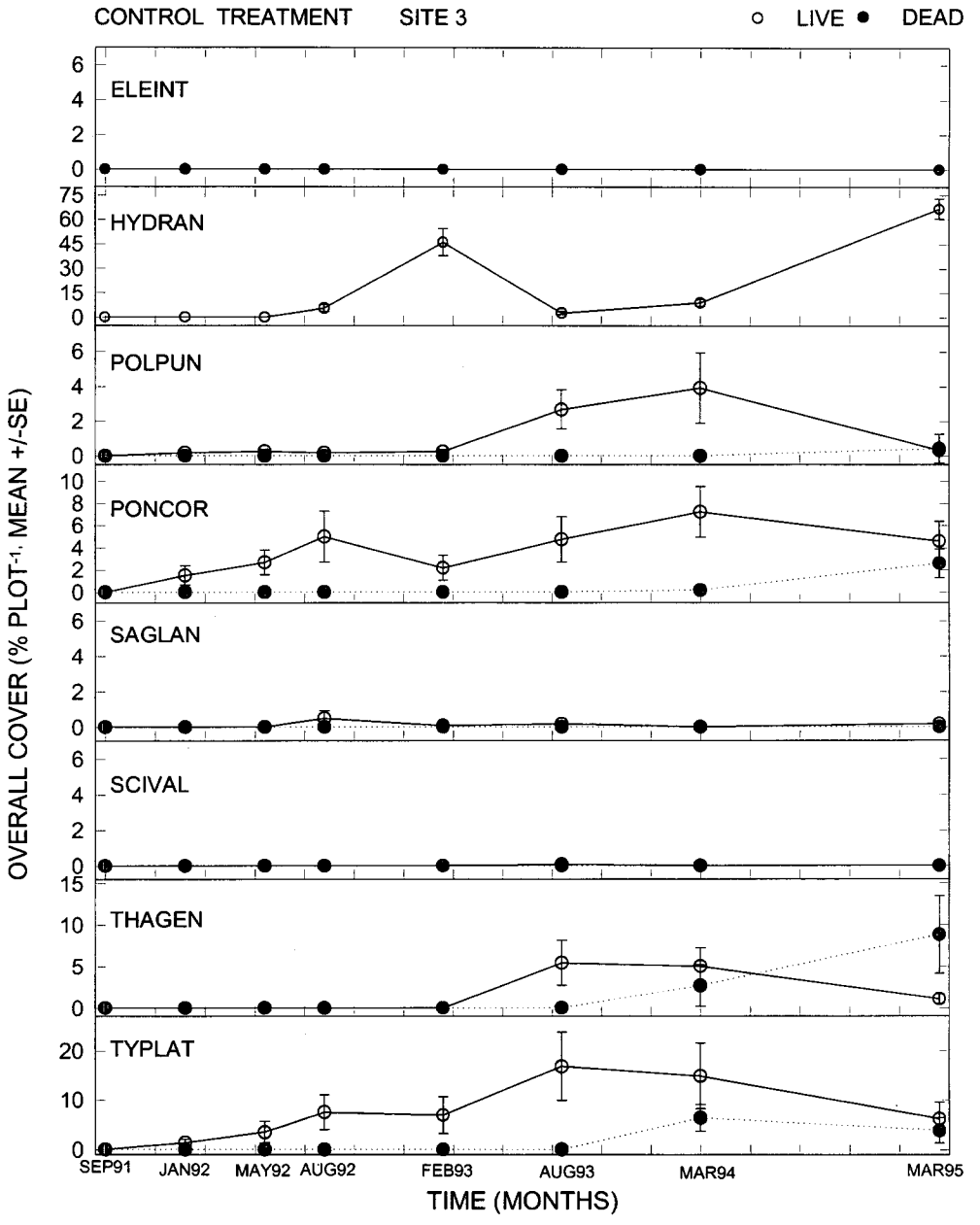

Figure 24c. Mean overall cover (% plot^{-1}) of dominant species from control treatment plots, site 3 Demonstration Marsh.

Natural Succession Transects

Structure and Composition Floating species found along the natural succession transects tended to favor deeper water, while the rooted species had no significant relationship (Table 6, Fig. 25). Floating mat presence in the Demonstration Marsh was not considered in the water depth species richness correlation statistic.

Until 1994 vegetation community development along the natural succession transects was dominated by the expansion of cattail (*Typha domingensis* and *T. latifolia*) (Fig. 26, 27). The drawdown and fire of 1994 was followed by reduced cattail cover in the south marsh and increased coverage by *Ludwigia leptocarpa* and *Polygonum punctatum* (Figs. 28, 29). *Ludwigia leptocarpa* and *Polygonum punctatum* were significant members of the earliest plant communities and were important in the earliest seed bank (Stenberg et al. 1997). Other seed bank and early community members, *Ludwigia octovalvis* and *Panicum dichotomiflorum*, reappeared in the plant community at low cover levels in the March 1995 survey (Figs. 30, 31).

In contrast to its success in the experimental planting sites, *Hydrocotyle ranunculoides* shared the remaining marsh more equitably with other species, but seemed to be increasing cover slowly. It remained most prominent in the north marsh (Fig. 32). In addition, *Ludwigia peruviana*, a prominent member of the shallowest sites, *Pontederia cordata*, and *Sagittaria lancifolia* seemed to be slowly increasing cover over time (Figs. 33-35). *Salix caroliniana* was found throughout the north and south marshes on drier sites, but it contributed a relatively small coverage to the vegetative community and seemed to be at a stable state (Fig. 36).

Table 6. Pearson correlation analysis R^2 (p-value), of water depth (cm) by species richness, Natural succession transects, Demonstration marsh.

Marsh Location	Floating Species	Rooted Species
SE transects	0.169 (0.324)	0.091 (0.599)
SW transects	0.289 (0.025)	0.196 (0.133)
N transects	0.295 (0.018)	-0.120 (0.345)

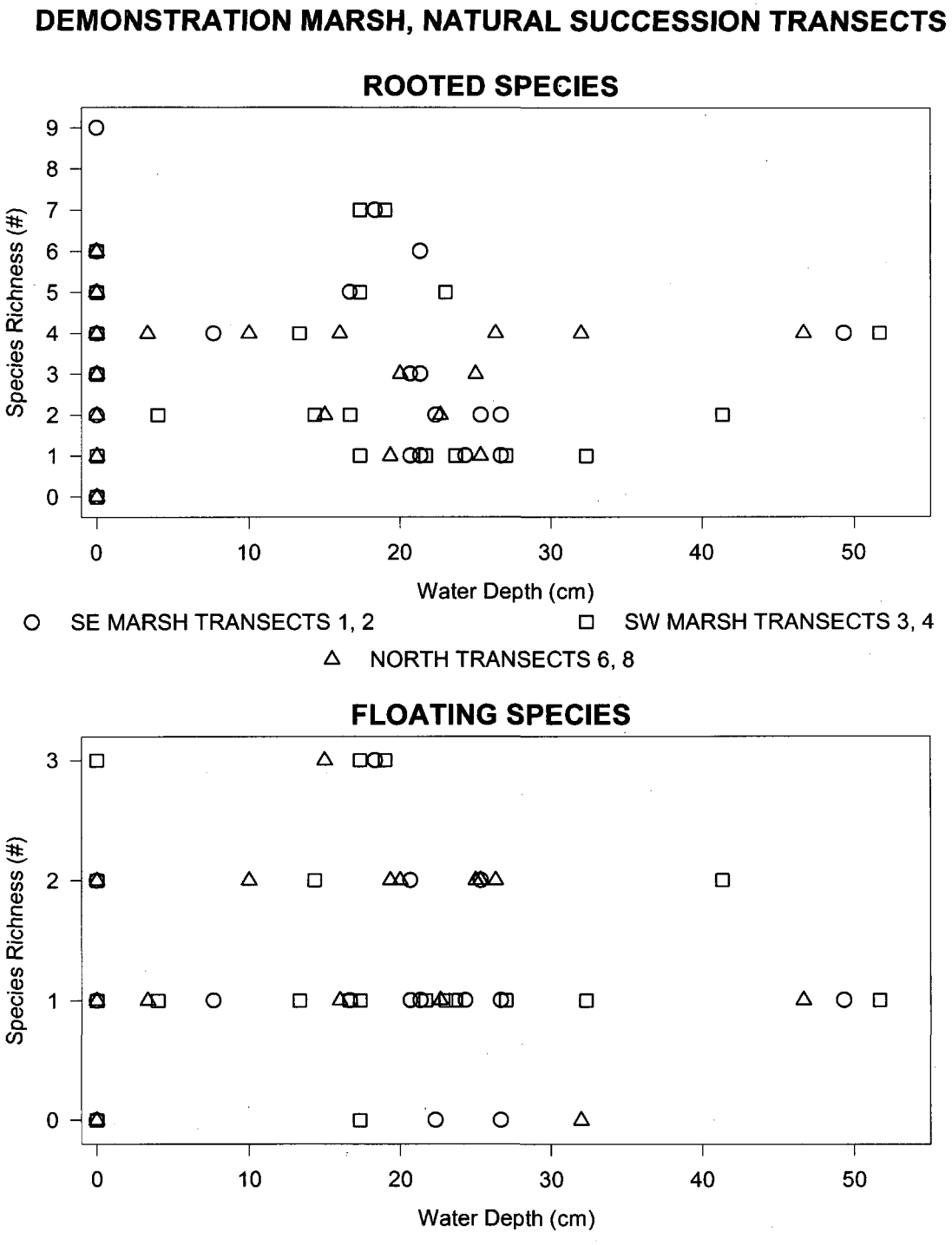

Figure 25. Relationship between water depth and species richness from natural succession transects, Demonstration Marsh, September 1994.

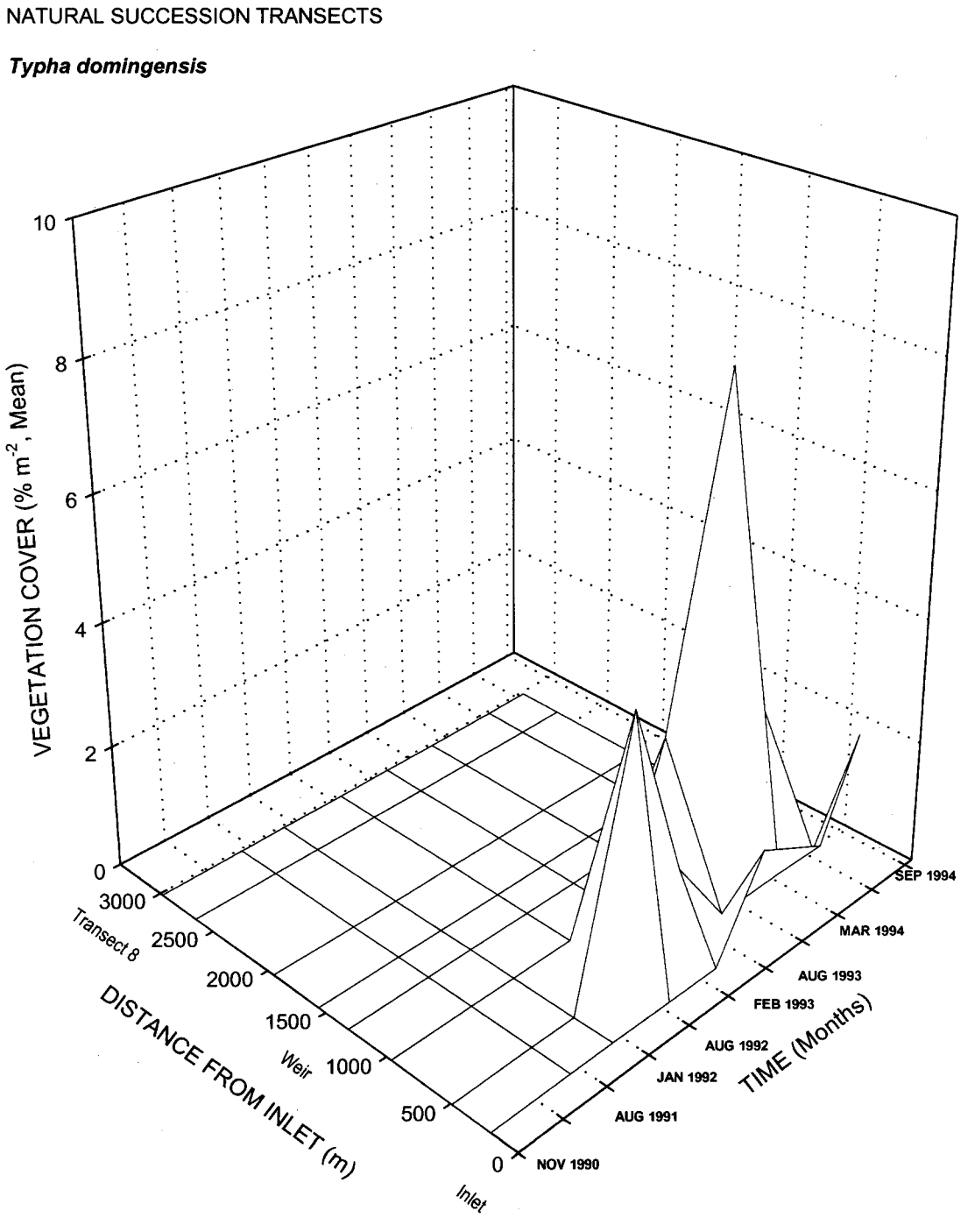

Figure 26. Time series surface plot of *Typha domingensis* mean cover (%) from natural succession transects, Demonstration Marsh.

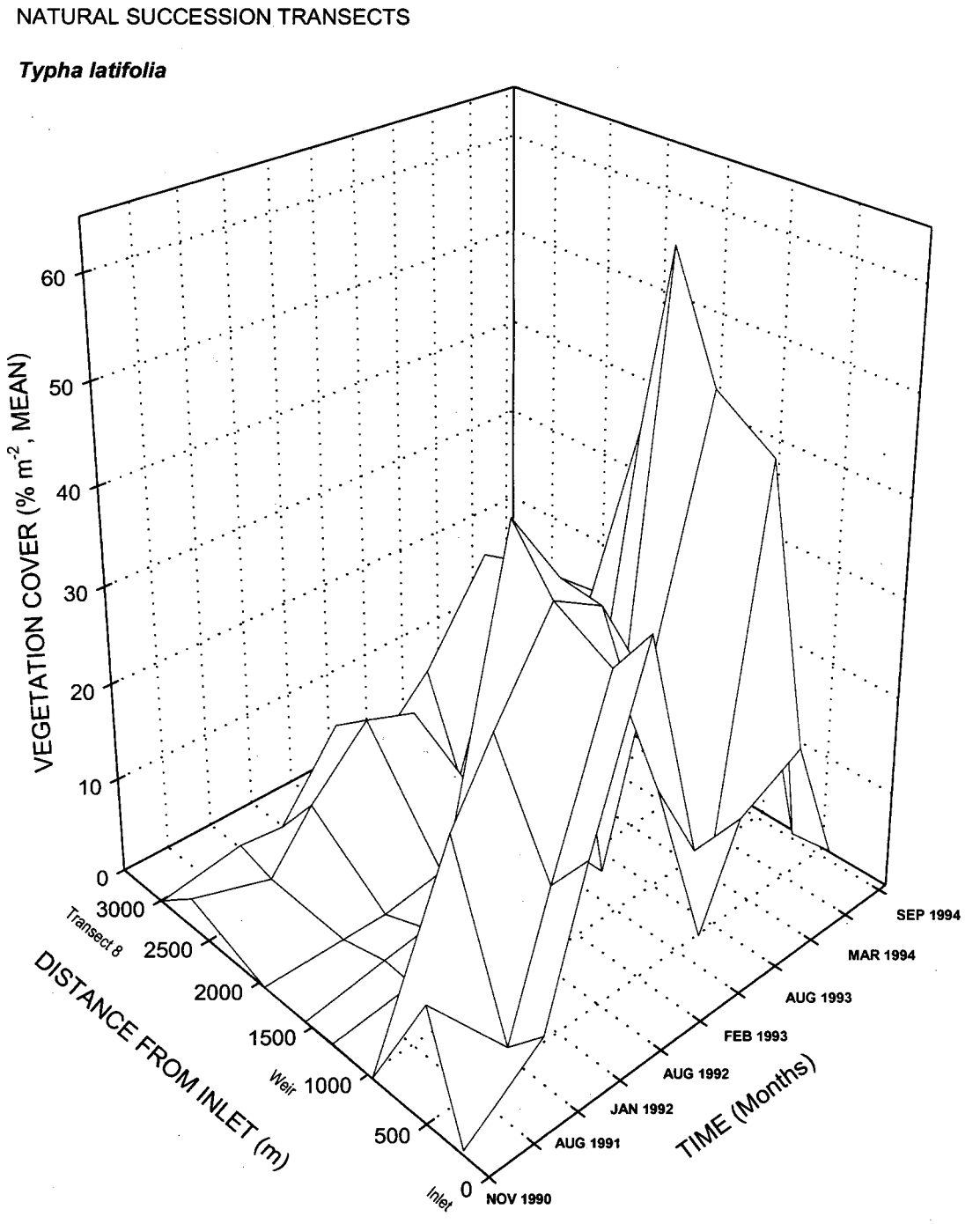

Figure 27. Time series surface plot of *Typha latifolia* mean cover (%) from natural succession transects, Demonstration Marsh.

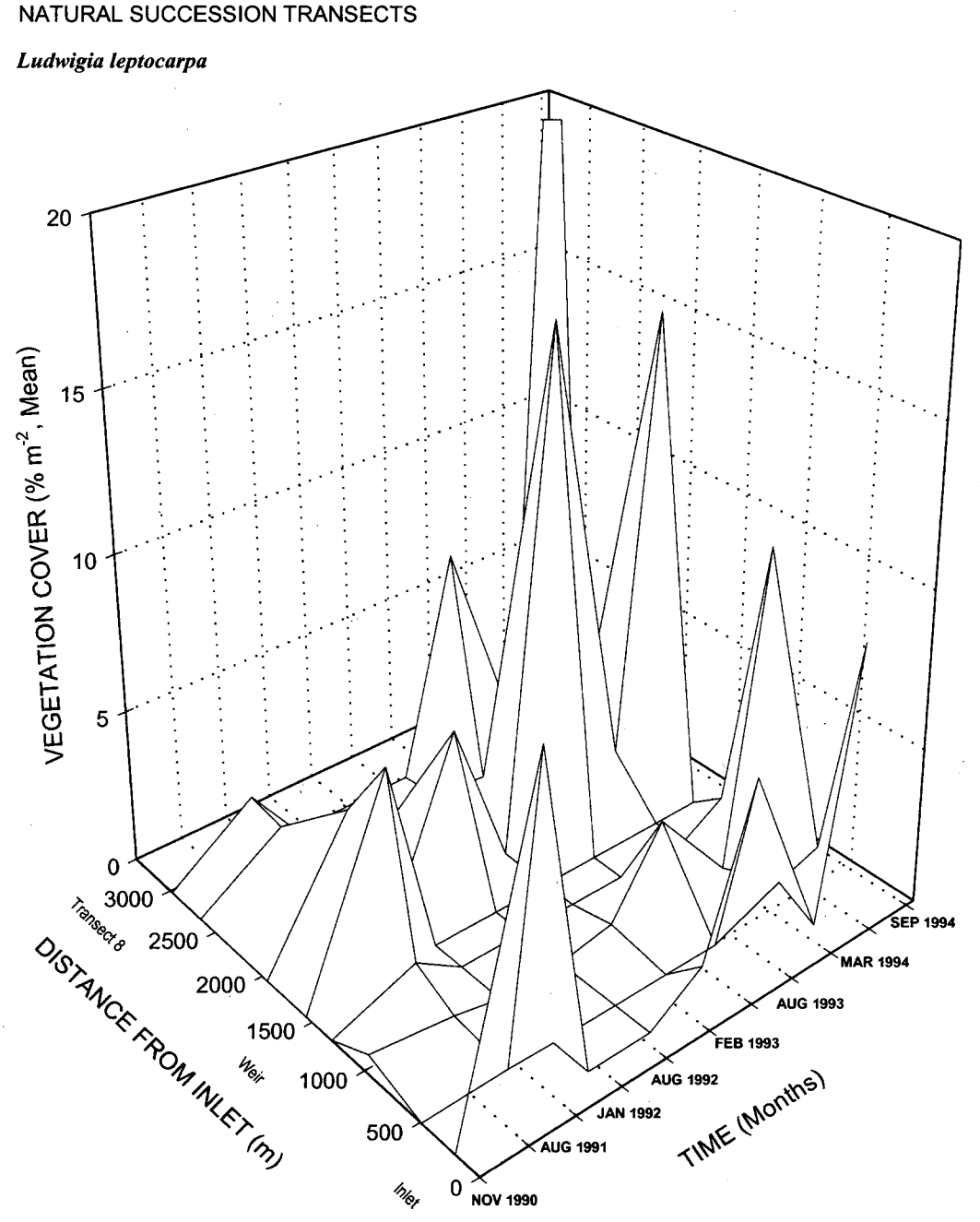

Figure 28. Time series surface plot of *Ludwigia leptocarpa* mean cover (%) from natural succession transects, Demonstration Marsh.

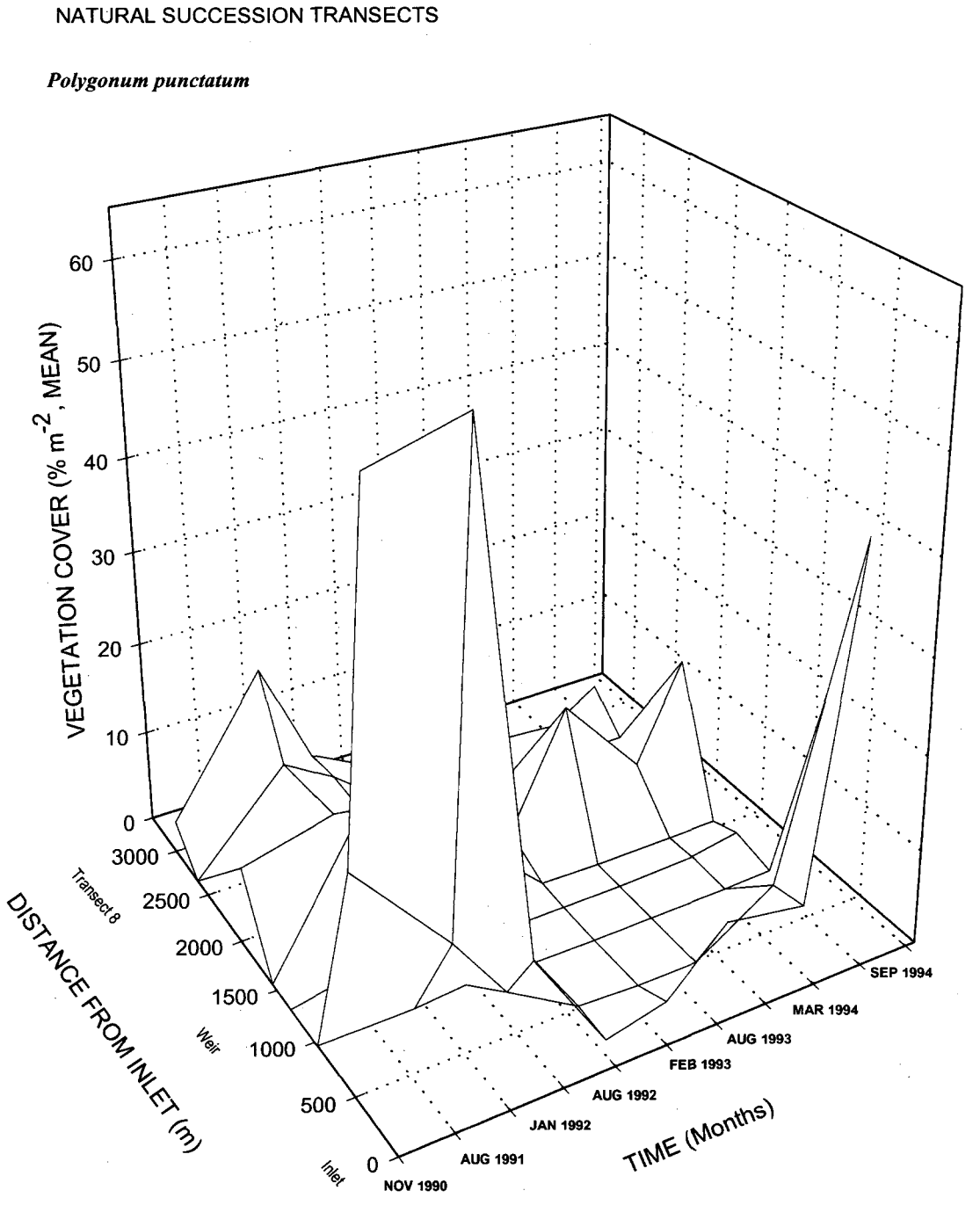

Figure 29. Time series surface plot of *Polygonum punctatum* mean cover (%) from natural succession transects, Demonstration Marsh.

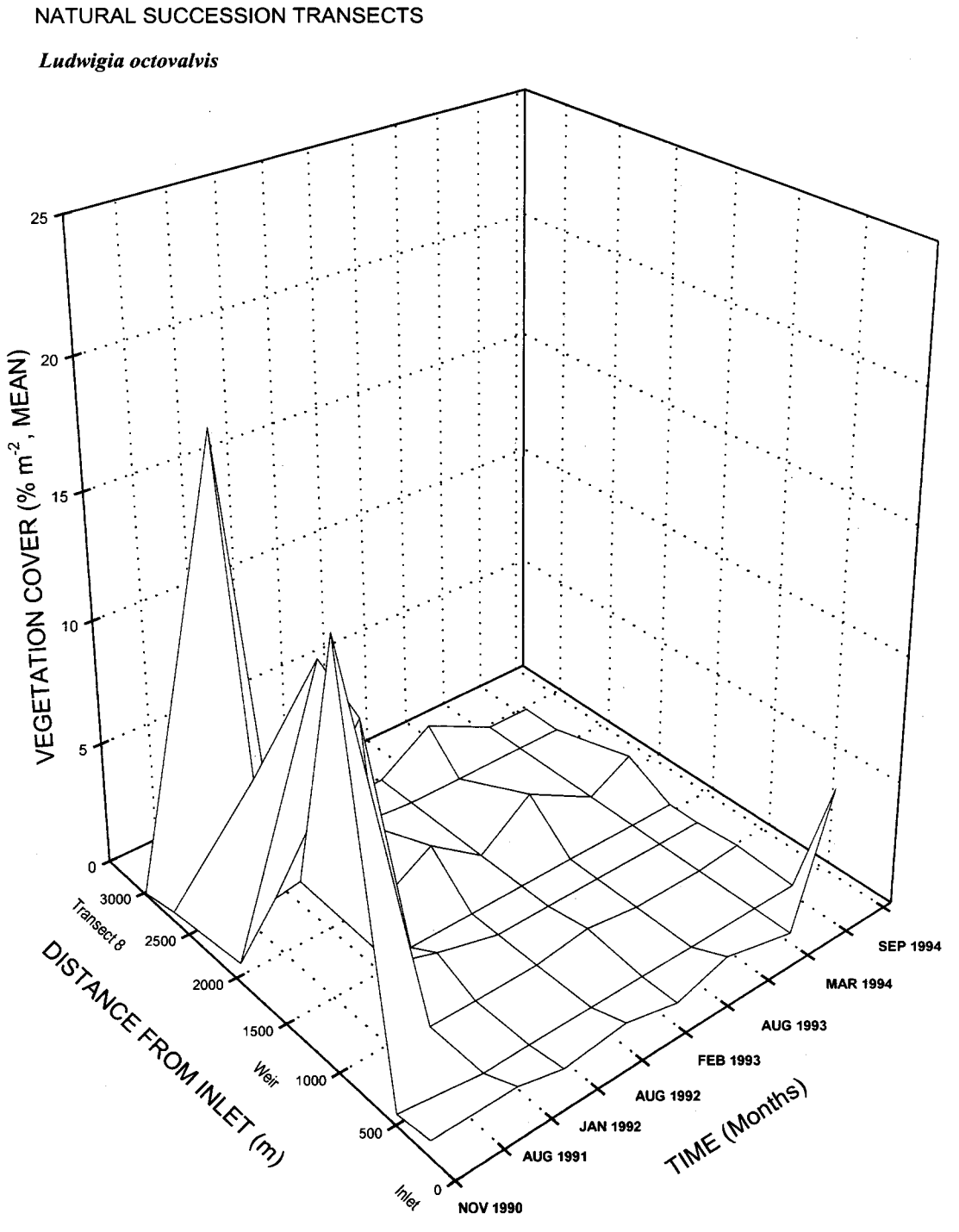

Figure 30. Time series surface plot of *Ludwigia octovalvis* mean cover (%) from natural succession transects, Demonstration Marsh.

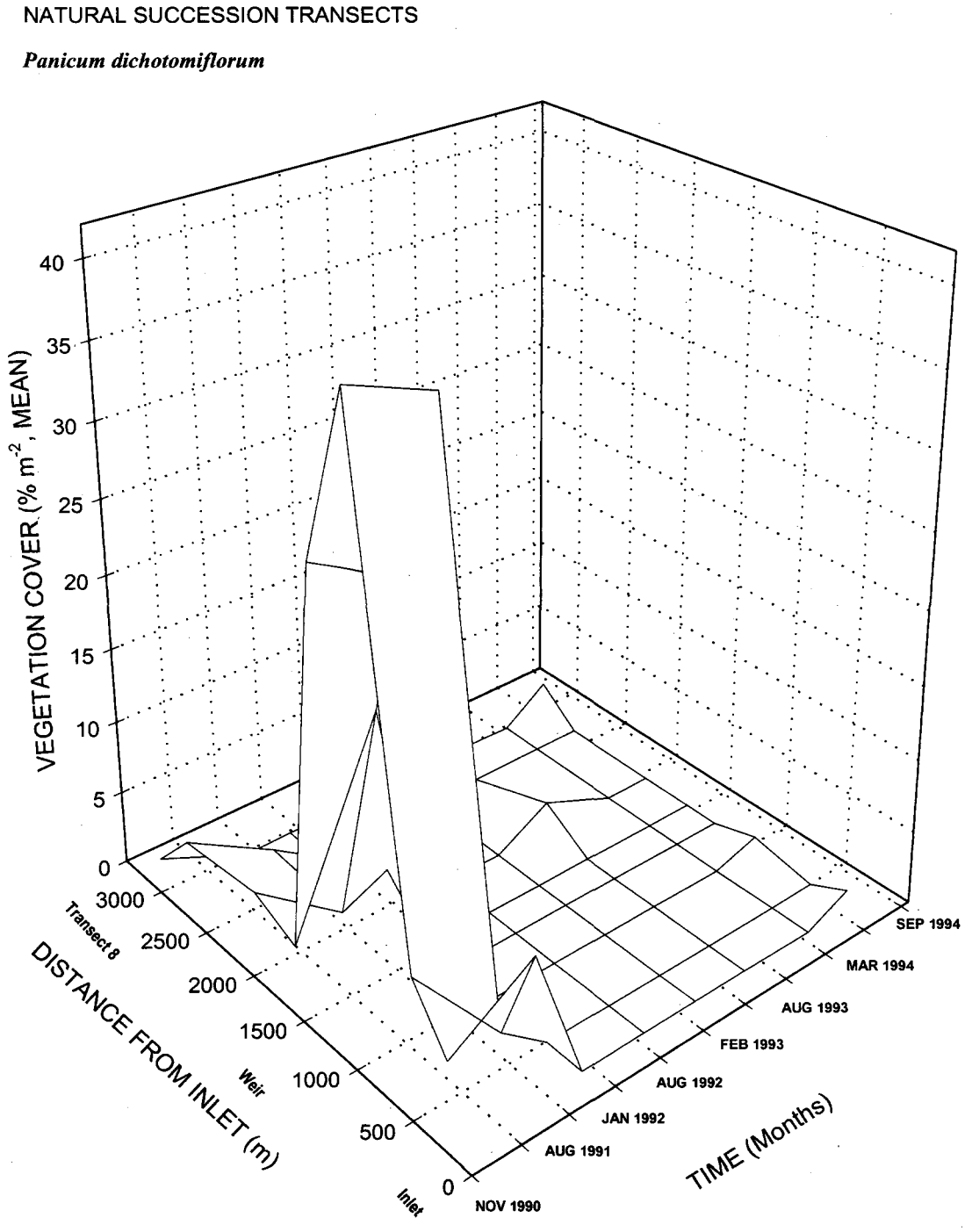

Figure 31. Time series surface plot of *Panicum dichotomiflorum* mean cover (%) from Natural succession transects, Demonstration Marsh.

NATURAL SUCCESSION TRANSECTS

Hydrocotyle ranunculoides

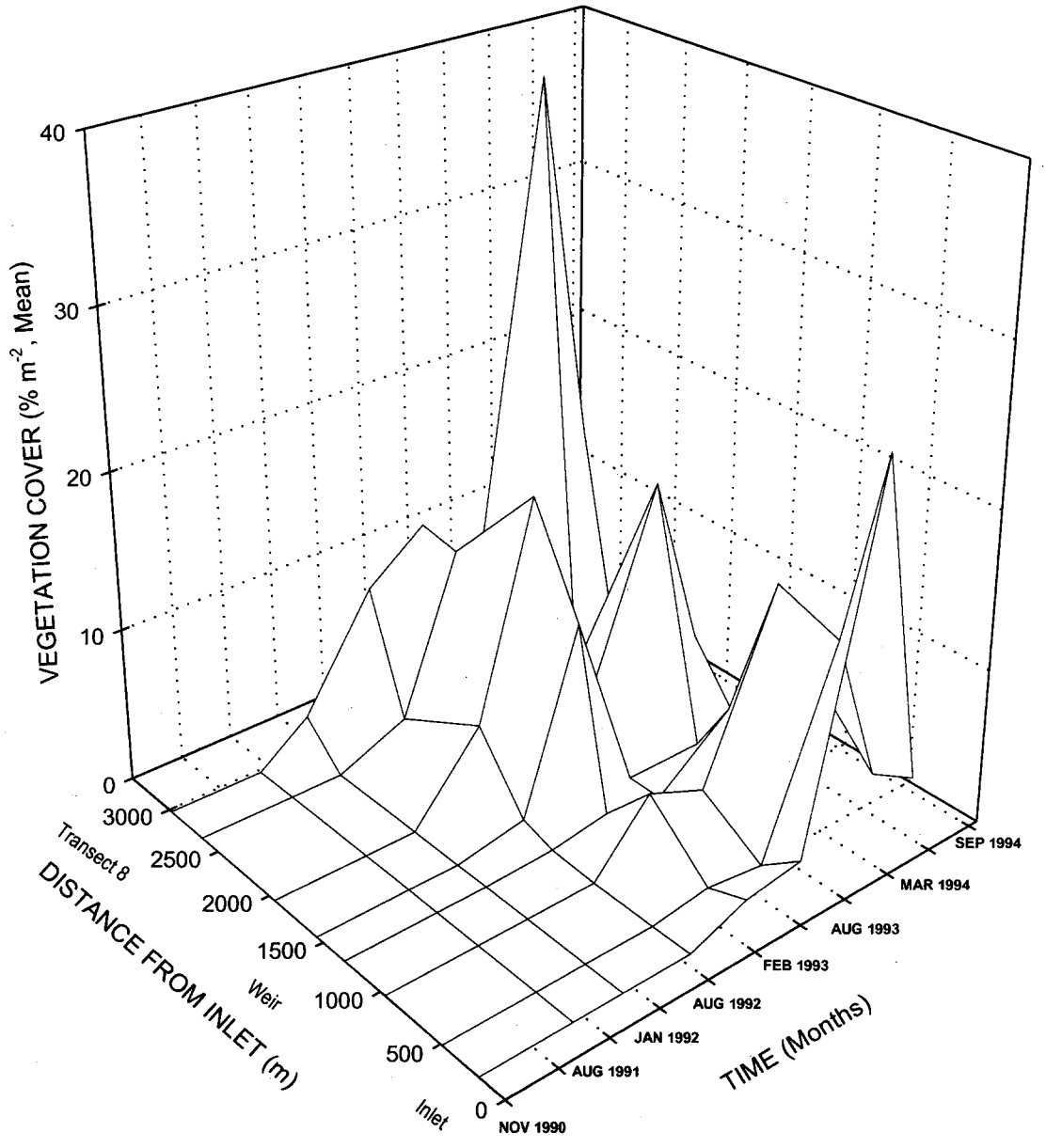

Figure 32. Time series surface plot of *Hydrocotyle ranunculoides* mean cover (%) from natural succession transects, Demonstration Marsh.

