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Volume Seven, Number One
Gualaca, Panama Project

Cycle I of the
CRSP Global Experiment

Pond Dynamics/Aquaculture CRSP
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Gualaca, Panama: Cycle I of The Global Experiment

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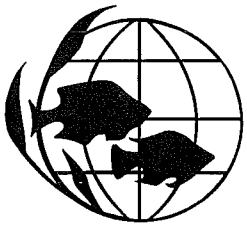

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FOREWORD

The Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP) represents an international community of researchers and institutions dedicated to strengthening health and nutrition in developing countries by improving the efficiency of pond aquaculture systems. It is one of several agricultural CRSPs supported by the U.S. Agency for International Development under the authority of Title XII of the International Development and Food Assistance Act of 1975.

The "Global Experiment" in Pond Dynamics/Aquaculture is the major CRSP research activity, covering the period from 1982 to 1987. The Global Experiment was designed to quantitatively describe the physical, chemical and biological principles of pond culture systems. The information gained from the Global Experiment will be used to improve production technologies and develop quantitative production functions to facilitate rigorous economic analyses of aquaculture systems.

Standardization is a key element of the Global Experiment. Standardization permits the comparison of data from diverse geographic locations. The experimental design involves monitoring specified environmental and fish production variables in accordance with standardized work plans in twelve or more ponds at each of seven geographical locations. The variables observed, frequency of observation, and materials and methods are uniform for all locations. The field data are filed in a centralized data base, called the CRSP Central Data Base. Statistical methods will be used to test hypotheses about correlations between variables and to evaluate the sources of variance within ponds, between ponds within locations, and between locations.

The CRSP Central Data Base will be used to develop predictive models of the processes occurring in pond culture systems. The models will be used to provide guidance for ongoing and future research, to predict the performance of existing and proposed pond systems subject to specific inputs and constraints, and to improve the operation and efficiency of pond culture systems.

The Global Experiment includes three cycles of experiments. Each cycle consists of two series of observations, one during the dry season and one during the wet season. The objective of the first cycle is to create a detailed baseline of chemical, physical, and biological data on all ponds treated with a standard level of inorganic fertilizer. In the second experimental cycle, ponds treated with inorganic fertilizer are compared to ponds treated with organic fertilizer. In the third cycle, the responses of ponds to different levels of organic fertilizer are compared.

The goal of the Pond Dynamics/Aquaculture Collaborative Research Data Reports (referred to as Data Reports) is to record the CRSP Central Data Base and to present interpretations of site specific results. The Pond Dynamics/Aquaculture CRSP has conducted the Global Experiment at seven project sites in six developing countries: Thailand, Indonesia, the Philippines, Panama, Honduras, and Rwanda. The first volume of these reports provides descriptive information for each CRSP site. It presents the physical characteristics of each site, including a geographical sketch, climatology, and water and soil analyses. Experimental cycles are described in CRSP Work Plans One to Three, which are summarized in the first volume.

Volume One will serve as the reference volume for the entire report series. Subsequent volumes will focus on each site separately. Each Data Report will include one cycle (wet and dry seasons) of the Pond Dynamics/Aquaculture CRSP Global Experiment. Therefore, with few exceptions, each project site will have three Data Reports devoted to it, representing the results of the three cycles of the Global Experiment. In addition to the hard copy of experimental data published as a part of each Data Report, data are also available from the PD/A CRSP in electronic form (on diskette) for computer analysis. Cycle I of the Global Experiment in Gualaca, Panama is presented in this volume.

INTRODUCTION

The Gualaca Freshwater Aquaculture Research Station was built in 1984 in Chiriqui Province, western Panama, to supply fingerlings of tilapia, carps, and other fish to producers in the area, and to conduct research in aquaculture. A description of the site and station facilities is given by Egna et al. (1987).

This report covers the dry and wet season studies of Cycle I of the CRSP Global Experiment, which were conducted during 1985 in Gualaca. The purpose of the studies was to establish a baseline of physical, chemical, biological, and hydrological characteristics for a set of ponds being fertilized solely with inorganic phosphorus. The climate at Gualaca is seasonal, with one rainy and one dry season each year. The Cycle I experiment was therefore conducted once each season to determine if there were differences related to season.

MATERIALS AND METHODS

The experimental design and data collection were the same for each season, except for differences which are discussed below. Twelve earthen ponds (868 m^2) were stocked with male *Oreochromis niloticus* (Nile tilapia) fingerlings at a rate of 1 fish/m^2. Males were manually separated from a mixed-sex population prior to the experiment. Fish mortalities observed during the week after stocking were replaced with fish of similar size. The water in all ponds was maintained at a depth of approximately 90 cm. Water was added only when necessary to replace evaporation and seepage.

Phosphorus fertilizer in the form of triple superphosphate (42% P_2O_5) was added every two weeks at a rate of 4 kg P_2O_5/ha. The fertilizer was mixed with water and dispersed over the pond surface as a liquid. Fertilizer that remained undissolved was placed on a platform in the pond.

Water samples for chemical analysis were taken between 0730 and 0930 hours with a 90-cm column sampler. Each water sample was a composite of at least five subsamples from different locations in the pond. Chemical analyses were carried out according to procedures described in *Standard Methods* (APHA et al. 1975). Early morning dissolved oxygen and pH were measured weekly; filterable orthophosphate was measured every two weeks; and total phosphorus, nitrate nitrogen, total ammonia nitrogen, total alkalinity, and total hardness were measured once a month. The fate of phosphate fertilizer was monitored by measuring filterable orthophosphate 1, 2, 3, 6, and 13 days after each monthly application of fertilizer.

Secchi disk visibility was measured weekly, and chlorophyll *a* and primary productivity were measured every two weeks. During the dry season, primary productivity was measured in light-dark bottles placed 35 cm below the pond surface. During the wet season, primary productivity was determined from changes in diel oxygen concentrations according to the method of Hall and Moll (1975).

Maximum and minimum water temperatures 25 cm below the surface and 25 cm above the bottom were recorded twice a week in two ponds during the wet season. Maximum and minimum water temperatures were not taken during the dry season, because of a lack of equipment. Evaporation, rainfall, and seepage were measured five days a week.

Photosynthetically active radiation was measured daily by photometry. Fish growth was monitored by sampling fish in each pond on a monthly basis. The dry season study began on 15 February 1985 and ended on 21 May 1985. The wet season study began on 8 July 1985 and ended on 2 December 1985.

Data were tabulated as means for each pond during each season. Unpaired t-tests were used to determine differences between seasons, using computer software by Feldman et al. (1988). Relationships among variables were examined by regression analyses. Differences were considered significant at an alpha level of 0.05.

RESULTS AND DISCUSSION

Hydrology and soils

The mean water temperatures for the dry and wet seasons were 25.8 and 28.3°C, respectively. Mean minimum and maximum water temperatures for the wet season are summarized in Table 1. Mean weekly rainfall ranged from 0 mm/d (January to March) to 40 mm/d (September) (Figure 1).

Mean weekly pond evaporation ranged from 1.2 mm/d during the rainy season to 10.6 mm/d during the dry season, with an annual mean of 4.0 mm/d (Figure 2). Solar radiation was lower during the wet season (Figure 3). Mean solar radiation for dry and wet season was 40.7 and 31.9 E/m^2/d, respectively. Mean pond seepage ranged from 19 to 58 mm/d. A water budget for the station is presented in Table 2.

Means for pond soil variables, measured before and after the dry season and after the wet season study, are summarized in Tables 3, 4, and 5. The most notable changes in soil constituents–increases in Ca and pH and a decrease in Al–resulted from heavy liming of ponds.

Water quality

Results of water quality analyses are summarized by pond in Table 6 and by season in Table 7. Data from pond #10 (wet season) were excluded from the analyses because of accidental drainage.

Concentrations of phosphorus peaked and then decreased rapidly following the application of triple superphosphate (Figure 4). The disappearance of phosphorus in the water column is attributed to adsorption by soils. Filterable orthophosphate was significantly lower in the wet season than in the dry season, but total phosphorus was significantly higher in the wet season.

Only traces of nitrate nitrogen were found during the wet or the dry season. Determinations of total ammonia nitrogen during the dry season were not considered reliable, so comparison between seasons was inappropriate.

Total alkalinity and total hardness tended to increase during the beginning of each season, as limestone dissolved, and decrease during the remainder of the season. Decreases in alkalinity and hardness levels were attributed to relatively high pond seepage. Total alkalinity and hardness levels were significantly lower in the wet than in the dry season.

Minor elements measured in the water column at the beginning and end of the wet season are summarized in Table 8.

Biological variables

Secchi disk visibilities sometimes exceeded pond depths, which averaged 100 and 105 cm during dry and wet seasons, respectively. In these cases, a visibility of 105 and 110 was arbitrarily assigned to ponds during dry and wet seasons, respectively. Secchi disk visibilities showed no trends during the dry season (Figure 5), but decreased to consistently lower levels during the second half of the wet season (Figure 6). There was no difference in secchi disk visibility between seasons.

Mean chlorophyll *a* values were low during both seasons, and showed no apparent trends during either season (Figures 5 and 6). There was no significant difference between seasons for chlorophyll *a* values.

Primary productivity was low during both seasons. Except for net primary productivity, which increased with time in the dry season (Figure 7), no temporal trends in primary productivity were observed (Figure 8). Differences between seasons could not be statistically tested, because different methods were used each season to determine primary productivity.

Gross fish yields during the dry (380 kg/ha) and wet (356 kg/ha) seasons were not significantly different (Table 9). Reproduction occurred during both seasons because of human error during fish sexing. Stocked fish ceased growing after two months in both seasons (Figures 9 and 10), partly because of competition from reproduction. Ponds yielding greater weights of stocked fish also had greater reproduction ($P < 0.05$; $r = 0.60$). Because the carrying capacity of ponds was apparently reached during each season (Figures 9 and 10), a good estimate of maximum fish biomass in ponds that receive inorganic phosphorus as the sole nutrient input has been demonstrated for Gualaca.

There were no simple correlations between chlorophyll *a*, secchi disk visibility, and gross primary productivity (GPP), or between chlorophyll *a* or GPP and water quality variables. The lack of correlation may have resulted from low variability among pond means for most variables. Gross fish yield was not significantly correlated with net primary productivity (NPP), GPP, or chlorophyll *a* (Figure 11) for combined data, but there was a significant relationship between gross fish yield and NPP ($r = 0.81$) and GPP ($r = 0.69$) during the dry season (Figure 12).