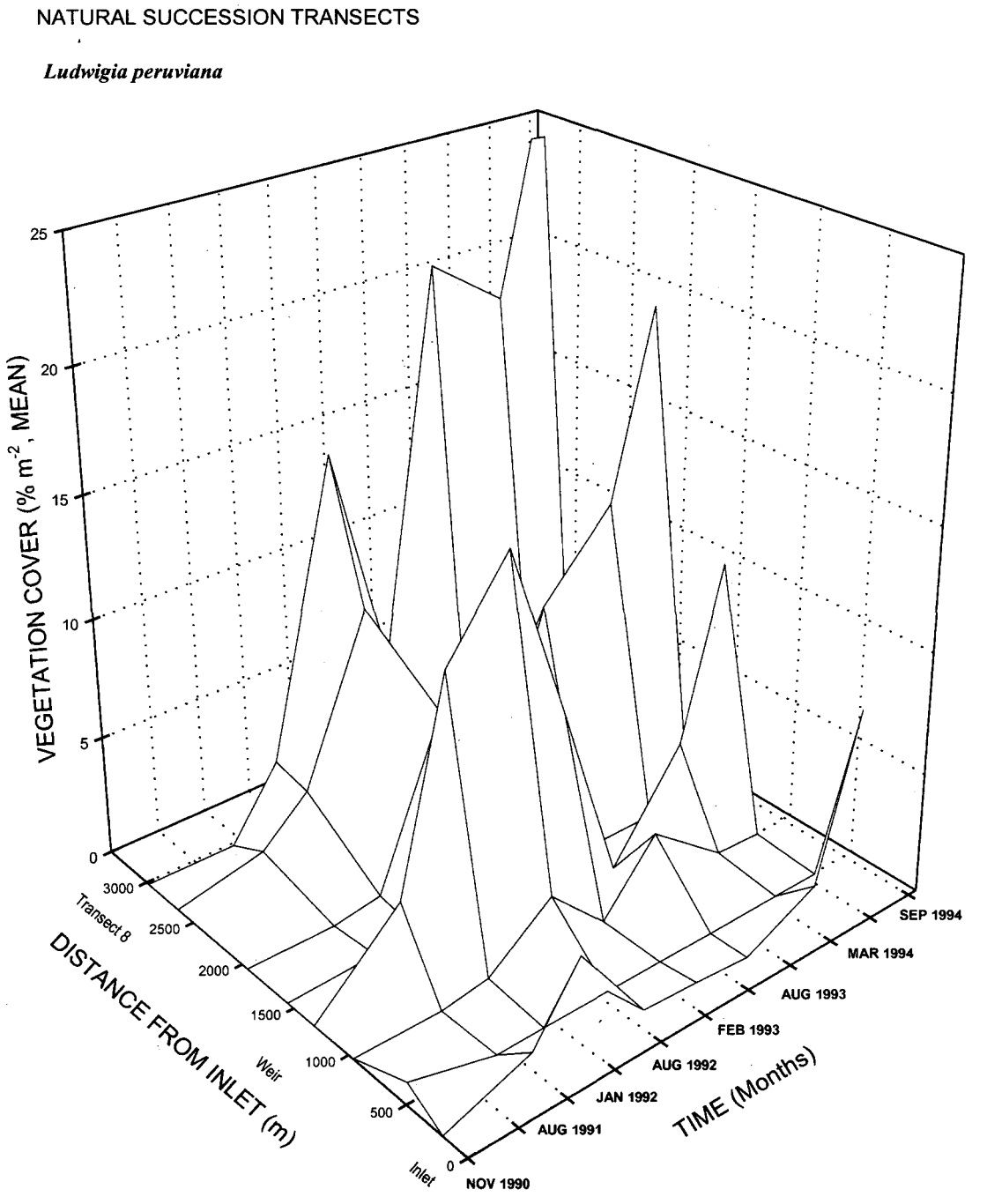

Figure 33. Time series surface plot of *Ludwigia peruviana* mean cover (%) from natural succession transects, Demonstration Marsh.

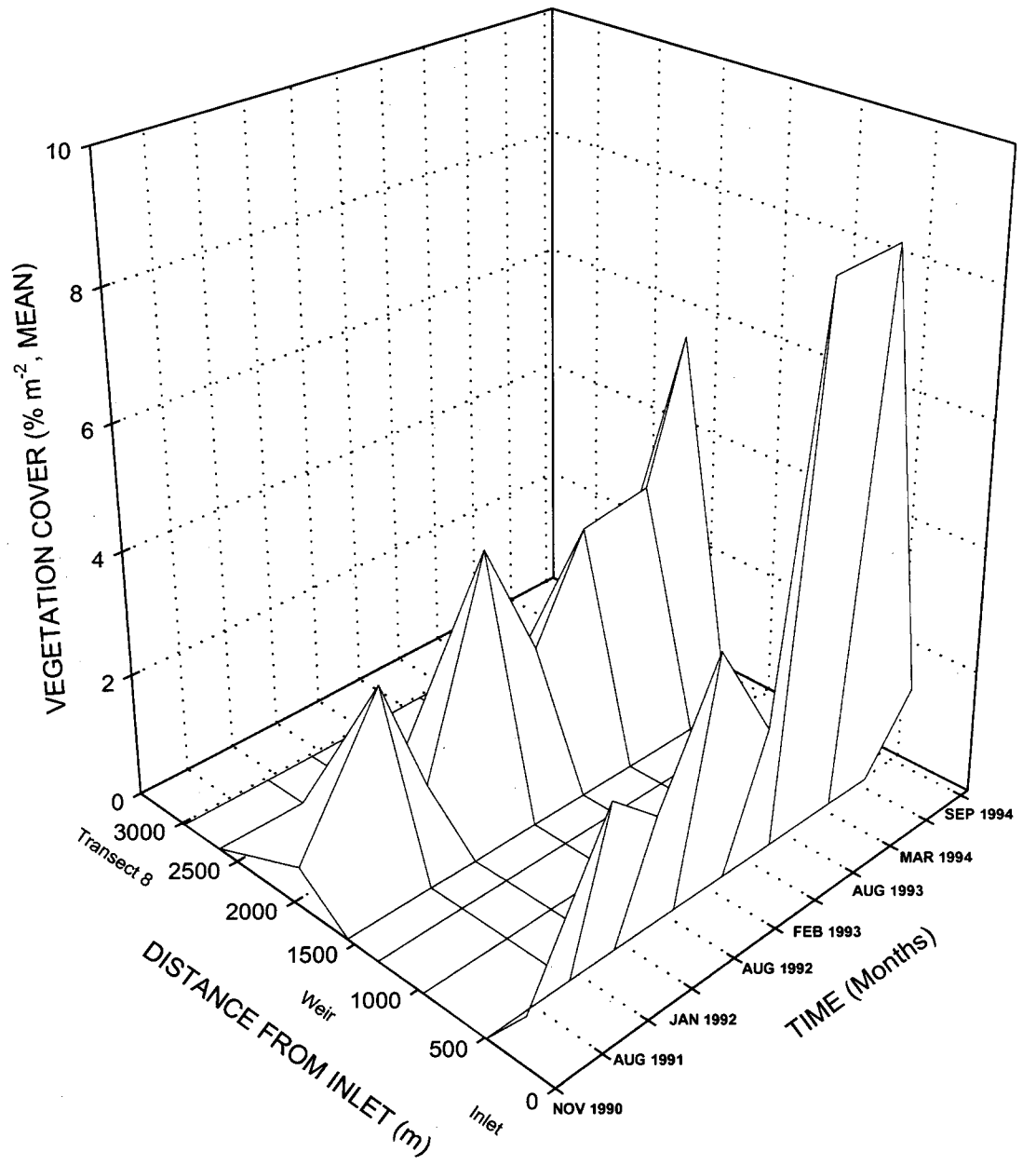

Figure 34. Time series surface plot of *Pontederia cordata* mean cover (%) from natural succession transects, Demonstration Marsh.

NATURAL SUCCESSION TRANSECTS

Sagittaria lancifolia

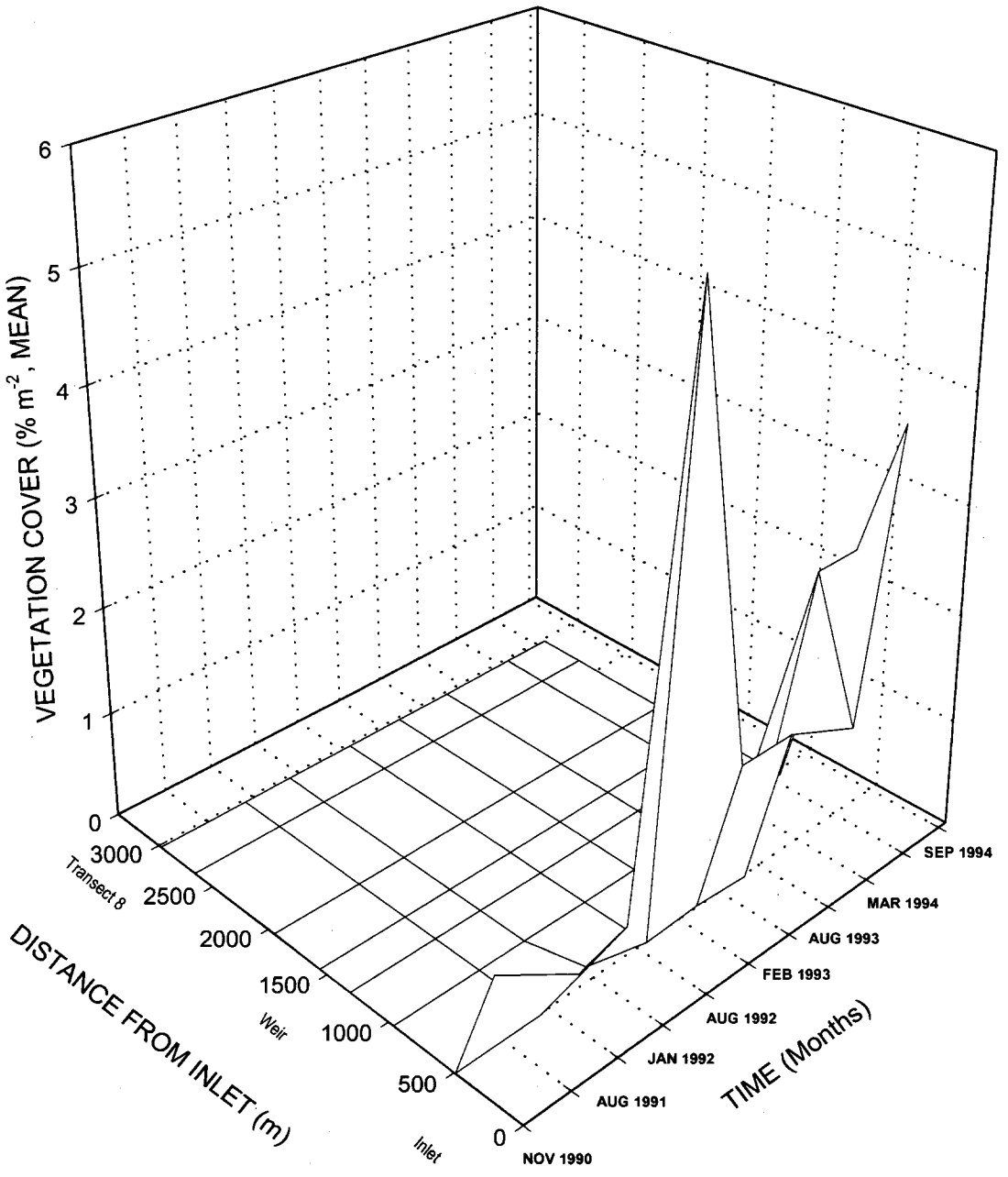

Figure 35. Time series surface plot of *Sagittaria lancifolia* mean cover (%) from natural succession transects, Demonstration Marsh.

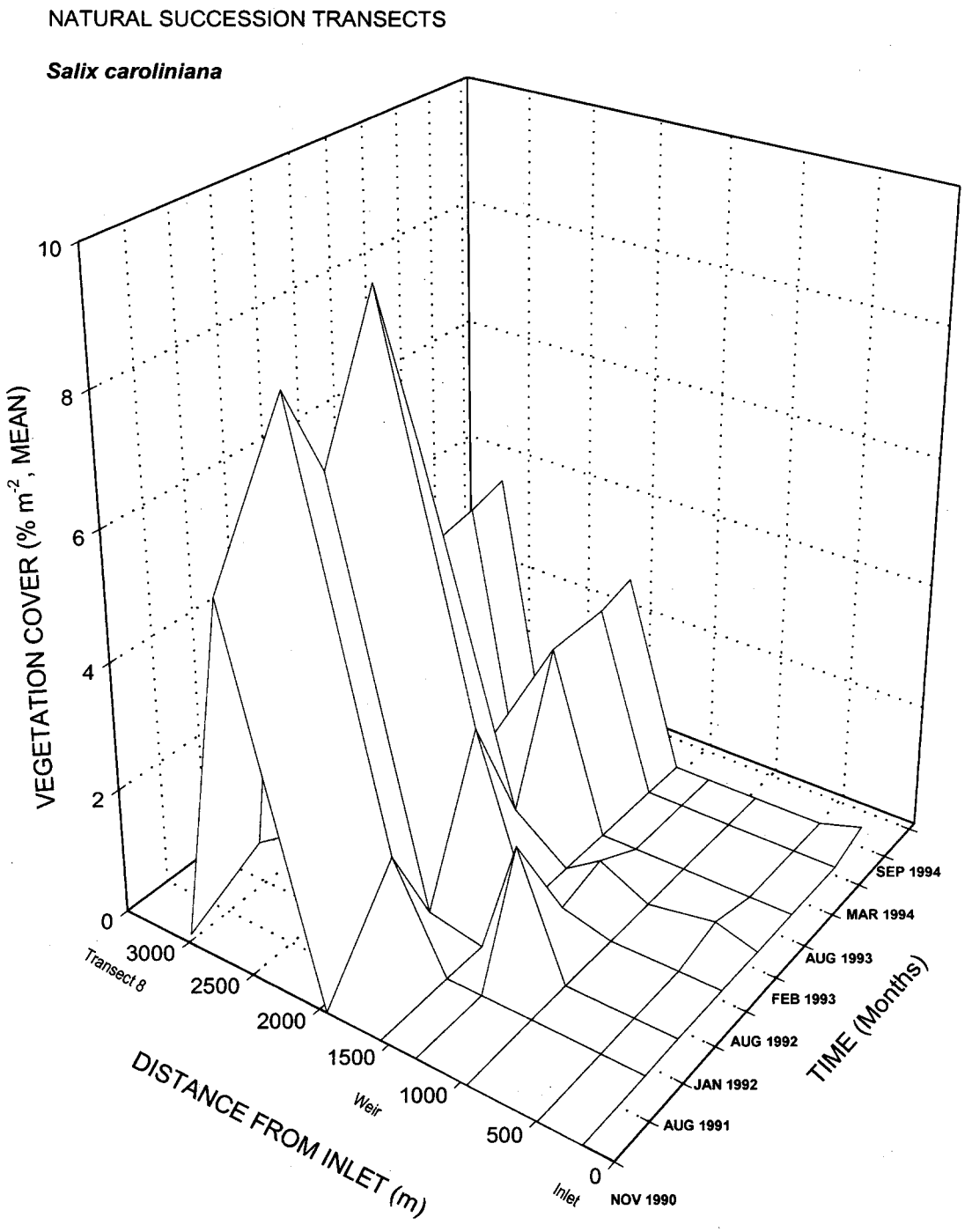

Figure 36. Time series surface plot of *Salix caroliniana* mean cover (%) from natural succession transects, Demonstration Marsh.

Biomass Total above-ground biomass patterns in the Demonstration Marsh followed two distinct patterns over time. The first found, along the eastern transects of the south marsh, began with live biomass levels at about 750 g m^{-2}. Biomass declined slightly, then developed a cyclical pattern with winter lows and summer highs of live and the opposite for dead biomass (Fig. 37). In contrast, biomass in the western transects of the south marsh and all north transects declined after the initial site flooding then slowly increased to values around 500 g m^{-2}. Transect 8 had values greater than 1000 g m^{-2} during the August 1993 and March 1994 samples. Except for transect 6, biomass declines were observed during the August 1994 sampling event.

In September 1994, the greatest contributions to above-ground biomass in the south marsh were made by *Polygonum punctatum*, *Typha latifolia*, *Ludwigia leptocarpa*, and *Cyperus odoratus* (Table 7). The greatest biomass contributions to the north marsh were by *Eicchornia crassipes*, *Ludwigia peruviana*, *Ludwigia leptocarpa*, *Polygonum punctatum*, *Sagittaria montevidensis,* and *Typha latifolia* (Table 8).

Live to dead biomass ratios seem to suggest a change in state for the south marsh. Prior to the drawdown and fire it had ratios between 0.65 and 1. This value increased to 3.35 in the September 1994, post drawdown and fire sample (Table 7). In contrast, the north marsh seemed to represent seasonal live:dead biomass ratios with 7.13, 2, and 9.42 for sample dates August 1993, March 1994, and September 1994, respectively (Table 8).

Below-ground biomass patterns are related to the development of floating vegetation mats. Below-ground biomass estimates peaked at around 500-750 g m^{-2} and have declined with time in both the south and north marshes (Fig.38). The development of floating vegetation mats and a shift in biomass to this ecosystem component is reflected in Table (9).

Early in the sampling history randomly located plots would often miss floating mats. Therefore, estimates of mat biomass at the 1 m^{-2} level appear patchy and contain high variance, as reported by standard error to mean ratios (Table 9). As the floating mats expanded they were encountered and measured more frequently. The pattern of mat development as observed using biomass information suggests the thickest, heaviest mats are located near the marsh inlet (Table 9). This observation was borne out by field observation (Stenberg and Clark, Pers. Obs.) Minimal mat development was observed along transect 4, near the south marsh exit weir.

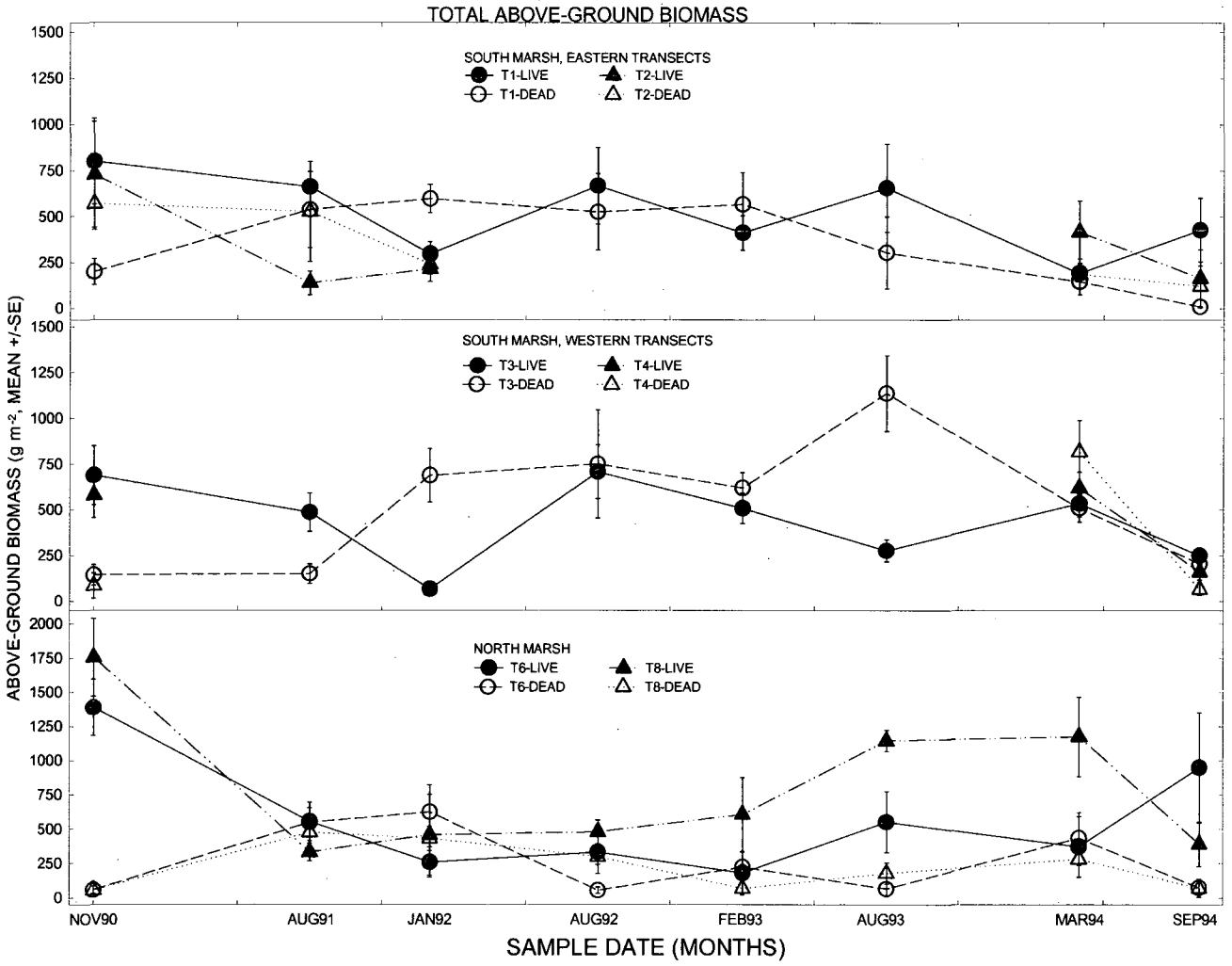

Figure 37. Above-ground biomass time series from natural succession transects, Demonstration Marsh.

Table 7. Above-ground biomass (g m^{-2}, Mean ±SE), south marsh, Demonstration Marsh.

SOUTH MARSH	August 1993 (n=8)		March 1994 (n=21)		August 1994 (n=25)	
Species Names and Codes	Mean	(SE)	Mean	(SE)	Mean	(SE)
Alternanthera philoxeroides (ALTPHI)	1.58	(1.31)	0.16	(0.15)	0.13	(0.09)
Amaranthus australis (AMAAUS)	51.69	(47.85)	0.03	(0.03)	0.55	(0.48)
Cyperus iria(CYPIRI)	0.00	(0.00)	0.00	(0.00)	0.29	(0.29)
Cyperus odoratus (CYPODO)	0.86	(0.80)	0.00	(0.00)	12.53	(6.12)
Cyperus spp. (CYPSPP)	0.01	(0.01)	0.00	(0.00)	0.21	(0.18)
Echinochloa colonum(ECHCOL)	0.00	(0.00)	0.00	(0.00)	0.38	(0.38)
Eclipta alba (ECLALB)	0.01	(0.01)	0.00	(0.00)	0.00	(0.00)
Hydrocotyle ranunculoides (HYDRAN)	0.30	(0.28)	31.08	(17.21)	0.06	(0.05)
Ludwigia leptocarpa (LUDLEP)	13.40	(8.05)	0.02	(0.02)	20.82	(19.90)
Panicum dichotomiflorum(PANDIC)	0.00	(0.00)	0.00	(0.00)	3.02	(2.83)
Polygonum densiflorum (POLDEN)	0.00	(0.00)	0.13	(0.13)	0.00	(0.00)
Polygonum punctatum (POLPUN)	0.46	(0.43)	2.01	(1.59)	102.71	(59.02)
Pontederia cordata (PONCOR) Leaves	60.72	(56.80)	5.03	(4.90)	0.21	(0.21)
Pontederia cordata (PONCOR) Roots	47.61	(44.54)	5.76	(5.63)	0.00	(0.00)
Sagittaria lancifolia (SAGLAN) Leaves	27.01	(25.26)	3.61	(2.84)	0.01	(0.01)
Sagittaria lancifolia (SAGLAN) Roots	3.50	(3.27)	0.00	(0.00)	0.00	(0.00)
Sambucus canadensis (SAMCAN)	0.04	(0.04)	0.00	(0.00)	0.00	(0.00)
Typha domingensis (TYPDOM)	53.29	(49.85)	32.12	(19.97)	7.53	(7.53)
Typha latifolia (TYPLAT) Leaves	204.16	(51.16)	364.28	(62.12)	89.30	(25.92)
TOTAL LIVE	464.65	(126.04)	444.24	(54.40)	281.07	(71.15)
Dead (Combined, No *Typha* spp.)	16.41	(15.35)	358.16	(73.16)	2.80	(1.62)
Dead *Typha* spp.	702.45	(198.84)	87.77	(40.29)	81.16	(27.44)
TOTAL DEAD	718.86	(192.07)	445.92	(74.84)	83.95	(26.93)
LIVE/DEAD RATIO	0.65		1.00		3.35	
# Species	13		10		18	

Table 8. Above-ground biomass (g m^{-2}, Mean ±SE), north marsh, Demonstration Marsh.

NORTH MARSH	August 1993 (n=8)		March 1994 (n=8)		August 1994 (n=8)	
Species Codes	Mean	(SE)	Mean	(SE)	Mean	(SE)
Alternanthera philoxeroides (ALTPHI)	0.06	(0.03)	2.77	(2.24)	9.64	(7.24
Amaranthus australis (AMAAUS)	3.05	(2.85)	0.00	(0.00)	13.55	(13.55)
Bidens laevis(BIDLAE)	0.00	(0.00)	0.00	(0.00)	8.16	(8.16
Cyperus odoratus (CYPODO)	7.99	(7.47)	0.00	(0.00)	0.14	(0.14)
Echinochloa spp. #1 (ECHSPP1)	18.30	(17.12)	0.00	(0.00)	0.00	(0.00)
Eclipta alba (ECLALB)	0.21	(0.19)	0.00	(0.00)	0.00	(0.00)
Eicchornia crassipes (EICCRA) Leaves	0.00	(0.00)	344.96	(212.80)	196.19	(196.19)
Eicchornia crassipes (EICCRA) Roots	0.00	(0.00)	20.42	(19.10)	0.00	(0.00)
Eleocharis viviparis (ELEVIV)	0.02	(0.02)	0.00	(0.00)	0.00	(0.00)
Eleusine indica(ELEIND)	0.00	(0.00)	0.00	(0.00)	0.09	(0.09)
Hydrocotyle ranunculoides (HYDRAN)	0.33	(0.31)	24.28	(12.49)	5.88	(3.67)
Hydrocotyle umbellata (HYDUMB)	0.00	(0.00)	0.00	(0.00)	2.38	(2.38)
Ludwigia leptocarpa (LUDLEP)	47.09	(29.98)	0.00	(0.00)	122.74	(66.34)
Ludwigia octovalvis (LUDOCT)	10.12	(9.40)	0.00	(0.00)	0.00	(0.00)
Ludwigia peruviana (LUDPER)	273.73	(167.93)	66.09	(61.82)	158.62	(158.62)
Mikania scandens (MIKSCA)	6.27	(5.87)	0.00	(0.00)	0.00	(0.00)
Panicum dichotomiflorum (PANDIC)	1.89	(1.21)	0.00	(0.00)	0.00	(0.00)
Paspalum dissectum (PASDIS)	0.00	(0.00)	35.94	(33.62)	0.00	(0.00)
Polygonum densiflorum (POLDEN)	127.63	(119.38)	0.00	(0.00)	0.00	(0.00)
Polygonum punctatum (POLPUN)	37.18	(32.54)	0.02	(0.02)	27.36	(14.02)
Sagittaria montevidensis(SAGMON)	0.00	(0.00)	0.00	(0.00)	48.69	(33.23)
Salix caroliniana (SALCAR)	93.88	(85.46)	13.41	(12.54)	0.00	(0.00)
Salvinia rotundifolia(SALROT)	0.00	(0.00)	0.00	(0.00)	18.98	(12.58)
Typha latifolia (TYPLAT) Leaves	201.09	(105.69)	308.14	(138.42)	24.29	(16.37)
Typha latifolia (TYPLAT) Roots	17.29	(16.17)	1.19	(1.11)	0.00	(0.00)
TOTAL LIVE	846.10	(146.44)	817.20	(209.83)	636.71	(206.85)
Dead (Combined, No *Typha* spp.)	118.74	(45.35)	408.75	(98.87)	50.76	(34.07)
Dead *Typha* spp.	0.00	(0.00)	0.00	(0.00)	16.81	(15.05)
TOTAL DEAD	118.74	(45.35)	408.75	(98.87)	67.57	(34.26)
LIVE/DEAD RATIO	7.13		2.00		9.42	
# Species	16		10		16	

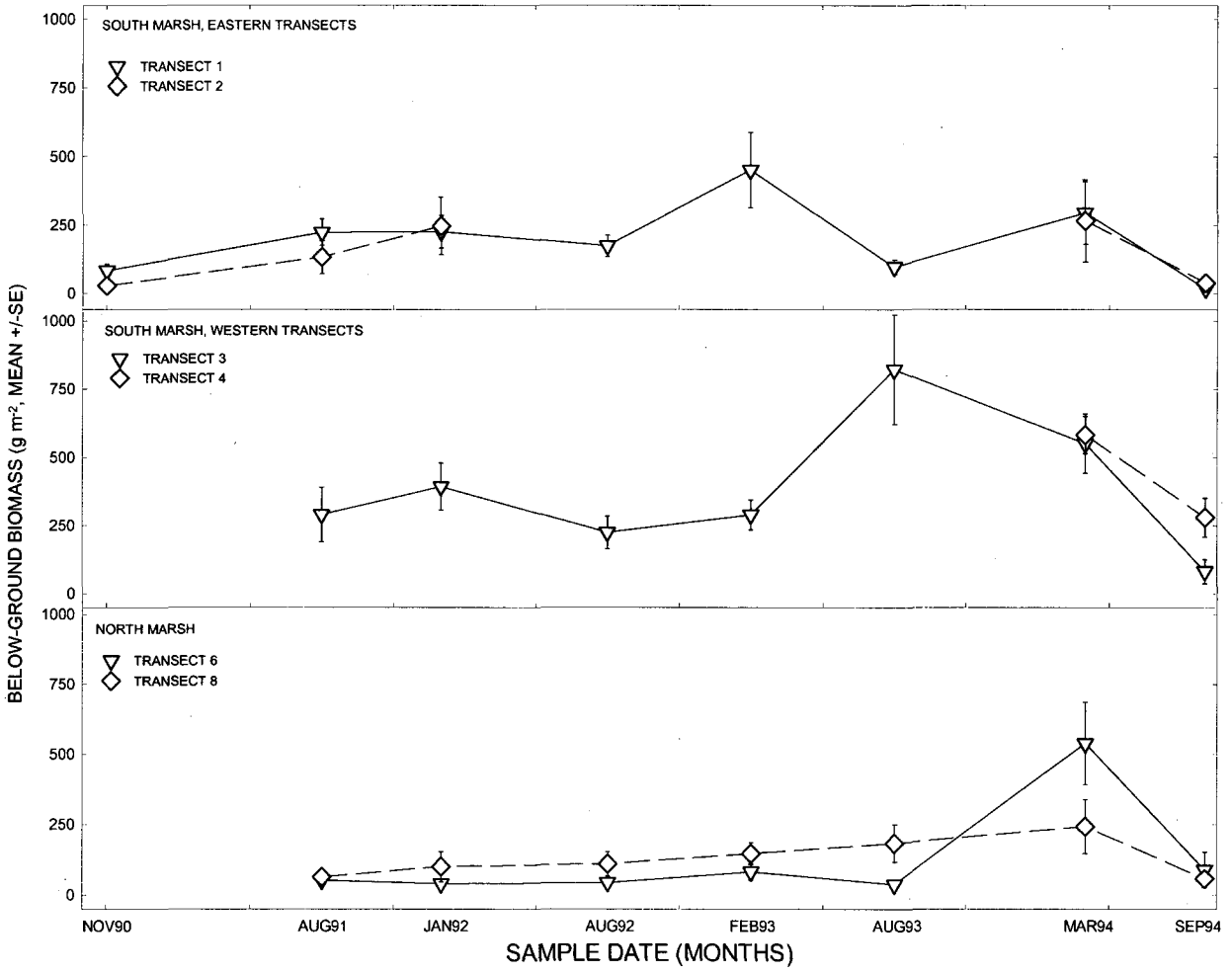

Figure 38. Below ground biomass (g m^{-2}, Mean ±SE) time series from natural succession transects, Demonstration Marsh.

Table 9. Floating vegetation mat biomass (g m^{-2}, Mean ±SE), Demonstration Marsh. South marsh and north marsh combined values represent means of all data for each marsh.

Sites	August 1993		March 1994		September 1994	
	Mean	SE	Mean	SE	Mean	SE
Transect 1	826.58	418.68			1675.08	439.92
Transect 2			925.57	380.82	1149.92	92.96
Transect 3					375.59	593.52
South marsh combined	826.58	418.68	925.57	380.82	988.92	237.92
Transect 6	646.68	380.82				
Transect 8					876.98	18.10
North marsh combined	646.68	380.82			876.98	18.10

FULL MARSH

Structure and Composition

Initial Conditions The vegetation community that developed on the Full Marsh site after cessation of farming activities consisted primarily of annual, "weedy" species (Table 10). Species such as *Cynodon dactylon, Eupatorium capillifolium, Paspalum notatum*, and *Rumex crispus* had been found but were soon extirpated by flooding over most of the site. Vegetation differed between flow-way C and the remaining flow-ways. Flow-way C were dominated by the dicots *Amaranthus spinosa* and *Eupatorium capillifolium*. Flow-ways D-G were dominated by a grass community made up of *Digitaria serotina* and *Panicum dichotomiflorum*. Species richness estimates suggested a greater number of species in flow-ways C and D, but the differences among sites seem minimal.

Long-term Plots. Sampling from the long-term monitoring plots revealed a shift in vegetation composition and structure to dominance by cattail (*Typha latifolia*) and floating leaved species (Table 11). A greater number and coverage of upland and annual species were found in February 1994 (Appendix E). The February 1994 sampling was conducted early in the flood induced ecosystem reorganiztion to a marsh.

Species richness of floating species was positively related to water depth. In contrast, richness for rooted species was inversely related to water depth. The correlation coefficients calculated to describe these relationships are relatively low, but statistically significant (Table 12). When viewed in graphical form these relationships can be seen as having threshold water depth to species richness ratios (Fig. 39).

Water depth may also explain the distribution patterns of the dominant species. A narrow peak of maximum vegetative cover by cattail was related to sites with water depths ranging around 50 cm (Fig. 40). In contrast, the floating leaved species *Eichhornia crassipes*, *Lemna* spp., and *Salvinia rotundifolia* were found in a wider range of water depths with maximum cover at water depths closer to 60 cm (Fig. 40). The two shallowest sites (D2 and D5) tended to have limited coverage by floating species and an assemblage of rooted species with shallow-water, short-hydroperiod affinities (Table 11). In contrast, flow-way G had little or no vegetation and relatively deep water (Table 11).

Table 10. Vegetation species composition and cover (% cell^{-1}) prior to flooding, Flow ways C-G, Full Marsh, Summer 1993.

Species Flow-Ways	C	D	E	F	G
Amaranthus australis (AMAAUS)	0	0	5	1	0
Amaranthus spinosa (AMASPI)	30	10	10	20	5
Ambrosia artemissiifolia (AMBART)	1	0	0	0	0
Asteraceae	0	1	0	0	0
Baccharis halimifolia (BACHAL)	0	0	0	0	1
Bidens pilosa (BIDPIL)	1	0	0	0	0
Cardamine pensylvanica (CARPEN)	1	5	5	0	0
Cynodon dactylon (CYNDAC)	0	1	0	0	0
Digitaria serotina (DIGSER)	1	40	30	30	40
Eleusine indica (ELEIND)	0	15	0	0	0
Eupatorium capillifolium (EUPCAP)	30	1	1	5	1
Eupatorium serotinum (EUPSER)	0	1	0	0	0
Gnaphalium pensylvanicum (GNAPEN)	5	1	0	0	0
Ludwigia octovalvis (LUDOCT)	0	1	0	0	0
Mikania scandens (MIKSCA)	0	0	5	0	0
Panicum dichotomiflorum (PANDIC)	0	0	35	35	40
Paspalum notatum (PASNOT)	0	0	0	0	1
Paspalum urvillei (PASURV)	1	1	0	0	0
Physalis angulata (PHYANG)	0	15	0	0	0
Rumex crispus (RUMCRI)	5	1	1	1	5
Senecio glabellus (SENGLA)	5	1	1	0	1
Sesbania macrocarpa (SESMAC)	0	0	1	5	0
Solanum americanum (SOLAME)	5	0	0	0	1
Sonchus spp. (SONSPP)	5	1	0	0	0
Stenotaphrum secundatum (STESEC)	0	0	0	0	1
# Species	12	15	10	7	10

Table 11. Summary of vegetation measurements in Full Marsh. Code explanations for table components are as follows: Top row is node number and first column is flow-way name; *=Data type presented in associated column (F=Floating Species, R=Rooted Species, W=Water Depth, cm); Cover %=Mean of four plots per Sample Node; and **= Relative cover (%Cover/Total Cover), summer 1994.

	Node 1				Node 2				Node 3				Node 4				Node 5			
Flow-way	*	COVER %	**	SPECIES	*	COVER %	**	SPECIES	*	COVER %	**	SPECIES	*	COVER %	**	SPECIES	*	COVER %	**	SPECIES
C		----			F	93.8	81.2	EICCRA	F	50.3	36.3	LEMSPP	F	66.3	54.0	SALROT	F	75.0	64.2	SALROT
		----			F	10.0	8.7	SALROT	F	3.8	2.7	SALROT	F	3.0	2.4	LEMSPP	F	1.0	0.9	LEMSPP
		----			R	10.0	8.7	TYPLAT	R	67.5	48.8	TYPLAT	R	42.5	34.6	TYPLATdead	R	21.3	18.2	TYPLATdead
		----			R	1.5	1.3	TYPLATdead	R	9.0	6.5	TYPLATdead	R	10.0	8.1	TYPLAT	R	18.8	16.1	TYPLAT
	W	74.6			W	7.4			W	33.3			W	52.4			W	53.4		
D	F	61.3	41.0	SALROT	F	1.0	2.1	LEMSPP	F	35.3	23.2	SALROT	F	46.3	31.2	SALROT	F	0.8	1.9	LEMSPP
	F	6.3	4.2	EICCRA	R	27.5	58.8	LUDOCT	F	31.5	20.7	LEMSPP	F	14.3	9.6	LEMSPP	R	20.0	51.9	TYPLAT
	R	70.0	46.8	TYPLATdead	R	8.5	18.2	ECHCOL	R	42.5	27.9	TYPLAT	R	67.5	45.5	TYPLAT	R	11.3	29.2	CYPODO
	R	10.0	6.7	TYPLAT	R	2.8	5.9	EUPCAP	R	40.3	26.4	TYPLATdead	R	13.8	9.3	TYPLATdead	R	2.5	6.5	SALCAR
	W	61.1			W	21.2			W	49.8			W	37.9			W	29.2		
E	F	68.8	57.1	SALROT	F	65.0	51.4	SALROT	F	71.3	60.0	LEMSPP	F	55.0	51.9	SALROT	F	61.3	51.9	SALROT
	F	1.0	0.8	LEMSPP	F	4.3	3.4	LEMSPP	F	4.0	3.4	SPIPOL	F	8.8	8.3	LEMSPP	F	1.0	0.8	LEMSPP
	R	30.0	24.9	TYPLAT	R	42.5	33.6	TYPLAT	R	27.5	23.2	TYPLAT	R	30.0	28.3	TYPLAT	R	53.8	45.6	TYPLAT
	R	20.0	16.6	TYPLATdead	R	13.8	10.9	TYPLATdead	R	14.0	11.8	TYPLATdead	R	11.3	10.6	TYPLATdead	R	0.5	0.4	TYPLATdead
	W	68.4			W	67.6			W	70.8			W	70.4			W	61.0		
F	F	1.0	57.1	LEMSPP	F	19.0	45.5	LEMSPP	F	12.5	50.0	EICCRA	F	50.0	42.9	LEMSPP	F	28.8	42.1	EICCRA
	F	0.5	28.6	SPIPOL	F	12.5	29.9	EICCRA	F	5.3	21.0	LEMSPP	F	20.3	17.4	SALROT	F	25.0	36.6	LEMSPP
	F	0.3	14.3	WOLSPP	R	2.8	6.6	TYPLAT	R	6.3	25.0	TYPLAT	R	16.5	14.2	TYPLAT	F	12.5	18.3	ALTPHI
					R	0.3	0.6	TYPLATdead	R	0.3	1.0	TYPLATdead	R	6.3	5.4	TYPLATdead	F	1.5	2.2	SALROT
	W	87.0			W	85.7			W	80.0			W	86.8			W	77.5		
G	F	23.8	61.3	EICCRA		----				----				----				----		
	F	12.5	32.3	LEMSPP		----				----				----				----		
	R	1.3	3.2	TYPLAT		----				----				----				----		
	R	1.3	3.2	PASDIS		----				----				----				----		
	W	48.8			W	81.3			W	82.8				78.6				77.3		

Table 12. Pearson correlation analysis R^2 (p-value), of water depth (cm) by species richness, Full Marsh.