SUMMARY

Applications of limestone to pond bottoms during Cycle I increased soil pH and Ca, and decreased Al. The carrying capacity of ponds that had been limed to total alkalinity of 20 mg $CaCO_3$/L or higher, and that had received triple superphosphate as the sole nutrient input, was under 400 kg/ha. Mean gross primary productivity was less than 3 mg O_2/L/d, and mean filterable orthophosphate, total phosphorus, total ammonia nitrogen, and nitrate nitrogen were usually less than 0.05 mg/L, 0.11 mg/L, 0.3 mg/L and 0.00 mg/L, respectively. Differences between dry and wet seasons were reflected primarily in the climatological variables. Precipitation was greater during the wet season, while evaporation and solar radiation were less. Concentrations of chemical constituents in the pond water were usually lower during the wet season because of dilution by rainfall. However, chlorophyll *a* and gross fish yield were not different between seasons.

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Table 1. Mean weekly maximum and minimum water temperatures* (°C) taken at depths of 25 cm from the surface (S) and 25 cm from the pond bottom (B) during the wet season of Cycle I at Gualaca, Panama.

			Week of each month						
			1	2	3	4	X**	SD	N
July	Max	(S)	---	33.5	32.8	32.2	32.6	0.86	6
	Min	(S)	---	28.0	29.0	28.5	28.6	0.38	6
	Max	(B)	---	30.0	30.0	30.3	30.2	0.98	6
	Min	(B)	---	28.0	28.0	29.0	28.4	0.80	6
Aug	Max	(S)	30.0	31.5	31.5	33.2	32.6	0.81	8
	Min	(S)	28.5	27.5	29.5	28.0	28.3	0.83	8
	Max	(B)	29.5	28.8	30.0	30.5	29.8	1.03	8
	Min	(B)	29.5	28.0	29.0	28.3	28.6	0.74	8
Sept	Max	(S)	33.0	31.3	31.5	32.0	31.9	1.05	8
	Min	(S)	27.8	28.0	28.0	29.3	28.3	0.76	8
	Max	(B)	31.5	30.0	30.0	30.0	30.4	0.92	8
	Min	(B)	28.5	28.8	28.5	29.8	28.9	0.69	8
Oct	Max	(S)	31.3	32.0	31.6	31.9	31.7	0.53	8
	Min	(S)	28.0	27.0	26.3	28.2	27.5	1.68	8
	Max	(B)	28.8	29.0	30.8	30.3	29.7	1.43	8
	Min	(B)	25.3	28.0	25.6	28.3	26.8	3.20	8
Nov	Max	(S)	30.0	30.4	31.5	31.4	30.8	0.74	8
	Min	(S)	26.5	27.6	28.6	28.6	27.8	0.92	8
	Max	(B)	28.9	29.5	29.9	29.5	29.4	0.65	8
	Min	(B)	26.9	28.0	28.8	28.3	28.0	0.75	8

* Water temperatures were recorded in one pond twice a week until the third week of October; thereafter they were recorded in two ponds twice a week.

** The means and standard deviations were calculated from the original data rather than from the weekly means.

Table 2. Water budget for the Gualaca Freshwater Aquaculture Research Station during 1985.

Month	Rainfall	Water gain (mm/d) Runoff	Total	Seepage	Water loss (mm/d) Evap	Total	Water balance (mm/d)	Station Replacement water** (m^3/d)	Potential water balance*** (mm/d)
January	0	0	0	31	6.2	37	-37	1180	-16
February	0	0	0	31	7.8	39	-39	1250	-18
March	0	0	0	31	8.4	39	-39	1250	-18
April	4	8	12	31	5.6	37	-25	800	-4
May	13	20	33	31	3.1	34	-1	30	20
June*	11	18	29	31	2.3	33	-4	130	17
July	9	16	25	31	1.4	32	-7	220	14
August	12	19	31	31	1.6	33	-2	60	19
September	27	20	47	31	1.8	33	14	0	35
October	13	20	33	31	2.4	33	0	0	21
November	14	21	35	31	2.6	34	1	0	22
December	7	13	20	31	4.4	35	-15	480	6
Mean	9	13	22	31	4.0	35	-13	450	8

*Values estimated by interpolation because measurements were unavailable.
**Based on a total water surface area of 3.2 ha.
***Hypothetical water balance if seepage rates were reduced from 31 to 10 mm/d.

Table 3. Analysis of pond soil samples collected before the dry season experiment of Cycle I at Gualaca, Panama.

Pond #	SO_4^{2-} (ppm)	pH	Na	Ca (meq/100 ml)	Mg	Al	% Organic matter	Cl^- (meq/100 ml)	CO_3	% Composition Sand	Silt	Clay
1	20.2	5.1	0.297	4.46	0.83	2.8	2.6	0.030	tr.	42	24	34
2	14.9	5.1	0.237	3.77	0.86	4.5	2.7	0.020	tr.	48	24	28
3	13.7	4.9	0.275	1.93	0.89	7.4	2.3	0.089	tr.	44	26	30
4	14.2	4.7	0.249	1.39	0.58	7.8	3.1	0.020	tr.	44	26	30
5	11.9	4.9	0.264	1.72	0.49	7.8	2.1	tr.	tr.	42	26	32
6	20.7	5.0	0.926	2.56	0.64	4.5	3.9	tr.	tr.	54	22	24
7	15.2	4.9	0.271	2.02	0.57	4.98	2.3	0.020	tr.	40	24	36
8	12.5	5.0	0.554	2.56	0.70	6.88	2.0	tr.	tr.	52	22	26
9	19.5	5.0	0.409	2.03	0.52	6.17	3.0	0.015	tr.	50	24	26
10	19.5	5.2	0.582	2.16	0.49	3.56	3.2	0.020	tr.	46	24	30
$\bar{X}$	16.2	5.0	0.406	2.40	0.66	5.64	2.7	0.031	--	46	24	30
SD	3.4	0.1	0.222	0.95	0.16	1.82	0.6	0.026	--	5	2	4

Table 4. Analysis of pond soil samples collected after the dry season experiment of Cycle I at Gualaca, Panama.

Pond #	pH	P (µg/ml)	K (µg/ml)	Ca (meq/100 ml)	Mg (meq/100 ml)	Al (meq/100 ml)	O.M. (%)	Mn (µg/ml)	Fe (µg/ml)	Zn (µg/ml)	Co (µg/ml)	% Composition Sand	Silt	Clay
1	5.0	8.9	207.2	2.9	0.4	1.4	2.41	101.5	48.2	4.5	2.8	22	28	50
2	4.9	1.7	149.6	3.3	0.5	1.3	2.68	145.7	67.8	4.2	3.4	36	26	38
3	5.0	5.3	231.7	5.6	0.5	0.2	2.55	56.2	42.8	3.6	2.0	30	28	42
4	6.3	5.3	151.3	9.6	0.3	tr.	3.48	48.1	32.8	4.0	2.6	24	32	44
5	7.2	9.7	198.1	14.9	0.2	tr.	3.62	47.2	11.2	2.5	0.8	26	30	44
6	6.2	1.1	208.2	8.6	0.5	tr.	3.89	39.0	39.6	1.5	3.0	24	30	46
7	6.1	1.1	290.6	7.8	0.4	tr.	1.88	49.3	36.7	0.7	2.0	20	30	50
8	6.5	1.1	232.4	8.3	0.5	tr.	2.81	46.2	48.2	0.7	3.1	22	26	52
9	7.4	1.1	267.7	12.3	0.1	tr.	2.14	15.8	15.8	0.8	2.2	20	32	48
10	6.0	1.1	214.8	7.2	0.4	tr.	2.48	41.7	41.7	1.1	2.7	30	28	42
$\bar{X}$	6.1	3.6	225.2	8.1	0.4	---	2.89	65.2	38.4	2.4	2.5	25	29	46
SD	0.88	3.43	53.13	3.71	0.14	---	0.684	33.29	16.24	16.24	0.75	5.2	2.2	4.4

Table 5. Analysis of pond soil samples collected after the wet season experiment of Cycle I at Gualaca, Panama.

Pond #	Sand	Silt (%)	Clay	pH	P (µg/ml)	K (µg/ml)	Ca (meq/100ml)	Mg (meq/100ml)	Al (meq/100ml)	OM (%)	Mn (µg/ml)	Fe (µg/ml)	Zn (µg/ml)	Cu (µg/ml)	Color
1	28	28	44	5.8	1.7	33.3	11.9	0.9	tr.	2.85	155.4	90.0	tr.	6.2	Strong brown
2	36	28	36	5.6	4.1	40.2	13.2	1.1	tr.	2.14	162.0	78.2	tr.	5.6	" "
3	40	26	34	5.1	1.7	37.9	9.4	0.9	0.6	2.95	117.6	83.3	tr.	5.0	" "
4	46	26	28	5.9	2.9	37.0	12.3	0.7	tr.	3.22	106.6	63.3	tr.	4.7	" "
5	46	26	28	5.5	2.3	30.0	10.5	0.7	tr.	2.95	109.9	64.8	tr.	6.1	" "
6	44	26	30	5.9	1.1	33.8	10.6	0.7	tr.	4.02	101.6	70.8	tr.	5.2	Yellowish brn.
7	52	22	26	6.0	2.9	32.7	9.4	0.7	tr.	2.68	109.9	74.6	tr.	5.1	Strong brown
8	38	22	40	6.1	1.7	35.8	11.4	0.9	tr.	2.01	100.0	69.6	22.7	5.7	" "
9	38	26	36	5.3	1.7	33.3	8.3	0.7	0.3	3.08	116.9	74.6	tr.	5.1	" "
10	36	24	40	5.5	1.7	36.4	10.9	0.7	tr.	3.48	131.5	68.0	4.1	5.8	" "
17	36	20	44	6.1	1.7	39.8	12.6	0.9	tr.	2.14	153.3	79.1	1.3	7.2	" "
18	34	20	46	6.5	1.7	38.3	13.7	1.2	tr.	1.88	88.8	45.0	0.8	6.1	" "
$\bar{X}$	40	25	36	5.6	2.1	35.7	11.2	0.8	0.1	2.79	121.1	71.8	2.4	5.7	
SD	6.5	2.8	6.9	---	0.82	3.1	1.6	0.17	0.19	0.65	24.0	11.4	6.5	0.69	

Table 6. Means, by pond, for variables measured during dry and wet seasons of Cycle 1, 1985, Gualaca, Panama.