Marsh Location	Floating Species	Rooted Species
Full Marsh	0.215 (0.0023)	-0.391 (0.0001)

Cattail in the Full Marsh was invaded over a large area by the caterpillar *Simyra henrici* during the two months prior to the September 1994 vegetation sampling. The invasion and subsequent large-scale herbivory increased the coverage of dead cattail (Table 11). Without the caterpillar invasion the development of a dead biomass ecosystem component would probably have been similar to that observed in the Demonstration Marsh (Tables 7 and 8).

Vegetation Map

The baseline vegetation map revealed a vegetation pattern dominated by open water, floating species, and cattail (*Typha latifolia*). This pattern was similar to that found by sampling the node-plot arrangement. The southern three cells (C, D, E) were vegetated, while the northern two cells (F, G) were relatively unvegetated (Map, Appendix C).

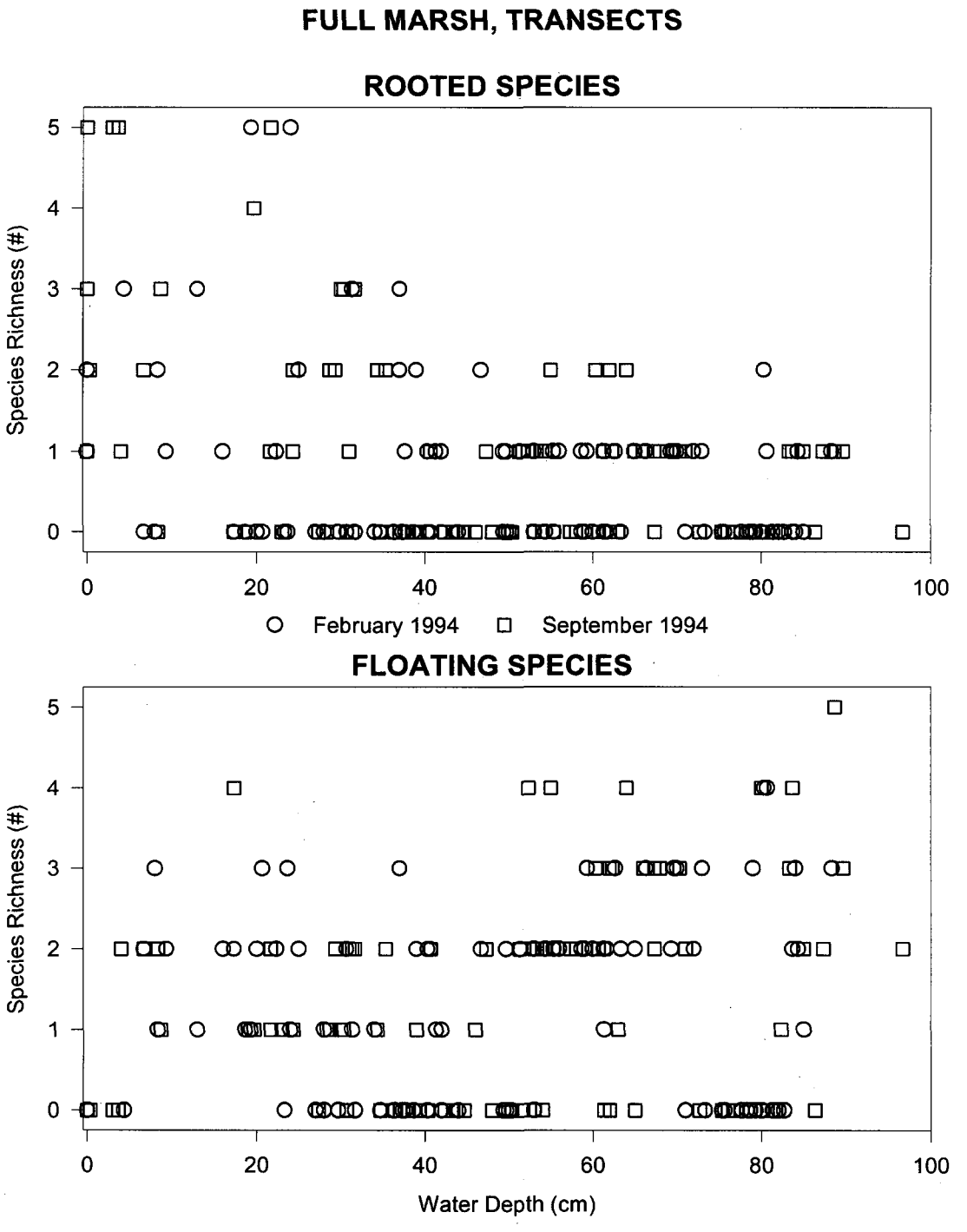

Figure 39. Relationship between water depth and species richness from Full Marsh transects.

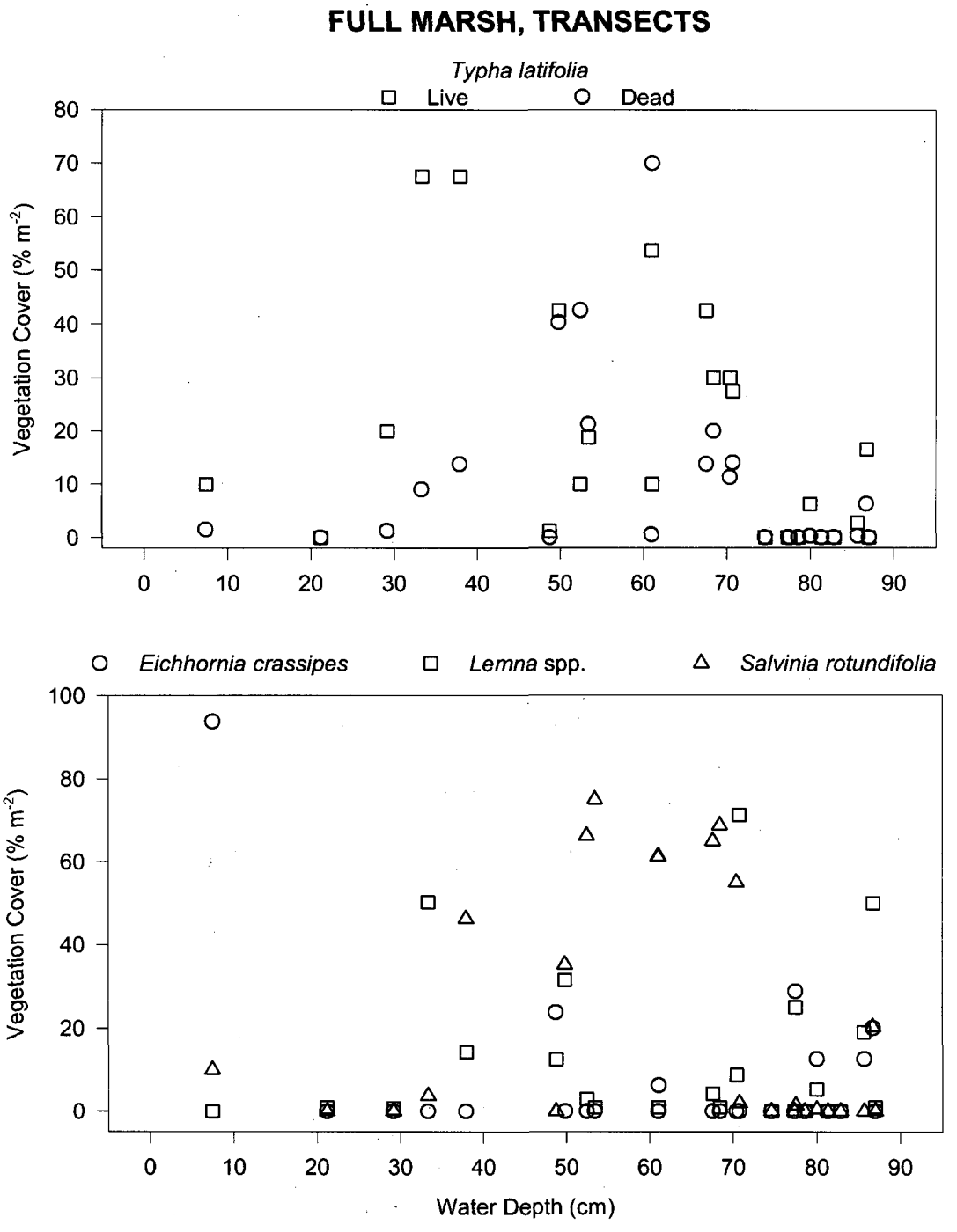

Figure 40. Relationship between water depth and vegetation cover for *Typha latifolia* (top graph) and three comon floating plant species (bottom graph), Full Marsh.

V. DISCUSSION

DEMONSTRATION MARSH

Structure and composition

This study provided additional data to help evaluate ecosystem succession within the Apopka Marsh. Successional patterns included further expansion of cattail into less intensively prepared experimental planting treatments (control, mulch, and seeded). Although, cattail expansion into these areas has slowed and may be approaching maximum coverage. Cattail coverage on the natural succession transects was greatest in the south marsh prior to the summer 1994 drawdown and fire. Cattail coverage in the north marsh was lower due to a more equitable distribution of other species, including *Hydrocotyle ranunculoides, Ludwigia peruviana, Polygonum punctatum*, and *Salix caroliniana*. Resistance of planted *Pontederia cordata* and *Sagittaria lancifolia* to cattail invasion continued. Planted *Pontederia cordata* and *Sagittaria lancifolia* seemed to have reached a maximum of about 50% cover each, with some seasonal dynamics. A decline in the cover of planted *Eleocharis interstincta* and *Scirpus validus* had not rebounded. As coverage of planted *Eleocharis interstincta* and *Scirpus validus* declined, cattail invaded at an accelerated rate. *Hydrocotyle ranunculoides* increased cover in planted areas and remained a minor component in the natural succession transects. Unexpectedly, *Scirpus californicus* declined after years of plot dominance. An equitable distribution of cover by species remained in the mixed planting sites. In general the seeded treatments were colonized by cattail with little successful target species establishment. Establishment of *Pontederia cordata* remained an exception to this pattern. Coverages of 10-25% in the south marsh and 50% in the north marsh have provided evidence for *Pontederia cordata* as the most successful seeded treatment. Alternatively, enough time has passed that seed flow from planted plots may have enhanced establishment of the seeded *Pontederia cordata* plot. *Scirpus validus* rhizome invasion into the *Scirpus validus* seeded plot may explain its sudden coverage increase. The mulch plots continued a trend of dominance by cattail and *Pontederia cordata* in the south marsh and *Hydrocotyle ranunculoides* in the north marsh. No evidence for contribution of species by the mulch treatment was found. Again, an explanation for the lack of a species contribution by the donor soil may be one or all of the following: improper on-site soil treatment prior to application, deep flooding of a soil containing flood intolerant bayhead species, although the seed bank studies discount this possibility; competition by a rapidly expanding cattail community; and no seed bank to begin with (see Stenberg et al. 1997). Control treatments were dominated by cattail in the south marsh and *Hydrocotyle ranunculoides* in the north marsh. The patterns of cattail domination in the south marsh and *Hydrocotyle ranunculoides* in the north marsh are difficult to explain.

Biomass

Total above-ground biomass seemed to vary around 500-1000 g m^{-2} with seasonal cycling between live and dead components. Therefore, without a major change in site conditions and with a continuing subsidy of water from Lake Apopka it is likely that total above-ground biomass dynamics will remain similar over time (near-term at least). The fire of summer 1994 seems to have affected live:dead biomass ratios (Table 7). Live to dead ratios prior to the fire (0.65) and after (3.35) provide evidence that the fire removed dead vegetation and provided an opportunity for other species to increase biomass (e.g. *Cyperus odorata, Ludwigia leptocarpa*, and *Polygonum punctatum*). Of course, changes in distribution of biomass amongst species can't be directly attributed to the fire. Shifts in community structure as measured with biomass were evident in the north marsh as well (Table 8). Live:dead biomass ratios in the north marsh exhibited an apparent seasonal effect with low values at the end of winter (2) and high values in summer (7.13 and 9.42). The drawdown of summer 1994 may have caused an increase in biomass of species with lower flood tolerance (e.g. *Amaranthus australis*, *Ludwigia leptocarpa*, and *Polygonum punctatum*) while inhibiting species with higher flood tolerance (e.g. *Eicchornia crassipes* and *Typha latifolia*).

Below-ground and floating mat biomass dynamics continued to reflect the state of the respective south and north marshes. Below-ground biomass declined in the south marsh after peaking in 1993. This pattern may be attributed to a shift in root and rhizome biomass from consolidated soil to floating mats (Fig. 38, Table 9). Floating mat biomass had increased with time in the south marsh. In contrast, fewer measurements of floating mat biomass had been made in the north marsh. Below-ground biomass gradually increased until March 1994. Below-ground biomass declines in September 1994 seemed related to the more recent development of floating mats in the north marsh.

Floating vegetation mats

Floating vegetation mats continued to be a significant phenomenon in the south marsh. Mats moved by wind have contributed to removal of edge plots in planting site 1. No evidence was found for mat grounding and subsequent terrestrialization. Formation of large open areas in the south marsh suggests that mats are disintegrating.

Drawdown and fire

The drawdown and fire of the summer of 1994 was followed by reduced cover and biomass levels of cattail and increased species richness in the south marsh (Table 7). Increased species richness following fire may be a result of reduced light competition and increased available nutrients. The presence of extensive floating mats effectively reducing water depth on the soil surface may also contribute to increased species richness and cover. There was little or no obvious effect on the areal extent of floating vegetation mats. The fire burned into edge and bulrush (*Scirpus californicus* and *S. validus*) plots of

planting site 2. While the possibility of inadvertent ignition exists, there was an apparent preferential burning of bulrush in the interior sites. If fire entered the site unassisted it would have spread via continuous cattail vegetation. No attempt was made to determine the direct effects of this fire due to the lack of unburned treatments for comparison.

FULL MARSH

In Full Marsh sites that were colonized by cattail, colonization was rapid (0.22% d^{-1}) during the first year of flooding (Table 11). Cattail colonization was more rapid than within the Demonstration Marsh (0.026% $d^{-1}$to 0.056% d^{-1}; Table 15 in Stenberg et al. 1997). The rapidity of colonization may be attributed to the flow of cattail seed from the Demonstration Marsh, possibly coupled with the timing of abandonment of agriculture within the Full Marsh. Based on measurements of airborne cattail seed flow in the Demonstration Marsh, it is possible that approximately 37 to 98 seeds m^{-2} (assuming 75% viability) were being deposited on the Full Marsh during peak seed dispersal (pg. 374; Stenberg et al. 1997). In addition, a seed bank in the Full Marsh containing cattail may have developed over time. Seed bank studies in the Demonstration Marsh revealed increased cattail seed densities from November 1991 to November 1992 (Stenberg et al. 1997).

Seemingly coupled with the rapid, large-scale cattail colonization was a population explosion of the armyworm caterpillar (*Simyra henrici*). Similar patterns of armyworm caterpillar invading recently colonized cattail marsh have been reported (Snoddy et al. 1989). Herbivory by the caterpillar appeared to increase the amount of dead cattail observed during the August 1994 vegetation sample.

A large proportion of flow way G was uncolonized by any plant species. Water depth in this cell was generally deeper than the favored depth of cattail, the most successful marsh colonizer. However, other sites where cattail occurred had similar water depths. The lack of colonization in flow-way G may be attributed to a combination of rapidity of flooding, deeper water, and distance from seed source interacting to limit seed germination and seedling establishment.

VI. LITERATURE CITED

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Appendix A. Positions of sample nodes in Full Marsh, Apopka Marsh Flow-Way Restoration Project. Positions collected using Trimble Pathfinder GPS receiver in autonomous mode. Distance (m) estimates are distance from first node and total distance of transect.

Node	Latitude	Longitude	Distance (m)	Date Established
C1	28 40'41.7"	81 41'58.7"	0	19-Feb-94
C2	28 40'40.0"	81 41'42.6"	499	19-Feb-94
C3	28 40'40.0"	81 41'27.6"	463	19-Feb-94
C4	28 40'39.2"	81 41'14.5"	405	19-Feb-94
C5	28 40'40.0"	81 40'57.5"	525	19-Feb-94
Total Distance C1 to C5			1891	
D1	28 41'04.6"	81 41'52.2"	0	28-Feb-94
D2	28 41'03.6"	81 41'39.1"	405	27-Feb-94
D3	28 41'03.6"	81 41'24.0"	466	27-Feb-94
D4	28 41'02.1"	81 41'09.8"	440	27-Feb-94
D5	28 41'02.0"	81 40'57.7"	373	27-Feb-94
Total Distance D1 to D5			1684	
E1	28 41'30.7"	81 41'59.2"	0	20-Feb-94
E2	28 41'28.2"	81 41'47.6"	366	20-Feb-94
E3	28 41'29.2"	81 41'33.2"	445	20-Feb-94
E4	28 41'32.2"	81 41'19.8"	423	20-Feb-94
E5	28 41'32.0"	81 41'07.0"	395	20-Feb-94
Total Distance E1 to E5			1629	
F1	28 41'54.0"	81 42'05.0"	0	20-Feb-94
F2	28 41'55.1"	81 41'51.1"	430	20-Feb-94
F3	28 41'57.3"	81 41'35.3"	492	20-Feb-94
F4	28 41'55.1"	81 41'23.1"	382	20-Feb-94
F5	28 41'57.3"	81 41'09.3"	431	20-Feb-94
Total Distance F1 to F5			1735	
G1	28 42'18.0"	81 42'11.4"	0	26-Feb-94
G2	28 42'18.1"	81 41'56.1"	472	26-Feb-94
G3	28 42'18.3"	81 41'42.5"	419	26-Feb-94
G4	28 42'19.0"	81 41'27.5"	463	26-Feb-94
G5	28 42'17.1"	81 41'12.9"	454	26-Feb-94
Total Distance G1 to G5			1808	

Appendix B. Full Marsh Vegetation Sample Plot Locations. Sample Node: Alpha Code (C-G)=Flow-Way Restoration Project Cell, Numeric Code (1-5)=Sample Node Designation; For Each Plot (1-4): Dist=Distance from Center Pole (m), Azi=Angle from North through Center Pole (0 -360).

Sample	Plot 1		Plot 2		Plot 3		Plot 4	
Node	Dist	Azi	Dist	Azi	Dist	Azi	Dist	Azi
C1	14	352	6	52	20	240	12	214
C2	17	260	19	262	13	171	6	337
C3	19	47	17	322	10	96	4	318
C4	3	47	19	93	12	197	5	263
C5	7	291	16	209	19	66	14	279
D1	16	326	19	27	19	215	11	86
D2	6	293	10	241	12	322	5	349
D3	7	314	15	224	2	81	14	98
D4	9	348	3	324	7	179	13	260
D5	11	225	2	233	10	192	15	194
E1	19	66	14	279	3	47	19	93
E2	12	197	5	263	19	47	17	322
E3	8	96	10	184	3	330	5	274
E4	6	163	10	229	18	150	19	47
E5	10	96	8	207	3	330	5	274
F1	15	170	17	326	11	96	8	347
F2	18	95	11	308	9	245	9	41
F3	3	244	8	14	16	144	7	227
F4	18	92	10	305	8	250	8	60
F5	18	293	13	112	19	159	13	317
G1	15	167	9	193	20	332	16	131
G2	12	175	8	280	12	195	9	256
G3	12	203	19	43	6	229	5	35
G4	19	219	17	250	7	328	4	256
G5	12	79	18	29	5	208	6	28

Appendix C1. Plant Species List with Codes and Presence Data For Apopka Marsh

Species Codes	Plant[b,c] Type	Sample Date[a] N90	A91	J92	M92	A92	F93	A93	M94
ACERUB= *Acer rubrum*	TRP	-/N	-/N	-/N	-/-	-/N	-/-	-/-	P/N
ALTPHI= *Alternanthera philoxeroides*	RH	-/N	P/N	P/N	P/-	P/N	P/N	P/N	P/N
AMAAUS= *Amaranthus australis*	RHA	-/N	P/N	P/N	-/-	P/N	P/N	P/N	P/N
ANDSPP= *Andropogon* spp.	GRA	-/-	-/-	-/N	-/-	-/-	-/N	-/N	-/-
AMBART= *Ambrosia artemissifolia*	RHA	-/-	-/N	-/-	-/-	-/-	-/-	-/-	P/-
AMMCOC= *Ammania coccinea*	RHA	-/-	-/N	P/-	-/-	-/-	-/-	P/-	-/-
APILEP= *Apium leptophyllum*	RHA	-/-	-/-	-/-	-/-	-/-	P/N	-/-	P/N
ASTELL= *Aster elliotii*	RHA	-/N	-/N	-/-	-/-	-/N	-/N	-/N	-/N
ASTSPP= *Aster* spp.	RHA	-/-	-/N	-/N	-/-	-/N	-/-	-/-	-/-
ASTSUB= *Aster subulata*	RHA	-/N	P/N	P/N	-/-	-/-	-/-	-/N	-/-
ASTTEN= *Aster tenuifolia*	RHA	-/-	-/N	-/N	-/-	-/-	-/-	-/-	-/-
AZOCAR= *Azolla caroliniana*	FF	-/-	-/N	P/N	P/-	P/N	P/N	-/-	-/-
BACCAR= *Bacopa caroliniana*	RHP	-/-	P/-	-/-	-/-	-/-	-/-	-/-	-/-
BACHAL= *Baccharis halimifolia*	SHP	-/N	-/N	-/N	-/-	-/N	-/N	-/N	-/N
BIDLAE= *Bidens laevis*	RH	-/-	-/N	-/N	-/-	-/N	-/N	-/N	-/N
BRAPUR= *Brachiara purpurascens*	GR	-/-	-/N	P/N	-/-	-/N	P/-	P/N	-/N
CALAME= *Callicarpa americana*	RHA	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
CARPEN= *Cardamine pensylvanica*	RHA	-/-	-/-	-/-	-/-	-/-	-/-	-/-	P/-
CARSPP= *Carex* spp.	SE	-/N	-/-	-/-	-/-	-/-	-/N	-/-	-/-
CASOBT= *Cassia obtusifolia*	RH	-/-	-/N	-/-	-/-	-/-	-/-	-/N	-/-
CICMEX= *Cicuta mexicana*	RH	-/-	-/-	-/-	-/-	-/-	-/-	-/N	-/-
CYNDAC= *Cynodon dactylon*	GRP	-/N	-/N	-/N	-/-	-/-	-/-	-/-	-/-
COMDIF= *Commelina diffusa*	RH	-/N	P/N	P/N	-/-	-/N	-/-	-/N	-/N
CYPCOM= *Cyperus compressus*	SE	-/N	-/-	-/-	-/-	-/-	-/-	P/-	-/-
CYPESC= *Cyperus esculentus*	SE	-/-	-/N	-/-	-/-	-/-	-/-	-/-	-/-
CYPHAS= *Cyperus haspans*	SE	-/N	-/N	P/N	P/-	-/N	-/-	-/-	-/-
CYPIRI= *Cyperus iria*	SE	-/-	P/N	-/-	-/-	-/-	-/-	P/N	-/-
CYPODO= *Cyperus odoratus*	SE	-/N	-/N	-/N	-/-	P/N	-/-	P/N	-/N
CYPSPP= *Cyperus* spp.	SE	-/N	P/N	P/-	P/-	P/N	P/N	P/N	P/N
CYPSUR= *Cyperus surinamensis*	SE	-/-	-/-	-/-	-/-	P/-	-/-	-/-	-/-
DIGSER= *Digitaria serotina*	GR	-/-	-/N	-/N	-/-	-/-	-/N	-/-	-/-
ECHCOL= *Echinochloa colonum*	GR	-/N	P/N	P/N	-/-	-/-	-/-	P/N	-/-
ECHCRU= *Echinochloa crus-galli*	GR	-/-	-/-	-/-	-/-	-/-	-/-	P/-	P/-
ECHSPP1= *Echinochloa* spp1	GR	-/-	-/-	-/-	-/-	-/-	-/-	P/-	-/-
ECLALB= *Eclipta alba*	RH	-/N	P/N	P/-	P/-	P/N	-/N	P/N	P/N
EICCRA= *Eichhornia crassipes*	FH*	-/-	P/N	P/N	P/-	P/N	P/N	P/N	P/N
ELEIND= *Eleusine indica*	GR	-/N	-/N	-/-	-/-	-/N	-/-	P/-	P/-
ELEINT= *Eleocharis interstincta*	SE	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/-
ELEVIV= *Eleocharis vivipara*	SE	-/-	-/N	-/N	-/-	-/N	-/N	-/N	-/N
ERISPP= *Eriocaulon* spp.	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
EUPCAP= *Eupatorium capillifolium*	RH	-/N	-/N	-/N	-/-	-/N	P/N	P/-	P/N
EUPSER= *Eupatorium serotinum*	RH	-/N	-/N	P/-	-/-	-/-	-/-	-/-	P/-
EUPSPP= *Eupatorium* spp.	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
GALTIN= *Galium tinctorium*	RH	-/N	-/N	P/N	-/-	-/-	P/N	P/N	P/N
GERCAR= *Geranium caroliniana*	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
HYDRAN= Hydrocotyle ranunculoides	RH*	-/-	-/-	-/-	-/-	-/-	-/-	P/N	P/N
HYDSPP= *Hydrocotyle* spp.	RH*	-/N	P/N	P/N	P/-	P/N	P/N	P/-	-/-
HYDUMB= *Hydrocotyle umbellata*	RH*	-/-	-/-	-/-	-/-	-/-	-/-	-/N	P/-
HYGLAC= *Hygrophila lacustris*	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
IPOSPP= *Ipomoea* spp.	VI	-/N	-/N	-/-	-/-	-/-	-/-	-/-	-/-
JUNEFF= *Juncus effusus*	SE*	-/N	P/N	P/N	P/-	P/N	-/-	P/-	-/-
LEMSPP= *Lemna* spp.	FH	-/-	P/N	P/-	P/-	P/N	P/N	P/N	P/N
LEPFAS= *Leptocarpa fascicularis*	GR	-/-	-/-	-/-	-/-	-/-	-/-	P/-	-/-
LIMSPO= *Limnobium spongia*	RH*	-/-	-/N	P/N	P/-	P/N	P/N	-/-	-/-
LUDLEP= *Ludwigia leptocarpa*	SH	-/N	P/N	-/N	-/-	P/N	P/N	P/N	P/N
LUDOCT= *Ludwigia octovalvis*	SH	-/N	P/-	P/N	-/-	-/N	P/N	P/N	P/-
LUDPER= *Ludwigia peruviana*	SH	-/N	-/-	P/N	-/-	-/N	P/N	P/N	P/N
LUDPAL= *Ludwigia palustris*	RH	-/N	P/N	P/N	P/-	P/-	-/-	-/-	-/-
LUDSPP= *Ludwigia* spp.	SH	-/N	-/-	-/-	-/-	-/-	P/-	-/-	-/-
MELCOR= *Melochia corchorifolia*	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
MELPEN= *Melothria pendulosa*	RH	-/-	-/N	-/-	-/-	-/-	-/-	-/-	-/-
MIKSCA= *Mikania scandens*	VI	-/N	-/N	-/N	-/-	P/N	P/N	P/N	P/N
MOMCHA= *Momordica charantia*	VI	-/-	-/-	-/-	-/-	-/-	-/-	-/N	-/-

Appendix C1. Plant Species List with Codes and Presence Data For Apopka Marsh

Species Codes	Plant[b,c] Type	Sample Date[a] N90	A91	J92	M92	A92	F93	A93	M94
PANDIC= *Panicum dichotomiflorum*	GR	-/N	P/N	-/N	-/-	-/-	-/-	P/N	-/-
PANHEM= *Panicum hemitomon* GR	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/-	
PANSPP= *Panicum* spp.	GR	-/N	-/N	-/-	-/-	-/-	-/-	P/-	-/-
PASDIS= *Paspalum dissectum*	GR	-/-	-/-	-/-	-/-	-/-	-/-	P/N	-/N
PASSPP= *Paspalum* spp.	GR	-/-	-/N	-/N	-/-	-/N	-/-	-/-	-/-
PASURV= *Paspalum urvillei*	GR	-/-	-/N	-/N	P/-	-/N	-/N	-/-	-/-
PELVIR= *Peltandra virginicus*	RH	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/-
PHYANG= *Physalis angulata*	RH	-/N	-/N	-/-	-/-	-/-	-/-	-/-	-/-
PLUROS= *Pluchea rosea*	RH	-/-	-/-	-/-	-/-	-/-	-/-	-/N	-/-
POLDEN= *Polygonum densiflorum*	RH	-/-	-/-	-/-	-/-	-/-	-/-	-/N	-/N
POLPUN= *Polygonum punctatum*	RH	-/N	P/N	P/N	P/-	P/N	P/N	P/N	P/N
PONCOR= *Pontederia cordata*	RH	-/N	P/N	P/N	P/-	P/N	P/N	P/N	P/N
POROLE= *Portulaca oleracea*	RH	-/-	-/N	-/-	-/-	-/-	-/-	-/-	-/-
RAPRAP= *Raphanus raphanistrum*	RH	-/-	-/-	P/N	-/-	-/-	-/-	-/-	-/-
ROTRAM= *Rotala ramosior*	RH	-/-	-/-	-/-	-/-	-/-	-/-	P/-	-/-
RUMCRI= *Rumex crispus*	RH	-/-	-/N	-/N	-/-	-/-	-/N	-/-	-/N
SAGLAN= *Sagittaria lancifolia*	RHP	-/N	P/N	P/N	P/-	P/N	P/N	P/N	P/N
SAGLAT= *Sagittaria latifolia*	RH	-/-	-/N	P/N	P/-	P/N	-/N	P/N	P/N
SALCAR= *Salix caroliniana*	TRP	-/N	P/N	P/N	P/-	-/N	-/N	-/N	-/N
SALROT= *Salvinia rotundifolia*	FF	-/-	P/N	P/N	P/-	P/N	P/N	P/N	P/N
SAMCAN= *Sambucus canadensis*	SH	-/N	-/N	-/N	-/-	P/-	-/N	-/-	-/N
SAMPAR= *Samolus parviflorus*	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	P/-
SCICAL= *Scirpus californicus*	SEP	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/-
SCISPP= *Scirpus* spp.		SEP	-/-	-/-	-/-	-/-	P/-	P/-	-/- -/-
SCISPP4= *Scirpus* spp4.	SEP	-/-	-/-	-/-	-/-	-/-	P/-	P/-	-/-
SCIVAL= *Scirpus validus*	SEP	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/-
SESMAC= *Sesbania macrocarpa*	RHA	-/N	-/N	-/-	-/-	-/-	-/-	P/N	P/-
SETMAG= *Setaria magna*	GRA	-/-	-/N	-/-	-/-	-/-	-/-	-/-	-/-
SOLAME= *Solanum americanum*	RHA	-/N	-/N	-/-	P/-	-/-	-/-	-/-	-/N
SOLTOR= *Solidago tortifolia*	RHA	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
SPIPOL= *Spirodella polyrhiza*	FH	-/-	P/N	P/N	P/-	P/N	P/N	P/N	P/-
STAFLO= *Stachys floridana*	RH	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
THAGEN= *Thalia geniculata*	RHP	-/-	P/-	P/-	P/-	P/-	P/-	P/-	P/N
TYPDOM= *Typha domingensis*	SEP	-/-	-/-	-/-	-/-	-/-	-/-	-/N	-/N
TYPLAT= *Typha latifolia*	SEP	-/N	P/N	P/N	P/-	P/N	P/N	P/N	P/N
UTRBIF= *Utricularia biflora*	FH	-/-	-/-	-/-	P/-	P/N	P/-	-/-	-/-
UTRCOR= *Utricularia cornuta*	RH	-/-	-/N	-/-	-/-	-/-	-/-	-/-	-/-
UTRSPP= *Utricularia* spp.	RH	-/-	-/-	-/-	-/-	-/-	-/-	P/-	-/-
WOLFLO= *Wolffiella floridana*	FH	-/-	-/N	-/N	P/-	P/N	P/N	P/N	P/N
WOLSPP= *Wolffia* spp.	FH	-/-	P/N	P/-	-/-	-/N	-/N	P/N	-/-
WOOVIR= *Woodwardia virginiana*	RFP	-/N	P/N	-/N	-/-	-/-	-/-	-/-	-/-
cyperac= Cyperaceae	SE	-/N	-/N	-/N	P/-	-/N	-/-	-/-	-/-
fern= Pteridophyte	RF	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-
poaceae= Poaceae	GR	-/N	P/N	P/N	-/-	P/N	-/-	-/-	-/-
udicot= Unknown Dicot	??	-/N	P/N	-/N	-/-	-/-	-/N	-/N	-/-
uvine= Unknown Vine	VI	-/N	-/-	-/-	-/-	-/-	-/-	-/-	-/-

[a]SAMPLE DATA CODES

CODE	PLANTED (P)	NAT. SUCCESSION N
N90	----------	NOV 1990
A91	SEP 1991	AUG 1991
J92	JAN 1992	JAN 1992
M92	MAY 1992	----------
A92	AUG 1992	AUG 1992
F93	FEB 1993	FEB 1993
A93	AUG 1993	AUG 1993
M94	MAR 1994	MAR 1994
[c]PLANT LIFE TYPE	**A=ANNUAL**	**P=PERENNIAL**

[b]PLANT TYPE CODES

CODE	DESCRIPTION
FF	FLOATING FERN
FH	FLOATING HERB
RF	ROOTED FERN
RH	ROOTED HERB
GR	GRASS
SE	SEDGE, RUSH, TYPHA
SH	SHRUB
ST	SMALL TREE
TR	TREE
VI	VINE

Appendix C2. Overall vegetation cover measurements (% plot^{-1} MEAN ±SE) from planted plots, Experimental Planting Sites, Apopka Marsh Flow-Way Demonstration Project. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
AUGUST 1993	SITE 1													
ALTPHI	0.50	0.29	0.25	0.25	1.00	.	5.00	.	2.00	1.00	2.00	1.00	0.50	0.50
AMAAUS	0.50	0.29	0.25	0.25	1.75	1.11	1.50	1.19	0.25	0.25	4.00	1.00	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	0.50	0.29	0.25	0.25	.	.	.	.
CYPSPP	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
ECLALB	.	.	.	.	0.25	0.25	.	.	.	.	0.50	0.29	.	.
EICCRA	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
ELEINT	91.25	3.75	.	.	.	.	.	.	.	.	.	.	12.50	12.50
EUPCAP	.	.	.	.	.	.	0.25	0.25	0.25	0.25	0.50	0.29	.	.
HYDRAN	.	.	.	.	.	.	2.50	1.44	0.25	0.25	.	.	0.50	0.50
HYDUMB	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
LUDLEP	2.75	2.43	.	.	2.75	2.43	3.75	2.39	1.75	1.11	3.25	2.25	.	.
PANHEM	.	.	2.50	1.44	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	5.00	5.00
POLPUN	0.25	0.25	.	.	.	.	.	.	0.50	0.29	0.50	0.29	.	.
PONCOR	0.25	0.25	0.25	0.25	73.75	24.61	.	.	0.25	0.25	1.50	1.19	10.00	10.00
SAGLAN	1.25	1.25	6.25	3.75	.	.	60.00	7.36	0.50	0.29	0.25	0.25	8.00	7.00
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	0.25	0.25	.	.	0.50	0.50
SCICAL	.	.	.	.	0.25	0.25	.	.	36.25	9.44	.	.	5.00	5.00
SCISPP4	.	.	.	.	.	.	.	.	0.25	0.25	.	.	0.50	0.50
SCIVAL	.	.	.	.	2.50	2.50	.	.	.	.	30.00	14.14	5.00	5.00
SPIPOL	.	.	0.25	0.25	.	.	0.25	0.25	.	.	0.25	0.25	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	25.00	25.00
TYPLAT	4.00	3.67	9.00	5.79	4.00	2.27	5.00	.	0.25	0.25	2.75	2.43	5.00	5.00
AUGUST 1993	SITE 2													
ALTPHI	0.75	0.25	0.25	0.25	.	.	0.50	0.29	0.25	0.25	0.25	0.25	.	.
AMAAUS	0.25	0.25	.	.	.	.	0.50	0.29	.	.	0.25	0.25	.	.
CYPODO	4.25	2.14	0.50	0.29	0.25	0.25	1.75	1.11	.	.	3.00	2.35	0.50	0.50
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
ECLALB	0.50	0.29	.	.	.	.	0.50	0.29	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	50.00	12.25	4.00	2.27	2.75	2.43	.	.	.	.	.	.	7.50	7.50

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	50.00	12.25	4.00	2.27	2.75	2.43	.	.	.	.	.	.	7.50	7.50
EUPCAP	.	.	.	.	0.25	0.25	.	.	.	.	0.25	0.25	.	.
GALTIN	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	4.25	3.59	.	.	2.50	2.50	3.75	2.39	.	.	4.00	2.27	1.00	.
HYDUMB	2.75	2.43	.	.	0.25	0.25	.	.	.	.	0.25	0.25	.	.
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	7.50	7.50
LEMSPP	1.00	.	15.25	6.26	0.75	0.25	10.00	3.54	9.25	6.98	1.75	1.11	3.00	2.00
LEPFAS	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LIMSPO	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
LUDLEP	31.25	6.25	2.00	1.00	10.00	10.00	7.50	1.44	1.25	1.25	21.25	7.18	2.50	2.50
LUDOCT	.	.	.	.	0.25	0.25	.	.	.	.	0.25	0.25	.	.
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	0.75	0.25	.	.	.	.	.	.	.	.	.	.
PANSPP	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
POLPUN	.	.	.	.	.	.	.	.	0.25	0.25	1.25	1.25	.	.
PONCOR	.	.	1.50	1.19	45.00	13.23	.	.	.	.	2.50	2.50	20.00	20.00
SAGLAN	0.25	0.25	0.25	0.25	.	.	60.00	.	1.50	1.19	1.25	1.25	15.00	15.00
SAGMON	.	.	.	.	.	.	.	.	.	.	1.25	1.25	.	.
SALROT	0.50	0.29	35.00	6.45	2.75	2.43	37.50	4.79	22.50	7.50	17.50	10.31	3.00	2.00
SCICAL	.	.	1.50	1.19	1.25	1.25	0.25	0.25	27.50	8.54	.	.	2.50	2.50
SCISPP4	.	.	.	.	.	.	.	.	0.50	0.29	.	.	.	.
SCIVAL	0.25	0.25	0.25	0.25	2.50	2.50	.	.	.	.	20.00	4.56	2.50	2.50
SPIPOL	0.75	0.25	.	.	0.25	0.25	0.50	0.29	.	.	0.50	0.29	1.00	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	20.00	20.00
TYPLAT	8.75	5.15	52.50	6.29	28.75	4.27	18.75	7.18	10.25	4.39	30.00	9.35	45.00	25.00
WOLFLO	.	.	0.50	0.29	.	.	0.50	0.29	0.50	0.29	.	.	0.50	0.50
AUGUST 1993	SITE 3													
ALTPHI	0.50	0.29	4.00	2.27	1.75	1.11	2.75	1.31	1.50	1.19	3.00	1.15	15.50	14.50
AMAAUS	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	0.75	0.25	0.25	0.25	0.25	0.25	.	.	0.50	0.29	.	.
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
CYPCOM	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
CYPIRI	0.25	0.25	0.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.29	.	.
CYPODO	.	.	0.75	0.25	0.25	0.25	.	.	0.25	0.25	0.25	0.25	1.00	.
CYPSPP	0.25	0.25	0.50	0.29	.	.	.	.	0.25	0.25	.	.	.	.
ECHCOL	.	.	0.25	0.26	.	.	.	.	.	.	.	.	0.50	0.50

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	0.25	0.25	0.25	0.25	.	.	0.25	0.25	0.25	0.25	1.25	1.25	0.50	0.50
EICCRA	0.25	0.25	27.50	10.51	0.25	0.25	2.75	1.31	12.50	3.23	11.50	6.44	10.00	10.00
ELEIND	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	83.75	5.91	0.25	0.25	2.75	2.43	1.25	1.25	.	.	0.25	0.25	7.50	7.50
HYDRAN	1.75	1.11	2.50	2.50	1.50	1.19	2.50	1.44	4.25	3.59	8.75	1.25	5.00	.
HYDUMB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	7.50	7.50
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	1.75	1.11	31.25	10.08	15.25	11.80	33.75	10.68	12.75	5.01	27.75	9.22	3.00	2.00
LEPFAS	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	1.25	1.25	1.50	1.19	1.00	.	0.25	0.25	3.00	2.35	2.00	1.00	30.50	29.50
LUDOCT	0.25	0.25	0.50	0.29	0.50	0.29	.	.	.	.	0.25	0.25	5.00	5.00
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDIC	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PANSPP	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
PASDIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	2.50	2.50
POLPUN	0.25	0.25	.	.	1.25	1.25	0.25	0.25	4.00	3.67	0.25	0.25	0.50	0.50
PONCOR	.	.	13.75	8.00	40.00	14.14	2.50	2.50	.	.	6.25	3.75	2.50	2.50
ROTRAM	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAN	0.25	0.25	.	.	0.50	0.29	72.50	4.33	.	.	.	.	10.00	10.00
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	10.25	9.92	.	.	0.50	0.29	10.00	5.77	10.00	5.77	10.00	10.00
SCICAL	.	.	.	.	2.50	1.44	0.25	0.25	63.75	2.39	.	.	7.50	7.50
SCISPP4	.	.	.	.	.	.	.	.	1.25	1.25	11.25	11.25	.	.
SCIVAL	.	.	0.25	0.25	17.75	17.42	0.25	0.25	.	.	40.00	10.80	5.00	5.00
SESMAC	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
SPIPOL	0.50	0.29	3.00	2.35	3.25	2.25	1.00	.	3.00	2.35	0.75	0.25	1.00	.
THAGEN	.	.	1.25	1.25	2.50	1.44	0.25	0.25	.	.	3.75	2.39	20.00	20.00
TYPLAT	11.50	5.38	17.50	6.29	30.00	7.36	13.75	2.39	5.00	3.54	28.75	12.31	12.50	2.50
UTRSPP	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
WOLFLO	.	.	0.75	0.25	0.25	0.25	0.25	0.25	0.50	0.29	0.50	0.29	0.50	0.50
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
MARCH 1994	SITE 1													
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	0.50	0.29	0.75	0.25	0.75	0.25	5.75	4.75	.	.	0.75	0.25	7.50	2.50
AMAAUS	0.25	0.25	0.25	0.25	0.25	0.25	1.25	1.25	.	.	.	.	0.50	0.50

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CARPEN	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
EICCRA	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
ELEINT	51.25	11.61	.	.	.	.	.	.	.	.	.	.	2.50	2.50
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	5.25	1.84	2.75	2.43	0.50	0.29	21.25	11.61	.	.	1.75	1.11	5.00	5.00
LEMSPP	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	0.50	0.29	.	.	.	.	0.50	0.29	.	.	0.25	0.25	1.00	.
LUDPER	.	.	2.50	2.50	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	0.25	0.25	.	.	.	.	22.50	7.50
POLPUN	.	.	0.50	0.29	.	.	.	.	.	.	0.25	0.25	1.00	.
PONCOR	.	.	.	.	56.50	18.95	.	.	1.25	1.25	4.00	2.27	15.00	15.00
SAGLAN	8.75	7.18	6.50	3.62	0.50	0.29	53.75	3.75	0.50	0.29	1.25	1.25	10.50	9.50
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
SAMPAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	0.25	0.25	83.75	5.15	17.50	17.50	5.00	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	52.50	17.85	5.00	.
SPIPOL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	15.00	.
TYPLAT	2.75	2.43	9.00	4.10	4.00	2.27	8.00	5.74	3.00	2.35	3.75	3.75	1.00	.
MARCH 1994		SITE 2												
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
ALTPHI	0.75	0.25	.	.	0.50	0.29	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.50
APILEP	0.25	0.25	0.25	0.25	0.75	0.25	.	.	0.25	0.25	.	.	0.50	0.50
CYPSPP	.	.	0.25	0.25	.	.	.	.	.	.	0.25	0.25	0.50	0.50
ECLALB	.	.	0.25	0.25	0.25	0.25	0.25	0.25	.	.	.	.	0.50	0.50
EICCRA	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
ELEINT	63.75	3.75	3.00	2.35	3.75	3.75	.	.	.	.	0.25	0.25	10.00	.
EUPCAP	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
GALTIN	0.75	0.25	.	.	0.75	0.25	.	.	.	.	0.25	0.25	1.00	.
HYDRAN	6.50	2.99	0.50	0.29	1.50	1.19	1.75	1.11	1.25	1.25	4.00	2.27	3.00	2.00
LEMSPP	.	.	0.50	0.29	0.50	0.29	.	.	0.25	0.25	0.25	0.25	.	.
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	8.00	7.00
POLPUN	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	0.75	0.25	32.50	14.93	.	.	.	.	.	.	5.00	5.00
SAGLAN	0.25	0.25	.	.	.	.	47.50	12.99	0.50	0.29	0.50	0.29	10.00	5.00
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	1.25	1.25	0.25	0.25	1.00	.	1.00	.	0.50	0.29	2.50	2.50
SCICAL	.	.	1.50	1.19	1.25	1.25	1.75	1.11	60.00	7.07	2.50	2.50	0.50	0.50
SCIVAL	0.25	0.25	0.75	0.25	.	.	0.25	0.25	.	.	17.50	14.22	3.00	2.00
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	5.00	.
TYPLAT	10.25	4.39	76.25	5.91	38.75	13.75	36.25	12.14	18.75	5.15	47.50	10.31	35.00	30.00
MARCH 1994		SITE 3												
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	0.25	0.25	6.50	3.62	0.75	0.25	1.50	1.19	1.00	.	0.75	0.25	0.50	0.50
AMAAUS	.	.	0.50	0.29	.	.	.	.	.	.	.	.	.	.
AMBART	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.50	0.50
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
EICCRA	.	.	14.00	6.72	.	.	2.75	2.43	9.00	3.56	5.25	2.75	.	.
ELEINT	51.25	8.26	.	.	2.75	2.43	1.25	1.25	.	.	.	.	17.50	2.50
EUPCAP	.	.	0.25	0.25	0.50	0.29	.	.	.	.	.	.	.	.
GALTIN	0.50	0.29	.	.	3.00	2.35	.	.	.	.	.	.	0.50	0.50
HYDRAN	37.50	4.33	17.50	1.44	1.50	1.19	26.25	7.47	11.25	3.15	10.00	3.54	1.00	.
HYDUMB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
LEMSPP	1.75	1.11	0.50	0.29	0.25	0.25	0.25	0.25	0.25	0.25	.	.	.	.
LUDLEP	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	12.50	2.50
POLPUN	.	.	.	.	.	.	0.25	0.25	0.25	0.25	.	.	.	.
PONCOR	.	.	11.50	4.05	42.50	14.36	1.25	1.25	0.25	0.25	2.50	2.50	7.50	2.50
SAGLAN	0.25	0.25	0.25	0.25	.	.	76.25	5.15	0.25	0.25	.	.	5.00	.
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	0.50	0.29	0.25	0.25	13.25	12.25	2.50	1.19	1.75	1.11	0.50	0.50
SCICAL	.	.	.	.	5.00	2.89	1.25	1.25	67.50	5.95	5.25	4.92	7.50	7.50
SCIVAL	.	.	0.50	0.29	0.25	0.25	0.25	0.25	.	.	27.75	14.92	0.50	0.50
SPIPOL	.	.	0.25	0.25	0.25	0.25	0.25	0.25	.	.	.	.	.	.
THAGEN	.	.	1.25	1.25	0.25	0.25	.	.	.	.	1.50	1.19	17.50	7.50

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
TYPLAT	8.00	4.04	13.75	5.15	13.75	5.54	8.75	3.75	0.75	0.25	23.75	13.75	15.00	15.00
WOLFLO	.	.	.	.	.	.	.	.	0.25	0.25	0.25	0.25	.	.
March 1995	Site 1: Planted													
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	3.75	2.39	0.75	0.25	9.00	7.08	3.00	1.15	1.50	1.19	9.00	7.08	1.00	.
AMAAUS	0.25	0.25	.	.	0.50	0.29	.	.	.	.	.	.	.	.
AMAAUSdead	0.25	0.25	.	.	0.25	0.25	0.50	0.29	.	.	0.25	0.25	.	.
APILEP	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	0.25	0.25	0.50	0.29	.	.	0.25	0.25	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRAdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	7.50	1.44	.	.	.	.	.	.	.	.	.	.	5.00	.
ELEINTdead	33.75	12.14	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	0.25	0.25	0.25	0.25	.	.	.	.	0.25	0.25	.	.
GALTIN	.	.	.	.	.	.	0.25	0.25	.	.	0.25	0.25	.	.
HYDRAN	41.25	11.25	20.00	10.21	1.75	1.11	20.00	10.00	15.00	6.12	36.25	11.06	5.00	.
HYDUMB	0.25	0.25	0.25	0.25	1.25	1.25	.	.	.	.	.	.	.	.
LEMSPP	0.50	0.29	0.50	0.29	0.75	0.25	2.75	1.31	0.75	0.25	3.00	1.15	5.00	.
LUDLEPdead	10.00	3.54	5.00	2.04	1.00	.	20.00	10.00	1.75	1.11	18.75	2.39	1.00	.
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPAL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
LUDPERdead	.	.	6.25	3.75	.	.	2.50	2.50	.	.	.	.	.	.
MIKSCA	.	.	0.25	0.25	.	.	0.25	0.25	.	.	0.25	0.25	.	.
PANDICdead	.	.	2.50	2.50	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	1.50	1.19	.	.	.	.	.	.	.	.	.	.
PANHEMdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	0.25	0.25	.	.	.	.	.	.	15.00	.
POLPUN	1.75	1.11	3.00	1.15	3.00	1.15	6.50	2.18	3.25	2.25	18.75	7.74	1.00	.
POLPUNdead	3.00	2.35	1.50	1.19	1.25	1.25	.	.	1.50	1.19	5.00	3.54	1.00	.
PONCOR	.	.	0.50	0.29	37.50	8.54	1.25	1.25	1.25	1.25	4.00	3.67	20.00	.
PONCORdead	.	.	0.25	0.25	37.50	6.29	.	.	.	.	2.50	2.50	20.00	.
SAGLAN	3.75	3.75	6.25	2.39	0.75	0.25	40.00	10.61	0.50	0.29	3.75	3.75	10.00	.
SAGLANdead	2.50	2.50	7.50	3.23	0.25	0.25	21.25	5.15	0.50	0.29	1.25	1.25	5.00	.
SAGMON	0.25	0.25	1.50	1.19	1.50	1.19	1.50	1.19	0.25	0.25	0.25	0.25	.	.
SALCAR	.	.	0.75	0.25	.	.	.	.	0.25	0.25	.	.	.	.

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
SALCARdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	0.25	0.25	.	.	0.25	0.25	.	.	1.00	.
SCICAL	0.25	0.25	0.25	0.25	.	.	1.50	1.19	36.25	5.54	.	.	10.00	.
SCICALdead	.	.	.	.	.	.	.	.	26.25	2.39	.	.	.	.
SCIVAL	.	.	0.25	0.25	.	.	.	.	.	.	12.50	5.95	5.00	.
SPIPOL	0.50	0.29	.	.	0.25	0.25	.	.	.	.	3.00	2.68	1.00	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	5.00	.
THAGENdead	.	.	.	.	.	.	.	.	.	.	.	.	25.00	.
TYPLAT	10.25	6.65	38.75	9.66	9.00	5.42	2.75	2.43	1.50	1.19	10.00	2.04	5.00	.
TYPLATdead	6.50	4.63	13.75	2.39	6.50	4.63	1.50	1.19	0.25	0.25	10.25	3.88	1.00	.
TYPSPPseed	.	.	0.25	0.25	.	.	0.25	0.25	.	.	.	.	.	.
WOLFLO	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
SCIVALdead	.	.	.	.	.	.	.	.	.	.	2.50	2.50	.	.
CYPODOdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BURNED	.	.	.	.	.	.	.	.	.	.	.	.	.	.
March 1995	Site 2: Planted													
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	2.50	1.44	0.25	0.25	0.25	0.25	0.25	0.25	.	.	.	.	.	.
AMAAUS	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
APILEP	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRAdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	11.25	3.75	2.50	2.50	2.50	1.44	.	.	.	.	0.25	0.25	7.50	2.50
ELEINTdead	36.25	13.75	8.75	8.75	2.50	1.44	.	.	.	.	0.25	0.25	8.00	7.00
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
GALTIN	3.00	2.35	.	.	0.75	0.25	.	.	.	.	.	.	0.50	0.50
HYDRAN	41.25	9.66	29.00	16.49	14.25	11.95	45.00	11.73	26.25	5.54	25.00	10.61	35.00	15.00
HYDUMB	7.75	4.66	12.50	12.50	0.25	0.25	.	.	10.00	10.00	1.25	1.25	.	.
LEMSPP	5.00	2.04	21.25	7.18	7.75	2.43	45.00	4.56	16.25	6.88	12.50	6.29	10.00	.
LUDLEPdead	3.25	2.25	1.50	1.19	1.75	1.11	1.75	1.11	1.25	1.25	1.00	.	1.00	.

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
LUDPAL	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.50	0.50
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPERdead	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDICdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PANHEMdead	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	10.00	5.00
POLPUN	.	.	.	.	1.25	1.25	1.50	1.19	0.25	0.25	0.25	0.25	0.50	0.50
POLPUNdead	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
PONCOR	0.25	0.25	1.25	1.25	61.25	4.27	1.25	1.25	.	.	.	.	17.50	2.50
PONCORdead	.	.	.	.	12.75	5.78	0.25	0.25	.	.	.	.	17.50	17.50
SAGLAN	1.25	1.25	0.25	0.25	0.25	0.25	40.00	4.08	0.50	0.29	0.25	0.25	12.50	12.50
SAGLANdead	.	.	.	.	.	.	6.25	1.25	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCARdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	2.75	2.43	.	.	0.50	0.29	14.00	6.72	2.50	2.50	.	.
SCICAL	.	.	7.50	3.23	1.25	1.25	3.75	1.25	51.25	4.73	.	.	3.00	2.00
SCICALdead	.	.	4.00	2.27	0.25	0.25	0.25	0.25	17.50	5.95	.	.	.	.
SCIVAL	1.50	1.19	0.25	0.25	0.25	0.25	0.25	0.25	.	.	12.50	4.79	5.00	.
SPIPOL	3.00	1.15	0.50	0.29	2.00	1.00	0.50	0.29	0.25	0.25	0.75	0.25	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	12.50	2.50
THAGENdead	.	.	.	.	.	.	.	.	.	.	.	.	30.00	.
TYPLAT	12.50	1.44	53.75	5.54	26.25	4.73	23.75	8.26	10.25	3.88	51.25	9.66	7.50	2.50
TYPLATdead	6.50	2.18	22.50	4.33	11.25	3.15	6.50	2.18	6.50	2.18	17.50	3.23	5.50	4.50
TYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLFLO	.	.	1.50	1.19	0.25	0.25	2.50	1.44	1.75	1.11	0.25	0.25	.	.
SCIVALdead	.	.	.	.	0.25	0.25	.	.	.	.	0.50	0.29	.	.
CYPODOdead	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
BURNED	.	.	.	.	.	.	.	.	0.25	0.25	0.50	0.29	.	.
March 1995	Site 3: Planted													
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
ALTPHI	0.25	0.25	0.25	0.25	.	.	1.25	1.25	.	.	.	.	.	.
AMAAUS	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	2.75	2.43	.	.	2.75	2.43	.	.	.	.	0.50	0.50
EICCRAdead	.	.	1.25	1.25	.	.	.	.	.	.	.	.	.	.
ELEINT	7.75	3.04	0.50	0.29	1.50	1.19	.	.	.	.	.	.	5.00	.
ELEINTdead	12.50	4.33	0.50	0.29	4.00	3.67	.	.	.	.	.	.	7.50	7.50
EUPCAP	0.25	0.25	.	.	0.25	0.25	.	.	.	.	.	.	.	.
GALTIN	0.50	0.29	.	.	0.25	0.25	.	.	0.25	0.25	0.25	0.25	.	.
HYDRAN	76.25	4.73	73.75	5.54	27.50	10.51	55.00	2.89	52.50	11.81	76.25	5.15	37.50	12.50
HYDUMB	.	.	.	.	.	.	1.25	1.25	.	.	.	.	.	.
LEMSPP	2.00	1.00	1.75	1.11	3.25	2.25	4.00	2.27	4.25	2.14	2.00	1.00	1.00	.
LUDLEPdead	1.50	1.19	6.25	1.25	1.75	1.11	4.00	2.27	3.00	1.15	8.75	2.39	1.00	.
LUDOCTdead	.	.	.	.	0.25	0.25	.	.	0.25	0.25	.	.	.	.
LUDPAL	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPERdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDICdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANHEMdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	0.25	0.25	.	.	.	.	.	.	10.00	.
POLPUN	0.25	0.25	.	.	.	.	0.50	0.29	.	.	.	.	0.50	0.50
POLPUNdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	5.25	2.75	40.00	11.55	2.50	2.50	0.25	0.25	5.00	2.04	10.00	.
PONCORdead	.	.	4.00	2.27	28.75	6.25	1.25	1.25	.	.	3.75	1.25	5.00	.
SAGLAN	0.50	0.29	1.25	1.25	0.50	0.29	45.00	6.45	0.25	0.25	0.75	0.25	7.50	2.50
SAGLANdead	.	.	0.25	0.25	.	.	21.25	5.15	0.25	0.25	0.25	0.25	3.00	2.00
SAGMON	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCARdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	0.75	0.25	0.25	0.25	5.25	1.84	2.75	1.31	0.25	0.25	0.50	0.50
SCICAL	.	.	.	.	2.50	1.44	1.25	1.25	29.00	16.74	3.75	3.75	8.00	7.00
SCICALdead	.	.	.	.	2.50	1.44	0.25	0.25	12.75	7.36	2.50	2.50	2.50	2.50
SCIVAL	.	.	0.25	0.25	.	.	.	.	2.50	2.50	3.00	2.35	0.50	0.50
SPIPOL	0.25	0.25	0.75	0.25	0.75	0.25	0.25	0.25	.	.	0.25	0.25	0.50	0.50

Appendix C2. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
THAGEN	.	.	0.25	0.25	0.25	0.25	.	.	.	.	1.25	1.25	17.50	12.50
THAGENdead	.	.	1.25	1.25	1.25	1.25	.	.	.	.	2.50	1.44	52.50	22.50
TYPLAT	11.25	3.15	5.25	1.84	4.25	2.14	3.75	2.39	1.50	1.19	2.00	1.00	0.50	0.50
TYPLATdead	6.50	2.18	6.50	2.99	3.00	1.15	2.75	2.43	0.50	0.29	1.00	.	0.50	0.50
TYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLFLO	0.25	0.25	1.25	1.25	0.25	0.25	0.25	0.25	0.75	0.25	0.25	0.25	.	.
SCIVALdead	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
CYPODOdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BURNED	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C3. Overall vegetation cover measurements (% plot^{-1} MEAN ±SE) from seeded, mulched, and control plots, experimental planting area plots, Apopka Marsh Flow-Way Demonstration Project. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Site 1 August 1993														
					0.5	0.5								
ACERUB														
ALTPHI			0.5	0.5	0.5	0.5	3.0	2.0	0.5	0.5	0.5	0.3	0.5	0.4
AMAAUS	0.5	0.5							0.5	0.5				
APILEP													0.1	0.1
EICCRA									0.5	0.5				
ELEINT													0.1	0.1
GALTIN	0.5	0.5											0.1	0.1
HYDRAN	10.0	10.0	0.5	0.5	1.0	0.0	3.0	2.0	1.0	0.0	1.8	1.1	0.9	0.8
LUDLEP			0.5	0.5	0.5	0.5	0.5	0.5						
POLPUN	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			0.3	0.3	0.1	0.1
PONCOR			0.5	0.5	32.5	27.5			0.5	0.5	1.3	1.3	1.3	0.9
SAGLAN	10.0	10.0	5.0	5.0	0.5	0.5	20.5	19.5	3.0	2.0	11.3	9.7	1.4	0.9
SAGMON							15.0	15.0						
SAMPAR	0.5	0.5												
SCICAL							0.5	0.5	10.5	9.5				
SCIVAL													0.1	0.1
SPIPOL	0.5	0.5												
TYPLAT	20.0	20.0	30.0	30.0	8.0	7.0	50.0	25.0	20.0	20.0	30.0	12.9	2.3	1.1
PONCOR dead					12.5	7.5							0.8	0.8
SAGLAN dead													0.1	0.1
TYPLAT dead	10.0	10.0	10.0	10.0	5.5	4.5	10.0	0.0	10.0	10.0	15.0	6.5	1.8	1.7
Typha spp seedling	0.5	0.5					0.5	0.5			0.3	0.3		
Unknown dicot seedling	0.5	0.5					0.5	0.5					0.1	0.1

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
													0.1	0.1
ACERUB														
ALTPHI			0.5	0.5	0.5	0.5	0.5	0.5			0.3	0.3	0.8	0.4
APILEP									0.5	0.5			0.1	0.1
Cyperus spp.													0.8	0.8
ECLALB	0.5	0.5			0.5	0.5								
EICCRA													0.1	0.1
ELEINT													1.0	0.8
EUPCAP									0.5	0.5			0.1	0.1
GALTIN									0.5	0.5			0.1	0.1
HYDRAN	0.5	0.5	1.0	0.0	0.5	0.5			1.0	0.0	1.5	1.2	2.8	1.3
Lemna spp.							0.5	0.5	0.5	0.5			0.8	0.4
LUDOCT													0.1	0.1
LUDPER													0.2	0.1
PONCOR					25.0	25.0			25.0	25.0			0.3	0.1
SAGLAN							2.5	2.5			0.3	0.3	0.6	0.4
SAGMON					0.5	0.5	3.0	2.0					0.3	0.1
SALROT	0.5	0.5	1.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.8	0.1
SCICAL									0.5	0.5				
SCIVAL					2.5	2.5							0.2	0.1
THAGEN													0.6	0.4
TYPLAT	77.5	7.5	62.5	2.5	55.0	5.0	72.5	2.5	60.0	20.0	67.5	10.1	52.5	8.6
PONCOR dead					5.0	5.0							0.1	0.1
TYPLAT dead	17.5	2.5	22.5	7.5	20.0	5.0	20.0	0.0	12.5	2.5	17.5	1.4	11.7	2.1
Typha spp seedling	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.0	1.0	0.0	0.5	0.3	3.1	2.5
Unknown dicot seedling			0.5	0.5							0.3	0.3	0.1	0.1
Unknown grass seedling	0.5	0.5												

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Site 3 August 1993														
													0.1	0.1
ACERUB														
ALTPHI	25.0	25.0	25.0	25.0	8.0	7.0	40.0	40.0	17.5	12.5	19.0	11.8	2.6	1.1
AMAAUS													0.1	0.1
Cyperus spp.	0.5	0.5					0.5	0.5					0.2	0.1
ECHCRU													0.2	0.1
EICCRA	15.5	14.5	1.0	0.0	15.0	5.0	3.0	2.0	15.0	15.0	1.8	1.1	5.6	1.6
ELEINT			2.5	2.5			0.5	0.5						
EUPCAP													0.2	0.1
GALTIN													0.3	0.1
HYDRAN	25.5	24.5			10.0	5.0	8.0	7.0	25.0	15.0	4.0	2.3	9.0	2.1
HYDUMB	15.0	15.0	15.0	15.0			5.0	5.0	7.5	7.5	8.8	7.2	0.8	0.8
Lemna spp.	2.5	2.5					0.5	0.5			0.3	0.3	0.3	0.1
LUDLEP									2.5	2.5	0.3	0.3	0.3	0.1
MIKSCA					0.5	0.5							2.1	2.1
POLPUN	0.5	0.5	0.5	0.5			5.0	5.0	2.5	2.5	0.3	0.3	3.9	2.0
PONCOR	0.5	0.5	0.5	0.5	52.5	12.5	1.0	0.0	5.0	0.0	25.0	8.7	7.3	2.3
SAGLAN			0.5	0.5			15.0	15.0			1.3	1.3		
SAGMON			0.5	0.5			0.5	0.5			0.3	0.3		
SALROT							0.5	0.5			0.3	0.3	0.4	0.4
SCIVAL	0.5	0.5												
SPIPOL	0.5	0.5							2.5	2.5			0.5	0.2
THAGEN	7.5	7.5					0.5	0.5	5.0	5.0	0.3	0.3	5.0	2.2
TYPLAT	12.5	7.5	37.5	27.5	12.5	7.5	15.5	14.5	15.0	5.0	38.8	6.6	14.8	6.7
WOLFLO													0.1	0.1
EICCRA dead	10.0	10.0			10.0	10.0			5.0	5.0			0.1	0.1
LUDLEP dead							1.3	1.3	2.5	2.5				

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Ludwigia spp. dead			2.5	2.5										
PONCOR dead					5.0	5.0							0.2	0.1
THAGEN dead	2.5	2.5					0.5	0.5	5.0	5.0			2.7	2.5
TYPLAT dead	10.0	0.0	3.0	2.0	5.0	5.0	2.5	2.5	5.0	5.0	12.5	5.2	6.3	2.7
HYDRAN seedling			0.5	0.5										
POLPUN seedling			0.5	0.5										
Typha spp seedling			0.5	0.5							0.5	0.3	0.3	0.1
Unknown dicot seedling	1.0	0.0	0.5	0.5			1.0	0.0	1.0	0.0	1.0	0.0	2.3	1.6
Unknown grass seedling													0.2	0.1
March 1994, Site 1														
ACERUB	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.
ALTPHI	.	.	0.5	0.5	0.5	0.5	3.0	2.0	0.5	0.5	0.5	0.3	0.5	0.4
AMAAUS	0.5	0.5	.	.	.	.	.	.	0.5	0.5	.	.	.	.
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
GALTIN	0.5	0.5	.	.	.	.	.	.	.	.	.	.	0.1	0.1
HYDRAN	10.0	10.0	0.5	0.5	1.0	0.0	3.0	2.0	1.0	0.0	1.8	1.1	0.9	0.8
LUDLEP	.	.	0.5	0.5	0.5	0.5	0.5	0.5	.	.	.	.	.	.
POLPUN	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	.	.	0.3	0.3	0.1	0.1
PONCOR	.	.	0.5	0.5	32.5	27.5	.	.	0.5	0.5	1.3	1.3	1.3	0.9
SAGLAN	10.0	10.0	5.0	5.0	0.5	0.5	20.5	19.5	3.0	2.0	11.3	9.7	1.4	0.9
SAGMON	.	.	.	.	.	.	15.0	15.0	.	.	.	.	.	.
SAMPAR	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	0.5	0.5	10.5	9.5	.	.	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
SPIPOL	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	20.0	20.0	30.0	30.0	8.0	7.0	50.0	25.0	20.0	20.0	30.0	12.9	2.3	1.1
PONCOR dead	.	.	.	.	12.5	7.5	.	.	.	.	.	.	0.8	0.8

Species Codes	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SAGLAN dead	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
TYPLAT dead	10.0	10.0	10.0	10.0	5.5	4.5	10.0	0.0	10.0	10.0	15.0	6.5	1.8	1.7
Typha spp seedling	0.5	0.5	.	.	.	.	0.5	0.5	.	.	0.3	0.3	.	.
Unknown dicot seedling	0.5	0.5	.	.	.	.	0.5	0.5	.	.	.	.	0.1	0.1
March 1994, Site 2														
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ALTPHI	.	.	0.5	0.5	0.5	0.5	0.5	0.5	.	.	0.3	0.3	0.8	0.4
APILEP	.	.	.	.	.	.	.	.	0.5	0.5	.	.	0.1	0.1
Cyperus spp.	.	.	.	.	.	.	.	.	.	.	.	.	0.8	0.8
ECLALB	0.5	0.5	.	.	0.5	0.5	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	1.0	0.8
EUPCAP	.	.	.	.	.	.	.	.	0.5	0.5	.	.	0.1	0.1
GALTIN	.	.	.	.	.	.	.	.	0.5	0.5	.	.	0.1	0.1
HYDRAN	0.5	0.5	1.0	0.0	0.5	0.5	.	.	1.0	0.0	1.5	1.2	2.8	1.3
Lemna spp.	.	.	.	.	.	.	0.5	0.5	0.5	0.5	.	.	0.8	0.4
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
PONCOR	.	.	.	.	25.0	25.0	.	.	25.0	25.0	.	.	0.3	0.1
SAGLAN	.	.	.	.	.	.	2.5	2.5	.	.	0.3	0.3	0.6	0.4
SAGMON	.	.	.	.	0.5	0.5	3.0	2.0	.	.	.	.	0.3	0.1
SALROT	0.5	0.5	1.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.8	0.1
SCICAL	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.
SCIVAL	.	.	.	.	2.5	2.5	.	.	.	.	.	.	0.2	0.1
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	0.6	0.4
TYPLAT	77.5	7.5	62.5	2.5	55.0	5.0	72.5	2.5	60.0	20.0	67.5	10.1	52.5	8.6
PONCORdead	.	.	.	.	5.0	5.0	.	.	.	.	.	.	0.1	0.1
TYPLATdead	17.5	2.5	22.5	7.5	20.0	5.0	20.0	0.0	12.5	2.5	17.5	1.4	11.7	2.1
TYPSPPseed	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.0	1.0	0.0	0.5	0.3	3.1	2.5
Udicot seed	.	.	0.5	0.5	.	.	.	.	.	.	0.3	0.3	0.1	0.1
Ugrassseed	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
March 1994, Site 3														
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ALTPHI	25.0	25.0	25.0	25.0	8.0	7.0	40.0	40.0	17.5	12.5	19.0	11.8	2.6	1.1
AMAAUS	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
Cyperus spp.	0.5	0.5	.	.	.	.	0.5	0.5	.	.	.	.	0.2	0.1
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
EICCRA	15.5	14.5	1.0	0.0	15.0	5.0	3.0	2.0	15.0	15.0	1.8	1.1	5.6	1.6
ELEINT	.	.	2.5	2.5	.	.	0.5	0.5	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.1
HYDRAN	25.5	24.5	.	.	10.0	5.0	8.0	7.0	25.0	15.0	4.0	2.3	9.0	2.1
HYDUMB	15.0	15.0	15.0	15.0	.	.	5.0	5.0	7.5	7.5	8.8	7.2	0.8	0.8
Lemna spp.	2.5	2.5	.	.	.	.	0.5	0.5	.	.	0.3	0.3	0.3	0.1
LUDLEP	.	.	.	.	.	.	.	.	2.5	2.5	0.3	0.3	0.3	0.1
MIKSCA	.	.	.	.	0.5	0.5	.	.	.	.	.	.	2.1	2.1
POLPUN	0.5	0.5	0.5	0.5	.	.	5.0	5.0	2.5	2.5	0.3	0.3	3.9	2.0
PONCOR	0.5	0.5	0.5	0.5	52.5	12.5	1.0	0.0	5.0	0.0	25.0	8.7	7.3	2.3
SAGLAN	.	.	0.5	0.5	.	.	15.0	15.0	.	.	1.3	1.3	.	.
SAGMON	.	.	0.5	0.5	.	.	0.5	0.5	.	.	0.3	0.3	.	.
SALROT	.	.	.	.	.	.	0.5	0.5	.	.	0.3	0.3	0.4	0.4
SCIVAL	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
SPIPOL	0.5	0.5	.	.	.	.	.	.	2.5	2.5	.	.	0.5	0.2
THAGEN	7.5	7.5	.	.	.	.	0.5	0.5	5.0	5.0	0.3	0.3	5.0	2.2
TYPLAT	12.5	7.5	37.5	27.5	12.5	7.5	15.5	14.5	15.0	5.0	38.8	6.6	14.8	6.7
WOLFLO	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA dead	10.0	10.0	.	.	10.0	10.0	.	.	5.0	5.0	.	.	0.1	0.1
LUDLEP dead	.	.	.	.	.	.	1.3	1.3	2.5	2.5	.	.	.	.
Ludwigia spp. dead	.	.	2.5	2.5	.	.	.	.	.	.	.	.	.	.
PONCOR dead	.	.	.	.	5.0	5.0	.	.	.	.	.	.	0.2	0.1
THAGEN dead	2.5	2.5	.	.	.	.	0.5	0.5	5.0	5.0	.	.	2.7	2.5
TYPLAT dead	10.0	0.0	3.0	2.0	5.0	5.0	2.5	2.5	5.0	5.0	12.5	5.2	6.3	2.7
HYDRAN seedling	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.