Dry Season

Pond	Total phosphorus (mg/l PO_4-P)	Filterable phosphate (mg/l PO_4-P)	Total ammonia (mg/l NH_3-N)	Nitrate nitrogen (mg/l NO_3-N)	Total alkalinity (mg/l $CaCO_3$)	Total hardness (mg/l $CaCO_3$)	pH	Dissolved oxygen (mg/l)	Chlorophyll a (µg/l)	Secchi disk (cm)
1	0.074	0.041	-	0.003	52	41	6.61	7	3.6	65
2	0.099	0.042	-	0.003	44	36	6.71	6.8	4.7	61
3	0.078	0.053	-	0.003	60	47	6.8	6.9	3.8	74
4	0.049	0.035	-	0.002	54	44	6.79	6.9	3.9	84
5	0.121	0.045	-	0.003	51	43	6.81	6.9	6	69
6	0.058	0.028	-	0.002	60	49	6.85	6.9	5.9	85
7	0.055	0.034	-	0.001	57	43	6.86	6.9	4.3	86
8	0.114	0.045	-	0.001	44	35	6.76	7.1	1.1	90
9	0.081	0.058	-	0	54	40	6.86	7.1	2.7	91
10	0.068	0.07	-	0	38	33	6.86	7.2	6.6	92
17	0.121	0.034	-	0.001	44	35	6.87	6.9	4.4	80
18	0.053	0.068	-	0.001	37	28	6.69	7	4.8	84

Wet Season

1	0.106	0.023	0.33	0	28.2	34.9	6.9	6.69	9.9	87
2	0.105	0.019	0.32	0	28.5	33.3	6.97	6.5	3.6	94
3	0.106	0.029	0.3	0	25.1	34.9	6.97	6.6	4.2	93
4	0.117	0.032	0.4	0	18.4	22	6.75	6.69	6.7	84
5	0.104	0.029	0.27	0	23.6	29	6.92	6.66	5.2	102
6	0.09	0.028	0.23	0	27.9	33.8	7.11	6.71	5	101
7	0.089	0.036	0.23	0	26.3	31.1	7.06	6.78	4.2	101
8	0.095	0.032	0.24	0.011	17.7	23.4	6.91	6.93	9.4	86
9	0.086	0.033	0.25	0.011	21.7	26.4	6.9	6.98	4	82
17	0.108	0.035	0.25	0.011	21.9	28	7.11	6.75	7.4	77
18	0.135	0.04	0.31	0	12	16	6.68	6.74	5	67

Table 7. Seasonal means (±SE) for variables measured during dry and wet seasons of Cycle 1, 1985, Gualaca, Panama. N = 12 and 11 for dry and wet seasons, respectively.

Variable	Season	
	Wet	Dry
Gross fish yield (kg/ha)	356 ± 26.9 a	380 ± 15.3 a
Total alkalinity (mg/L $CaCO_3$)	24 ± 1.2 a	50 ± 2.3 b
Total hardness (mg/L $CaCO_3$)	30 ± 1.5 a	40 ± 1.8 b
Total ammonia (mg/L NH_3-N)	0.28 ± 0.055	- na
Nitrate (mg/L NO_3-N)	0.003 ± 0.005 a	0.002 ± 0.0003 a
Total phosphorus (mg/L PO_4-P)	0.10 ± 0.003 a	0.08 ± 0.008 b
Filt. orthophosphate (mg/L PO_4-P)	0.03 ± 0.002 a	0.05 ± 0.004 b
Early morning pH	6.9 ± 8.03 b	6.8 ± 8.01 a
Secchi disk visibility (cm)	91 ± 2.8 b	80 ± 3.0 a
Gross prim. prod. (mg O_2/L/d)	2.3 ± 0.09	1.5 ± 0.15 na
Net prim. prod. (mg O_2/L/d)	1.3 ± 0.04	0.3 ± 0.07 na

a,b: Seasonal means followed by the same letter are not different ($P > 0.05$).
na: Statistical testing non-applicable or inappropriate.

Table 8. Major and minor elements found in ponds at the beginning (Initial) and end (Final) of the wet season of Cycle 1, 1985, Gualaca, Panama.

Initial

	ppm								
Pond	Na	K	Ca	Mg	B	Cu	Zn	Mn	Fe
1	0.90	0.17	3.58	0.38	Below detectable limits				0.52
2	0.97	0.18	3.40	0.46					0.58
3	0.90	0.17	3.66	0.42					0.74
4	0.74	0.13	3.66	0.30					1.78
5	1.04	0.14	3.26	0.46					0.74
6	0.96	0.14	3.38	0.42					0.63
7	0.92	0.14	3.40	0.40					0.50
8	0.87	0.13	3.46	0.19					0.41
9	0.90	0.14	3.18	0.42					0.83
17	0.93	0.16	3.48	0.46					0.75
18	0.90	0.16	2.92	0.46					0.65
Mean	0.91	0.15	3.40	0.40					0.74
SD	0.074	0.018	0.218	0.084					0.367

Final

	ppm								
Pond	Na	K	Ca	Mg	B	Cu	Zn	Mn	Fe
2	0.31	0.12	3.96	0.26	Below detectable limits				0.29
3	0.32	0.13	3.74	0.26					0.26
4	0.39	0.10	3.76	0.16					0.21
5	0.38	0.10	3.90	0.22					0.19
6	0.37	0.14	4.20	0.24					0.23
7	0.36	0.11	4.16	0.22					0.22
8	0.32	0.10	4.04	0.20					0.21
9	0.32	0.11	3.54	0.18					0.29
10	0.40	0.13	3.82	0.22					0.22
17	0.40	0.20	4.54	0.56					0.24
18	0.36	0.11	3.26	0.22					0.24
Mean	0.36	0.12	3.90	0.25					0.24
SD	0.034	0.029	0.344	0.107					0.032

Table 9. Yields of *Oreochromis niloticus* stocked at $1/m^2$ during dry and wet seasons of Cycle 1, 1985, Gualaca, Panama.

Dry Season

Pond	Area (m^2)	Initial mean wt. (g)	Final mean wt. (g)	Survival (%)	Final wt. of adult fish (kg/ha)	Fingerling production (kg/ha)	Gross yield (kg/ha)	Net yield (kg/ha)
1	832	28	43	86	371	62	433	153
2	818	30	45	88	396	98	494	196
3	815	31	37	91	339	42	381	73
4	885	29	38	84	340	56	397	109
5	928	29	38	81	306	34	340	50
6	859	28	41	88	359	65	423	143
7	826	29	37	89	328	65	392	104
8	826	31	37	81	298	33	331	17
9	890	29	34	81	274	35	308	22
10	839	28	33	81	281	70	351	71
17	1037	26	30	96	286	92	378	117
18	865	27	32	88	284	41	326	58

Wet Season

1	832	17	30	85	258	171	429	263
2	818	17	25	93	232	88	320	155
3	815	16	26	88	226	50	277	113
4	885	17	25	91	230	76	306	138
5	928	15	28	89	245	223	468	310
6	859	17	30	91	270	171	441	275
7	826	16	25	98	244	116	361	197
8	826	17	23	118	275	125	401	235
9	890	16	27	97	262	158	419	257
17	1037	18	24	89	231	108	339	159
18	865	16	20	64	129	32	161	0

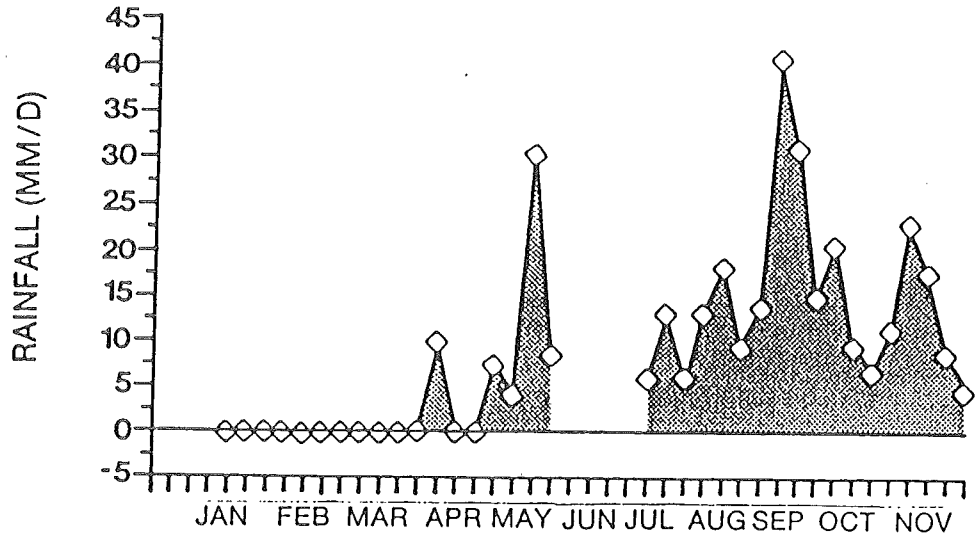

Figure 1. Mean weekly rainfall during Cycle I at Gualaca, Panama.

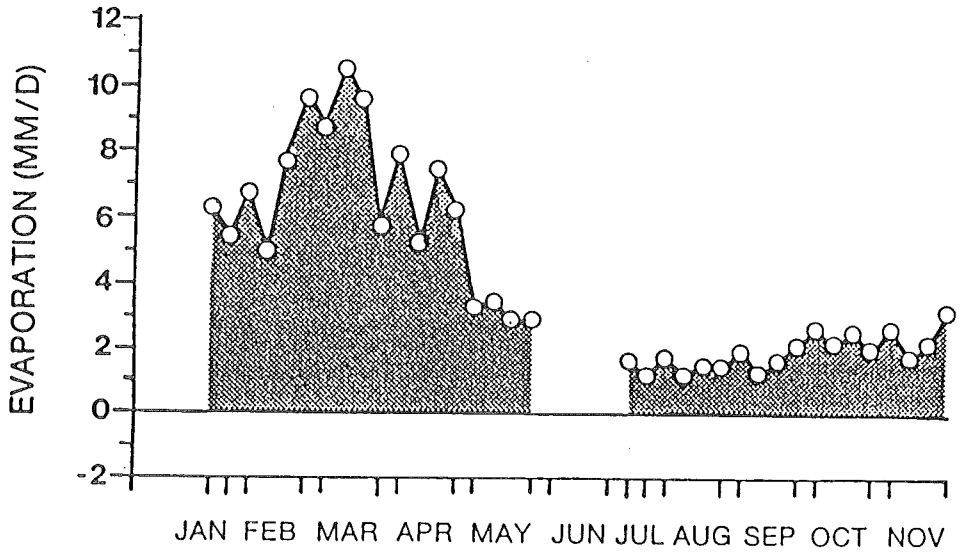

Figure 2. Mean weekly pond evaporation during Cycle I experiments at Gualaca, Panama.

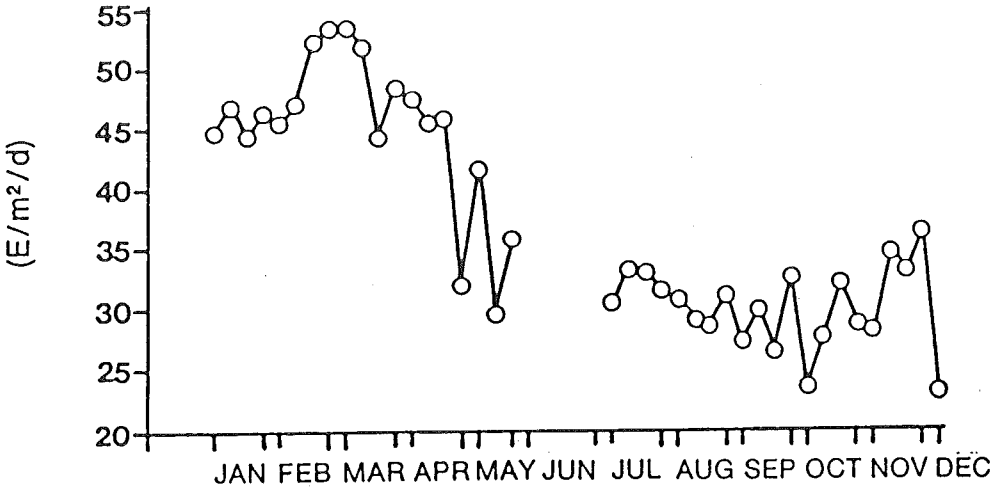

Figure 3. Mean weekly solar radiation during Cycle I at Gualaca, Panama.

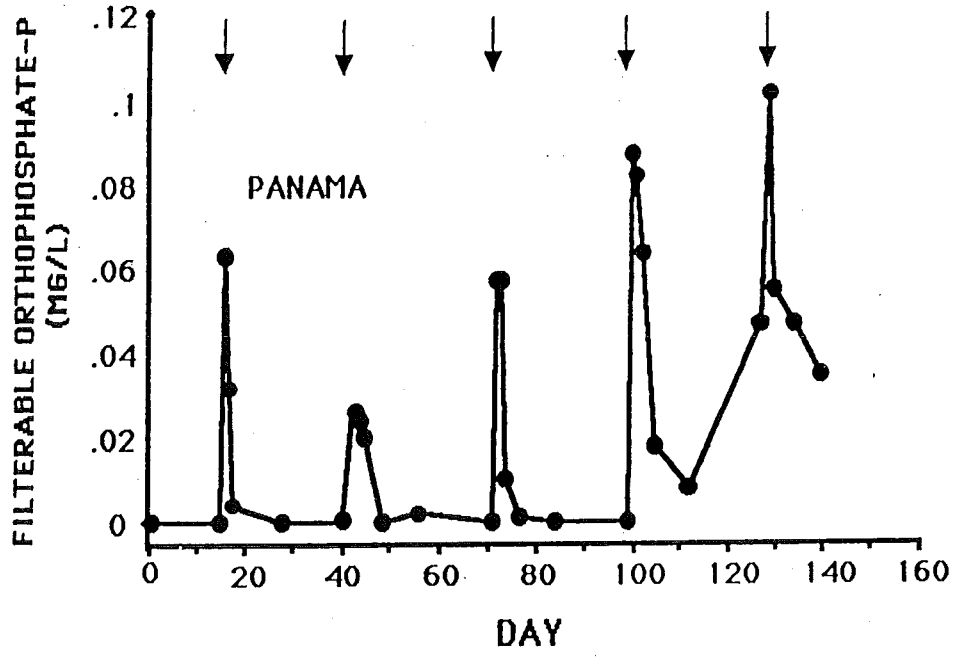

Figure 4. Mean filterable orthophosphate concentrations during the wet season experiment of Cycle I at Gualaca, Panama (n = 11). Arrows indicate applications of triple superphosphate.

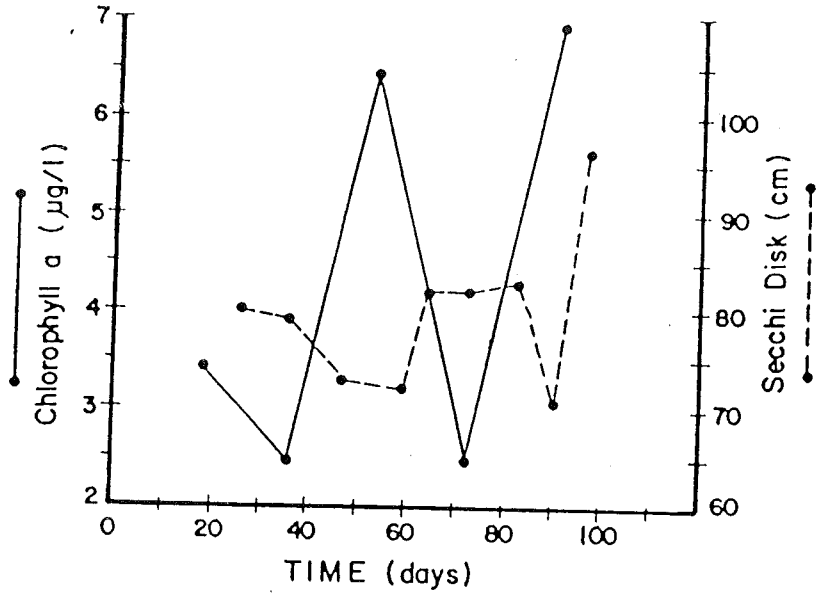

Figure 5. Mean Secchi disk visibility and chlorophyll *a* concentrations during the dry season of Cycle I at Gualaca, Panama.

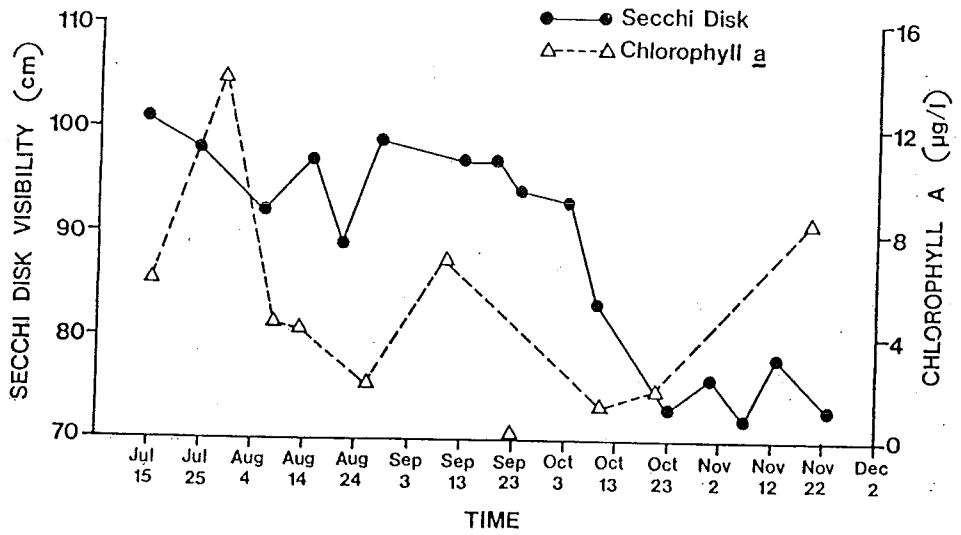

Figure 6. Mean Secchi disk visibility and chlorophyll *a* concentrations during the wet season of Cycle I at Gualaca, Panama.

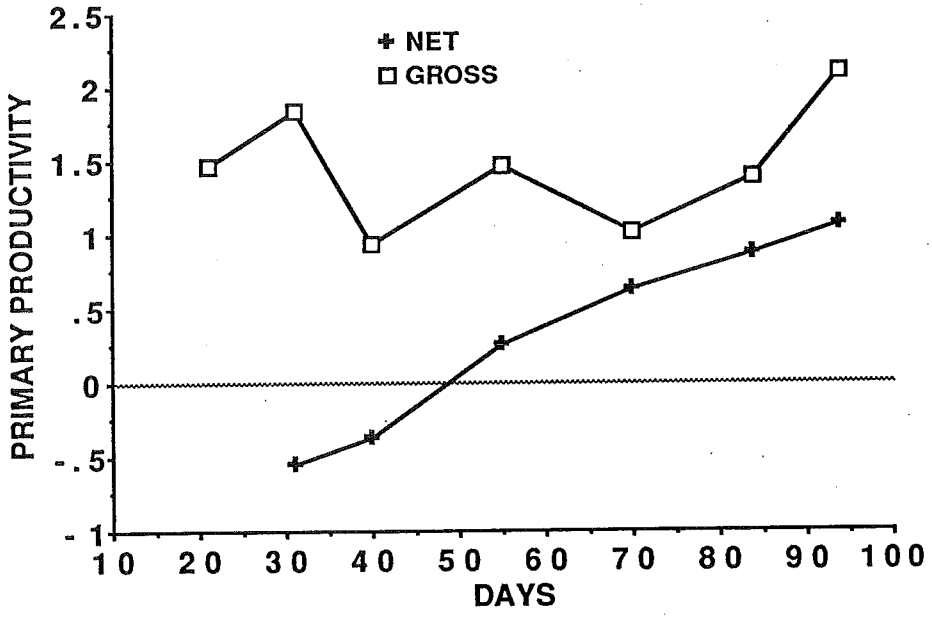

Figure 7. Mean net primary productivity (mg O_2/L/d) and gross primary productivity (mg O_2/L/d) during the dry season of Cycle I at Gualaca, Panama.

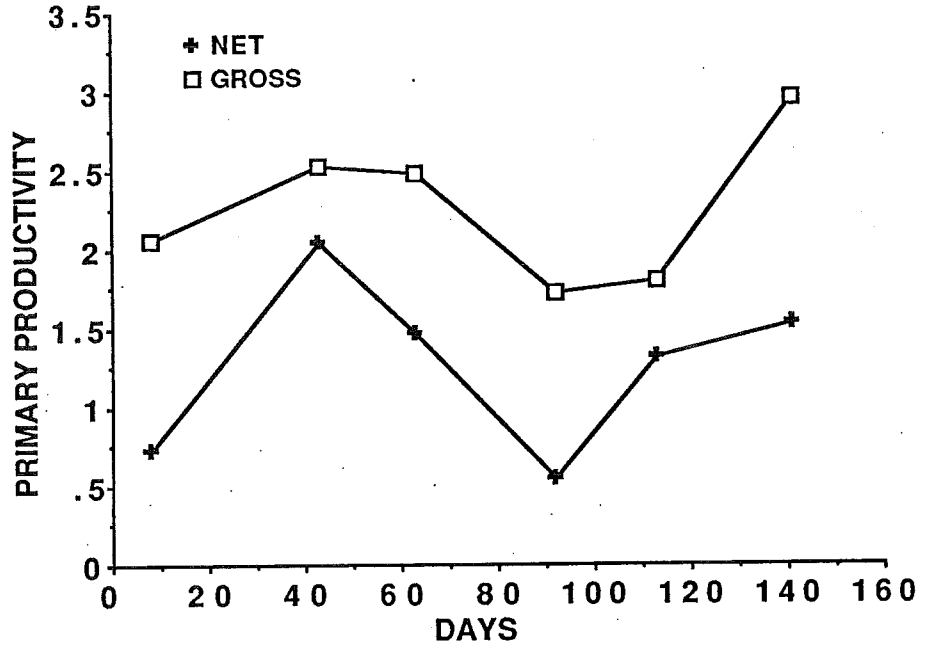

Figure 8. Mean net primary productivity (mg O_2/L/d) and gross primary productivity (mg O_2/L/d) during the wet season of Cycle I at Gualaca, Panama.