Species Codes	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
POLPUN seedling	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
Typha spp seedling	.	.	0.5	0.5	.	.	.	.	.	.	0.5	0.3	0.3	0.1
Unknown dicot seedling	1.0	0.0	0.5	0.5	.	.	1.0	0.0	1.0	0.0	1.0	0.0	2.3	1.6
Unknown grass seedling	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
March 1995, Site 1														
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ALTPHI	.	.	.	.	1.0	.	1.0	.	10.0	.	.	.	0.1	0.1
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
APILEP 1.0 . .	.	.	.	.	.	.	.	.	.	.	.			
CYPODO	.	.	1.0	.	.	.	.	.	.	.	0.3	0.3	0.3	0.1
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.
EUPSER	.	.	.	.	.	.	.	.	1.0	.	.	.	.	.
GALTIN	1.0	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	50.0	.	50.0	.	40.0	.	5.0	.	60.0	.	53.3	2.9	0.6	0.4
LEMSPP	5.0	.	.	.	.	.	5.0	.	1.0	.	.	.	0.2	0.1
LUDLEPdead	5.0	.	1.0	.	1.0	.	.	.	10.0	.	5.3	2.3	3.3	1.7
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
LUDPERdead	.	.	.	.	.	.	.	.	.	.	.	.	1.8	1.0
PANDICdead	.	.	.	.	.	.	.	.	.	.	1.7	1.4	1.4	0.7
POLPUN	5.0	.	1.0	.	5.0	.	1.0	.	1.0	.	3.7	1.2	1.1	0.6
POLPUNdead	.	.	.	.	.	.	5.0	.	.	.	.	.	0.1	0.1
PONCOR	.	.	1.0	.	15.0	.	.	.	1.0	.	0.3	0.3	1.8	1.0
PONCORdead	.	.	.	.	5.0	.	.	.	.	.	.	.	1.0	0.6
SAGLAN	20.0	.	1.0	.	1.0	.	25.0	.	5.0	.	7.0	3.6	0.2	0.1
SAGLANdead	20.0	.	.	.	.	.	10.0	.	5.0	.	2.0	1.3	0.1	0.1
SAGMON	10.0	.	.	.	.	.	25.0	.	5.0	.	1.7	1.4	0.4	0.1
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	0.4	0.1
SCICAL	.	.	.	.	.	.	1.0	.	20.0	.	.	.	0.6	0.4
SCICALdead	.	.	.	.	.	.	.	.	5.0	.	.	.	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
TYPLAT	20.0	.	75.0	.	50.0	.	5.0	.	20.0	.	43.3	17.7	19.1	7.0
TYPLATdead	10.0	.	10.0	.	20.0	.	1.0	.	1.0	.	13.7	7.4	6.4	2.4
TYPSPPseed	.	.	.	.	.	.	1.0	.	.	.	.	.	.	.
ECHCRUseed	.	.	1.0	.	.	.	1.0	.	.	.	.	.	.	.
POLPUNseed	.	.	5.0	.	.	.	5.0	.	.	.	.	.	.	.
March 1995, Site 2														
ALTPHI	.	.	.	.	0.5	0.5	0.5	0.5	.	.	.	.	1.4	1.2
APILEP	0.5	0.5	0.5	0.5	0.5	0.5	1.0	.	.	.	.	.	0.1	0.1
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
CYPSPP	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	0.9	0.6
ELEINTdead	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.4
HYDRAN	27.5	22.5	20.0	15.0	12.5	2.5	15.0	10.0	30.5	29.5	27.5	9.7	23.2	6.5
LEMSPP	7.5	2.5	3.0	2.0	20.0	5.0	27.5	22.5	7.5	2.5	25.0	6.1	14.8	5.0
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	0.4	0.4
LUDLEPdead	0.5	0.5	1.0	.	1.0	.	0.5	0.5	1.0	.	0.3	0.3	1.8	1.1
LUDOCTdead	0.5	0.5	1.0	.	1.0	.	0.5	0.5	0.5	0.5	0.5	0.3	0.1	0.1
LUDPAL	.	.	.	.	.	.	1.0	.	.	.	.	.	0.1	0.1
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
LUDPERdead	.	.	.	.	.	.	0.5	0.5	.	.	.	.	1.3	0.7
PANDICdead	.	.	.	.	.	.	.	.	.	.	1.3	1.3	0.2	0.1
POLPUN	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	7.5	7.5	.	.	2.5	2.5	.	.	.	.
PONCORdead	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.
SAGLAN	.	.	.	.	0.5	0.5	3.0	2.0	.	.	.	.	0.3	0.1
SAGMON	2.5	2.5	.	.	2.5	2.5	3.0	2.0	.	.	.	.	1.3	0.7
SALROT	.	.	0.5	0.5	.	.	.	.	.	.	.	.	0.2	0.1
SCICAL	.	.	.	.	.	.	2.5	2.5	0.5	0.5	.	.	0.1	0.1
SCIVAL	.	.	.	.	0.5	0.5	.	.	1.0	.	.	.	0.4	0.4
SPIPOL	.	.	.	.	3.0	2.0	0.5	0.5	.	.	1.0	.	0.3	0.1
THAGEN	.	.	.	.	.	.	0.5	0.5	.	.	0.3	0.3	0.5	0.4

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
THAGENdead	.	.	.	.	.	.	0.5	0.5	.	.	0.3	0.3	0.5	0.4
TYPLAT	50.0	10.0	65.0	10.0	55.0	5.0	52.5	12.5	55.0	5.0	65.0	2.9	63.8	5.1
TYPLATdead	25.0	5.0	27.5	7.5	17.5	2.5	25.0	.	35.0	5.0	21.3	3.1	14.2	2.7
TYPSPPseed	0.5	0.5	0.5	0.5	.	.	0.5	0.5	.	.	.	.	0.2	0.1
WOLFLO	.	.	.	.	.	.	1.0	.	.	.	.	.	0.8	0.4
BURNED	0.5	0.5	0.5	0.5	.	.	.	.	1.0	.	0.5	0.3	0.6	0.1
CYPODOdead	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
CYPSPPseed	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
March 1995, Site 3														
ALTPHI	5.0	5.0	.	.	12.5	2.5	15.0	15.0	15.0	10.0	12.5	12.5	0.9	0.4
AMAAUS	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
CYPODO	.	.	0.5	0.5	.	.	0.5	0.5	.	.	0.3	0.3	0.1	0.1
CYPSPP	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	2.5	2.5	2.5	2.5	12.5	12.5	5.0	5.0	1.5	1.2	5.9	1.3
EICCRAdead	.	.	.	.	.	.	7.5	7.5	0.5	0.5	.	.	7.1	2.6
ELEINT	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.
GALTIN	.	.	0.5	0.5	0.5	0.5	0.5	0.5	1.0	.	0.3	0.3	0.2	0.1
HYDRAN	65.0	20.0	60.0	10.0	32.5	17.5	35.0	15.0	57.5	7.5	48.8	8.3	66.7	6.3
HYDUMB	.	.	7.5	7.5	.	.	5.0	5.0	7.5	7.5	11.3	6.6	.	.
LEMSPP	3.0	2.0	7.5	2.5	7.5	2.5	0.5	0.5	5.5	4.5	15.0	8.7	7.0	1.8
LUDLEP	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
LUDLEPdead	5.5	4.5	7.5	2.5	0.5	0.5	10.0	5.0	12.5	2.5	3.3	2.3	4.8	1.8
LUDOCTdead	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	0.5	0.5	.	.	.	.	.	.	0.1	0.1
POLPUN	.	.	2.5	2.5	1.0	.	0.5	0.5	0.5	0.5	1.5	1.2	0.3	0.1
POLPUNdead	.	.	.	.	.	.	0.5	0.5	.	.	.	.	0.9	0.8
PONCOR	15.0	10.0	5.0	.	35.0	5.0	5.5	4.5	5.5	4.5	22.5	8.8	4.6	1.8

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
Species Codes	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
PONCORdead	7.5	2.5	3.0	2.0	32.5	7.5	.	.	3.0	2.0	14.3	7.7	2.6	1.3
SAGLAN	0.5	0.5	5.5	4.5	0.5	0.5	8.0	7.0	.	.	0.3	0.3	0.2	0.1
SAGLANdead	.	.	0.5	0.5	.	.	10.0	10.0	.	.	0.3	0.3	.	.
SAGMON	1.0	.	0.5	0.5	.	.	2.5	2.5	0.5	0.5	1.3	1.3	0.3	0.1
SALCARdead	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	1.0	.	.	.	2.5	2.5	.	.	0.5	0.3	1.3	0.5
SCICAL	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
SCIVAL	0.5	0.5	.	.	0.5	0.5	0.5	0.5	.	.	.	.	.	.
SPIPOL	1.0	.	0.5	0.5	1.0	.	1.0	.	1.0	.	1.5	1.2	2.5	0.9
THAGEN	0.5	0.5	.	.	.	.	0.5	0.5	.	.	0.3	0.3	1.1	0.5
THAGENdead	15.0	15.0	.	.	.	.	2.5	2.5	12.5	12.5	0.3	0.3	8.8	4.7
TYPLAT	5.0	.	15.0	10.0	8.0	7.0	8.0	7.0	5.5	4.5	7.8	3.0	6.2	3.3
TYPLATdead	3.0	2.0	10.5	9.5	10.0	5.0	5.5	4.5	5.5	4.5	5.5	2.6	3.8	2.5
WOLFLO	.	.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.3	1.3	0.3	0.1

Appendix C4. Vegetation cover measurements (% m^{-2} MEAN ±SE) from subplots in planted plots, Experimental Planting Sites. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
AUGUST 1993	SITE 1													
ALTPHI	.	.	.	.	0.50	0.29	5.00	.	0.25	0.25	1.75	1.11	0.25	0.25
AMAAUS	0.25	0.25	.	.	.	.	1.25	1.25	.	.	2.50	1.44	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
ELEINT	75.00	23.36	.	.	.	.	.	.	.	.	.	.	48.75	28.16
HYDRAN	.	.	.	.	.	.	1.25	1.25	.	.	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	1.25	1.25	0.25	0.25
PANHEM	.	.	3.75	3.75	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	98.75	1.25	.	.	.	.	2.50	2.50	10.00	7.07
SAGLAN	.	.	.	.	.	.	46.25	10.87	.	.	.	.	0.25	0.25
SALROT	.	.	.	.	.	.	.	.	0.25	0.25	12.50	12.50	.	.
SCICAL	.	.	.	.	.	.	.	.	23.75	8.98	.	.	5.00	5.00
SCIVAL	.	.	.	.	.	.	.	.	.	.	7.75	2.25	.	.
SPIPOL	.	.	.	.	.	.	0.25	0.25	.	.	0.25	0.25	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	31.25	23.31
TYPLAT	0.25	0.25	2.50	2.50	.	.	3.75	2.39	.	.	2.50	2.50	.	.
ELEINTD	24.00	23.67	.	.	.	.	.	.	.	.	.	.	.	.
SCICALD	.	.	.	.	.	.	.	.	43.75	13.13	.	.	15.00	15.00
SCIVALD	.	.	.	.	.	.	.	.	.	.	61.25	13.29	.	.
TYPLATD	.	.	3.75	3.75	.	.	.	.	.	.	.	.	.	.
AUGUST 1993	SITE 2													
ALTPHI	3.75	2.39	.	.	.	.	1.50	1.19	.	.	0.25	0.25	0.25	0.25
CYPODO	1.75	1.11	.	.	.	.	0.50	0.29	.	.	1.25	1.25	.	.
ECLALB	0.25	0.25	.	.	.	.	1.50	1.19	.	.	.	.	.	.
ELEINT	42.75	15.25	6.50	6.17	2.50	2.50	.	.	.	.	.	.	26.50	24.52
GALTIN	0.25	0.25	.	.	.	.	.	.	.	.	.	.	0.50	0.29
HYDRAN	11.25	8.26	.	.	.	.	1.25	1.25	.	.	2.50	2.50	0.25	0.25
HYDUMB	6.25	3.75	.	.	.	.	.	.	.	.	.	.	.	.
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	0.25	0.25
LEMSPP	2.00	1.00	23.75	7.47	0.75	0.25	7.75	3.04	13.00	12.34	1.75	1.11	8.75	7.18
LUDLEP	22.50	7.77	.	.	.	.	7.50	3.23	.	.	8.75	5.15	.	.
PONCOR	.	.	.	.	90.00	3.54	.	.	.	.	.	.	18.75	17.12
SAGLAN	.	.	.	.	.	.	41.25	7.18	.	.	.	.	.	.
SALROT	1.50	1.19	38.75	10.48	0.25	0.25	32.50	2.50	11.50	9.56	11.25	7.18	2.75	2.43
SCICAL	.	.	.	.	2.50	2.50	0.25	0.25	8.75	1.25	.	.	.	.

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
SCISPP4	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
SCIVAL	0.25	0.25	.	.	.	.	.	.	.	.	7.75	3.04	0.25	0.25
SPIPOL	0.50	0.29	.	.	0.25	0.25	0.50	0.29	.	.	0.25	0.25	0.25	0.25
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	67.50	22.87
TYPLAT	4.00	3.67	21.25	8.26	4.00	2.27	2.75	2.43	7.50	5.95	10.25	5.99	1.25	1.25
WOLFLO	.	.	0.50	0.29	.	.	0.50	0.29	0.50	0.29	.	.	0.25	0.25
ELEINTD	25.00	15.00	.	.	.	.	.	.	.	.	.	.	.	.
SCICALD	.	.	.	.	.	.	.	.	43.75	13.75	.	.	.	.
SCIVALD	.	.	.	.	.	.	.	.	.	.	7.75	5.85	.	.
TYPLATD	2.50	2.50	17.50	5.95	1.25	1.25	4.00	3.67	.	.	2.75	2.43	.	.
AUGUST 1993	SITE 3													
ALTPHI	1.25	1.25	6.50	4.63	1.25	1.25	0.25	0.25	1.50	1.19	.	.	.	.
CYPODO	.	.	0.25	0.25	.	.	.	.	.	.	0.25	0.25	.	.
CYPSPP	0.25	0.25	.	.	.	.	.	.	0.25	0.25	.	.	.	.
EICCRA	.	.	12.50	9.46	.	.	.	.	20.00	10.80	7.50	4.79	.	.
ELEINT	72.50	21.07	.	.	.	.	.	.	.	.	.	.	31.25	23.66
HYDRAN	6.25	3.75	.	.	.	.	1.50	1.19	6.25	3.75	18.75	13.90	1.25	1.25
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	12.50	12.50
LEMSPP	1.50	1.19	42.50	6.29	15.25	9.45	31.50	11.75	9.00	4.10	17.75	7.02	15.75	14.75
LUDLEP	5.00	5.00	.	.	.	.	.	.	0.50	0.29	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	10.00	8.42
PONCOR	.	.	.	.	65.00	16.83	18.75	18.75	.	.	.	.	10.00	6.12
SAGLAN	.	.	.	.	.	.	25.00	7.91	.	.	.	.	3.75	3.75
SALROT	.	.	15.00	15.00	.	.	0.25	0.25	10.00	10.00	11.25	7.18	7.50	7.50
SCICAL	.	.	.	.	.	.	.	.	36.25	10.87	3.75	3.75	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	6.50	2.99	0.25	0.25
SPIPOL	0.25	0.25	1.75	1.11	4.25	2.14	1.00	.	3.00	2.35	0.50	0.29	1.00	.
THAGEN	.	.	2.50	2.50	.	.	.	.	.	.	.	.	60.00	13.39
TYPLAT	5.00	2.89	6.25	6.25	7.50	7.50	5.00	3.54	.	.	8.75	5.15	.	.
WOLFLO	.	.	0.75	0.25	0.25	0.25	0.25	0.25	0.50	0.29	0.25	0.25	0.25	0.25
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
SCICALD	.	.	.	.	.	.	.	.	15.00	15.00	.	.	.	.
TYPLATD	.	.	2.50	2.50	2.50	2.50	.	.	.	.	.	.	.	.
MARCH 1994	SITE 1													
ALTPHI	0.25	0.25	.	.	0.25	0.25	3.00	1.15	.	.	0.50	0.29	0.50	0.29
AMAAUS	.	.	.	.	0.25	0.25	1.25	1.25	.	.	.	.	0.25	0.25
CARPEN	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
ELEINT	35.00	10.41	.	.	.	.	.	.	.	.	.	.	6.50	6.17

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
HYDRAN	.	.	7.50	7.50	.	.	7.50	4.33	.	.	0.25	0.25	5.25	3.42
LUDLEP	.	.	.	.	.	.	1.50	1.19	.	.	.	.	.	.
PANHEM	.	.	1.25	1.25	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	5.00	5.00	.	.	.	.	22.50	19.31
POLPUN	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	37.50	16.01	.	.	.	.	.	.	25.00	17.68
SAGLAN	.	.	.	.	.	.	12.50	2.50	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	0.25	0.25	1.25	1.25	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	73.75	20.14	.	.	22.50	22.50
SCIVAL	.	.	.	.	.	.	.	.	.	.	26.25	3.75	0.50	0.29
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	1.25	1.25
TYPLAT	.	.	7.50	5.95	1.25	1.25	3.75	3.75	.	.	11.25	11.25	1.25	1.25
UTRSPP	.	.	.	.	2.50	2.50	.	.	.	.	.	.	.	.
ELEINTD	57.50	7.50	.	.	.	.	.	.	.	.	.	.	.	.
PONCORD	.	.	.	.	22.50	7.50	.	.	.	.	.	.	5.00	5.00
SAGLAND	.	.	.	.	.	.	2.50	1.44	.	.	.	.	.	.
SCICALD	.	.	.	.	.	.	.	.	6.75	3.47	.	.	.	.
SCIVALD	.	.	.	.	.	.	.	.	.	.	1.50	1.19	.	.
TYPLATD	.	.	5.00	5.00	7.50	7.50	8.75	8.75	.	.	.	.	2.50	2.50
udicotS	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.50	0.29
MARCH 1994	SITE 2													
ALTPHI	1.25	1.25	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	0.25	0.25
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	0.25	0.25
ELEINT	53.75	19.51	21.25	21.25	0.25	0.25	.	.	.	.	.	.	5.25	4.92
GALTIN	0.50	0.29	.	.	1.25	1.25	.	.	.	.	.	.	.	.
HYDRAN	7.50	4.33	.	.	1.25	1.25	1.25	1.25	1.50	1.19	1.25	1.25	0.25	0.25
LEMSPP	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	6.25	6.25
PONCOR	.	.	.	.	40.00	11.73	.	.	.	.	.	.	3.75	2.39
SAGLAN	.	.	.	.	.	.	25.00	5.40	.	.	.	.	1.25	1.25
SALROT	.	.	1.25	1.25	.	.	0.75	0.25	0.50	0.29	0.25	0.25	0.25	0.25
SCICAL	.	.	.	.	1.25	1.25	.	.	17.75	8.37	1.25	1.25	.	.
SCIVAL	0.25	0.25	.	.	.	.	0.25	0.25	.	.	16.50	14.54	0.75	0.25
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	11.25	3.75
TYPLAT	2.75	1.31	32.50	17.62	7.75	4.66	22.50	8.54	12.50	7.50	28.75	10.87	.	.
ELEINTD	27.50	22.59	.	.	.	.	.	.	.	.	.	.	.	.
PONCORD	.	.	.	.	15.00	6.12	.	.	.	.	.	.	.	.
SCICALD	.	.	.	.	1.25	1.25	.	.	26.25	19.62	.	.	.	.
THAGEND	.	.	.	.	.	.	.	.	.	.	.	.	36.25	14.91

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
TYPLATD	.	.	7.50	3.23	25.00	16.58	7.50	3.23	10.00	5.77	11.25	4.27	7.50	7.50
GALTINS	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
TYPSPPS	0.25	0.25	0.25	0.25	.	.	0.25	0.25	.	.	0.25	0.25	0.25	0.25
udicotS	0.50	0.29	0.25	0.25	.	.	.	.	.	.	.	.	.	.
MARCH 1994	SITE 3													
ALTPHI	1.25	1.25	3.00	2.35	.	.	0.25	0.25	0.25	0.25	.	.	.	.
AMBART	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
EICCRA	.	.	16.25	14.63	.	.	6.25	6.25	7.50	4.33	10.00	7.07	.	.
ELEINT	28.75	20.45	.	.	.	.	.	.	.	.	.	.	12.50	6.61
EUPCAP	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
GALTIN	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	51.25	22.49	1.75	1.11	7.50	7.50	30.00	18.82	6.25	1.25	7.75	2.25	2.50	2.50
LEMSPP	5.00	2.04	0.50	0.29	0.25	0.25	0.25	0.25	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	12.50	12.50
PONCOR	.	.	.	.	58.75	13.60	10.00	10.00	.	.	.	.	2.50	1.44
SAGLAN	.	.	.	.	.	.	14.00	4.49	.	.	.	.	2.50	2.50
SALROT	.	.	0.25	0.25	.	.	10.50	9.84	18.75	17.12	3.00	2.35	1.50	1.19
SCICAL	.	.	.	.	.	.	.	.	51.25	16.75	7.50	7.50	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	4.00	2.27	0.25	0.25
SPIPOL	.	.	0.25	0.25	0.25	0.25	0.25	0.25	.	.	0.25	0.25	.	.
THAGEN	.	.	21.25	21.25	.	.	.	.	.	.	.	.	16.25	2.39
TYPLAT	2.50	2.50	7.50	7.50	8.75	5.91	5.00	5.00	.	.	18.75	10.87	.	.
EICCRAD	.	.	5.00	5.00	.	.	.	.	.	.	2.50	2.50	.	.
ELEINTD	22.75	16.41	.	.	.	.	.	.	.	.	.	.	5.00	3.54
PONCORD	.	.	.	.	8.75	4.27	5.00	5.00	.	.	.	.	.	.
SCICALD	.	.	.	.	.	.	.	.	12.75	4.09	.	.	.	.
THAGEND	.	.	2.50	2.50	.	.	.	.	.	.	.	.	20.00	7.36
TYPLATD	2.50	2.50	2.50	2.50	4.00	3.67	2.50	2.50	.	.	4.00	3.67	.	.
TYPSPPS	0.25	0.25	0.25	0.25	.	.	0.25	0.25	.	.	0.50	0.29	.	.
udicotS	0.25	0.25	0.50	0.29	.	.	0.50	0.29	0.25	0.25	0.75	0.25	0.50	0.29

MARCH 1995 Site 1: Planted

	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	0.50	0.29	1.25	1.25	5.25	4.92	11.25	8.00	.	.	4.00	2.27	.	.
AMAAUS	.	.	.	.	3.75	2.39	.	.	.	.	.	.	.	.
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	1.50	1.19	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRAdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	6.50	2.99	.	.	.	.	.	.	.	.	.	.	7.50	5.30
ELEINTdead	12.50	5.95	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	48.75	11.25	7.75	7.42	0.25	0.25	30.00	20.10	7.75	7.42	17.50	17.50	.	.
HYDUMB	1.25	1.25	.	.	1.25	1.25	.	.	.	.	.	.	.	.
LEMSPP	1.25	1.25	0.50	0.29	0.50	0.29	1.50	1.19	.	.	0.75	0.25	3.00	1.41
LUDLEPdead	3.75	2.39	5.00	2.89	.	.	6.25	3.75	1.25	1.25	5.00	3.54	.	.
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	1.25	1.25	.	.	.	.	.	.	.	.	.	.
LUDPERdead	.	.	8.75	7.18	.	.	.	.	.	.	.	.	.	.
PANDICdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	0.50	0.29	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	42.50	30.05
POLPUN	4.00	2.27	4.25	2.14	1.25	0.95	2.50	2.50	5.25	3.42	19.00	8.57	2.50	1.77
POLPUNdead	2.50	1.44	1.25	1.25	3.75	3.75	.	.	.	.	3.75	2.39	.	.
PONCOR	.	.	.	.	32.50	8.54	.	.	.	.	.	.	20.00	14.14
PONCORdead	.	.	.	.	23.75	7.47	.	.	.	.	.	.	2.50	1.77
SAGLAN	.	.	.	.	.	.	10.00	2.04	.	.	.	.	.	.
SAGLANdead	.	.	.	.	.	.	3.75	1.25	.	.	.	.	.	.
SAGMON	.	.	1.25	1.25	.	.	2.50	1.44	.	.	.	.	5.00	3.54
SALCAR	.	.	1.50	1.19	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAMCAN	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	1.25	1.25	.	.	0.25	0.25	17.50	4.79	.	.	5.00	3.54
SCICALdead	.	.	.	.	.	.	.	.	8.75	2.39	.	.	.	.
SCISPP	.	.	1.25	1.25	.	.	.	.	.	.	.	.	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	8.75	3.75	.	.
SPIPOL	0.25	0.25	.	.	.	.	.	.	.	.	.	.	0.50	0.35
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	10.00	7.07
THAGENdead	.	.	.	.	.	.	.	.	.	.	.	.	15.00	10.61
TYPLAT	3.75	2.39	15.00	5.40	1.25	1.25	1.25	1.25	2.50	2.50	3.75	3.75	.	.
TYPLATdead	1.25	1.25	4.00	1.00	2.50	2.50	2.75	2.43	.	.	2.50	2.50	.	.
TYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot_seed	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
WOLFLO	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCIVALdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C4. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.

MARCH 1995 Site 2: Planted

Species	ELEINT Mean	SE	PANHEM Mean	SE	PONCOR Mean	SE	SAGLAN Mean	SE	SCICAL Mean	SE	SCIVAL Mean	SE	MIXED Mean	SE
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	2.50	1.44	0.25	0.25	.	.	1.25	1.25	.	.	.	.	.	.
AMAAUS	1.25	1.25	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRAdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ELEINT	10.00	.	3.75	3.75	0.25	0.25	.	.	.	.	2.50	2.50	3.75	1.25
ELEINTdead	33.75	20.45	2.50	2.50	0.25	0.25	.	.	.	.	2.50	2.50	7.75	7.42
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
GALTIN	1.25	1.25	.	.	1.25	1.25	.	.	.	.	.	.	.	.
HYDRAN	51.50	22.76	33.75	21.54	4.00	3.67	41.25	21.35	32.75	19.60	45.00	17.44	8.75	3.75
HYDUMB	4.00	3.67	15.00	15.00	3.75	3.75	.	.	6.25	6.25	3.75	3.75	.	.
LEMSPP	8.75	5.91	16.25	7.18	7.75	4.66	47.50	13.77	23.75	10.68	36.25	13.75	9.00	3.56
LUDLEPdead	.	.	2.50	2.50	.	.	1.25	1.25	1.25	1.25	.	.	5.00	2.89
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPERdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDICdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	2.50	2.50
POLPUN	.	.	.	.	.	.	.	.	.	.	7.50	7.50	.	.
POLPUNdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	43.75	8.51	.	.	.	.	.	.	3.75	3.75
PONCORdead	.	.	.	.	13.75	3.75	.	.	.	.	.	.	.	.
SAGLAN	.	.	.	.	.	.	23.75	5.54	.	.	.	.	0.25	0.25
SAGLANdead	.	.	.	.	.	.	11.25	3.15	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	6.25	3.75	.	.	0.25	0.25	21.25	8.26	3.75	3.75	.	.
SAMCAN	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	.	.	2.50	2.50	1.25	1.25	17.50	7.77	.	.	0.25	0.25
SCICALdead	.	.	.	.	2.50	2.50	.	.	8.75	2.39	.	.	.	.
SCIVAL	1.25	1.25	0.25	0.25	.	.	.	.	.	.	15.00	6.77	1.25	1.25
SPIPOL	12.50	4.79	.	.	2.00	1.00	7.50	4.79	6.25	6.25	3.00	2.35	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	8.75	1.25

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
THAGENdead	.	.	.	.	.	.	.	.	.	.	.	.	22.50	2.50
TYPLAT	2.50	1.44	26.25	4.27	2.75	1.31	5.25	3.42	15.00	10.21	8.75	3.75	1.25	1.25
TYPLATdead	1.25	1.25	21.25	13.13	6.25	3.15	6.25	3.75	11.25	7.18	10.00	4.56	.	.
TYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot_seed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLFLO	.	.	11.25	9.66	.	.	2.50	2.50	5.00	2.04	.	.	.	.
SCIVALdead	.	.	.	.	.	.	.	.	.	.	2.50	1.44	.	.
LUDLEP	.	.	.	.	.	.	2.50	1.77	.	.	.	.	.	.

MARCH 1995 Site 3: Planted

	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	0.25	0.25	.	.	.	.	0.25	0.25	.	.	.	.	.	.
AMAAUS	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	1.25	1.25	.	.	0.25	0.25	.	.	.	.	.	.
EICCRAdead	.	.	1.25	1.25	.	.	.	.	.	.	.	.	.	.
ELEINT	5.25	2.75	.	.	.	.	.	.	.	.	.	.	0.50	0.29
ELEINTdead	8.75	4.27	.	.	.	.	.	.	.	.	.	.	1.25	1.25
EUPCAP	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.
GALTIN	5.25	4.92	.	.	.	.	.	.	.	.	1.25	1.25	.	.
HYDRAN	77.50	12.99	62.50	16.01	20.00	10.21	52.50	12.33	67.50	13.31	77.50	9.46	14.00	12.05
HYDUMB	.	.	.	.	.	.	1.25	1.25	.	.	.	.	.	.
LEMSPP	1.00	.	0.50	0.29	10.50	5.85	0.75	0.25	1.00	.	1.00	.	0.25	0.25
LUDLEPdead	.	.	4.00	3.67	.	.	2.50	2.50	3.75	2.39	6.25	2.39	.	.
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDPERdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDICdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	.	.
POLPUN	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
POLPUNdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	23.75	3.75	5.00	5.00	.	.	0.25	0.25	1.50	1.19
PONCORdead	.	.	.	.	11.25	6.57	3.75	3.75	.	.	.	.	.	.
SAGLAN	.	.	.	.	.	.	12.50	2.50	.	.	.	.	0.25	0.25
SAGLANdead	.	.	.	.	.	.	12.50	3.23	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C4. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
SALROT	.	.	0.75	0.25	0.25	0.25	5.50	3.30	0.50	0.29	0.25	0.25	.	.
SAMCAN	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	10.00	2.89	3.75	3.75	1.25	1.25
SCICALdead	.	.	.	.	.	.	.	.	10.00	4.56	1.25	1.25	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	4.00	2.27	.	.
SPIPOL	0.25	0.25	.	.	0.50	0.29	0.25	0.25	.	.	0.25	0.25	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	7.50	2.50
THAGENdead	.	.	10.00	10.00	.	.	.	.	.	.	.	.	46.25	7.47
TYPLAT	4.25	2.14	2.50	2.50	1.25	1.25	.	.	.	.	.	.	.	.
TYPLATdead	0.25	0.25	7.50	7.50	5.00	3.54	.	.	.	.	.	.	.	.
TYPSPPseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot_seed	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLFLO	.	.	.	.	.	.	.	.	0.25	0.25	.	.	.	.
SCIVALdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix C5. Vegetation cover measurements (% plot^{-1} MEAN ±SE) from subplots in seeded, mulched, and control plots, experimental planting area, Apopka Marsh Flow-Way Demonstration Project. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Site 1, August 1993														
									0.5	0.5	0.3	0.3	0.5	0.4
ALTPHI														
APILEP													0.1	0.1
ELEINT													0.1	0.1
GALTIN													0.1	0.1
HYDRAN			0.5	0.5			2.5	2.5	5.0	5.0			0.9	0.8
POLPUN													0.1	0.1
PONCOR					20.0	20.0							2.2	1.7
SAGLAN	5.0	5.0	0.5	0.5			7.5	2.5					1.3	0.9
SAGMON							30.0	30.0						
SCICAL									5.0	5.0				
SCIVAL									5.0	5.0			0.1	0.1
SPIPOL	0.5	0.5												
TYPLAT	5.0	5.0	10.0	10.0			10.0	5.0	7.5	7.5	10.0	7.1	2.2	1.1
PONCOR dead					20.0	20.0							3.3	3.3
TYPLAT dead			40.0	40.0			32.5	32.5	2.5	2.5	6.3	4.7	1.8	1.7
Typha spp. Seedling											1.3	1.3		
Unknown dicot seedling							0.5	0.5					0.1	0.1
Site 2, August 1993														
					0.5	0.5							2.2	1.7
ALTPHI														
HYDRAN	0.5	0.5									0.3	0.3	8.7	7.4
Lemna spp.							0.5	0.5					0.3	0.1
LUDPER													2.5	2.5
PONCOR					40.0	40.0			7.5	7.5			2.5	1.8
SAGLAN							0.5	0.5						

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SAGMON							12.5	7.5					1.3	1.3
SALROT			1.0	0.0	0.5	0.5	0.5	0.5			0.3	0.3	0.6	0.4
SCICAL									0.5	0.5				
SCIVAL					0.5	0.5								
TYPLAT	17.5	7.5	25.0	5.0	13.0	12.0	15.0	10.0	32.5	17.5	27.8	14.9	26.7	8.6
TYPLAT dead	30.0	20.0	25.0	5.0	7.5	7.5	5.0	0.0	30.0	20.0	13.8	4.3	10.5	3.9
Typha spp. Seedling	0.5	0.5	0.5	0.5			1.0	0.0			0.3	0.3	2.4	2.1
Unknown dicot seedling			0.5	0.5							0.3	0.3	0.1	0.1
Site 3, August 1993														
	10.0	10.0	0.5	0.5	13.0	12.0	37.5	37.5	20.0	20.0	33.8	22.5	3.4	2.5
ALTPHI														
CYPSPP													0.1	0.1
EICCRA	20.0	20.0			20.0	20.0	10.0	5.0	20.0	20.0	2.5	2.5	8.4	5.7
GALTIN													0.1	0.1
HYDRAN	20.0	20.0			5.0	5.0	7.5	2.5	30.0	20.0	0.3	0.3	13.4	7.8
HYDUMB	40.0	40.0							10.0	10.0	1.5	1.2		
Lemna spp.	0.5	0.5									0.3	0.3	0.2	0.1
LUDLEP													0.1	0.1
POLPUN			2.5	2.5					0.5	0.5	1.3	1.3	2.5	2.1
PONCOR			7.5	7.5	7.5	7.5			0.5	0.5	2.5	2.5	2.9	1.6
SAGLAN			2.5	2.5			5.0	5.0						
SALROT							0.5	0.5			0.3	0.3	0.4	0.4
SPIPOL									2.5	2.5			0.7	0.4
THAGEN													0.8	0.6
TYPLAT			27.5	12.5	7.5	7.5	12.5	12.5			10.3	5.3	8.3	5.1
WOLFLO													0.1	0.1
EICCRA dead	10.0	10.0			5.0	5.0			2.5	2.5			0.4	0.4
LUDLEPdead									5.0	5.0				
PONCOR dead													0.4	0.4
TYPLAT dead			10.0	0.0	7.5	7.5					7.5	3.2	3.3	2.2
Poaceae seedling													0.3	0.1

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
AMAAUS seedling													0.1	0.1
HYDRAN seedling			0.5	0.5										
Typha spp. Seedling			0.5	0.5							0.5	0.3	0.2	0.1
Unknown dicot seedling	0.5	0.5	0.5	0.5			1.0	0.0	0.5	0.5	0.8	0.3	1.3	0.8
March 1994 Site 1														
ALTPHI	.	.	.	.	.	.	.	.	0.5	0.5	0.3	0.3	0.5	0.4
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
HYDRAN	.	.	0.5	0.5	.	.	2.5	2.5	5.0	5.0	.	.	0.9	0.8
POLPUN	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	20.0	20.0	.	.	.	.	.	.	2.2	1.7
SAGLAN	5.0	5.0	0.5	0.5	.	.	7.5	2.5	.	.	.	.	1.3	0.9
SAGLAT	.	.	.	.	.	.	30.0	30.0	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	5.0	5.0	.	.	.	.
SCIVAL	.	.	.	.	.	.	.	.	5.0	5.0	.	.	0.1	0.1
SPIPOL	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	5.0	5.0	10.0	10.0	.	.	10.0	5.0	7.5	7.5	10.0	7.1	2.2	1.1
XPONCOR	.	.	.	.	20.0	20.0	.	.	.	.	.	.	3.3	3.3
XTYPLAT	.	.	40.0	40.0	.	.	32.5	32.5	2.5	2.5	6.3	4.7	1.8	1.7
ZTYPSPP	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.
Zudicot	.	.	.	.	.	.	0.5	0.5	.	.	.	.	0.1	0.1
March 1994 Site 2														
ALTPHI	.	.	.	.	0.5	0.5	.	.	.	.	.	.	2.2	1.7
HYDRAN	0.5	0.5	.	.	.	.	.	.	.	.	0.3	0.3	8.7	7.4
LEMSPP	.	.	.	.	.	.	0.5	0.5	.	.	.	.	0.3	0.1
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	2.5	2.5

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
PONCOR	.	.	.	.	40.0	40.0	.	.	7.5	7.5	.	.	2.5	1.8
SAGLAN	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	12.5	7.5	.	.	.	.	1.3	1.3
SALROT	.	.	1.0	0.0	0.5	0.5	0.5	0.5	.	.	0.3	0.3	0.6	0.4
SCICAL	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.
SCIVAL	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.
TYPLAT	17.5	7.5	25.0	5.0	13.0	12.0	15.0	10.0	32.5	17.5	27.8	14.9	26.7	8.6
XTYPLAT	30.0	20.0	25.0	5.0	7.5	7.5	5.0	0.0	30.0	20.0	13.8	4.3	10.5	3.9
ZTYPSPP	0.5	0.5	0.5	0.5	.	.	1.0	0.0	.	.	0.3	0.3	2.4	2.1
Zudicot	.	.	0.5	0.5	.	.	.	.	.	.	0.3	0.3	0.1	0.1
March 1994 Site 3														
ALTPHI	10.0	10.0	0.5	0.5	13.0	12.0	37.5	37.5	20.0	20.0	33.8	22.5	3.4	2.5
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA	20.0	20.0	.	.	20.0	20.0	10.0	5.0	20.0	20.0	2.5	2.5	8.4	5.7
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
HYDRAN	20.0	20.0	.	.	5.0	5.0	7.5	2.5	30.0	20.0	0.3	0.3	13.4	7.8
HYDUMB	40.0	40.0	.	.	.	.	.	.	10.0	10.0	1.5	1.2	.	.
LEMSPP	0.5	0.5	.	.	.	.	.	.	.	.	0.3	0.3	0.2	0.1
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
POLPUN	.	.	2.5	2.5	.	.	.	.	0.5	0.5	1.3	1.3	2.5	2.1
PONCOR	.	.	7.5	7.5	7.5	7.5	.	.	0.5	0.5	2.5	2.5	2.9	1.6
SAGLAN	.	.	2.5	2.5	.	.	5.0	5.0	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	0.5	0.5	.	.	0.3	0.3	0.4	0.4
SPIPOL	.	.	.	.	.	.	.	.	2.5	2.5	.	.	0.7	0.4
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	0.8	0.6
TYPLAT	.	.	27.5	12.5	7.5	7.5	12.5	12.5	.	.	10.3	5.3	8.3	5.1
WOLFLO	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
XEICCRA	10.0	10.0	.	.	5.0	5.0	.	.	2.5	2.5	.	.	0.4	0.4

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
XLUDLEP	.	.	.	.	.	.	.	.	5.0	5.0	.	.	.	.
XPONCOR	.	.	.	.	.	.	.	.	.	.	.	.	0.4	0.4
XTYPLAT	.	.	10.0	0.0	7.5	7.5	.	.	.	.	7.5	3.2	3.3	2.2
Xugrass	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.1
ZAMAAUS	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
ZHYDRAN	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
ZTYPSPP	.	.	0.5	0.5	.	.	.	.	.	.	0.5	0.3	0.2	0.1
Zudicot	0.5	0.5	0.5	0.5	.	.	1.0	0.0	0.5	0.5	0.8	0.3	1.3	0.8
March 1995, Site 1														
ACERUB	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
ALTPHI	.	.	.	.	1.00	.	.	.	10.00	.	.	.	9.64	7.80
AMAAUSdead	.	.	.	.	.	.	.	.	.	.	.	.	0.45	0.44
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.33	0.29	.	.
EUPSER	.	.	.	.	.	.	.	.	5.00	.	.	.	.	.
GALTIN	1.00	.	.	.	.	.	.	.	.	.	.	.	0.45	0.44
HYDRAN	70.00	.	25.00	.	1.00	.	.	.	75.00	.	33.33	7.22	5.91	3.47
HYDUMB	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
LEMSPP	1.00	.	.	.	.	.	.	.	1.00	.	.	.	0.27	0.13
LUDLEPdead	.	.	.	.	.	.	.	.	5.00	.	3.67	2.75	2.36	0.98
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.18	0.12
PANDICdead	.	.	.	.	.	.	.	.	.	.	1.67	1.44	3.18	2.60
POLPUN	10.00	.	.	.	.	.	1.00	.	5.00	.	3.33	1.44	2.91	0.95
POLPUNdead	.	.	.	.	.	.	.	.	.	.	.	.	1.00	0.87
PONCOR	.	.	.	.	15.00	.	.	.	.	.	.	.	4.55	2.92
PONCORdead	.	.	.	.	10.00	.	.	.	.	.	.	.	2.27	1.49

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SAGLAN	10.00	.	.	.	.	.	10.00	.	.	.	1.67	1.44	.	.
SAGLANdead	10.00	.	.	.	.	.	5.00	.	.	.	.	.	.	.
SAGMON	5.00	.	.	.	.	.	20.00	.	.	.	1.67	1.44	0.64	0.43
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	1.55	0.92
SAMCAN	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
SCIVAL	.	.	.	.	.	.	.	.	.	.	.	.	1.91	1.73
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	1.36	1.31
TYPLAT	5.00	.	15.00	.	10.00	.	10.00	.	1.00	.	8.33	2.89	13.64	5.17
TYPLATdead	.	.	50.00	.	10.00	.	5.00	.	.	.	16.67	14.43	6.00	2.71
udicot_seed	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
March 1995, Site 2														
ALTPHI	.	.	.	.	0.50	0.50	.	.	.	.	.	.	7.50	6.20
APILEP	.	.	0.50	0.50	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.42	0.42
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	0.42	0.42
HYDRAN	42.50	37.50	50.00	40.00	15.00	.	20.00	20.00	40.00	35.00	48.75	24.10	22.67	8.14
LEMSPP	27.50	7.50	3.00	2.00	62.50	22.50	20.00	20.00	25.00	15.00	40.00	6.45	21.75	7.40
LUDLEPdead	.	.	2.50	2.50	.	.	.	.	.	.	.	.	2.08	1.44
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.08	0.08
LUDPERdead	.	.	.	.	.	.	.	.	.	.	.	.	1.67	1.67
PONCOR	.	.	.	.	12.50	12.50	.	.	5.00	5.00	.	.	.	.
PONCORdead	.	.	.	.	2.50	2.50	.	.	.	.	.	.	.	.
SAGMON	.	.	.	.	0.50	0.50	15.00	.	.	.	.	.	2.50	1.69
SALROT	.	.	.	.	.	.	.	.	.	.	.	.	0.08	0.08
SCICAL	.	.	.	.	.	.	2.50	2.50	.	.	.	.	0.42	0.42
SCIVAL	.	.	.	.	5.00	5.00	.	.	2.50	2.50	.	.	.	.