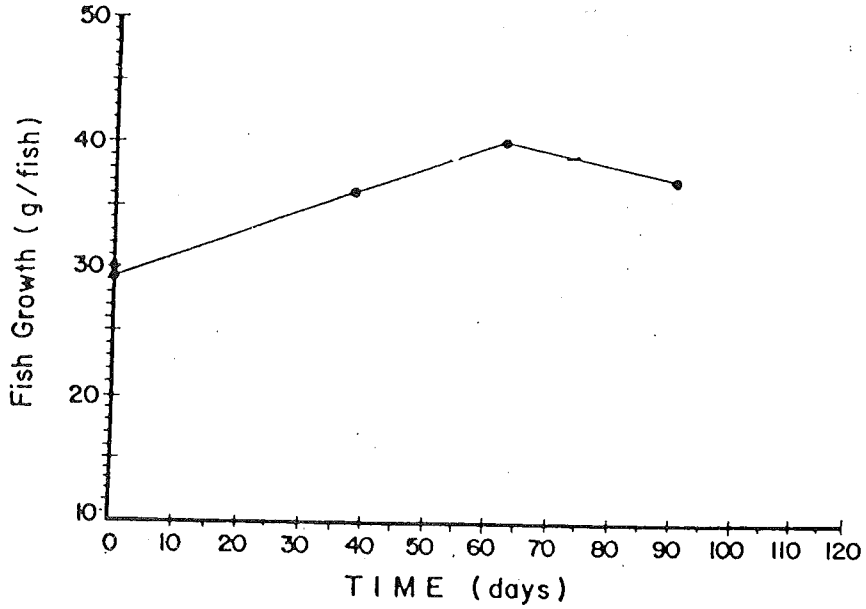

Figure 9. Mean weight of adult *Oreochromis niloticus* during the dry season experiment of Cycle I at Gualaca, Panama.

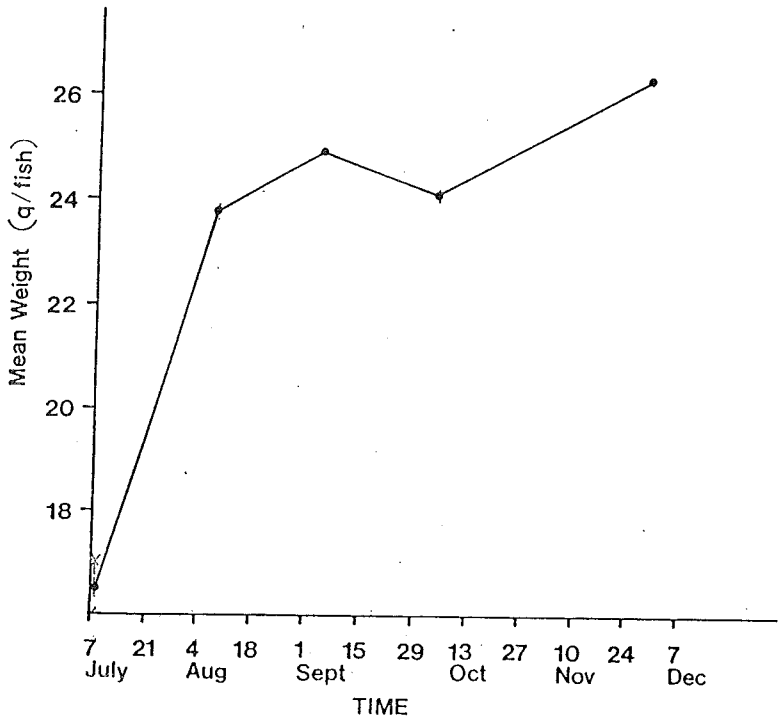

Figure 10. Mean weight of adult *Oreochromis niloticus* during the wet season experiment of Cycle I at Gualaca, Panama.

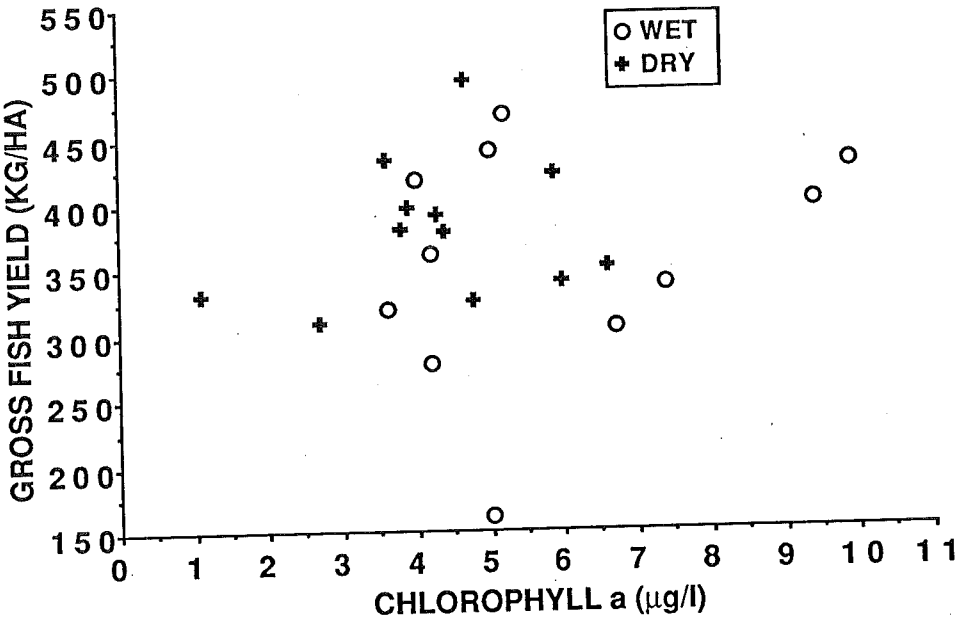

Figure 11. Correlation of mean chlorophyll *a* and mean gross fish yield for wet and dry seasons of Cycle I at Gualaca, Panama.

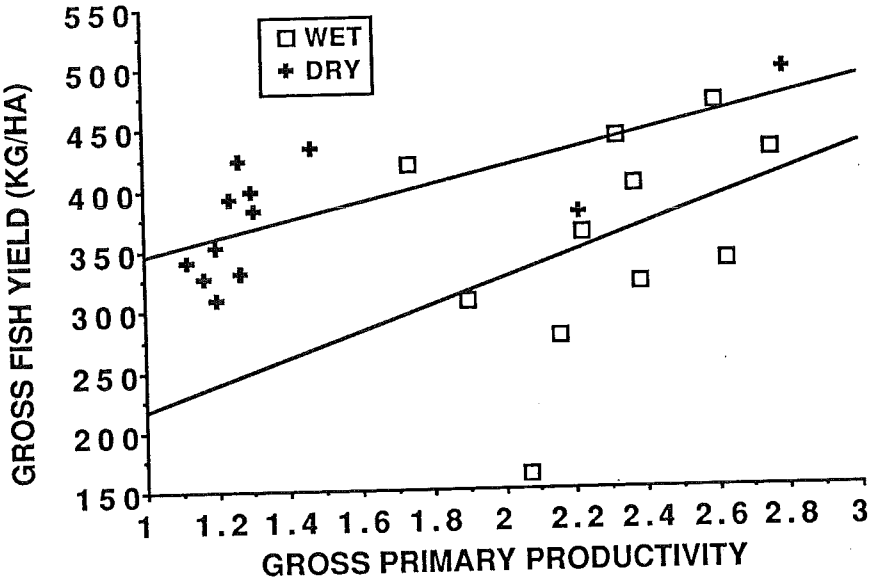

Figure 12. Regression of gross fish yield on gross primary productivity (mg O_2/L/d) for wet and dry seasons of Cycle I at Gualaca, Panama.

APPENDIX

Complete Set of Data from Cycle I of the Pond Dynamics/ Aquaculture CRSP in Gualaca, Panama

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Units of Measurement and Abbreviations Used in the Appendix Tables

Daily Weather Measurements:

- SOLAR1 (solar radiation) ..... $E/m^2/d$
- SOLAR2 (solar radiation) ..... $cal/cm^2/d$
- RAIN (rainfall) ..... cm/d
- WIND (wind speed) ..... km/hr
- ATEMPMAX (max air temperature) ..... °C
- ATEMPMIN (min air temperature) ..... °C
- EVAP (evaporation) ..... mm/d

Daily Pond Measurements:

- DEPTH ..... m
- INFLOW ..... m^3/hr
- OVERFLOW ..... Y/N
- "nil" ..... *Oreochromis niloticus*

Weekly and Twice-Weekly Measurements:

- All DO (dissolved oxygen) ..... mg/L
- All TEMP (temperature) ..... °C
- ALKA (alkalinity) ..... mg/L (as $CaCO_3$)
- HARD (total hardness) ..... mg/L (as $CaCO_3$)
- All N (Kjeldahl, NO_2, NO_3, Total) ..... mg/L
- All P (Total, Ortho-PO_4) ..... mg/L
- SECCHI DISK ..... cm
- CHLOROPHYLL *a*, *b*, or *c* ..... mg/m^3

Diurnal Measurements:

- All DO (dissolved oxygen) ..... mg/L
- All TEMP (temperature) ..... °C

Fish/Shrimp Stocking, Sampling, and Harvesting:

- "STK" ..... stocking
- "SAM" ..... sampling
- "HAR" ..... harvesting
- "nil" ..... *Oreochromis niloticus*
- POP. WEIGHT ..... kg
- SAMPLE LENGTH ..... cm
- REPROD. WEIGHT ..... kg

Plankton and Benthos:

- NET (PRIMARY) PRODUCTION ..... $mg\ C/m^3/d$
- GROSS (PRIMARY) PRODUCTION ..... $mg\ C/m^3/d$

Water Quality Characteristics:

ALKALIN (alkalinity)..... mg/L (as $CaCO_3$)
HARDNESS..... mg/L (as $CaCO_3$)
All N (NH_3, NO_2, NO_3, NO_2+NO_3)..... mg/L
All P (Total, Ortho-P)..... mg/L
Cl..... mg/L
SALT..... ppt
SO_4..... mg/L
BORON..... mg/L
CALCIUM..... mg/L
COPPER..... mg/L
IRON..... mg/L
MAGNESIUM..... mg/L
POTASSIUM..... mg/L
SODIUM..... mg/L
ZINC..... mg/L

Pond Soil Characteristics:

CLAY..... %
SILT..... %
SAND..... %
ORGANIC MATTER..... %
SOIL-P..... ppm
SOIL Ca..... meq/100g
SOIL Mg..... meq/100g
SOIL K..... ppm
SOIL Na..... meq/100g
SOIL N..... %
SOIL NH_4..... ppm
SOIL NO_3..... ppm
SOIL CEC..... meq/100g
SOIL SALT..... mmhos/cm
SOIL Al..... ppm
SOIL Fe..... ppm
SOIL Zn..... ppm
SOIL Mn..... ppm
SOIL Cu..... ppm
SOIL SO_4..... ppm

Analysis of Nutrients and Lime:

All NUTRIENTS..... % (dry matter basis)

Nutrient and Lime Inputs:

All QUANTITIES..... kg/ha
TSP..... "triple superphosphate"
"cac"..... $CaCO_3$

Table 1. Daily Weather Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
15	2	1985	52.62						12.55
16	2	1985	53.11						
17	2	1985	52.35						13.02
18	2	1985	51.3						9.89
19	2	1985	51.3						11.04
20	2	1985	51.4						
21	2	1985	51.32						
22	2	1985	52.35						11.03
23	2	1985	52.14						8.85
24	2	1985	53.48						9.06
25	2	1985	53.89						10.38
26	2	1985	52.36						12.66
27	2	1985	54.02						
28	2	1985	53.81						11.62
1	3	1985	53.75						11.27
2	3	1985	53.65						
3	3	1985	52.14						12.08
4	3	1985	52.85						11.96
5	3	1985	53.67						12.05
6	3	1985	54.08						14.53
7	3	1985	54.41						14.99
8	3	1985	54.01						15.5
9	3	1985	53.39						12.16
10	3	1985	53.16						13.5
11	3	1985	47.19						12.34
12	3	1985	54.44						12.13
13	3	1985	46.25						7.37
14	3	1985	52.23						7.82
15	3	1985	47.63						7.55
16	3	1985	50.38						
17	3	1985							7.25
18	3	1985	46.3						7.94
19	3	1985	41.91		0.2				6.16
20	3	1985	36.42		0.4				5.65
21	3	1985	39.56						4.89
22	3	1985	39.54						5.57
23	3	1985	45.26						
24	3	1985	52.36						7.47
25	3	1985	53.18						8.34
26	3	1985	52.98						11.05
27	3	1985	53.2						13.92
28	3	1985	54.54						13.08
29	3	1985	52.6						12.84
30	3	1985	45.79						9.43
31	3	1985							7.53
1	4	1985	29.63		36.				

Table 1. Daily Weather Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
2	4	1985	39.1		3.6				4.44
3	4	1985	43.35		15.5				2.71
4	4	1985	55.13		14.				5.24
5	4	1985	55.12						6.31
6	4	1985	54.27						7.32
7	4	1985	56.12						
8	4	1985	55.63						9.39
9	4	1985							9.61
10	4	1985	55.66						11.07
11	4	1985	51.83						10.49
12	4	1985	49.73						7.12
13	4	1985							7.14
14	4	1985	51.17						8.24
15	4	1985	48.91						7.99
16	4	1985	48.54						6.84
17	4	1985	53.41						7.18
18	4	1985	48.42						9.89
19	4	1985	42.34						8.44
20	4	1985	40.13						6.13
21	4	1985	37.98						5.66
22	4	1985	41.23		0.1				5.78
23	4	1985	30.42		0.3				5.13
24	4	1985	31.45		0.7				3.24
25	4	1985	29.53		7.6				3.52
26	4	1985	33.29		6.8				
27	4	1985	31.55		23.				3.09
28	4	1985	33.39		7.4				4.58
29	4	1985	27.06		17.				4.76
30	4	1985	29.65		1.6				2.74
1	5	1985	39.16		24.				5.54
2	5	1985	42.76		2.5				2.94
3	5	1985	47.05						
4	5	1985	49.68						
5	5	1985	45.42					24.5	
6	5	1985	40.79						5.52
7	5	1985	25.54		0.45				4.04
8	5	1985	27.63		48.				2.76
9	5	1985	27.84		77.				
10	5	1985	26.7		0.15				3.14
11	5	1985	31.43						
12	5	1985	21.77						
13	5	1985	29.97		86.		34.5		1.54
14	5	1985	42.07		1.5				4.62
15	5	1985	37.13						
16	5	1985	17.2						2.15
17	5	1985	28.97						
18	5	1985	42.29						
19	5	1985	41.53						
20	5	1985	43.25		17.				2.25

Table 1. Daily Weather Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
12	7	1985	38.62		15.5		28.5	21.5	
13	7	1985	26.61						
14	7	1985	31.92						
15	7	1985	28.25		4.6				2.4
16	7	1985	38.58		1.2		30.5	22.5	1.7
17	7	1985	33.42		18.5				2.1
18	7	1985	36.34		4.6				1.9
19	7	1985	19.8		1.2				2.9
20	7	1985	29.15						
21	7	1985	43.85						
22	7	1985	26.92						
23	7	1985	24.1		20.				1.6
24	7	1985	22.96		2.2				1.2
25	7	1985	31.84		13.				0.3
26	7	1985	38.41		3.5			22.5	1.9
27	7	1985	28.38						
28	7	1985	40.5						
29	7	1985	21.51						2.4
30	7	1985	37.88						
31	7	1985	39.98						
1	8	1985	27.34		0.1				
2	8	1985	31.27		23.				2.1
3	8	1985	41.48						
4	8	1985	34.78						
5	8	1985	34.7		14.5				1.9
6	8	1985	19.92		0.7			31.5	2.5
8	8	1985	30.27		0.9				1.3
9	8	1985	13.4		61.				0.4
10	8	1985	31.29						
11	8	1985	34.59						
12	8	1985	42.76		13.				1.1
13	8	1985	25.85						4.
14	8	1985	24.48		3.8				0.8
15	8	1985	30.12		4.4				2.2
16	8	1985	28.14		12.5				1.8
17	8	1985	22.41						
18	8	1985	20.32						
19	8	1985	29.77		67.				0.6
20	8	1985	38.56		43.				1.9
21	8	1985	30.47				30.5		3.1
22	8	1985	37.66		22.				2.8
23	8	1985	25.01						2.9
24	8	1985	31.52						
25	8	1985	30.11						
26	8	1985	23.83		69.5				2.2
27	8	1985	35.75		5.65		31.5		1.

Table 1. Daily Weather Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
28	8	1985	29.35		21.5				2.
29	8	1985	16.9						3.4
30	8	1985	33.35		8.8			21.5	0.3
31	8	1985	46.33						
1	9	1985	36.42						
2	9	1985	29.18		13.5				5.5
3	9	1985	21.62		22.		32.5		1.5
4	9	1985	30.52		24.				1.3
5	9	1985	33.83		22.				3.5
6	9	1985	21.43		6.25		31.5		2.1
7	9	1985	17.51						
8	9	1985	28.37						
9	9	1985	26.45		32.				1.
10	9	1985	24.06		106.				
11	9	1985	34.77		28.				
12	9	1985	30.69		61.				2.8
13	9	1985	34.32		7.2		31.1	21.1	1.6
14	9	1985	30.09						
15	9	1985	17.23						
16	9	1985	28.97		111.				
17	9	1985	34.4		14.				1.1
18	9	1985	26.94		20.5				2.8
19	9	1985	23.26		1.6				2.2
20	9	1985	28.32		105.				
21	9	1985	25.65						
22	9	1985	22.71						
23	9	1985	38.82		66.				1.
24	9	1985	38.07				32.2	21.1	4.4
25	9	1985	48.97		23.5				3.8
26	9	1985	29.37		7.5				
27	9	1985	26.5		13.5				
28	9	1985	19.57						
29	9	1985	27.61						
30	9	1985	33.33		45.				1.
1	10	1985			0.8				3.3
2	10	1985	23.7		44.				6.2
3	10	1985	10.28		25.5				0.5
4	10	1985	20.63		31.		31.5	21.5	0.
5	10	1985	13.46						
6	10	1985	30.61						
7	10	1985	35.41		28.5				
8	10	1985	27.73						3.8
9	10	1985	32.3		13.5				2.4
10	10	1985	25.64		2.4				2.7
11	10	1985	34.99						
12	10	1985	25.08						
13	10	1985	27.03						

Table 1. Daily Weather Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	SOLAR1	SOLAR2	RAIN	WIND	ATEMPMAX	ATEMPMIN	EVAP
14	10	1985	19.85		73.5				1.5
15	10	1985	32.38		2.5		31.5	22.5	3.1
16	10	1985	31.92						2.9
17	10	1985	40.68		13.				2.9
18	10	1985	25.76		8.3		31.5		3.1
19	10	1985	31.9						
20	10	1985	32.22						
21	10	1985	28.64		41.5				3.2
22	10	1985	34.1						2.4
23	10	1985	27.47		29.8				2.5
24	10	1985	33.38						2.1
25	10	1985	44.92						3.2
26	10	1985	35.19						
27	10	1985	24.14						
28	10	1985	32.38		31.				2.9
29	10	1985	20.84		5.5		31.5		1.9
30	10	1985	11.9		17.5				0.2
31	10	1985	22.32		30.6				0.
1	11	1985	28.47		32.2				5.3
2	11	1985	24.9						
3	11	1985	17.12						
4	11	1985	36.98						
5	11	1985	27.75		108.5		29.5		23.9
6	11	1985	31.95		0.01				2.5
7	11	1985	27.67		29.4				2.9
8	11	1985	35.71		59.7			22.5	
9	11	1985	26.19						
10	11	1985	41.69						
11	11	1985	34.12						
12	11	1985	38.16						0.8
13	11	1985	32.66						0.
14	11	1985	34.45		15.2				2.8
15	11	1985	29.54		24.6			21.5	3.7
16	11	1985	25.67						
17	11	1985	42.58						
21	11	1985	37.19						2.1
22	11	1985	33.06				31.5		3.6
23	11	1985	34.96						
24	11	1985	38.03						
25	11	1985	37.8		49.7				7.1
26	11	1985	45.12				31.5	21.5	3.8
27	11	1985	37.82						5.3
29	11	1985	35.96		8.1				3.1