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SPIPOL	.	.	.	.	1.00	.	0.50	0.50	.	.	1.50	1.19	1.00	0.55
THAGENdead	.	.	.	.	.	.	.	.	.	.	.	.	0.42	0.42
TYPLAT	32.50	7.50	22.50	7.50	17.50	7.50	42.50	7.50	20.00	5.00	22.50	4.33	38.42	8.09
TYPLATdead	17.50	7.50	15.00	5.00	22.50	2.50	17.50	7.50	45.00	30.00	18.75	8.98	17.08	4.41
TYPSPPseed	.	.	2.50	2.50	.	.	.	.	.	.	.	.	.	.
WOLFLO	.	.	.	.	.	.	0.50	0.50	.	.	.	.	0.50	0.42
March 1995, Site 3														
ALTPHI	0.50	0.50	.	.	7.50	2.50	25.00	25.00	13.00	12.00	15.00	15.00	1.92	0.91
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.08	0.08
CYPSPP	0.50	0.50	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	0.50	0.50	2.50	2.50	7.50	7.50	1.25	1.25	7.17	2.32
EICCRAdead	.	.	.	.	.	.	.	.	.	.	.	.	8.75	3.21
EUPCAP	.	.	.	.	.	.	.	.	.	.	1.25	1.25	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.42	0.42
HYDRAN	95.00	.	67.50	7.50	30.00	5.00	50.00	40.00	20.00	5.00	33.75	12.64	67.50	8.45
HYDUMB	.	.	7.50	7.50	.	.	.	.	2.50	2.50	8.75	7.18	.	.
LEMSPP	1.00	.	3.00	2.00	8.00	7.00	0.50	0.50	1.00	.	11.75	11.09	3.42	1.61
LUDLEP	.	.	.	.	.	.	2.50	2.50	.	.	.	.	.	.
LUDLEPdead	7.50	2.50	0.50	0.50	.	.	12.50	7.50	10.00	.	.	.	4.58	1.79
LUDOCTdead	2.50	2.50	.	.	.	.	.	.	.	.	.	.	.	.
POLPUN	.	.	.	.	0.50	0.50	0.50	0.50	.	.	4.00	3.67	0.08	0.08
PONCOR	.	.	7.50	7.50	20.50	19.50	.	.	5.00	5.00	5.25	4.92	2.92	1.56
PONCORdead	.	.	.	.	.	.	.	.	7.50	7.50	6.25	6.25	3.75	2.31
SAGLAN	.	.	2.50	2.50	.	.	2.50	2.50	.	.	.	.	.	.
SAGLANdead	.	.	0.50	0.50	.	.	0.50	0.50	.	.	.	.	.	.
SAGMON	0.50	0.50	0.50	0.50	.	.	.	.	.	.	2.50	2.50	.	.

Appendix C5. Continued.

Species	*Panicum hemitomon*		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SALROT	.	.	2.50	2.50	.	.	2.50	2.50	.	.	2.50	1.44	0.58	0.42
SPIPOL	1.00	.	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.25	1.25	0.92	0.40
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	0.08	0.08
THAGENdead	.	.	.	.	.	.	.	.	.	.	0.25	0.25	1.25	1.25
TYPLAT	.	.	5.00	.	7.50	7.50	.	.	.	.	6.75	6.09	0.50	0.42
TYPLATdead	.	.	7.50	7.50	22.50	22.50	.	.	.	.	8.75	5.15	0.50	0.42
WOLFLO	.	.	.	.	.	.	0.50	0.50	.	.	.	.	.	.

Appendix C6. Vegetation density measurements (# m^{-2} MEAN ±SE) from subplots in planted plots, Experimental Planting Sites. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
AUGUST 1993	SITE 1													
ALTPHI	.	.	.	.	0.25	0.25	.	.	0.25	0.25	0.25	0.25	0.25	0.25
AMAAUS	0.25	0.25	.	.	.	.	1.00	1.00	.	.	0.50	0.29	.	.
ELEINT	385.25	114.75	.	.	.	.	.	.	.	.	.	.	250.00	144.34
LUDLEP	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.25	0.25
PANHEM	.	.	4.50	4.50	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	31.00	3.34	.	.	.	.	.	.	2.25	1.44
SAGLAN	.	.	.	.	.	.	8.50	1.19	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	25.75	9.72	.	.	12.50	12.50
SCIVAL	.	.	.	.	.	.	.	.	12.50	12.50	26.75	8.63	.	.
TYPLAT	0.25	0.25	2.75	2.75	.	.	2.50	2.50	.	.	1.75	1.75	.	.
AUGUST 1993	SITE 2													
ALTPHI	.	.	.	.	.	.	0.50	0.29	.	.	0.25	0.25	.	.
CYPODO	2.25	1.31	.	.	.	.	0.75	0.48	.	.	16.00	16.00	.	.
ECLALB	0.25	0.25	.	.	.	.	0.75	0.48	.	.	.	.	.	.
ELEINT	176.75	57.80	20.00	17.44	3.00	3.00	.	.	.	.	.	.	134.50	122.16
GALTIN	0.50	0.50	.	.	.	.	.	.	.	.	.	.	.	.
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	15.00	15.00
LUDLEP	4.50	0.65	.	.	.	.	1.25	0.63	.	.	2.25	1.31	.	.
PONCOR	.	.	.	.	27.25	2.29	.	.	.	.	.	.	4.00	3.67
SAGLAN	.	.	.	.	.	.	16.00	3.11	.	.	.	.	.	.
SCICAL	.	.	.	.	3.75	3.75	.	.	15.50	3.57	.	.	.	.
SCISPP4	.	.	.	.	.	.	.	.	0.75	0.75	.	.	.	.
SCIVAL	0.25	0.25	.	.	.	.	.	.	.	.	30.25	8.26	1.00	1.00
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	8.75	4.70
TYPLAT	1.75	1.44	13.75	4.73	2.50	1.32	3.00	2.68	2.75	2.14	5.50	3.28	0.75	0.75
AUGUST 1993	SITE 3													
CYPODO	.	.	0.50	0.50	.	.	.	.	.	.	0.25	0.25	.	.
CYPSPP	17.50	17.50	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	0.50	0.50	.	.
ELEINT	305.75	117.83	.	.	.	.	.	.	.	.	.	.	162.50	117.92
HYDRAN	.	.	.	.	.	.	.	.	.	.	2.25	2.25	.	.

Appendix C6. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	50.00	50.00
LUDLEP	1.25	1.25	.	.	.	.	.	.	0.25	0.25	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	1.00	0.71
PONCOR	.	.	.	.	19.25	4.77	4.25	4.25	.	.	.	.	2.50	1.44
SAGLAN	.	.	.	.	.	.	5.00	1.96	.	.	.	.	0.25	0.25
SCICAL	.	.	.	.	.	.	.	.	49.50	13.62	9.50	9.50	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	14.25	7.09	0.75	0.75
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	3.75	2.25
TYPLAT	1.75	1.44	2.00	2.00	2.50	2.50	1.50	0.87	.	.	3.25	1.97	.	.
MARCH 1994	SITE 1													
ALTPHI	.	.	.	.	0.25	0.25	.	.	.	.	0.25	0.25	.	.
AMAAUS	.	.	.	.	0.25	0.25	37.50	37.50	.	.	.	.	1.00	1.00
CARPEN	.	.	.	.	.	.	0.25	0.25	.	.	.	.	.	.
ELEINT	53.25	5.82	.	.	.	.	.	.	.	.	.	.	10.75	7.78
HYDRAN	.	.	.	.	.	.	.	.	.	.	0.50	0.50	0.50	0.50
LUDLEP	.	.	.	.	.	.	1.00	0.58	.	.	.	.	.	.
PANHEM	.	.	2.00	2.00	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	0.25	0.25	.	.	.	.	3.00	2.38
POLPUN	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	31.50	5.84	.	.	.	.	.	.	15.25	9.20
SAGLAN	.	.	.	.	.	.	13.25	4.31	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	84.00	43.32	.	.	13.75	13.75
SCIVAL	.	.	.	.	.	.	.	.	.	.	37.25	6.76	.	.
TYPLAT	.	.	4.50	3.57	0.50	0.50	3.00	3.00	.	.	2.00	2.00	0.75	0.75
udicotS	.	.	.	.	.	.	.	.	.	.	2.50	2.50	20.25	18.30
MARCH 1994	SITE 2													
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	3.50	3.50
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
ELEINT	159.00	41.00	125.00	125.00	2.00	2.00	.	.	.	.	.	.	11.25	9.66
GALTIN	0.50	0.29	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	0.50	0.50
PONCOR	.	.	.	.	16.50	2.72	.	.	.	.	.	.	1.50	1.19
SAGLAN	.	.	.	.	.	.	9.25	1.70	.	.	.	.	.	.
SCICAL	.	.	.	.	2.75	2.75	.	.	23.75	10.13	2.25	2.25	.	.
SCIVAL	.	.	.	.	.	.	0.25	0.25	.	.	13.75	9.31	2.75	1.11

Appendix C6. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	4.00	2.04
TYPLAT	0.50	0.50	10.75	2.78	3.00	1.58	7.75	2.78	6.00	3.83	9.00	3.03	.	.
GALTINS	.	.	.	.	.	.	.	.	.	.	1.00	1.00	.	.
TYPSPPS	2.50	2.50	6.25	6.25	.	.	2.50	2.50	.	.	0.50	0.50	5.00	5.00
udicotS	8.75	8.75	0.25	0.25	.	.	.	.	.	.	.	.	.	.
MARCH 1994	SITE 3													
AMBART	.	.	.	.	0.75	0.75	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	3.75	3.75	1.00	1.00	2.25	2.25	.	.
ELEINT	104.75	53.40	.	.	.	.	.	.	.	.	.	.	4.50	3.30
EUPCAP	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	1.75	1.75
PONCOR	.	.	.	.	30.00	12.62	5.00	5.00	.	.	.	.	0.75	0.48
SAGLAN	.	.	.	.	.	.	5.25	1.89	.	.	.	.	0.75	0.75
SCICAL	.	.	.	.	.	.	.	.	30.00	4.32	3.25	3.25	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	9.50	7.01	3.25	3.25
THAGEN	.	.	1.50	1.50	.	.	.	.	.	.	.	.	2.25	1.31
TYPLAT	0.75	0.75	5.00	5.00	2.50	1.89	2.00	1.41	.	.	3.75	2.17	.	.
TYPSPPS	.	.	2.50	2.50	.	.	2.50	2.50	.	.	.	.	.	.
udicotS	.	.	0.25	0.25	.	.	0.50	0.50	.	.	.	.	.	.
February 1995 Site 1														
ASTELL	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.
ECHCOL	23.3	9.5	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.
LUDPER	.	.	2.3	1.7	.	.	.	.	.	.	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	7.3	7.3	.	.
PANHEM	.	.	.	.	19.8	4.9	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	4.8	3.1	.	.	.	.	12.0	8.5
POLPUNdead	.	.	0.3	0.3	.	.	0.8	0.5	.	.	.	.	.	.
PONCOR	.	.	0.5	0.3	.	.	.	.	.	.	.	.	5.5	3.9
SAGMON	.	.	4.3	4.3	.	.	0.3	0.3	30.5	6.7	.	.	1.0	0.7
SALCARdead	.	.	1.5	1.5	.	.	.	.	.	.	.	.	.	.

Appendix C6. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
SALROT	.	.	.	.	.	.	.	.	.	.	21.0	10.2	.	.
SCICAL	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.4
SCIVAL	2.3	1.9	7.8	2.2	0.3	0.3	0.3	0.3	0.5	0.5	2.0	2.0	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	1.5	1.1
THAGENdead	.	.	.	.	.	.	.	.	.	.	25.0	25.0	.	.
February 1995 Site 2														
ALTPHI	1.0	1.0	.	.	.	.	1.5	1.5	.	.	.	.	.	.
AMAAUS	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.
ELEINT	45.0	5.1	11.8	11.8	0.3	0.3	.	.	.	.	7.5	7.5	9.0	5.2
GALTIN	0.8	0.8	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	0.5	0.4	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3
PONCOR	.	.	.	.	21.0	8.2	.	.	.	.	.	.	1.5	1.5
SAGLAN	.	.	.	.	.	.	5.0	2.1	.	.	.	.	.	.
SCICAL	.	.	.	.	3.8	3.8	.	.	22.5	7.0	.	.	0.3	0.3
SCIVAL	0.8	0.8	1.3	1.3	.	.	.	.	.	.	26.3	11.6	1.5	1.5
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	1.8	0.9
TYPLAT	0.3	0.3	10.5	1.9	1.0	0.7	1.5	0.9	4.3	3.1	4.5	2.2	0.5	0.5
February 1995 Site 3														
EICCRA	.	.	1.5	1.5	.	.	0.3	0.3	.	.	.	.	.	.
ELEINT	7.8	7.8	.	.	.	.	.	.	.	.	.	.	1.5	1.2
EUPCAP	0.8	0.8	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	17.5	6.7	3.8	3.8	.	.	0.5	0.5	0.3	0.3
SAGLAN	.	.	.	.	.	.	12.0	3.5	.	.	.	.	0.5	0.5
SCICAL	.	.	.	.	.	.	.	.	11.0	3.3	3.5	3.5	0.5	0.5

Appendix C6. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
SCIVAL	.	.	.	.	.	.	.	.	.	.	3.8	2.8	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	2.3	0.9
TYPLAT	2.0	1.1	1.8	1.8	0.3	0.3	.	.	.	.	.	.	.	.

Appendix C6. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
SCIVAL	.	.	.	.	.	.	.	.	.	.	3.8	2.8	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	2.3	0.9
TYPLAT	2.0	1.1	1.8	1.8	0.3	0.3	.	.	.	.	.	.	.	.

Appendix C7. Vegetation density measurements (# m^{-2} MEAN ±SE) from subplots in seeded, mulch, control plots, Experimental Planting Sites. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		Scirpus validus		Mulch		Control	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Site 1, August 1993														
	.	.	.	.	.	.	.	.	.	.	0.8	0.8	.	.
ALTPHI														
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	7.0	7.0	.	.	.	.	.	.	1.8	1.8
SAGLAN	0.5	0.5	.	.	.	.	2.0	1.0	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	5.0	5.0	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	8.0	8.0	.	.	.	.
TYPLAT	5.0	5.0	6.5	6.5	.	.	8.0	4.0	3.5	3.5	6.5	5.0	0.3	0.3
Site 2, August 1993														
	.	.	.	.	1.0	1.0	.	.	.	.	.	.	.	.
ALTPHI														
HYDRAN	0.5	0.5	.	.	.	.	.	.	.	.	0.5	0.5	0.3	0.3
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	15.0	15.0	.	.	2.5	2.5	.	.	0.5	0.5
SAGLAN	.	.	.	.	.	.	1.0	1.0	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	3.5	2.5	.	.	.	.	0.2	0.2
SCIVAL	.	.	.	.	2.5	2.5	.	.	.	.	.	.	.	.
TYPLAT	9.0	1.0	12.0	0.0	6.5	5.5	6.0	1.0	10.0	2.0	9.5	3.3	8.3	1.9
Site 3, August 1993														
	.	.	.	.	.	.	5.0	5.0	.	.	1.3	1.3	1.2	0.6
EICCRA														
PONCOR	.	.	2.0	2.0	6.0	6.0	.	.	0.5	0.5	0.3	0.3	1.7	1.2
SAGLAN	.	.	0.5	0.5	.	.	1.0	1.0	.	.	.	.	.	.
TYPLAT	.	.	8.0	2.0	1.5	1.5	2.5	2.5	.	.	3.8	2.4	2.0	1.1

Appendix C7. Continued.

SPP	*Panicum hemitomon* Mean	SE	*Polygonum punctatum* Mean	SE	*Pontederia cordata* Mean	SE	*Sagittaria lancifolia* Mean	SE	*Scirpus validus* Mean	SE	Mulch Mean	SE	Control Mean	SE
March 1994, Site 1														
ALTPHI	.	.	.	.	.	.	.	.	.	.	0.8	0.8	.	.
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	7.0	7.0	.	.	.	.	.	.	1.8	1.8
SAGLAN	0.5	0.5	.	.	.	.	2.0	1.0	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	5.0	5.0	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	8.0	8.0	.	.	.	.
TYPLAT	5.0	5.0	6.5	6.5	.	.	8.0	4.0	3.5	3.5	6.5	5.0	0.3	0.3
ZTYPSPP	.	.	.	.	.	.	.	.	.	.	25.0	25.0	.	.
ZUDICOT	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
March 1994, Site 2														
ALTPHI	.	.	.	.	1.0	1.0	.	.	.	.	.	.	.	.
HYDRAN	0.5	0.5	.	.	.	.	.	.	.	.	0.5	0.5	0.3	0.3
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
PONCOR	.	.	.	.	15.0	15.0	.	.	2.5	2.5	.	.	0.5	0.5
SAGLAN	.	.	.	.	.	.	1.0	1.0	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	3.5	2.5	.	.	.	.	0.2	0.2
SCIVAL	.	.	.	.	2.5	2.5	.	.	.	.	.	.	.	.
TYPLAT	9.0	1.0	12.0	0.0	6.5	5.5	6.0	1.0	10.0	2.0	9.5	3.3	8.3	1.9
ZTYPSPP	.	.	.	.	.	.	17.5	2.5	.	.	5.0	5.0	4.2	2.9
March 1994, Site 3														
EICCRA	.	.	.	.	.	.	5.0	5.0	.	.	1.3	1.3	1.2	0.6
PONCOR	.	.	2.0	2.0	6.0	6.0	.	.	0.5	0.5	0.3	0.3	1.7	1.2
SAGLAN	.	.	0.5	0.5	.	.	1.0	1.0	.	.	.	.	.	.
TYPLAT	.	.	8.0	2.0	1.5	1.5	2.5	2.5	.	.	3.8	2.4	2.0	1.1
ZUDICOT	.	.	.	.	.	.	.	.	.	.	7.8	7.8	11.7	8.3
ZUGRASS	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1

Appendix C7. Continued.

SPP	*Panicum hemitomon* Mean	SE	*Polygonum punctatum* Mean	SE	*Pontederia cordata* Mean	SE	*Sagittaria lancifolia* Mean	SE	*Scirpus validus* Mean	SE	Mulch Mean	SE	Control Mean	SE
March 1995, Site 1														
ALTPHI	.	.	.	.	.	.	.	.	.	.	.	.	1.4	1.3
BRAPUR	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRAdead	.	.	.	.	.	.	.	.	1.0	.	.	.	.	.
ELEINT	2.0	.	.	.	.	.	.	.	.	.	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	4.0	3.5	.	.
PANHEM	.	.	.	.	5.0	.	.	.	.	.	.	.	.	.
PELVIR	2.0	.	.	.	.	.	4.0	.	.	.	.	.	.	.
POLPUN	.	.	.	.	.	.	.	.	.	.	.	.	2.3	1.8
POLPUNdead	2.0	.	.	.	.	.	12.0	.	.	.	.	.	0.5	0.5
PONCOR	.	.	.	.	.	.	.	.	.	.	.	.	0.6	0.6
SAGMON	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	0.6	0.4
SCIVAL	3.0	.	13.0	.	8.0	.	6.0	.	1.0	.	5.3	3.3	3.5	3.3
TYPLAT	.	.	.	.	.	.	.	.	.	.	.	.	6.6	2.2
March 1995, Site 2														
ALTPHI	.	.	.	.	0.5	0.5	.	.	.	.	.	.	0.3	0.3
APILEP	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3
PONCOR	.	.	.	.	8.0	8.0	.	.	3.0	3.0	.	.	.	.
SAGMON	.	.	.	.	0.5	0.5	4.5	0.5	.	.	.	.	1.0	0.7
SCICAL	.	.	.	.	.	.	3.5	3.5	.	.	.	.	0.6	0.6
SCIVAL	.	.	.	.	4.5	4.5	.	.	3.0	3.0	.	.	.	.
TYPLAT	9.0	3.0	13.0	7.0	6.5	1.5	15.5	7.5	7.0	5.0	9.8	3.5	12.0	2.2
TYPSPPseed	.	.	100.0	100.0	.	.	.	.	.	.	.	.	.	.
March 1995, Site 3														
ALTPHI	.	.	.	.	15.0	15.0	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA	.	.	.	.	1.0	1.0	.	.	5.5	5.5	.	.	4.5	1.7

Appendix C7. Continued.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		Mulch		Control	
SPP	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
EUPCAP	.	.	.	.	.	.	.	.	.	.	0.5	0.5	.	.
HYDRAN	.	.	.	.	.	.	.	.	.	.	.	.	1.8	1.8
LUDLEP	.	.	.	.	.	.	2.0	2.0	.	.	.	.	.	.
POLPUN	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.
PONCOR	.	.	2.0	2.0	7.0	5.0	.	.	5.0	5.0	1.5	1.5	1.5	1.0
SAGLAN	.	.	.	.	.	.	1.5	1.5	.	.	.	.	.	.
SAGMON	1.0	1.0	1.0	1.0	.	.	.	.	.	.	.	.	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
TYPLAT	.	.	2.5	2.5	2.5	2.5	.	.	.	.	5.3	3.4	.	.

Appendix C8. Vegetation height measurements (cm m^{-2} MEAN ±SE) from planted plots in Experimental Planting Sites. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
AUGUST 1993	SITE 1													
ALTPHI	.	.	.	.	34.25	23.59	60.75	25.14	6.25	6.25	20.25	11.91	32.25	32.25
AMAAUS	21.25	21.25	.	.	.	.	10.00	10.00	.	.	18.75	11.97	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	15.75	15.75	.	.
ELEINT	171.25	13.19	.	.	.	.	.	.	.	.	.	.	97.00	58.22
HYDRAN	.	.	.	.	.	.	5.75	5.75	.	.	.	.	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	15.75	15.75	30.00	30.00
PANHEM	.	.	31.50	31.50	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	107.50	9.95	.	.	.	.	.	.	37.25	21.72
SAGLAN	.	.	.	.	31.50	31.50	125.75	1.65	.	.	.	.	38.50	38.50
SCICAL	.	.	.	.	.	.	.	.	321.25	10.87	.	.	10.00	10.00
SCIVAL	.	.	.	.	.	.	.	.	.	.	184.25	30.38	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	225.25	85.37
TYPLAT	22.50	22.50	45.50	45.50	.	.	41.25	41.25	.	.	40.00	40.00	.	.
AUGUST 1993	SITE 2													
ALTPHI	21.50	13.07	.	.	.	.	33.00	20.57	.	.	6.75	6.75	.	.
CYPODO	45.25	17.45	.	.	.	.	30.00	18.37	.	.	1.00	1.00	.	.
ECLALB	13.25	13.25	.	.	.	.	32.75	19.30	.	.	.	.	.	.
ELEINT	107.25	16.04	77.25	44.99	29.00	29.00	.	.	.	.	.	.	67.75	35.68
GALTIN	8.75	8.75	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	14.25	8.25	.	.	.	.	2.50	2.50	.	.	2.50	2.50	2.50	2.50
HYDUMB	21.00	13.58	.	.	.	.	.	.	.	.	.	.	.	.
LUDLEP	102.00	6.87	.	.	.	.	73.25	29.81	.	.	34.00	21.42	.	.
PONCOR	.	.	.	.	109.00	14.94	.	.	.	.	.	.	50.75	30.83
SAGLAN	.	.	.	.	.	.	153.50	9.54	.	.	.	.	.	.
SCICAL	.	.	.	.	80.00	80.00	57.50	57.50	301.25	17.12	.	.	.	.
SCISPP4	.	.	.	.	.	.	.	.	57.50	57.50	.	.	.	.
SCIVAL	21.25	21.25	.	.	.	.	.	.	.	.	162.75	12.15	35.00	35.00
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	212.25	83.23
TYPLAT	70.00	50.70	176.25	59.31	130.00	44.38	88.25	55.44	114.50	66.95	159.75	60.20	50.00	50.00
AUGUST 1993	SITE 3													
ALTPHI	4.75	4.75	23.75	20.55	13.25	13.25	14.00	14.00	33.50	22.68	.	.	.	.
CYPODO	.	.	16.75	16.75	.	.	.	.	.	.	14.00	14.00	.	.

Appendix C8. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
CYPSPP	2.50	2.50	.	.	.	.	.	.	1.25	1.25	.	.	.	.
EICCRA	.	.	12.25	7.42	.	.	.	.	27.25	15.80	13.25	7.87	.	.
ELEINT	129.25	11.74	.	.	.	.	.	.	.	.	.	.	70.00	40.42
HYDRAN	2.50	2.50	.	.	.	.	20.25	11.71	9.75	7.08	6.25	2.43	6.00	6.00
JUNEFF	.	.	.	.	.	.	.	.	.	.	.	.	41.25	41.25
LUDLEP	15.75	15.75	.	.	.	.	.	.	11.75	7.03	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	39.75	24.57
PONCOR	.	.	.	.	92.00	17.64	31.25	31.25	.	.	.	.	27.75	16.02
SAGLAN	.	.	.	.	.	.	140.75	2.66	.	.	.	.	24.75	24.75
SCICAL	.	.	.	.	.	.	.	.	301.25	3.15	65.00	65.00	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	143.25	12.58	33.00	33.00
THAGEN	.	.	40.75	40.75	.	.	.	.	.	.	.	.	367.50	19.74
TYPLAT	95.75	55.56	47.25	47.25	43.00	43.00	75.00	43.49	.	.	99.00	57.17	.	.
MARCH 1994	SITE 1													
ALTPHI	4.75	4.75	.	.	5.75	4.25	17.00	4.64	.	.	6.50	6.17	4.50	4.17
AMAAUS	.	.	.	.	0.25	0.25	0.25	0.25	.	.	.	.	3.25	3.25
CARPEN	.	.	.	.	.	.	5.50	5.50	.	.	.	.	.	.
ELEINT	51.25	5.84	.	.	.	.	.	.	.	.	.	.	17.25	12.75
HYDRAN	.	.	.	.	.	.	11.75	4.63	.	.	0.50	0.50	8.75	3.17
LUDLEP	.	.	.	.	.	.	13.25	7.67	.	.	.	.	.	.
PANHEM	.	.	14.00	14.00	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	15.00	15.00	.	.	.	.	40.75	25.11
POLPUN	.	.	3.00	3.00	.	.	.	.	.	.	.	.	.	.
PONCOR	.	.	.	.	47.25	6.30	.	.	.	.	.	.	24.25	14.25
SAGLAN	.	.	.	.	.	.	82.00	1.29	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	194.75	13.10	.	.	43.75	43.75
SCIVAL	.	.	.	.	.	.	.	.	.	.	148.75	1.25	26.75	15.83
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	7.00	7.00
TYPLAT	.	.	57.25	33.28	20.00	20.00	43.75	43.75	.	.	46.25	46.25	29.50	29.50
UTRSPP	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
UDICOTS	.	.	.	.	.	.	.	.	.	.	0.25	0.25	0.50	0.29
MARCH 1994	SITE 2													
ALTPHI	16.50	16.50	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	1.25	1.25
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	0.25	0.25

Appendix C8. Continued.

SPP	ELEINT		PANHEM		PONCOR		SAGLAN		SCICAL		SCIVAL		MIXED SPP.	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
ELEINT	83.00	6.68	35.00	35.00	21.00	21.00	.	.	.	.	.	.	66.25	38.37
GALTIN	7.75	7.42	.	.	6.25	6.25	.	.	.	.	0.50	0.50	.	.
HYDRAN	15.50	5.19	.	.	2.50	2.50	3.00	3.00	7.25	7.25	6.00	3.67	0.75	0.75
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	25.75	25.75
PONCOR	.	.	.	.	53.75	8.67	.	.	.	.	.	.	19.00	11.34
SAGLAN	.	.	.	.	.	.	114.50	11.98	.	.	.	.	20.00	20.00
SCICAL	.	.	.	.	53.75	53.75	.	.	258.25	9.82	35.75	35.75	.	.
SCIVAL	23.75	23.75	.	.	.	.	31.75	31.75	.	.	112.00	41.74	94.25	42.67
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	76.75	15.42
TYPLAT	71.50	29.24	147.00	12.17	94.50	31.58	127.75	44.50	94.50	55.23	123.75	42.20	.	.
TYPSPPS	0.25	0.25	0.25	0.25	.	.	0.25	0.25	.	.	0.25	0.25	0.25	0.25
UDICOTS	0.50	0.29	0.25	0.25	.	.	.	.	.	.	.	.	.	.
MARCH 1994	SITE 3													
ALTPHI	9.75	9.75	24.75	11.12	.	.	9.25	9.25	9.00	9.00	.	.	.	.
AMBART	.	.	.	.	1.25	1.25	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.
EICCRA	.	.	7.50	4.50	.	.	5.00	5.00	20.25	8.17	7.00	4.12	.	.
ELEINT	60.00	5.43	.	.	.	.	.	.	.	.	.	.	64.75	21.88
EUPCAP	.	.	.	.	2.00	2.00	.	.	.	.	.	.	.	.
GALTIN	2.00	2.00	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	20.00	5.52	7.50	2.60	4.50	4.50	18.75	7.56	17.75	2.90	7.25	4.42	3.00	3.00
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	25.75	25.75
PONCOR	.	.	.	.	67.00	5.73	19.00	19.00	.	.	.	.	12.00	7.35
SAGLAN	.	.	.	.	.	.	105.75	8.73	.	.	.	.	25.50	25.50
SCICAL	.	.	.	.	.	.	.	.	207.75	18.55	31.00	31.00	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	47.75	25.12	7.00	7.00
THAGEN	.	.	25.75	25.75	.	.	.	.	.	.	.	.	80.00	27.31
TYPLAT	21.25	21.25	52.50	52.50	92.50	55.28	43.75	43.75	.	.	90.00	56.61	.	.
THAGEND	.	.	.	.	.	.	.	.	.	.	.	.	12.75	12.75
TYPLATD	.	.	2.50	2.50	.	.	.	.	.	.	.	.	.	.
TYPSPPS	.	.	0.25	0.25	0.25	0.25	.	.	.	.	.	.	.	.
UDICOTS	.	.	0.50	0.29	.	.	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
February 1995, Site 1														
ALTPHI	3.5	2.6	.	.	.	.	2.	11.9	.	.	2.3	1.3	.	.
AMAAUS	.	.	.	.	11.0	7.1	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	14.0	8.2	.	.	.	.	.	.	.	.

Appendix C8. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
ELEINT	58.0	11.0	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.
HYDRAN	11.0	5.0	2.5	1.4	2.0	2.0	5.8	2.3	.	.	2.3	2.3	.	.
LUDPER	.	.	6.5	6.5	.	.	.	.	.	.	.	.	.	.
PANHEM	.	.	31.3	22.4	.	.	.	.	.	.	.	.	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	36.0	25.5
POLPUN	8.3	4.8	13.8	4.4	7.8	5.0	2.5	2.5	.	.	20.5	5.6	8.5	6.0
PONCOR	.	.	.	.	27.5	4.4	.	.	.	.	.	.	11.0	7.8
SAGLAN	.	.	.	.	.	.	59.0	19.5	.	.	.	.	.	.
SAGMON	.	.	3.8	3.8	.	.	16.3	10.2	.	.	.	.	41.5	29.3
SALCAR	.	.	16.3	11.3	.	.	.	.	.	.	.	.	.	.
SCICAL	.	.	31.3	31.3	.	.	8.0	8.0	252.5	9.8	.	.	135.0	95.5
SCISPP	.	.	22.3	22.3	.	.	.	.	.	.	.	.	.	.
SCIVAL	.	.	.	.	.	.	.	.	.	.	66.5	22.9	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	4.	28.3
TYPLAT	48.8	28.2	111.5	29.0	25.0	25.0	15.0	15.0	33.5	33.5	25.0	25.0	.	.
February 1995, Site 2														
ALTPHI	21.3	12.4	.	.	.	.	9.0	9.0	.	.	.	.	.	.
AMAAUS	6.5	6.5	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	12.0	12.0	.	.
ELEINT	94.0	3.7	17.5	17.5	.	.	.	.	.	.	26.5	26.5	55.3	18.4
GALTIN	6.3	6.3	.	.	2.5	2.5	.	.	.	.	.	.	.	.
HYDRAN	24.3	3.6	18.8	11.3	.	.	19.5	6.9	25.3	8.5	26.8	4.8	9.5	3.3
HYDUMB	8.3	5.5	5.3	5.3	2.5	2.5	.	.	.	.	5.5	5.5	.	.
PELVIR	.	.	.	.	.	.	.	.	.	.	.	.	21.0	21.0
POLPUN	.	.	.	.	.	.	.	.	.	.	14.5	14.5	.	.
PONCOR	.	.	.	.	45.3	10.3	.	.	.	.	.	.	10.8	10.8
SAGLAN	.	.	.	.	.	.	120.3	13.2	.	.	.	.	14.0	14.0
SCICAL	.	.	.	.	57.5	57.5	32.5	32.5	251.8	10.8	.	.	20.5	20.5
SCIVAL	44.5	44.5	25.0	25.0	.	.	.	.	.	.	156.3	16.9	26.3	26.3
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	70.8	4.7

Appendix C8. Continued.

SPP	ELEINT MEAN	SE	PANHEM MEAN	SE	PONCOR MEAN	SE	SAGLAN MEAN	SE	SCICAL MEAN	SE	SCIVAL MEAN	SE	MIXED SPP. MEAN	SE
TYPLAT	4.3	4.3	150.8	10.3	7.	25.2	97.0	39.1	122.3	46.7	99.0	33.1	23.8	23.8
February 1995, Site 3														
ALTPHI	0.8	0.8	.	.	.	.	4.3	4.3	.	.	.	.	.	.
EICCRA	.	.	1.8	1.8	.	.	2.5	2.5	.	.	.	.	.	.
ELEINT	45.3	16.2	.	.	.	.	.	.	.	.	.	.	31.5	18.8
EUPCAP	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.
GALTIN	10.3	6.7	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	2.	2.0	22.8	4.3	15.5	1.3	16.5	3.3	32.5	4.6	23.0	4.5	1.	3.5
HYDUMB	.	.	.	.	.	.	4.5	4.5	.	.	.	.	.	.
POLPUN	.	.	.	.	.	.	2.8	2.8	.	.	.	.	.	.
PONCOR	.	.	.	.	37.5	10.1	8.8	8.8	.	.	6.3	6.3	8.8	5.2
SAGLAN	.	.	.	.	.	.	65.3	2.7	.	.	.	.	11.5	11.5
SCICAL	.	.	.	.	.	.	.	.	156.0	23.1	46.8	46.8	25.0	25.0
SCIVAL	.	.	.	.	.	.	.	.	.	.	69.3	26.8	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	58.0	7.5
TYPLAT	58.0	26.7	19.8	19.8	22.5	22.5	.	.	.	.	.	.	.	.

Appendix C9. Height (cm m^{-2}, Mean ±SE) of vegetation from seeded, mulch, and control plots in experimental planted plots, Demonstration Marsh. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Site 1, August 1993														
ALTPHI	.	.	.	.	.	.	.	.	10.0	10.0	1.3	1.3	1.7	1.7
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	1.1	1.1
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3
HYDRAN	.	.	4.0	4.0	.	.	7.5	7.5	5.0	5.0	.	.	1.1	1.1
POLPUN	.	.	.	.	.	.	.	.	.	.	.	.	1.6	1.6
PONCOR	.	.	.	.	37.5	37.5	.	.	.	.	.	.	2.7	2.7
SAGLAN	36.5	36.5	26.0	26.0	.	.	77.0	12.0	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	37.5	37.5	.	.	.	.	.	.
SCICAL	.	.	.	.	.	.	.	.	92.0	92.0	.	.	.	.
TYPLAT	67.5	67.5	90.0	90.0	.	.	134.5	5.5	62.5	62.5	67.0	40.7	2.4	2.4
Unknown dicot seedling	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
Site 2, August 1993														
ALTPHI	.	.	.	.	24.0	24.0	.	.	.	.	.	.	7.5	5.3
HYDRAN	1.5	1.5	.	.	.	.	.	.	.	.	0.3	0.3	7.4	2.8
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	20.0	20.0
PONCOR	.	.	.	.	48.0	48.0	.	.	39.0	39.0	.	.	9.5	6.4
SAGLAN	.	.	.	.	.	.	35.5	35.5	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	72.5	7.5	.	.	.	.	5.3	5.3
SCICAL	.	.	.	.	.	.	.	.	107.5	107.5	.	.	.	.
SCIVAL	.	.	.	.	101.5	101.5	.	.	.	.	.	.	.	.
TYPLAT	158.5	41.5	190.0	30.0	173.0	23.0	198.5	26.5	160.0	10.0	163.3	33.2	126.4	24.5
Typha spp. Seedlings	0.5	0.5	.	.	.	.	0.5	0.5	.	.	.	.	0.3	0.1

Appendix C9. Continued..

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Unknown dicot seedling	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.1	0.1
Site 3, August 1993														
	29.5	29.5	1.0	1.0	20.5	8.5	13.0	13.0	19.5	19.5	16.5	9.6	8.8	4.2
ALTPHI														
AMAAUS	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
Cyperus spp.	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA	9.0	9.0	.	.	11.5	11.5	11.5	3.5	10.5	10.5	3.5	3.5	6.1	2.5
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	0.6	0.6
HYDRAN	11.5	11.5	.	.	11.0	11.0	12.5	4.5	21.5	6.5	4.8	4.8	6.4	3.3
HYDUMB	21.0	21.0	.	.	.	.	.	.	.	.	14.3	8.3	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3
POLPUN	.	.	10.5	10.5	.	.	.	.	17.5	17.5	9.8	9.8	5.3	3.6
PONCOR	.	.	19.0	19.0	80.0	80.0	.	.	20.0	20.0	24.5	24.5	14.7	9.0
SAGLAN	.	.	48.0	48.0	.	.	43.5	43.5	.	.	.	.	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	9.1	7.8
TYPLAT	.	.	142.5	4.5	105.0	105.0	47.5	47.5	.	.	117.0	12.4	46.9	20.5
Typha spp. Seedlings	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.1	0.1
Unknown dicot seedling	0.5	0.5	.	.	.	.	0.5	0.5	.	.	0.5	0.3	2.9	2.6
Poaceae seedling	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
March 1994, Site 1														
ALTPHI	.	.	.	.	.	.	.	.	10.0	10.0	1.3	1.3	1.7	1.7
APILEP	.	.	.	.	.	.	.	.	.	.	.	.	1.1	1.1
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3
HYDRAN	.	.	4.0	4.0	.	.	7.5	7.5	5.0	5.0	.	.	1.1	1.1
POLPUN	.	.	.	.	.	.	.	.	.	.	.	.	1.6	1.6
PONCOR	.	.	.	.	37.5	37.5	.	.	.	.	.	.	2.7	2.7
SAGLAN	36.5	36.5	26.0	26.0	.	.	77.0	12.0	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	37.5	37.5	.	.	.	.	.	.

Appendix C9. Continued..

Species	*Panicum hemitomon* Mean	SE	*Polygonum punctatum* Mean	SE	*Pontederia cordata* Mean	SE	*Sagittaria lancifolia* Mean	SE	*Scirpus validus* Mean	SE	*Mulch* Mean	SE	*Control* Mean	SE
SCICAL	.	.	.	.	.	.	.	.	92.0	92.0	.	.	.	.
TYPLAT	67.5	67.5	90.0	90.0	.	.	134.5	5.5	62.5	62.5	67.0	40.7	2.4	2.4
ZUDICOT	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
March 1994, Site 2														
ALTPHI	.	.	.	.	24.0	24.0	.	.	.	.	.	.	7.5	5.3
HYDRAN	1.5	1.5	.	.	.	.	.	.	.	.	0.3	0.3	7.4	2.8
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	20.0	20.0
PONCOR	.	.	.	.	48.0	48.0	.	.	39.0	39.0	.	.	9.5	6.4
SAGLAN	.	.	.	.	.	.	35.5	35.5	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	72.5	7.5	.	.	.	.	5.3	5.3
SCICAL	.	.	.	.	.	.	.	.	107.5	107.5	.	.	.	.
SCIVAL	.	.	.	.	101.5	101.5	.	.	.	.	.	.	.	.
TYPLAT	158.5	41.5	190.0	30.0	173.0	23.0	198.5	26.5	160.0	10.0	163.3	33.2	126.4	24.5
ZTYPSPP	0.5	0.5	.	.	.	.	0.5	0.5	.	.	.	.	0.3	0.1
ZUDICOT	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.1	0.1
March 1994, Site 3														
ALTPHI	29.5	29.5	1.0	1.0	20.5	8.5	13.0	13.0	19.5	19.5	16.5	9.6	8.8	4.2
AMAAUS	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	0.1	0.1
EICCRA	9.0	9.0	.	.	11.5	11.5	11.5	3.5	10.5	10.5	3.5	3.5	6.1	2.5
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	0.6	0.6
HYDRAN	11.5	11.5	.	.	11.0	11.0	12.5	4.5	21.5	6.5	4.8	4.8	6.4	3.3
HYDUMB	21.0	21.0	.	.	.	.	.	.	.	.	14.3	8.3	.	.
LUDLEP	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3
POLPUN	.	.	10.5	10.5	.	.	.	.	17.5	17.5	9.8	9.8	5.3	3.6
PONCOR	.	.	19.0	19.0	80.0	80.0	.	.	20.0	20.0	24.5	24.5	14.7	9.0
SAGLAN	.	.	48.0	48.0	.	.	43.5	43.5	.	.	.	.	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	9.1	7.8

Appendix C9. Continued..

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
TYPLAT	.	.	142.5	4.5	105.0	105.0	47.5	47.5	.	.	117.0	12.4	46.9	20.5
XTHAGEN	.	.	.	.	.	.	.	.	.	.	.	.	2.5	2.5
ZTYPSPP	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.1	0.1
ZUDICOT	0.5	0.5	.	.	.	.	0.5	0.5	.	.	0.5	0.3	2.9	2.6
ZUGRASS	.	.	.	.	.	.	.	.	.	.	.	.	0.2	0.1
March 1995, Site 1														
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	1.4	1.3
CYPSPP	.	.	.	.	.	.	.	.	.	.	2.7	2.3	.	.
EUPSER	.	.	.	.	.	.	.	.	13.0	.	.	.	.	.
GALTIN	12.0	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRAN	28.0	.	1.0	.	1.0	.	.	.	5.0	.	11.0	1.8	1.9	0.8
POLPUN	33.0	.	.	.	.	.	.	.	11.0	.	.	.	3.4	1.7
POLPUNdead	.	.	.	.	.	.	.	.	.	.	.	.	4.3	4.1
PONCOR	.	.	.	.	84.0	.	.	.	.	.	.	.	8.5	8.2
SAGLAN	71.0	.	.	.	.	.	75.0	.	.	.	24.0	20.8	.	.
SAGMON	46.0	.	.	.	.	.	72.0	.	.	.	9.3	8.1	3.8	3.7
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	18.7	9.3
SCIVAL	.	.	.	.	.	.	.	.	.	.	.	.	19.5	13.2
TYPLAT	113.0	.	94.0	.	175.0	.	142.0	.	17.0	.	125.7	13.7	75.5	17.9
March 1995, Site 2														
ALTPHI	.	.	.	.	15.0	15.0	.	.	.	.	.	.	4.3	3.2
APILEP	.	.	9.0	9.0	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	3.8	3.8
ELEINT	.	.	.	.	.	.	.	.	.	.	.	.	6.0	6.0
HYDRAN	26.5	11.5	12.0	7.0	22.0	6.0	13.5	13.5	29.0	11.0	17.3	10.1	12.8	3.6
LUDPER	.	.	.	.	.	.	.	.	.	.	.	.	2.4	2.4
PONCOR	.	.	.	.	35.0	35.0	.	.	27.5	27.5	.	.	.	.
SAGMON	.	.	.	.	35.0	35.0	82.5	2.5	.	.	.	.	15.3	10.4

Appendix C9. Continued..

	Panicum hemitomon		*Polygonum punctatum*		*Pontederia cordata*		*Sagittaria lancifolia*		*Scirpus validus*		*Mulch*		*Control*	
Species	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SCICAL	.	.	.	.	.	.	95.0	95.0	.	.	.	.	17.5	17.5
SCIVAL	.	.	.	.	67.5	67.5	.	.	8.	8.	.	.	.	.
TYPLAT	161.0	6.0	152.5	7.5	128.5	18.5	167.5	17.5	162.5	2.5	165.5	1.0	162.5	11.6
TYPSPPseed	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.
March 1995, Site 3														
ALTPHI	4.5	4.5	.	.	.	.	9.0	9.0	5.5	5.5	4.0	4.0	5.1	3.4
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	4.2	4.2
CYPSPP	14.0	14.0	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	4.0	4.0	7.0	7.0	4.0	4.0	3.8	3.8	9.2	2.1
EUPCAP	.	.	.	.	.	.	.	.	.	.	7.3	7.3	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	6.5	6.5	.	.
HYDRAN	19.5	2.5	24.0	12.0	8.0	8.0	17.5	4.5	15.5	2.5	19.8	7.8	21.0	3.4
HYDUMB	.	.	15.5	15.5	.	.	.	.	5.0	5.0	10.8	7.8	.	.
POLPUN	.	.	.	.	14.5	14.5	11.0	11.0	.	.	9.0	8.7	1.8	1.8
PONCOR	.	.	20.5	20.5	56.0	38.0	.	.	26.0	26.0	23.8	23.8	11.8	6.3
SAGLAN	.	.	23.5	23.5	.	.	17.5	17.5	.	.	.	.	.	.
SAGMON	6.0	6.0	15.0	15.0	.	.	.	.	.	.	.	.	.	.
THAGEN	.	.	.	.	.	.	.	.	.	.	.	.	3.1	3.1
TYPLAT	.	.	77.5	4.5	57.5	57.5	.	.	.	.	43.0	21.4	9.6	7.3
LUDLEP	.	.	.	.	.	.	1.0	1.0	.	.	.	.	.	.

Appendix D1. Vegetation cover measurements (% m^{-2} MEAN ±SE) from natural succession transects. Periods (.) represent species absent from the transect or transects not sampled. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
AUGUST 1993 SAMPLE SET																
ALTPHI	0.91	0.29	.	.	0.66	0.43	.	.	.	.	0.59	0.22	.	.	5.34	2.81
AMAAUS	7.81	2.16	.	.	1.47	0.75	.	.	.	.	1.00	0.65	.	.	0.16	0.16
ANDSPP	.	.	.	.	.	.	.	.	.	.	0.78	0.78	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	2.81	1.75	.	.	.	.
ASTSUB	.	.	.	.	.	.	.	.	.	.	2.97	1.99	.	.	.	.
BACHAL	.	.	.	.	.	.	.	.	.	.	0.47	0.34	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8.75	4.53
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.63	0.63
CASOBT	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
CICMEX	0.16	0.16	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	1.28	1.25	.	.	.	.
CYPIRI	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	0.31	0.22
CYPODO	0.53	0.34	.	.	0.84	0.51	.	.	.	.	1.31	0.50	.	.	1.59	0.96
CYPSPP	0.09	0.05	.	.	0.06	0.04	.	.	.	.	0.03	0.03	.	.	.	.
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.19	0.16
ECHCRUD	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.47	0.47
ECHSPP1	.	.	.	.	.	.	.	.	.	.	3.00	2.37	.	.	.	.
ECHSPP2	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
ECLALB	0.03	0.03	.	.	0.16	0.16	.	.	.	.	0.25	0.16	.	.	1.00	0.94
EICCRA	.	.	.	.	.	.	.	.	.	.	2.34	1.63	.	.	4.56	2.44
ELEVIV	.	.	.	.	.	.	.	.	.	.	0.81	0.64	.	.	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
HYDRAN	1.94	0.99	.	.	2.41	1.27	.	.	.	.	2.81	0.98	.	.	6.19	3.25
HYDUMB	0.47	0.47	.	.	.	.	.	.	.	.	0.16	0.16	.	.	.	.
LEMSPP	0.31	0.16	.	.	1.47	0.95	.	.	.	.	19.13	4.53	.	.	14.75	3.06
LIMSPO	.	.	.	.	3.59	2.01	.	.	.	.	.	.	.	.	.	.
LUDLEP	6.13	1.53	.	.	2.81	1.31	.	.	.	.	16.38	4.81	.	.	7.03	2.57
LUDOCT	0.63	0.63	.	.	.	.	.	.	.	.	1.56	0.76	.	.	1.41	0.82
LUDPER	.	.	.	.	2.66	2.66	.	.	.	.	9.38	4.45	.	.	21.09	6.31
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.53	0.34
MOMCHA	.	.	.	.	.	.	.	.	.	.	0.16	0.16	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	2.00	0.73	.	.	0.16	0.16
PASDIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.34	0.31
PASURV	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
PLUROS	0.16	0.16	.	.	.	.	.	.	.	.	.	.	.	.	.	.
POLDEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.34	1.66

Appendix D1. Continued..

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
POLPUN	7.44	3.89	.	.	.	.	.	.	.	.	14.22	5.04	.	.	0.97	0.57
PONCOR	8.91	3.12	.	.	.	.	.	.	.	.	3.59	2.52	.	.	.	.
SAGLAN	1.56	0.99	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	2.66	1.37	.	.	2.34	1.23
SALCAR	.	.	.	.	.	.	.	.	.	.	2.81	1.97	.	.	3.59	2.35
SALROT	0.63	0.63	.	.	8.03	3.17	.	.	.	.	8.09	3.57	.	.	8.34	3.02
SESMAC	.	.	.	.	.	.	.	.	.	.	0.16	0.16	.	.	.	.
SPIPOL	0.03	0.03	.	.	0.03	0.03	.	.	.	.	5.19	1.69	.	.	9.72	3.25
TYPDOM	1.41	0.82	.	.	2.38	1.33	.	.	.	.	.	.	.	.	.	.
TYPLAT	14.72	2.13	.	.	22.81	3.11	.	.	.	.	8.31	2.89	.	.	9.75	2.89
TYPLATD	19.38	3.50	.	.	33.78	4.32	.	.	.	.	3.13	2.10	.	.	5.47	3.18
WOLFLO	.	.	.	.	.	.	.	.	.	.	2.78	1.38	.	.	0.81	0.33
WOLSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
ALTPHIS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSS	0.06	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRANS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.47	0.47
LUDPERS	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	0.31	0.22
POLPUNS	0.19	0.16	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCORS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANS	0.50	0.47	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLATS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	0.16	0.16
TYPLATS	.	.	.	.	0.16	0.16	.	.	.	.	.	.	.	.	.	.
udicotS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MARCH 1994 SAMPLE SET																
ALTPHI	0.25	0.08	4.75	3.06	0.78	0.44	0.66	0.61	.	.	5.25	1.22	.	.	2.18	0.75
AMAAUS	2.20	0.70	1.83	0.88	0.31	0.21	0.70	0.33	.	.	0.15	0.15	.	.	.	.
APILEP	.	.	.	.	.	.	0.12	0.06	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	0.46	0.33	.	.	.	.
BACHAL	.	.	.	.	0.03	0.03	.	.	.	.	0.46	0.33	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.46	0.33
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
COMDIF	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
CYPODO	.	.	0.41	0.39	0.15	0.15	.	.	.	.	.	.	.	.	.	.
CYPSPP	0.04	0.04	0.50	0.39	0.03	0.03	0.04	0.04	.	.	0.09	0.05	.	.	0.09	0.05
ECLALB	.	.	0.41	0.39	.	.	.	.	.	.	0.06	0.04	.	.	0.03	0.03
EICCRA	.	.	.	.	.	.	.	.	.	.	2.34	1.16	.	.	10.70	4.77
ELEVIV	.	.	.	.	.	.	.	.	.	.	2.12	1.05	.	.	.	.
EUPCAP	0.20	0.20	0.08	0.07	0.15	0.15	0.08	0.05	.	.	0.56	0.25	.	.	0.40	0.21
GALTIN	0.04	0.04	.	.	.	.	0.04	0.04	.	.	0.06	0.04	.	.	0.21	0.15

Appendix D1. Continued..

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
HYDRAN	24.80	7.47	12.20	6.25	13.60	4.90	3.70	1.50	.	.	15.80	4.78	.	.	38.00	6.35
LEMSPP	0.31	0.16	.	.	0.06	0.04	.	.	.	.	0.06	0.04	.	.	1.34	0.64
LUDLEP	0.20	0.20	0.83	0.79	0.03	0.03	.	.	.	.	1.56	1.15	.	.	.	.
LUDPER	1.45	1.08	.	.	0.31	0.30	4.00	2.86	.	.	12.50	5.20	.	.	18.90	5.51
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.15	0.15
PASDIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.31	0.30
POLDEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.12	0.92
POLPUN	5.95	1.90	5.25	2.91	.	.	0.20	0.20	.	.	4.93	1.88	.	.	0.34	0.21
PONCOR	8.95	4.22	.	.	.	.	.	.	.	.	3.75	2.88	.	.	.	.
RUMCRI	.	.	.	.	.	.	.	.	.	.	0.31	0.21	.	.	.	.
SAGLAN	1.25	0.84	2.50	2.39	.	.	.	.	.	.	.	.	.	.	.	.
SAGMON	.	.	0.08	0.07	.	.	.	.	.	.	0.31	0.21	.	.	0.31	0.30
SALCAR	.	.	.	.	.	.	.	.	.	.	2.81	1.93	.	.	3.75	2.04
SALROT	.	.	.	.	0.62	0.36	.	.	.	.	0.71	0.36	.	.	12.30	4.03
SAMCAN	.	.	.	.	.	.	.	.	.	.	0.20	0.20	.	.	.	.
SOLAME	.	.	0.41	0.39	.	.	.	.	.	.	.	.	.	.	.	.
SPIPOL	.	.	.	.	.	.	.	.	.	.	0.15	0.06	.	.	0.15	0.06
TYPDOM	0.83	0.81	.	.	7.65	3.23	.	.	.	.	.	.	.	.	.	.
TYPLAT	17.90	4.16	44.50	7.91	48.50	6.92	60.40	5.22	.	.	22.30	5.30	.	.	19.70	5.16
WOLFLO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
POLDEND	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.25	1.23
PONCORD	1.04	1.01	.	.	.	.	.	.	.	.	0.78	0.62	.	.	.	.
TYPLATD	3.95	1.50	13.30	1.80	23.10	4.73	32.00	5.21	.	.	11.10	3.32	.	.	4.43	1.15
SEPTEMBER 1994 SAMPLE SET																
ALTPHI	2.04	0.76	0.58	0.40	1.25	0.70	2.50	1.53	.	.	1.97	0.58	.	.	1.78	0.70
AMAAUS	3.13	1.47	0.08	0.08	5.81	2.24	0.92	0.56	.	.	.	.	.	.	1.09	1.08
ASTELL	.	.	.	.	.	.	.	.	.	.	1.56	1.54	.	.	.	.
BACHAL	.	.	.	.	.	.	.	.	.	.	0.16	0.15	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	0.31	0.31	.	.	10.63	3.64
COMDIF	.	.	.	.	.	.	.	.	.	.	0.78	0.63	.	.	.	.
CYPHAS	.	.	.	.	.	.	.	.	.	.	0.16	0.15	.	.	.	.
CYPIRI	0.04	0.04	.	.	0.16	0.15	0.25	0.21	.	.	.	.	.	.	.	.
CYPODO	1.50	1.23	0.17	0.11	11.16	2.46	2.08	1.64	.	.	0.06	0.04	.	.	.	.
CYPSPP	0.33	0.14	1.17	0.51	0.06	0.04	0.08	0.06	.	.	0.31	0.31	.	.	0.16	0.15
DIGSER	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	0.21	0.20	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	10.78	4.87	.	.	4.84	2.55
ELCALB	0.04	0.04	.	.	0.19	0.16	.	.	.	.	.	.	.	.	.	.

Appendix D1. Continued..

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
ELEIND	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
ELEVIV	.	.	.	.	.	.	.	.	.	.	4.53	2.98	.	.	.	.
EUPCAP	0.08	0.06	0.08	0.08	0.25	0.16	.	.	.	.	.	.	.	.	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
HYDRAN	3.38	1.23	2.08	1.24	6.34	1.83	1.08	1.02	.	.	4.25	1.08	.	.	14.09	3.91
HYDUMB	.	.	.	.	.	.	.	.	.	.	0.94	0.47	.	.	.	.
LEMSPP	8.00	4.77	0.25	0.13	4.03	1.55	6.75	3.31	.	.	5.28	2.92	.	.	3.13	0.83
LEPFAS	.	.	.	.	.	.	.	.	.	.	0.16	0.15	.	.	.	.
LIMSPO	.	.	.	.	.	.	0.04	0.04	.	.	.	.	.	.	.	.
LUDLEP	8.58	3.05	1.25	0.86	9.94	4.15	0.92	0.48	.	.	15.47	4.48	.	.	26.72	5.61
LUDOCT	5.00	2.02	.	.	0.16	0.15	.	.	.	.	0.94	0.68	.	.	.	.
LUDOxP	.	.	.	.	.	.	.	.	.	.	0.94	0.92	.	.	.	.
LUDPAL	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
LUDPER	7.92	4.59	.	.	0.22	0.16	8.54	5.63	.	.	20.00	6.47	.	.	27.03	7.08
LUDSPP	0.21	0.20	.	.	0.19	0.16	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.63	0.43
PANDIC	1.29	0.73	0.08	0.08	0.88	0.50	.	.	.	.	.	.	.	.	.	.
POLDEN	0.42	0.41	.	.	.	.	.	.	.	.	.	.	.	.	0.47	0.46
POLPUN	41.88	8.36	24.17	10.85	0.16	0.15	1.25	0.85	.	.	15.16	4.27	.	.	4.16	1.70
PONCOR	1.88	1.05	.	.	.	.	.	.	.	.	5.94	4.07	.	.	.	.
SAGLAN	3.79	2.69	2.50	2.39	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAT	0.46	0.28	.	.	.	.	.	.	.	.	12.34	4.16	.	.	11.25	3.99
SAGSPP	0.21	0.20	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	0.21	0.20	.	.	.	.	.	.	.	.	2.97	1.96	.	.	3.91	1.96
SALROT	.	.	.	.	.	.	.	.	.	.	13.19	3.59	.	.	31.59	5.62
SPIPOL	0.04	0.04	0.17	0.11	0.53	0.26	0.33	0.10	.	.	8.28	2.55	.	.	3.66	1.03
TYPDOM	2.29	1.56	.	.	2.19	1.13	.	.	.	.	.	.	.	.	.	.
TYPLAT	4.75	1.51	4.25	1.40	32.81	3.83	23.79	3.73	.	.	6.94	2.64	.	.	5.16	1.55
WOLFLO	.	.	.	.	.	.	.	.	.	.	0.06	0.04	.	.	0.41	0.22
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.06	0.04	.	.	0.41	0.22
UNKNOWN	0.08	0.06	.	.	0.03	0.03	0.04	0.04	.	.	.	.	.	.	.	.
XLUDPERD	.	.	.	.	0.31	0.31	0.04	0.04	.	.	.	.	.	.	.	.
XPOLPUND	.	.	.	.	.	.	.	.	.	.	0.47	0.46	.	.	.	.
XSALROTD	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.31	0.31
XTYPLATD	4.38	2.52	6.75	2.64	2.44	1.18	6.25	1.17	.	.	3.78	1.10	.	.	5.19	1.72
XTYPDOMD	1.04	0.83	.	.	.	.	.	.	.	.	.	.	.	.	.	.
XTYPSPPD	4.17	2.58	.	.	12.03	2.43	0.21	0.20	.	.	.	.	.	.	.	.
ZAMAAUSS	0.25	0.21	0.17	0.11	0.03	0.03	0.04	0.04	.	.	.	.	.	.	.	.
ZCYPSPPS	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZECLALBS	.	.	.	.	.	.	0.08	0.06	.	.	.	.	.	.	.	.

Appendix D1. Continued..

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
ZHYDRANS	0.21	0.20	0.42	0.40	.	.	0.04	0.04	.	.	0.03	0.03	.	.	.	.
ZLUDLEPS	1.50	0.69	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZLUDPALS	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
ZLUDPERS	.	.	.	.	.	.	0.13	0.07	.	.	.	.	.	.	.	.
ZLUDSPPS	0.33	0.21	0.08	0.08	.	.	0.04	0.04	.	.	.	.	.	.	.	.
ZPOLPUNS	0.04	0.04	0.67	0.40	.	.	.	.	.	.	0.06	0.04	.	.	.	.
ZSAGLANS	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZTYPLATS	0.08	0.06	0.33	0.14	0.19	0.16	0.08	0.06	.	.	.	.	.	.	.	.
ZTYPSPPS	0.58	0.41	.	.	1.47	0.51	0.50	0.21	.	.	.	.	.	.	.	.
ZU_DICOTS	.	.	0.08	0.08	.	.	.	.	.	.	.	.	.	.	.	.

Appendix D2. Vegetation density measurements (# m^{-2} MEAN ±SE) from Natural Succession Transects. Periods (.) represent species absent from the transect or transects not sampled. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
AUGUST 1993 SAMPLE SET																
ALTPHI	0.21	0.08	.	.	0.03	0.03	.	.	.	.	0.39	0.17	.	.	0.04	0.04
AMAAUS	1.97	0.59	.	.	0.37	0.24	.	.	.	.	0.37	0.28	.	.	.	.
ANDSPP	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	1.03	0.63	.	.	.	.	.	.	.	.	.	.
ASTSUB	.	.	.	.	0.59	0.36	.	.	.	.	.	.	.	.	.	.
BACHAL	.	.	.	.	0.10	0.10	.	.	.	.	.	.	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.11	0.11
CASOBT	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
CICMEX	0.31	0.31	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
CYPIRI	0.31	0.31	.	.	.	.	.	.	.	.	.	.	.	.	0.25	0.18
CYPODO	0.28	0.17	.	.	1.09	0.65	.	.	.	.	0.74	0.36	.	.	1.44	1.10
CYPSPP	0.16	0.10	.	.	0.10	0.10	.	.	.	.	0.03	0.03	.	.	.	.
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.06	0.06
ECHSPP1	.	.	.	.	.	.	.	.	.	.	0.13	0.09	.	.	.	.
ECHSPP2	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
ECLALB	0.09	0.09	.	.	0.03	0.03	.	.	.	.	0.17	0.12	.	.	0.31	0.25
EICCRA	.	.	.	.	.	.	.	.	.	.	0.13	0.13	.	.	0.21	0.13
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
HYDRAN	.	.	.	.	0.18	0.15	.	.	.	.	.	.	.	.	0.05	0.05
LUDLEP	2.27	0.64	.	.	1.69	0.84	.	.	.	.	2.93	0.92	.	.	2.13	0.79
LUDOCT	0.63	0.63	.	.	.	.	.	.	.	.	1.00	0.51	.	.	0.53	0.31
LUDPER	.	.	.	.	1.41	0.63	.	.	.	.	.	.	.	.	0.80	0.26
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.10	0.05
MOMCHA	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	0.57	0.30	.	.	0.03	0.03
PASDIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
PLUROS	0.06	0.06	.	.	.	.	.	.	.	.	.	.	.	.	..	.
POLPUN	0.71	0.29	.	.	.	.	.	.	.	.	0.11	0.11	.	.	.	.
PONCOR	1.28	0.45.	.	.	.	.	.	.	.	.	2.19	1.52	.	.	.	.
SAGLAN	0.29	0.23	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	0.45	0.23	.	.	0.81	0.49
SALCAR	.	.	.	.	.	.	.	.	.	.	0.31	0.22	.	.	0.23	0.14
SESMAC	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
TYPDOM	0.31	0.18	.	.	0.97	0.69	.	.	.	.	.	.	.	.	.	.

Appendix D2. Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
YPLAT	6.75	1.05	.	.	10.78	1.24	.	.	.	.	4.90	1.63	.	.	4.16	1.21
ALTPHIS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSS	0.06	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRANS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3.13	3.13
LUDPERS	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	0.28	0.20
POLPUNS	0.22	0.17	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCORS	0.09	0.09	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANS	1.41	1.28	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGMONS	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	0.09	0.09
TYPLATS	.	.	.	.	1.25	1.16	.	.	.	.	.	.	.	.	.	.
udicots	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MARCH 1994 SAMPLE SET																
ACERUB	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	0.03	0.03
ALTPHI	0.04	0.04	0.25	0.18	.	.	.	.	.	.	0.06	0.04	.	.	.	.
AMAAUS	10.58	5.59	2.25	1.55	0.06	0.04	0.75	0.34	.	.	0.16	0.16	.	.	.	.
APILEP	.	.	.	.	.	.	0.33	0.22	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	0.28	0.25	.	.	.	.
BACHAL	.	.	.	.	0.03	0.03	.	.	.	.	0.03	0.03	.	.	.	.
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
COMDIF	.	.	.	.	.	.	.	.	.	.	0.03	0.03	.	.	.	.
CYPODO	.	.	0.17	0.17	0.03	0.03	.	.	.	.	.	.	.	.	.	.
CYPSPP	0.04	0.04	19.58	13.80	0.03	0.03	0.04	0.04	.	.	1.13	0.66	.	.	0.22	0.19
ECLALB	.	.	0.08	0.08	.	.	.	.	.	.	0.03	0.03	.	.	.	.
ELEVIV	.	.	.	.	.	.	.	.	.	.	0.22	0.17	.	.	.	.
EUPCAP	0.08	0.08	.	.	0.03	0.03	0.08	0.06	.	.	0.66	0.40	.	.	0.22	0.12
GALTIN	.	.	.	.	.	.	0.21	0.21	.	.	0.06	0.06	.	.	0.03	0.03
HYDRAN	0.05	0.05	.	.	0.03	0.03	0.38	0.19	.	.	.	.	.	.	1.09	1.09
LUDLEP	0.04	0.04	0.83	0.83	0.03	0.03	.	.	.	.	0.38	0.26	.	.	.	.
LUDPER	0.29	0.20	.	.	0.13	0.13	0.25	0.18	.	.	1.53	0.99	.	.	2.13	0.81
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
Poacea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.84	0.78
POLPUN	0.38	0.24	2.00	1.44	.	.	.	.	.	.	0.22	0.12	.	.	.	.
PONCOR	2.00	0.99	.	.	.	.	.	.	.	.	1.31	0.95	.	.	.	.
RUMCRI	.	.	.	.	.	.	.	.	.	.	0.09	0.07	.	.	.	.
SAGLAN	0.13	0.13	0.25	0.25	.	.	.	.	.	.	0.06	0.06	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	0.06	0.04	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	0.06	0.06	.	.	0.06	0.06

Appendix D2. Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SOLAME	.	.	0.08	0.08	.	.	.	.	.	.	.	.	.	.	.	.
TYPDOM	0.13	0.13	.	.	1.59	0.58	.	.	.	.	.	.	.	.	.	.
TYPLAT	8.17	1.58	13.42	2.58	13.31	1.83	15.29	1.36	.	.	6.84	1.43	.	.	5.09	1.28
SEPTEMBER 1994 SAMPLE SET																
ALTPHI	0.08	0.06	0.50	0.48	.	.	.	.	.	.	0.03	0.03	.	.	0.03	0.03
AMAAUS	2.00	1.79	0.08	0.08	2.41	1.32	0.42	0.26	.	.	.	.	.	.	0.03	0.03
ASTELL	.	.	.	.	.	.	.	.	.	.	0.16	0.15	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.94	0.80
CYPHAS	.	.	.	.	.	.	.	.	.	.	0.13	0.12	.	.	.	.
CYPIRI	.	.	.	.	0.06	0.06	0.42	0.33	.	.	.	.	.	.	.	.
CYPODO	0.92	0.82	0.08	0.08	7.22	1.60	0.42	0.29	.	.	0.09	0.07	.	.	.	.
CYPSPP	0.29	0.11	7.58	2.44	0.13	0.09	0.08	0.06	.	.	0.09	0.09	.	.	0.06	0.06
DIGSER	0.08	0.08	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	0.19	0.09	.	.	0.94	0.52
ECLALB	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
ELEIND	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
EUPCAP	0.08	0.06	0.08	0.08	0.16	0.08	.	.	.	.	.	.	.	.	.	.
HYDRAN	0.79	0.77	.	.	0.06	0.04	.	.	.	.	0.63	0.62	.	.	.	.
LIMSPO	.	.	.	.	0.03	0.03	0.04	0.04	.	.	.	.	.	.	.	.
LUDLEP	3.67	2.12	2.25	2.07	2.28	0.92	0.33	0.17	.	.	1.03	0.30	.	.	2.56	0.60
LUDOCT	0.33	0.14	.	.	0.03	0.03	.	.	.	.	0.09	0.07	.	.	.	.
LUDOxP	.	.	.	.	.	.	.	.	.	.	0.09	0.09	.	.	.	.
LUDPER	0.54	0.29	.	.	0.16	0.10	0.38	0.26	.	.	0.78	0.32	.	.	1.13	0.33
LUDSPP	0.33	0.33	.	.	0.09	0.07	.	.	.	.	.	.	.	.	.	.
PANDIC	0.21	0.14	0.08	0.08	0.44	0.21	.	.	.	.	.	.	.	.	.	.
POLPUN	0.04	0.04	1.50	0.95	0.03	0.03	1.38	1.35	.	.	0.22	0.16	.	.	0.03	0.03
PONCOR	0.83	0.47	.	.	.	.	.	.	.	.	1.69	1.16	.	.	.	.
SAGLAN	0.33	0.23	0.33	0.32	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAT	0.21	0.14	.	.	.	.	.	.	.	.	1.75	0.63	.	.	1.06	0.40
SALCAR	0.04	0.04	.	.	.	.	.	.	.	.	0.09	0.07	.	.	0.66	0.41
TYPDOM	0.33	0.33	.	.	0.91	0.47	.	.	.	.	.	.	.	.	.	.
TYPLAT	2.04	0.76	2.17	1.03	16.63	1.88	12.13	1.99	.	.	2.97	1.05	.	.	7.72	6.28
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.22	0.07	.	.	0.34	0.08
UNKNOWN	2.21	2.12	.	.	0.06	0.06	0.04	0.04	.	.	.	.	.	.	.	.
XPONCORD	.	.	.	.	.	.	.	.	.	.	0.06	0.04	.	.	0.03	0.03
ZAMAAUSS	0.33	0.29	0.17	0.11	0.03	0.03	0.13	0.12	.	.	.	.	.	.	.	.

Appendix D2. Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
ZCYPSPPS	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZECLALBS	.	.	.	.	.	.	0.08	0.06	.	.	.	.	.	.	.	.
ZHYDRANS	0.17	0.16	2.50	2.39	.	.	0.21	0.20	.	.	0.31	0.31	.	.	.	.
ZLUDLEPS	2.67	1.35	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZLUDPALS	.	.	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.
ZLUDPERS	.	.	.	.	.	.	0.21	0.12	.	.	.	.	.	.	.	.
ZLUDSPPS	2.67	1.94	0.08	0.08	.	.	0.04	0.04	.	.	.	.	.	.	.	.
ZPOLPUNS	0.08	0.08	0.67	0.41	.	.	.	.	.	.	0.53	0.46	.	.	.	.
ZSAGLANS	0.04	0.04	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZTYPLATS	0.75	0.62	4.50	2.60	0.13	0.12	3.17	2.21	.	.	.	.	.	.	.	.
ZTYPSPPS	2.96	2.21	.	.	8.50	1.99	5.21	2.09	.	.	.	.	.	.	.	.
ZU_DICOTS	.	.	0.50	0.48	.	.	.	.	.	.	.	.	.	.	.	.