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
19	2	1985	1	0.918	N	N	0	nil
19	2	1985	2	0.966	N	N	0	nil
19	2	1985	3	0.899	N	N	0	nil
19	2	1985	4	0.89	N	N	0	nil
19	2	1985	5	0.84	N	N	0	nil
19	2	1985	6	0.982	N	N	0	nil
19	2	1985	7	0.886	N	N	0	nil
19	2	1985	8	0.894	N	N	0	nil
19	2	1985	9	0.937	N	N	0	nil
19	2	1985	10	0.928	N	N	0	nil
19	2	1985	17	0.955	N	N	0	nil
19	2	1985	18	0.835	N	N	0	nil
20	2	1985	1	0.895	N	N	0	nil
20	2	1985	2	0.92	N	N	0	nil
20	2	1985	3	0.875	N	N	0	nil
20	2	1985	4	0.872	N	N	0	nil
20	2	1985	5	0.821	N	N	0	nil
20	2	1985	6	0.965	N	N	0	nil
20	2	1985	7	0.868	N	N	0	nil
20	2	1985	8	0.861	N	N	0	nil
20	2	1985	9	0.918	N	N	0	nil
20	2	1985	10	0.903	N	N	0	nil
20	2	1985	17	0.888	N	N	0	nil
20	2	1985	18	0.765	N	N	0	nil
21	2	1985	1	0.873	N	N	0	nil
21	2	1985	2	0.876	N	N	0	nil
21	2	1985	3	0.85	N	N	0	nil
21	2	1985	4	0.855	N	N	0	nil
21	2	1985	5	0.803	N	N	0	nil
21	2	1985	6	0.947	N	N	0	nil
21	2	1985	7	0.85	N	N	0	nil
21	2	1985	8	0.827	N	N	0	nil
21	2	1985	9	0.898	N	N	0	nil
21	2	1985	10	0.877	N	N	0	nil
21	2	1985	17	0.839	N	N	0	nil
21	2	1985	18	0.912	Y	N	0	nil
22	2	1985	1	0.846	N	N	0	nil
22	2	1985	2	0.83	N	N	0	nil
22	2	1985	3	0.819	N	N	0	nil
22	2	1985	4	0.833	N	N	0	nil
22	2	1985	5	0.78	N	N	0	nil
22	2	1985	6	0.924	N	N	0	nil
22	2	1985	7	0.827	N	N	0	nil
22	2	1985	8	0.789	N	N	0	nil
22	2	1985	9	0.873	N	N	0	nil
22	2	1985	10	0.845	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
22	2	1985	17	0.795	N	N	0	nil
22	2	1985	18	0.835	N	N	0	nil
23	2	1985	1	0.822	N	N	0	nil
23	2	1985	2	0.984	Y	N	0	nil
23	2	1985	3	0.793	N	N	0	nil
23	2	1985	4	0.815	N	N	0	nil
23	2	1985	5	1.002	Y	N	0	nil
23	2	1985	6	0.907	N	N	0	nil
23	2	1985	7	0.81	N	N	0	nil
23	2	1985	8	0.961	Y	N	0	nil
23	2	1985	9	0.854	N	N	0	nil
23	2	1985	10	0.819	N	N	0	nil
23	2	1985	17	1.012	Y	N	0	nil
23	2	1985	18	0.776	N	N	0	nil
24	2	1985	1		N	N	0	nil
24	2	1985	2	0.931	N	N	0	nil
24	2	1985	3	0.807	Y	N	0	nil
24	2	1985	4	0.797	N	N	0	nil
24	2	1985	5	0.971	N	N	0	nil
24	2	1985	6	0.889	N	N	0	nil
24	2	1985	7	0.791	N	N	0	nil
24	2	1985	8	0.923	N	N	0	nil
24	2	1985	9	0.833	N	N	0	nil
24	2	1985	10	0.79	N	N	0	nil
24	2	1985	17	0.953	N	N	0	nil
24	2	1985	18	0.774	Y	N	0	nil
25	2	1985	1	0.775	N	N	0	nil
25	2	1985	2	0.88	N	N	0	nil
25	2	1985	3	0.779	N	N	0	nil
25	2	1985	4	0.778	N	N	0	nil
25	2	1985	5	0.945	N	N	0	nil
25	2	1985	6	0.87	N	N	0	nil
25	2	1985	7	0.772	N	N	0	nil
25	2	1985	8	0.884	N	N	0	nil
25	2	1985	9	0.813	N	N	0	nil
25	2	1985	10	0.763	N	N	0	nil
25	2	1985	17	0.899	N	N	0	nil
25	2	1985	18	0.72	N	N	0	nil
26	2	1985	1	0.938	Y	N	0	nil
26	2	1985	2	0.828	N	N	0	nil
26	2	1985	3	0.83	Y	N	0	nil
26	2	1985	4	0.942	Y	N	0	nil
26	2	1985	5	0.915	N	N	0	nil
26	2	1985	6	0.846	N	N	0	nil
26	2	1985	7	0.936	Y	N	0	nil
26	2	1985	8	0.842	N	N	0	nil
26	2	1985	9	0.787	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
26	2	1985	10	0.985	Y	N	0	nil
26	2	1985	17	0.845	N	N	0	nil
26	2	1985	18	0.851	Y	N	0	nil
27	2	1985	1	0.908	N	N	0	nil
27	2	1985	2	0.78	N	N	0	nil
27	2	1985	3		N	N	0	nil
27	2	1985	4	0.918	N	N	0	nil
27	2	1985	5	0.888	N	N	0	nil
27	2	1985	6	0.824	N	N	0	nil
27	2	1985	7	0.912	N	N	0	nil
27	2	1985	8	0.804	N	N	0	nil
27	2	1985	9	0.903	Y	N	0	nil
27	2	1985	10	0.951	N	N	0	nil
27	2	1985	17	0.802	N	N	0	nil
27	2	1985	18	0.791	N	N	0	nil
28	2	1985	1	0.883	N	N	0	nil
28	2	1985	2		Y	N	0	nil
28	2	1985	3	0.817	Y	N	0	nil
28	2	1985	4	0.898	N	N	0	nil
28	2	1985	5	0.864	N	N	0	nil
28	2	1985	6	0.809	N	N	0	nil
28	2	1985	7	0.893	N	N	0	nil
28	2	1985	8	0.77	N	N	0	nil
28	2	1985	9	0.882	N	N	0	nil
28	2	1985	10	0.921	N	N	0	nil
28	2	1985	17	0.989	Y	N	0	nil
28	2	1985	18	0.934	Y	N	0	nil
1	3	1985	1	0.854	N	N	0	nil
1	3	1985	2	0.831	N	N	0	nil
1	3	1985	3	0.788	N	N	0	nil
1	3	1985	4	0.876	N	N	0	nil
1	3	1985	5	0.84	N	N	0	nil
1	3	1985	6	0.79	N	N	0	nil
1	3	1985	7	0.872	N	N	0	nil
1	3	1985	8	0.75	N	N	0	nil
1	3	1985	9	1.049	Y	N	0	nil
1	3	1985	10	0.889	N	N	0	nil
1	3	1985	17	0.931	N	N	0	nil
1	3	1985	18	0.863	N	N	0	nil
2	3	1985	1	0.83	N	N	0	nil
2	3	1985	2	0.81	N	N	0	nil
2	3	1985	3	0.833	Y	N	0	nil
2	3	1985	4	0.858	N	N	0	nil
2	3	1985	5	0.818	N	N	0	nil
2	3	1985	6	0.871	Y	N	0	nil
2	3	1985	7	0.854	N	N	0	nil
2	3	1985	8	0.867	Y	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
2	3	1985	9	1.028	N	N	0	nil
2	3	1985	10	0.86	N	N	0	nil
2	3	1985	17	0.883	N	N	0	nil
2	3	1985	18	0.807	N	N	0	nil
3	3	1985	1	0.804	N	N	0	nil
3	3	1985	2	0.763	N	N	0	nil
3	3	1985	3	0.802	N	N	0	nil
3	3	1985	4	0.834	N	N	0	nil
3	3	1985	5	0.79	N	N	0	nil
3	3	1985	6	0.85	N	N	0	nil
3	3	1985	7	0.833	N	N	0	nil
3	3	1985	8	0.833	N	N	0	nil
3	3	1985	9	1.002	N	N	0	nil
3	3	1985	10	0.825	N	N	0	nil
3	3	1985	17	0.834	N	N	0	nil
3	3	1985	18	0.758	N	N	0	nil
4	3	1985	1	0.777	N	N	0	nil
4	3	1985	2	0.723	N	N	0	nil
4	3	1985	3	0.775	N	N	0	nil
4	3	1985	4	0.813	N	N	0	nil
4	3	1985	5	0.767	N	N	0	nil
4	3	1985	6	0.832	N	N	0	nil
4	3	1985	7	0.812	N	N	0	nil
4	3	1985	8	0.796	N	N	0	nil
4	3	1985	9	0.986	N	N	0	nil
4	3	1985	10	0.798	N	N	0	nil
4	3	1985	17	0.792	N	N	0	nil
4	3	1985	18	0.706	N	N	0	nil
5	3	1985	1	0.751	N	N	0	nil
5	3	1985	2	0.679	N	N	0	nil
5	3	1985	3	0.746	N	N	0	nil
5	3	1985	4	0.792	N	N	0	nil
5	3	1985	5	0.743	N	N	0	nil
5	3	1985	6	0.813	N	N	0	nil
5	3	1985	7	0.794	N	N	0	nil
5	3	1985	8	0.762	N	N	0	nil
5	3	1985	9	0.961	N	N	0	nil
5	3	1985	10	0.769	N	N	0	nil
5	3	1985	17	0.751	N	N	0	nil
5	3	1985	18	0.66	N	N	0	nil
6	3	1985	1		Y	N	0	nil
6	3	1985	2		Y	N	0	nil
6	3	1985	3		Y	N	0	nil
6	3	1985	4	0.872	Y	N	0	nil
6	3	1985	5		Y	N	0	nil
6	3	1985	6	0.791	N	N	0	nil
6	3	1985	7	0.936	Y	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
6	3	1985	8	0.867	Y	N	0	nil
6	3	1985	9	0.932	N	N	0	nil
6	3	1985	10	0.985	Y	N	0	nil
6	3	1985	17		Y	N	0	nil
6	3	1985	18		Y	N	0	nil
7	3	1985	1	0.897	Y	N	0	nil
7	3	1985	2	0.95	Y	N	0	nil
7	3	1985	3	0.85	Y	N	0	nil
7	3	1985	4	0.822	N	N	0	nil
7	3	1985	5	0.998	Y	N	0	nil
7	3	1985	6	0.998	Y	N	0	nil
7	3	1985	7	0.975	Y	N	0	nil
7	3	1985	8	0.969	Y	N	0	nil
7	3	1985	9	0.907	N	N	0	nil