Appendix D3 Vegetation height measurements (cm m^{-2} MEAN ±SE) from Natural Succession Transects. Periods (.) represent species absent from the transect. Species Codes: Upper case six character are abbreviated species codes. Lower case codes represent plant families or unknowns. Codes ending with D represent dead, while S represent seedlings.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
AUGUST 1993 SAMPLE SET																
ALTPHI	9.56	2.54	.	.	5.25	3.03	.	.	.	.	17.69	5.40	.	.	13.44	4.04
AMAAUS	50.03	13.19	.	.	17.66	10.21	.	.	.	.	10.25	5.88	.	.	2.97	2.97
ANDSPP	.	.	.	.	.	.	.	.	.	.	6.72	6.72	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	14.09	8.21	.	.	.	.
ASTSUB	.	.	.	.	.	.	.	.	.	.	14.38	8.03	.	.	.	.
BACHAL	.	.	.	.	.	.	.	.	.	.	7.16	5.05	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13.00	5.16
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.47	2.47
CASOBT	.	.	.	.	.	.	.	.	.	.	2.09	2.09	.	.	.	.
CICMEX	1.25	1.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	2.63	2.32	.	.	.	.
CYPIRI	0.78	0.78	.	.	.	.	.	.	.	.	.	.	.	.	2.75	1.99
CYPODO	8.28	3.97	.	.	10.22	4.45	.	.	.	.	15.81	5.36	.	.	11.88	4.72
CYPSPP	1.81	1.11	.	.	3.22	2.70	.	.	.	.	0.31	0.31	.	.	.	.
ECHCRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5.81	4.07
ECHSPP1	.	.	.	.	.	.	.	.	.	.	9.63	5.02	.	.	.	.
ECHSPP2	.	.	.	.	.	.	.	.	.	.	2.66	2.66	.	.	.	.
ECLALB	0.56	0.56	.	.	0.28	0.28	.	.	.	.	3.41	1.83	.	.	5.41	3.41
EICCRA	.	.	.	.	.	.	.	.	.	.	4.19	2.48	.	.	6.22	2.93
ELEVIV	.	.	.	.	.	.	.	.	.	.	1.68	1.27	.	.	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.47	0.47
HYDRAN	3.88	1.46	.	.	2.75	1.18	.	.	.	.	4.34	1.21	.	.	10.39	3.47
HYDUMB	0.88	0.88	.	.	.	.	.	.	.	.	0.94	0.94	.	.	.	.
LIMSPO	.	.	.	.	2.07	1.07	.	.	.	.	.	.	.	.	.	.
LUDLEP	32.59	7.55	.	.	13.44	6.54	.	.	.	.	59.63	14.05	.	.	28.50	9.57
LUDOCT	2.50	2.50	.	.	.	.	.	.	.	.	26.72	12.05	.	.	14.53	8.52
LUDPER	.	.	.	.	8.28	8.28	.	.	.	.	40.25	15.76	.	.	71.50	19.51
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11.00	5.33
MOMCHA	.	.	.	.	.	.	.	.	.	.	3.59	3.59	.	.	.	.
PANDIC	.	.	.	.	.	.	.	.	.	.	39.22	11.15	.	.	2.63	2.63
PASDIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.56	1.82
PASURV	.	.	.	.	.	.	.	.	.	.	3.25	3.25	.	.	.	.
PLUROS	0.47	0.47	.	.	.	.	.	.	.	.	.	.	.	.	.	.
POLDEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5.16	3.62
POLPUN	32.78	8.15	.	.	.	.	.	.	.	.	43.81	9.96	.	.	8.63	4.35
PONCOR	29.84	10.00	.	.	.	.	.	.	.	.	8.53	5.94	.	.	.	.
SAGLAN	15.34	8.65	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix D3 Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
SAGMON	.	.	.	.	.	.	.	.	.	.	16.71	7.87	.	.	12.03	5.51
SALCAR	.	.	.	.	.	.	.	.	.	.	16.25	11.31	.	.	24.19	10.54
SESMAC	.	.	.	.	.	.	.	.	.	.	6.25	6.25	.	.	.	.
TYPDOM	28.91	16.16	.	.	31.19	15.49	.	.	.	.	.	.	.	.	.	.
TYPLAT	145.00	17.30	.	.	192.66	16.85	.	.	.	.	80.19	16.81	.	.	95.06	17.12
ALTPHIS	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUSS	0.34	0.26	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HYDRANS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
LUDPERS	.	.	.	.	0.09	0.09	.	.	.	.	.	.	.	.	1.06	0.74
POLPUNS	2.88	2.10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCORS	0.06	0.06	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANS	0.66	0.52	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGMONS	0.16	0.16	.	.	.	.	.	.	.	.	.	.	.	.	1.31	1.31
TYPLATS	.	.	.	.	0.16	0.16	.	.	.	.	.	.	.	.	.	.
udicots	0.50	0.50	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MARCH 1994 SAMPLE SET																
ACERUB	.	.	.	.	0.41	0.41	.	.	.	.	.	.	.	.	0.38	0.38
ALTPHI	2.71	1.92	4.08	2.18	4.25	2.47	5.29	4.24	.	.	21.09	4.00	.	.	10.03	3.14
AMAAUS	5.88	1.83	2.17	1.48	3.03	2.11	2.63	1.17	.	.	0.47	0.47	.	.	.	.
APILEP	.	.	.	.	.	.	1.92	1.13	.	.	.	.	.	.	.	.
ASTELL	.	.	.	.	.	.	.	.	.	.	5.28	4.00	.	.	.	.
BACHAL	.	.	.	.	0.31	0.31	.	.	.	.	6.22	4.55	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.75	1.33
BRAPUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.09	1.09
COMDIF	.	.	.	.	.	.	.	.	.	.	0.47	0.47	.	.	.	.
CYPODO	.	.	5.83	5.83	1.97	1.97	.	.	.	.	.	.	.	.	.	.
CYPSPP	0.42	0.42	2.33	1.37	0.72	0.52	0.21	0.21	.	.	2.31	0.96	.	.	1.19	0.67
ECLALB	.	.	4.75	4.75	.	.	.	.	.	.	1.72	1.41	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	1.03	0.66	.	.	6.28	2.70
ELEVIV	.	.	.	.	.	.	.	.	.	.	9.19	3.36.	.		.	.
EUPCAP	0.21	0.21	3.67	3.67	0.47	0.47	0.79	0.55	.	.	1.91	1.31.	.		1.42	0.85
GALTIN	1.25	1.25	.	.	.	.	0.92	0.92.	.		0.31	0.31.	.		2.44	1.61
HYDRAN	9.63	2.49	13.25	4.65	7.78	2.13	8.29	2.49	.	.	12.41	2.96	.	.	25.00	3.60
LUDLEP	2.00	2.00	2.33	2.33	1.09	1.09	.	.	.	.	4.25	2.96	.	.	.	.
LUDPER	6.96	5.15	.	.	3.59	3.59	10.50	7.27	.	.	25.75	9.84	.	.	71.22	20.19
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3.50	3.50
PASDIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.94	0.94
Poaceae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.50	1.96
POLDEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.63	2.72

Appendix D3 Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
POLPUN	13.71	3.02	12.75	6.49	.	.	3.17	3.17	.	.	19.38	5.38	.	.	4.19	2.42
PONCOR	11.79	5.62	.	.	.	.	.	.	.	.	3.72	3.72	.	.	.	.
RUMCRI	.	.	.	.	.	.	.	.	.	.	1.25	0.87	.	.	.	.
SAGLAN	7.79	5.39	11.75	11.75	.	.	.	.	.	.	.	.	.	.	.	.
SAGMON	.	.	.	.	.	.	.	.	.	.	2.00	1.40	.	.	1.19	1.19
SALCAR	.	.	.	.	.	.	.	.	.	.	16.25	11.31	.	.	16.22	9.33
SAMCAN	.	.	.	.	.	.	6.33	6.33	.	.	.	.	.	.	.	.
SOLAME	.	.	2.33	2.33	.	.	.	.	.	.	.	.	.	.	.	.
TYPDOM	11.25	11.25	.	.	67.59	22.48	.	.	.	.	.	.	.	.	.	.
TYPLAT	103.38	15.21	179.08	7.09	151.63	15.15	245.21	6.79	.	.	94.32	17.67	.	.	97.81	18.30
SEPTEMBER 1994 SAMPLE SET																
ALTPHI	9.71	3.56	2.17	1.16	6.44	3.14	3.00	1.53	.	.	29.00	5.34	.	.	12.43	3.96
AMAAUS	19.71	10.19	0.58	0.40	21.34	6.04	5.67	4.15	.	.	.	.	.	.	3.81	3.81
ASTELL	.	.	.	.	.	.	.	.	.	.	2.78	2.78	.	.	.	.
BACHAL	.	.	.	.	.	.	.	.	.	.	4.22	4.22	.	.	.	.
BIDLAE	.	.	.	.	.	.	.	.	.	.	1.88	1.88	.	.	27.22	8.85
COMDIF	.	.	.	.	.	.	.	.	.	.	4.31	3.41	.	.	.	.
CYPHAS	.	.	.	.	.	.	.	.	.	.	1.78	1.78	.	.	.	.
CYPIRI	0.50	0.50	.	.	1.91	1.91	2.54	1.91	.	.	.	.	.	.	.	.
CYPODO	8.21	4.84	5.67	3.84	51.41	5.42	6.92	3.90	.	.	2.84	2.03	.	.	.	.
CYPSPP	2.63	1.11	7.50	2.90	1.25	1.10	1.13	0.81	.	.	1.81	1.81	.	.	1.84	1.84
DIGSER	0.13	0.13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	2.54	2.54	.	.	.	.	.	.	.	.
ECLALB	0.29	0.29	.	.	0.78	0.78	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	11.66	3.90	.	.	10.38	5.11
ECLALB	.	.	.	.	2.06	2.06	.	.	.	.	.	.	.	.	.	.
ELEIND	.	.	.	.	0.25	0.25	.	.	.	.	.	.	.	.	.	.
ELEVIV	.	.	.	.	.	.	.	.	.	.	3.38	1.67	.	.	.	.
EUPCAP	0.38	0.30	0.33	0.33	1.13	0.72	.	.	.	.	.	.	.	.	.	.
GALTIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.41	1.41
HYDRAN	4.50	1.74	1.83	1.13	6.28	1.59	0.54	0.39	.	.	11.44	4.02	.	.	15.38	2.60
HYDUMB	.	.	.	.	.	.	.	.	.	.	2.91	1.76	.	.	.	.
LEPFAS	.	.	.	.	.	.	.	.	.	.	1.41	1.41	.	.	.	.
LUDLEP	19.71	6.62	2.42	1.72	23.66	6.56	5.96	2.79	.	.	69.03	16.67	.	.	79.34	14.00
LUDOCT	24.50	10.08	.	.	0.63	0.63	.	.	.	.	11.19	8.59	.	.	.	.
LUDOxP	.	.	.	.	.	.	.	.	.	.	7.13	7.13	.	.	.	.
LUDPER	19.46	10.14	.	.	0.97	0.66	10.83	8.07	.	.	73.16	23.19	.	.	82.72	20.36
LUDSPP	0.17	0.17	.	.	0.75	0.54	.	.	.	.	.	.	.	.	.	.
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.91	3.45

Appendix D3 Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
PANDIC	13.88	6.64	1.67	1.67	14.25	5.86	.	.	.	.	.	.	.	.	.	.
POLDEN	3.04	3.04	.	.	.	.	.	.	.	.	.	.	.	.	1.84	1.84
POLPUN	63.04	9.44	33.08	11.72	1.78	1.78	5.54	4.64	.	.	44.81	7.95	.	.	35.75	8.88
PONCOR	6.83	4.16	.	.	.	.	.	.	.	.	7.66	5.42	.	.	.	.
SAGLAN	12.88	7.31	7.92	7.92	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAT	4.71	3.62	.	.	.	.	.	.	.	.	34.84	10.12	.	.	30.31	10.37
SALCAR	2.92	2.92	.	.	.	.	.	.	.	.	32.81	18.32	.	.	29.38	11.96
TYPDOM	19.54	13.73	.	.	26.50	12.77	.	.	.	.	.	.	.	.	.	.
TYPLAT	76.13	16.17	77.00	22.32	155.06	10.36	127.29	12.12	.	.	64.47	16.63	.	.	57.91	16.77
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.25	0.08	.	.	0.41	0.09
UNKNOWN	0.46	0.42	.	.	1.28	1.28	0.17	0.17	.	.	.	.	.	.	.	.
XPOLPUND	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.03	0.03
XPONCORD	.	.	.	.	.	.	.	.	.	.	0.56	0.09	.	.	0.38	0.09
ZAMAAUSS	0.58	0.44	0.83	0.83	0.09	0.09	0.17	0.17	.	.	.	.	.	.	.	.
ZCYPSPPS	0.96	0.66	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZECLALBS	.	.	.	.	.	.	0.38	0.26	.	.	.	.	.	.	.	.
ZHYDRANS	0.08	0.08	.	.	.	.	0.17	0.17	.	.	.	.	.	.	.	.
ZLUDLEPS	2.17	0.94	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZLUDPALS	.	.	.	.	0.06	0.06	.	.	.	.	.	.	.	.	.	.
ZLUDPERS	.	.	.	.	.	.	0.79	0.47	.	.	.	.	.	.	.	.
ZLUDSPPS	0.46	0.26	0.33	0.33	.	.	0.17	0.17	.	.	.	.	.	.	.	.
ZPOLPUNS	0.08	0.08	1.50	0.70	.	.	.	.	.	.	2.84	2.79	.	.	.	.
ZSAGLANS	0.25	0.25	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZTYPLATS	0.92	0.92	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ZTYPSPPS	0.79	0.75	.	.	0.50	0.36	.	.	.	.	.	.	.	.	.	.
ZU_DICOTS	.	.	0.42	0.42	.	.	.	.	.	.	.	.	.	.	.	.

Appendix D4. Above-ground Biomass Summary (Mean ±SE) by Transect and Species. Species codes ending with -L represent leaves and -R roots and rhizomes.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
August 1993																
ALTPHI	3.17	1.71	.	.	.	.	.	.	.	.	0.10	0.06	.	.	0.02	0.02
AMAAUS	103.38	102.12	.	.	.	.	.	.	.	.	6.09	6.09	.	.	.	.
CYPODO	1.71	1.71	.	.	.	.	.	.	.	.	15.97	15.98	.	.	.	.
CYPSPP	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHSPP1	.	.	.	.	.	.	.	.	.	.	36.59	36.60	.	.	.	.
ECLALB	0.01	0.01	.	.	.	.	.	.	.	.	.	.	.	.	0.41	0.42
ELEVIV	.	.	.	.	.	.	.	.	.	.	0.03	0.04	.	.	.	.
HYDRAN	0.61	0.61	.	.	.	.	.	.	.	.	0.67	0.67	.	.	.	.
LUDLEP	26.80	15.03	.	.	.	.	.	.	.	.	58.67	58.68	.	.	35.50	35.50
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20.23	20.23
LUDPER	.	.	.	.	.	.	.	.	.	.	288.19	288.19	.	.	259.26	259.26
MIKSCA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	12.54	12.54
PANDIC	.	.	.	.	.	.	.	.	.	.	3.78	2.32	.	.	.	.
POLDEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	255.25	255.25
POLPUN	0.93	0.93	.	.	.	.	.	.	.	.	70.06	70.07	.	.	4.30	4.30
PONCOR-L	121.44	121.44	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR-R	95.23	95.23	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAN-L	54.01	54.01	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAN-R	7.00	7.00	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR-L	.	.	.	.	.	.	.	.	.	.	.	.	.	.	187.76	181.87
SAMCAN	0.08	0.08	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPDOM	106.59	106.59	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT-L	133.80	83.40	.	.	274.52	60.86	.	.	.	.	70.01	70.02	.	.	332.15	207.91
TYPLAT-R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	34.57	34.57
DEAD	32.81	32.81	.	.	.	.	.	.	.	.	61.79	53.22	.	.	175.69	77.30
DEAD-TYP	269.71	207.35	.	.	1135.20	207.40	.	.	.	.	.	.	.	.	.	.
March 1994																
ALTPHI	0.01	0.01	.	.	.	.	0.67	0.67	.	.	0.63	0.62	.	.	4.84	4.84
AMAAUS	0.12	0.12	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	0.01	0.01	.	.	.	.	.	.	.	.	.	.
EICCRA-L	.	.	.	.	.	.	.	.	.	.	.	.	.	.	689.93	402.73
EICCRA-R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	40.84	40.85
HYDRAN	47.90	47.39	.	.	45.53	30.81	0.19	0.19	.	.	0.12	0.12	.	.	48.44	21.06
LUDLEP	.	.	.	.	0.05	0.05	.	.	.	.	.	.	.	.	.	.
LUDPER	.	.	0.02	0.02	.	.	.	.	.	.	.	.	.	.	132.18	132.18

Appendix D4. Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
PASDIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	71.88	71.88
POLDEN	.	.	1.39	1.39	.	.	.	.	.	.	.	.	.	.	.	.
POLPUN	6.98	5.50	0.18	0.18	.	.	.	.	.	.	0.04	0.04	.	.	.	.
PONCOR-L	17.59	17.59	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PONCOR-R	20.18	20.18	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAN-L	12.64	9.80	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR-L	.	.	.	.	.	.	.	.	.	.	.	.	.	.	26.81	26.82
TYPDOM	.	.	.	.	84.32	50.11	.	.	.	.	.	.	.	.	.	.
TYPLAT-L	85.40	42.31	413.18	168.17	403.57	106.18	616.54	88.86	.	.	459.43	258.89	.	.	156.86	141.07
TYPLAT-R	.	.	.	.	.	.	.	.	.	.	2.38	2.38	.	.	.	.
TYPSPP-S	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
UDICOT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DEAD	144.23	69.57	185.08	8.84	333.66	70.95	723.30	215.33	.	.	539.27	197.61	.	.	278.23	41.58
DEAD-TYP	.	.	.	.	173.77	87.73	90.58	90.58	.	.	.	.	.	.	.	.
SEPTEMBER 1994 SAMPLE SET																
ALTPHI	0.33	0.22	0.04	0.04	.	.	.	.	.	.	5.31	4.04	.	.	13.11	13.11
AMAAUS	0.01	0.01	0.02	0.02	0.23	0.20	1.93	1.93	.	.	.	.	.	.	24.40	24.40
BIDLAE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	14.69	14.69
CYPIRI	.	.	.	.	.	.	1.17	1.17	.	.	.	.	.	.	.	.
CARPEN	.	.	0.00	0.00	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	6.39	6.39	.	.	40.52	16.99	.	.	.	.	0.31	0.31	.	.	.	.
CYPSPP	.	.	1.47	1.47	0.11	0.11	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	1.51	1.51	.	.	.	.	.	.	.	.
DEAD	7.46	3.75	.	.	.	.	.	.	.	.	65.76	65.76	.	.	38.76	38.76
EICCRA	.	.	.	.	.	.	.	.	.	.	441.43	441.43	.	.	.	.
ELEIND	.	.	.	.	0.01	0.01	.	.	.	.	.	.	.	.	0.16	0.16
HYDRAN	0.02	0.02	.	.	0.20	0.20	.	.	.	.	0.05	0.05	.	.	10.55	6.02
HYDUMB	.	.	.	.	.	.	.	.	.	.	5.36	5.36	.	.	.	.
LUDLEP	55.32	52.80	0.08	0.08	0.27	0.17	.	.	.	.	6.12	6.12	.	.	216.04	104.52
LUDPER	115.55	115.55	.	.	.	.	.	.	.	.	356.89	356.89	.	.	.	.
PANDIC	0.51	0.51	.	.	11.34	11.34	.	.	.	.	.	.	.	.	.	.
POLPUN	226.45	143.31	142.30	142.30	.	.	.	.	.	.	11.11	11.11	.	.	40.35	23.21
PONCOR	0.56	0.56	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	34.17	20.98
SAGLAN	0.02	0.02	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLAT	.	.	.	.	.	.	.	.	.	.	97.28	71.05	.	.	9.81	9.81
TYPLAT	0.46	0.46	18.89	13.43	194.49	43.43	152.59	41.49	.	.	22.62	22.62	.	.	25.63	25.63

Appendix D4. Continued.

	Transect 1		Transect 2		Transect 3		Transect 4		Transect 5		Transect 6		Transect 7		Transect 8	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
TYPLATD	.	.	120.15	111.30	201.55	60.57	63.01	28.99	.	.	3.69	3.69	.	.	27.30	27.30
TYPDOM	20.07	20.07	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPSPPS	.	.	0.03	0.03	.	.	.	.	.	.	.	.	.	.	.	.

Appendix E1. Mean vegetation cover (% plot^{-1}, n=4 per node) for full marsh. Alpha-numeric column headings refer to full marsh flow-ways (C-G) and sample nodes (1-5).
February 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUS	.	.	.	.	1.5	1.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMBART	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
asterace	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AZOCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	25.5	24.8	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.
CARPEN	.	.	3.8	3.8	1.3	1.3	.	.	1.5	1.2	.	.	2.5	1.4	.	.	2.5	1.4	0.3	0.3	.	.	.	.	0.3	0.3	1.3	1.3	1.3	1.3
CYPSPP	.	.	.	.	1.5	1.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	9.3	8.6	.	.	.	.	.	.	1.0	.	2.5	2.5	0.5	0.3	5.3	1.8	.	.	.	.	.	.	.	.	0.3	0.3
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.
GNAPEN	.	.	.	.	4.0	2.3	.	.	.	.	.	.	1.5	1.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	1.0	.	0.3	0.3	1.0	.	0.8	0.3	0.8	0.3	.	.	1.0	.	2.0	1.0	.	.	.	.	.	.	0.3	0.3	.	.	0.3	0.3
SALROT	.	.	.	.	.	.	0.3	0.3	.	.	1.3	1.3	.	.	.	.	0.5	0.3	.	.	.	.	.	.	.	.	.	.	.	.
SENGLA	.	.	.	.	.	.	.	.	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOLAME	.	.	.	.	3.0	3.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SONSPP	.	.	.	.	2.5	1.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SPIPOL	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	0.3	0.3	0.5	0.3	.	.	0.5	0.3	.	.	0.3	0.3	0.3	0.3	0.3	0.3
TYPLAT	.	.	.	.	.	.	.	.	0.8	0.3	1.5	1.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.3	.	.	.	.	.	.	.	.	.	.	.	.	7.5	3.2	1.0	.

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.
AMAAUS	.	.	0.3	0.3	.	.	0.3	0.3	12.5	12.5	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	0.5	0.3	.	.	0.5	0.3	0.3	0.3	1.0	.	0.8	0.3	1.0	.	1.0	.
PASNOT	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.
PASNOTdead	.	.	.	.	.	.	.	.	.	.	23.8	23.8	.	.	.	.	.	.	.	.
RUMCRI	.	.	.	.	.	.	1.3	1.3	0.3	0.3	.	.	.	.	.	.	.	.	.	.
SENGLA	.	.	12.5	12.5	12.5	12.5	2.	14.1	28.8	2.	23.8	22.1	.	.	.	.	.	.	.	.
SPIPOL	.	.	.	.	0.3	0.3	.	.	0.5	0.3	0.3	0.3	1.0	.	1.0	.	2.0	1.0	1.0	.
udicot	1.0	.	19.0	15.4	5.3	4.9	37.5	13.1	25.0	14.4	12.5	12.5	.	.	.	.	.	.	.	.

Appendix E1. Mean vegetation cover (% plot^{-1}, n=4 per node) for full marsh (Cont.).
September 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
algae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.	2.	.	.
ALTPHI	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.
ASTSUB	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AZOCAR	.	.	0.3	0.3	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	0.3	0.3
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11.3	9.7	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	0.3	0.3	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSERdead	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	9.0	5.4	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	93.8	1.3	.	.	.	.	.	.	6.3	3.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	1.5	1.2	.	.	.	.	.	.	2.8	1.3	0.3	0.3	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	50.3	16.6	3.0	1.2	1.0	.	0.8	0.3	0.8	0.3	31.5	14.0	14.3	12.0	0.8	0.3	1.0	.	4.3	2.1	71.3	5.2	8.8	2.4	1.0	.
LUDOCT	.	.	.	.	1.3	1.3	.	.	.	.	.	.	27.5	9.2	.	.	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.
LUDOCTdead	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.
PASDIS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.3
SALCAR	.	.	.	.	2.5	1.4	.	.	.	.	.	.	.	.	.	.	1.3	1.3	2.5	2.5	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	1.	2.0	3.8	2.4	66.3	2.4	75.0	.	42.5	14.4	.	.	35.0	17.6	46.3	14.3	.	.	68.8	6.3	65.0	6.5	2.0	1.0	55.0	13.7	37.5	13.1
SPIPOL	.	.	.	.	0.5	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.3	1.0	.	4.0	1.0	1.0	.	0.8	0.3
TYPLAT	.	.	1.	6.1	67.5	14.4	1.	3.5	18.8	2.4	1.	2.0	.	.	42.5	17.4	67.5	6.3	2.	12.2	3.	8.9	42.5	9.5	27.5	12.7	3.	10.6	53.8	14.9
TYPLATdead	.	.	1.3	1.3	9.0	3.6	42.5	12.5	21.3	3.1	57.5	20.2	.	.	40.3	20.1	13.8	2.4	1.3	1.3	2.	4.6	1.	4.1	14.0	5.3	11.3	3.8	0.5	0.3
TYPLATseed	.	.	.	.	.	.	1.0	.	0.8	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLSPP	.	.	.	.	.	.	.	.	.	.	0.5	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLFSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	1.5	1.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix E1. Mean vegetation cover (% plot^{-1}, n=4 per node) for full marsh (Cont.). September 1994

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
algae	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ALTPHI	.	.	0.3	0.3	.	.	0.3	0.3	12.5	12.5	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ASTSUB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AZOCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSERdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	12.5	12.5	12.5	12.5	2.	14.1	28.8	2.	23.8	22.1	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	1.0	.	19.0	15.4	5.3	4.9	37.5	13.1	25.0	14.4	12.5	12.5	.	.	.	.	.	.	.	.
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDOCTdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PASDIS	.	.	.	.	.	.	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	0.5	0.3	17.8	11.7	1.5	1.2	.	.	.	.	.	.	.	.	.	.
SPIPOL	0.5	0.3	2.0	1.0	0.3	0.3	0.5	0.3	0.5	0.3	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	2.8	2.4	6.3	4.7	16.5	7.8	.	.	1.3	1.3	.	.	.	.	.	.	.	.
TYPLATdead	.	.	0.5	0.3	0.3	0.3	6.3	4.7	.	.	.	.	.	.	.	.	.	.	.	.
TYPLATseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOLSPP	0.3	0.3	5.0	5.0	.	.	2.5	1.4	.	.	.	.	.	.	.	.	.	.	.	.
WOLFSPP	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix E2. Mean vegetation density (# m^{-2}, n=4 per node) for full marsh. Alpha-numeric column headings refer to full marsh flow-ways (C-G) and sample nodes (1-5).
February 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMAAUS	.	.	.	.	1.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMBART	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
asterace	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CARPEN	.	.	0.3	0.3	0.3	0.3	.	.	0.5	0.3	.	.	1.0	0.7	.	.	1.0	0.6	0.3	0.3	.	.	.	.	0.3	0.3	0.3	0.3	0.3	0.3
CYPSPP	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	1.	7.1	.	.	.	.	.	.	15.5	4.9	12.5	12.5	6.5	6.2	76.0	22.1	.	.	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.0	1.0	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.
GNAPEN	.	.	.	.	0.8	0.5	.	.	.	.	.	.	0.8	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SENGLA	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOLAME	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SONSPP	.	.	.	.	1.3	0.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	.	.	.	.	.	.	3.3	1.1	4.5	3.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	0.8	0.8	.	.	.	.	.	.	.	.	.	.
RUMCRI	.	.	.	.	.	.	0.3	0.3	0.3	0.3	.	.	.	.	.	.	.	.	.	.

Appendix E2. Mean vegetation density (# m^{-2}, n=4 per node) for full marsh (Cont.).
September 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	0.8	0.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8.3	7.3	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	0.3	0.3	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	3.5	1.2	1.0	1.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	1.0	0.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	0.5	0.3	.	.	.	.	.	.	1.8	0.9	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDOCT	.	.	.	.	0.3	0.3	.	.	.	.	.	.	2.0	0.7	.	.	0.5	0.5	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.8	1.4
SALCAR	.	.	.	.	0.8	0.5	.	.	.	.	.	.	.	.	.	.	0.3	0.3	0.5	0.5	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	23.8	23.8
TYPLAT	.	.	3.0	1.9	29.5	6.0	5.5	1.8	27.5	1.5	8.5	0.9	5.8	3.5	21.0	6.0	27.8	3.0	9.5	5.6	23.0	6.2	17.3	5.9	2.	7.0	17.8	5.9	21.0	6.4
TYPLATdead	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	0.8	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALROT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	0.8	0.8	2.3	1.9	9.8	5.8	.	.	0.3	0.3	.	.	.	.	.	.	.	.
TYPLATdead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix E3. Mean vegetation height (cm m^{-2}, n=4 per node) for full marsh. Alpha-numeric column headings refer to full marsh flow-ways (C-G) and sample nodes (1-5).
February 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
AMAAUS	.	.	.	.	0.8	0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMBART	.	.	.	.	1.8	1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
asterace	.	.	.	.	.	.	.	.	.	.	.	.	1.0	1.0	2.5	2.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CARPEN	.	.	8.8	8.8	2.5	2.5	.	.	9.5	6.0	.	.	12.3	7.4	.	.	11.5	6.7	1.3	1.3	.	.	.	.	12.5	12.5	9.8	9.8	8.8	8.8
CYPSPP	.	.	.	.	2.8	2.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	1.0	0.4	.	.	.	.	.	.	6.3	1.3	3.8	3.8	3.8	2.4	7.3	1.3	.	.	.	.	.	.	.	.	0.3	0.3
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3.0	3.0	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	2.0	2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	6.8	6.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.3	4.3	.	.	.	.	.	.	.	.	.	.
GNAPEN	.	.	.	.	14.0	6.2	.	.	.	.	.	.	7.3	4.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PASNOT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
RUMCRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SENGLA	.	.	.	.	.	.	.	.	9.8	9.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SOLAME	.	.	.	.	3.0	3.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SONSPP	.	.	.	.	4.5	2.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	.	.	.	.	.	.	7.0	7.0	12.3	7.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot	.	.	.	.	.	.	.	.	.	.	.	.	2.3	1.3	.	.	.	.	.	.	.	.	.	.	.	.	7.5	3.2	1.0	.

Appendix E3. Mean vegetation height (cm m^{-2}, n=4 per node) for full marsh (Cont.).
February 1994

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
AMAAUS	.	.	0.3	0.3	.	.	0.3	0.3	12.5	12.5	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMBART	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
asterace	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CARPEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECLALB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
GNAPEN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PASNOT	.	.	.	.	.	.	.	.	.	.	6.8	6.8	.	.	.	.	.	.	.	.
RUMCRI	.	.	.	.	.	.	14.8	14.8	14.0	14.0	.	.	.	.	.	.	.	.	.	.
SENGLA	.	.	12.5	12.5	12.5	12.5	2.	14.1	28.8	2.	23.8	22.1	.	.	.	.	.	.	.	.
SOLAME	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SONSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
udicot	1.0	.	19.0	15.4	5.3	4.9	37.5	13.1	25.0	14.4	12.5	12.5	.	.	.	.	.	.	.	.

Appendix E3. Mean vegetation height (cm m^{-2}, n=4 per node) for full marsh (Cont.)
September 1994

	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5		E1		E2		E3		E4		E5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	.	.	15.0	15.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	9.0	9.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.3	4.3	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	6.5	6.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	1.	1.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	33.5	19.5	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	19.8	19.8	.	.	.	.	.	.	7.5	7.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	43.5	2.0	19.5	19.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	53.0	2.5	.	.	.	.	.	.	33.3	2.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	58.3	33.7	.	.	.	.	.	.	57.5	28.4	24.0	24.0	31.0	31.0	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11.5	11.5	.	.	.	.	.	.	.	.	.	.
LUDOCT	.	.	.	.	3.	3.	.	.	.	.	.	.	182.8	34.3	.	.	58.8	58.8	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.3	2.5
SALCAR	.	.	.	.	29.0	17.1	.	.	.	.	.	.	.	.	.	.	19.5	19.5	18.8	18.8	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	104.3	60.2	219.5	15.7	147.8	4.3	167.8	4.5	195.0	14.3	101.0	58.5	204.5	4.5	232.3	3.6	83.5	48.2	222.3	14.4	219.5	10.8	226.3	9.6	163.8	54.7	241.5	5.6
TYPLATseed	.	.	.	.	.	.	0.3	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	15.0	8.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	F1		F2		F3		F4		F5		G1		G2		G3		G4		G5	
SPECIES	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE	X	SE
ALTPHI	.	.	.	.	.	.	.	.	12.8	12.8	.	.	.	.	.	.	.	.	.	.
AMASPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AMMCOC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMDIF	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPIRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYPODO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
DIGSER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ECHCOL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EICCRA	.	.	7.3	7.3	6.3	6.3	17.3	10.1	2.	13.1	23.5	18.8	.	.	.	.	.	.	.	.
EUPCAP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LEMSPP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LUDOCT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SAGLANseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SALCAR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TYPLAT	.	.	107.0	61.8	94.3	58.6	18.	38.7	.	.	23.3	23.3	.	.	.	.	.	.	.	.
TYPLATseed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WOOVIR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix E4. Mean water depth (cm m^{-2}, n=12 per node) for full marsh. Alpha-numeric column headings refer to full marsh flow-ways (C-G) and sample nodes (1-5). Level 1 = first water level measurements. Level 2 = water level measurement through floating mat or suspended soil.

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LEVEL 1	C1		C2		C3		C4		C5		D1		D2		D3		D4		D5	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
WL1	35.00	4.22	31.00	4.45	5.25	0.48	20.25	2.36	24.50	3.97	28.25	3.92	.	.	20.75	4.94	12.50	2.18	.	.
WL2	33.00	5.15	29.00	2.35	6.25	1.93	19.00	0.41	26.25	4.25	29.50	4.17	.	.	20.50	4.57	15.00	2.12	.	.
WL3	34.75	3.64	31.50	4.87	3.00	2.12	21.75	4.03	24.50	3.01	28.25	4.77	.	.	21.50	4.77	13.25	3.30	0.25	0.25
Plot	34.25	2.60	30.50	2.14	4.83	0.97	20.33	1.45	25.08	1.99	28.67	2.25	.	.	20.92	2.49	13.58	1.39	0.08	0.08

LEVEL 1	E1		E2		E3		E4		E5		F1		F2		F3		F4		F5	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
WL1	34.75	2.50	37.50	3.62	40.75	4.50	39.00	0.82	30.25	2.17	54.75	2.87	52.33	1.44	51.25	1.65	48.75	4.63	42.25	2.02
WL2	34.25	2.93	35.75	3.33	38.75	4.71	37.00	1.68	27.75	1.11	50.75	3.54	49.00	2.65	49.00	1.47	49.75	4.33	43.75	1.93
WL3	37.75	2.87	36.75	3.28	38.25	3.50	38.75	2.63	29.00	2.68	51.00	3.39	51.67	1.44	50.50	2.33	48.75	2.75	44.25	1.65
Plot	35.58	1.52	36.67	1.79	39.25	2.25	38.25	1.01	29.00	1.13	52.17	1.80	48.67	1.60	50.25	1.01	49.08	2.09	43.42	1.01

LEVEL 1	G1		G2		G3		G4		G5	
	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE	MEAN	SE
WL1	39.00	5.12	59.00	1.08	62.25	0.95	59.25	1.03	56.75	2.84
WL2	37.00	5.34	59.75	1.60	63.25	1.60	60.00	0.71	56.50	2.53
WL3	35.75	5.12	60.00	1.41	63.50	2.78	59.25	0.75	57.00	1.96
Plot	37.25	2.74	59.58	0.73	63.00	1.02	59.50	0.45	56.75	1.29

Appendix E4. Mean water depth (cm m^{-2}, n=12 per node) for full marsh (Cont.).
September 1994

Depth	C1 MEAN	SE	C2 MEAN	SE	C3 MEAN	SE	C4 MEAN	SE	C5 MEAN	SE	D1 MEAN	SE	D2 MEAN	SE	D3 MEAN	SE	D4 MEAN	SE	D5 MEAN	SE
LEVEL 1																				
WL1	75.50	1.85	7.25	1.44	32.50	2.06	54.33	2.02	54.00	1.29	60.75	5.86	22.75	1.25	51.50	6.50	37.75	2.75	29.25	2.78
WL2	73.25	2.06	5.00	1.08	31.00	1.08	52.00	1.32	53.00	0.71	62.00	4.88	20.50	1.04	48.00	6.48	38.50	2.22	28.00	0.91
WL3	75.00	1.78	10.00	2.04	36.50	3.48	51.00	1.32	53.25	1.11	60.50	3.77	20.25	1.65	50.00	4.55	37.50	1.66	30.25	2.90
Plot	74.58	1.03	7.42	1.03	33.33	1.44	52.44	0.90	53.42	0.57	61.08	2.57	21.17	0.78	49.83	3.12	37.92	1.18	29.17	1.27
LEVEL 2																				
WL1	75.50	1.85	65.75	1.65	32.50	2.06	54.00	1.68	54.00	1.29	60.75	5.86	22.75	1.25	51.50	6.50	37.75	2.75	29.25	2.78
WL2	73.25	2.06	66.25	2.25	31.00	1.08	51.75	1.11	53.00	0.71	62.00	4.88	20.50	1.04	48.00	6.48	38.50	2.22	28.00	0.91
WL3	75.00	1.78	67.75	2.50	36.50	3.48	50.75	1.11	53.25	1.11	60.50	3.77	20.25	1.65	50.00	4.55	37.50	1.66	30.25	2.90
Plot	74.58	1.03	66.58	1.16	33.33	1.44	52.17	0.81	53.42	0.57	61.08	2.57	21.17	0.78	49.83	3.12	37.92	1.18	29.17	1.27

LEVEL 1	E1 MEAN	SE	E2 MEAN	SE	E3 MEAN	SE	E4 MEAN	SE	E5 MEAN	SE	F1 MEAN	SE	F2 MEAN	SE	F3 MEAN	SE	F4 MEAN	SE	F5 MEAN	SE
WL1	66.75	3.68	67.00	1.58	68.50	4.63	70.75	3.35	61.75	2.78	88.00	3.44	84.67	0.29	79.00	2.48	87.75	2.66	76.50	1.55
WL2	69.75	4.39	67.50	0.65	71.25	4.01	69.50	3.38	62.25	1.93	86.00	2.68	85.33	0.76	80.75	2.14	85.25	1.44	78.50	2.33
WL3	68.75	2.29	68.25	1.44	72.50	5.11	71.00	3.72	59.00	1.29	87.00	3.76	85.33	2.02	80.25	1.31	87.25	2.78	77.50	1.50
Plot	68.42	1.90	67.58	0.69	70.75	2.46	70.42	1.83	61.00	1.17	87.00	1.75	85.67	0.69	80.00	1.09	86.75	1.28	77.50	0.99
WATER LEVEL 2																				
WL1	66.75	3.68	67.00	1.58	68.50	4.63	70.75	3.35	61.75	2.78	88.00	3.44	84.67	0.29	79.00	2.48	87.75	2.66	76.50	1.55
WL2	69.75	4.39	67.50	0.65	71.25	4.01	69.50	3.38	62.25	1.93	86.00	2.68	85.33	0.76	80.75	2.14	85.25	1.44	78.50	2.33
WL3	68.75	2.29	68.25	1.44	72.50	5.11	71.00	3.72	59.00	1.29	87.00	3.76	85.33	2.02	80.25	1.31	87.25	2.78	77.50	1.50
Plot	68.42	1.90	67.58	0.69	70.75	2.46	70.42	1.83	61.00	1.17	87.00	1.75	85.67	0.69	80.00	1.09	86.75	1.28	77.50	0.99

	G1 MEAN	SE	G2 MEAN	SE	G3 MEAN	SE	G4 MEAN	SE	G5 MEAN	SE
WATER LEVEL 1										
WL1	48.75	12.95	80.75	1.11	82.50	1.66	78.50	1.19	77.50	1.89
WL2	49.50	14.84	81.50	0.65	82.75	2.53	79.00	1.58	77.50	1.66
WL3	48.00	14.43	81.75	1.93	83.25	2.25	78.25	0.75	77.00	2.04
Plot	48.75	7.36	81.33	0.71	82.83	1.14	78.58	0.65	77.33	0.98
WATER LEVEL 2										
WL1	57.25	4.52	80.75	1.11	82.50	1.66	78.50	1.19	77.50	1.89
WL2	58.25	6.10	81.50	0.65	82.75	2.53	79.00	1.58	77.50	1.66
WL3	58.00	4.64	81.75	1.93	83.25	2.25	78.25	0.75	77.00	2.04
Plot	57.83	2.69	81.33	0.71	82.83	1.14	78.58	0.65	77.33	0.98