7	3	1985	10	1.032	Y	N	0	nil
7	3	1985	17	0.952	Y	N	0	nil
7	3	1985	18	0.876	Y	N	0	nil
8	3	1985	1	0.867	N	N	0	nil
8	3	1985	2	0.899	N	N	0	nil
8	3	1985	3	0.816	N	N	0	nil
8	3	1985	4	0.797	N	N	0	nil
8	3	1985	5	0.967	N	N	0	nil
8	3	1985	6	0.95	N	N	0	nil
8	3	1985	7	0.943	N	N	0	nil
8	3	1985	8	0.958	N	N	0	nil
8	3	1985	9	0.88	N	N	0	nil
8	3	1985	10	0.998	N	N	0	nil
8	3	1985	17	0.897	N	N	0	nil
8	3	1985	18	0.816	N	N	0	nil
9	3	1985	1	0.841	N	N	0	nil
9	3	1985	2	0.857	N	N	0	nil
9	3	1985	3	0.789	N	N	0	nil
9	3	1985	4	0.777	N	N	0	nil
9	3	1985	5	0.943	N	N	0	nil
9	3	1985	6	0.932	N	N	0	nil
9	3	1985	7	0.924	N	N	0	nil
9	3	1985	8	0.924	N	N	0	nil
9	3	1985	9	0.86	N	N	0	nil
9	3	1985	10	0.965	N	N	0	nil
9	3	1985	17	0.854	N	N	0	nil
9	3	1985	18	0.767	N	N	0	nil
10	3	1985	1	0.811	N	N	0	nil
10	3	1985	2	0.814	N	N	0	nil
10	3	1985	3	0.802	Y	N	0	nil
10	3	1985	4	0.753	N	N	0	nil
10	3	1985	5	0.912	N	N	0	nil
10	3	1985	6	0.909	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
10	3	1985	7	0.902	N	N	0	nil
10	3	1985	8	0.888	N	N	0	nil
10	3	1985	9	0.836	N	N	0	nil
10	3	1985	10	0.934	N	N	0	nil
10	3	1985	17	0.811	N	N	0	nil
10	3	1985	18	0.875	Y	N	0	nil
11	3	1985	1	0.785	N	N	0	nil
11	3	1985	2	0.775	N	N	0	nil
11	3	1985	3	0.925	Y	N	0	nil
11	3	1985	4	0.949	Y	N	0	nil
11	3	1985	5	0.888	N	N	0	nil
11	3	1985	6	0.889	N	N	0	nil
11	3	1985	7	0.882	N	N	0	nil
11	3	1985	8	0.853	N	N	0	nil
11	3	1985	9	0.818	N	N	0	nil
11	3	1985	10	0.902	N	N	0	nil
11	3	1985	17	0.771	N	N	0	nil
11	3	1985	18	0.822	N	N	0	nil
12	3	1985	1	0.911	Y	N	0	nil
12	3	1985	2	0.907	Y	N	0	nil
12	3	1985	3	0.892	N	N	0	nil
12	3	1985	4	0.925	N	N	0	nil
12	3	1985	5	0.861	N	N	0	nil
12	3	1985	6	0.87	N	N	0	nil
12	3	1985	7	0.861	N	N	0	nil
12	3	1985	8	0.824	N	N	0	nil
12	3	1985	9	0.797	N	N	0	nil
12	3	1985	10	0.872	N	N	0	nil
12	3	1985	17	0.881	Y	N	0	nil
12	3	1985	18	0.775	N	N	0	nil
13	3	1985	1	0.887	N	N	0	nil
13	3	1985	2	0.87	N	N	0	nil
13	3	1985	3	0.867	N	N	0	nil
13	3	1985	4	0.908	N	N	0	nil
13	3	1985	5	0.84	N	N	0	nil
13	3	1985	6	0.857	N	N	0	nil
13	3	1985	7	0.847	N	N	0	nil
13	3	1985	8		N	N	0	nil
13	3	1985	9	0.959	Y	N	0	nil
13	3	1985	10	0.849	N	N	0	nil
13	3	1985	17	0.842	N	N	0	nil
13	3	1985	18	0.949	Y	N	0	nil
14	3	1985	1	0.863	N	N	0	nil
14	3	1985	2	0.836	N	N	0	nil
14	3	1985	3	0.842	N	N	0	nil
14	3	1985	4	0.887	N	N	0	nil
14	3	1985	5	0.819	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
14	3	1985	6	0.842	N	N	0	nil
14	3	1985	7	0.83	N	N	0	nil
14	3	1985	8	0.774	N	N	0	nil
14	3	1985	9	0.942	N	N	0	nil
14	3	1985	10	0.824	N	N	0	nil
14	3	1985	17	0.803	N	N	0	nil
14	3	1985	18	0.889	N	N	0	nil
15	3	1985	1	0.838	N	N	0	nil
15	3	1985	2	0.801	N	N	0	nil
15	3	1985	3	0.816	N	N	0	nil
15	3	1985	4	0.868	N	N	0	nil
15	3	1985	5	0.797	N	N	0	nil
15	3	1985	6	0.827	N	N	0	nil
15	3	1985	7	0.814	N	N	0	nil
15	3	1985	8	0.766	Y	N	0	nil
15	3	1985	9	0.924	N	N	0	nil
15	3	1985	10		N	N	0	nil
15	3	1985	17	0.766	N	N	0	nil
15	3	1985	18	0.84	N	N	0	nil
16	3	1985	1	0.814	N	N	0	nil
16	3	1985	2	1.119	Y	N	0	nil
16	3	1985	3	0.791	N	N	0	nil
16	3	1985	4	0.846	N	N	0	nil
16	3	1985	5	1.049	Y	N	0	nil
16	3	1985	6	0.811	N	N	0	nil
16	3	1985	7	0.797	N	N	0	nil
16	3	1985	8	1.115	Y	N	0	nil
16	3	1985	9	0.904	N	N	0	nil
16	3	1985	10	1.218	Y	N	0	nil
16	3	1985	17	0.936	Y	N	0	nil
16	3	1985	18	0.795	N	N	0	nil
17	3	1985	1	0.791	N	N	0	nil
17	3	1985	2	1.056	N	N	0	nil
17	3	1985	3	0.822	Y	N	0	nil
17	3	1985	4	0.827	N	N	0	nil
17	3	1985	5	1.023	N	N	0	nil
17	3	1985	6	0.796	N	N	0	nil
17	3	1985	7	0.868	Y	N	0	nil
17	3	1985	8	1.078	N	N	0	nil
17	3	1985	9	0.884	N	N	0	nil
17	3	1985	10	1.175	N	N	0	nil
17	3	1985	17	0.888	N	N	0	nil
17	3	1985	18	0.802	Y	N	0	nil
18	3	1985	1	0.768	N	N	0	nil
18	3	1985	2	0.998	N	N	0	nil
18	3	1985	3	0.796	N	N	0	nil
18	3	1985	4	0.806	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
18	3	1985	5	0.996	N	N	0	nil
18	3	1985	6	0.779	N	N	0	nil
18	3	1985	7	0.849	N	N	0	nil
18	3	1985	8	1.038	N	N	0	nil
18	3	1985	9	0.863	N	N	0	nil
18	3	1985	10	1.126	N	N	0	nil
18	3	1985	17	0.843	N	N	0	nil
18	3	1985	18	0.761	N	N	0	nil
19	3	1985	1	0.746	N	N	0	nil
19	3	1985	2	0.949	N	N	0	nil
19	3	1985	3	0.772	N	N	0	nil
19	3	1985	4	0.791	N	N	0	nil
19	3	1985	5	0.97	N	N	0	nil
19	3	1985	6	0.764	N	N	0	nil
19	3	1985	7	0.832	N	N	0	nil
19	3	1985	8		N	N	0	nil
19	3	1985	9	0.844	N	N	0	nil
19	3	1985	10	1.076	N	N	0	nil
19	3	1985	17	0.803	N	N	0	nil
19	3	1985	18	0.721	N	N	0	nil
20	3	1985	1	1.081	Y	N	0	nil
20	3	1985	2	0.907	N	N	0	nil
20	3	1985	3	1.039	Y	N	0	nil
20	3	1985	4	1.09	Y	N	0	nil
20	3	1985	5	0.945	N	N	0	nil
20	3	1985	6	1.085	Y	N	0	nil
20	3	1985	7	0.816	N	N	0	nil
20	3	1985	8	0.963	N	N	0	nil
20	3	1985	9	0.825	N	N	0	nil
20	3	1985	10	1.037	N	N	0	nil
20	3	1985	17	0.768	N	N	0	nil
20	3	1985	18	1.008	Y	N	0	nil
21	3	1985	1	1.046	N	N	0	nil
21	3	1985	2	0.866	N	N	0	nil
21	3	1985	3	1.007	N	N	0	nil
21	3	1985	4	1.068	N	N	0	nil
21	3	1985	5	0.922	N	N	0	nil
21	3	1985	6	1.062	N	N	0	nil
21	3	1985	7		N	N	0	nil
21	3	1985	8	0.93	N	N	0	nil
21	3	1985	9	0.808	N	N	0	nil
21	3	1985	10	1.005	N	N	0	nil
21	3	1985	17	0.845	Y	N	0	nil
21	3	1985	18	0.934	N	N	0	nil
22	3	1985	1	1.012	N	N	0	nil
22	3	1985	2	0.83	N	N	0	nil
22	3	1985	3	0.975	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
22	3	1985	4	1.042	N	N	0	nil
22	3	1985	5	0.897	N	N	0	nil
22	3	1985	6	1.041	N	N	0	nil
22	3	1985	7	0.94	Y	N	0	nil
22	3	1985	8	0.897	N	N	0	nil
22	3	1985	9	0.79	N	N	0	nil
22	3	1985	10	0.974	N	N	0	nil
22	3	1985	17	0.806	N	N	0	nil
22	3	1985	18	0.871	N	N	0	nil
23	3	1985	1	0.983	N	N	0	nil
23	3	1985	2	0.794	N	N	0	nil
23	3	1985	3	0.943	N	N	0	nil
23	3	1985	4	1.017	N	N	0	nil
23	3	1985	5	0.872	N	N	0	nil
23	3	1985	6	1.026	N	N	0	nil
23	3	1985	7	0.922	N	N	0	nil
23	3	1985	8	0.867	N	N	0	nil
23	3	1985	9	1.355	Y	Y	0	nil
23	3	1985	10	0.943	N	N	0	nil
23	3	1985	17	0.768	N	N	0	nil
23	3	1985	18	0.818	N	N	0	nil
24	3	1985	1	0.953	N	N	0	nil
24	3	1985	2	0.76	N	N	0	nil
24	3	1985	3	0.914	N	N	0	nil
24	3	1985	4	0.993	N	N	0	nil
24	3	1985	5	0.848	N	N	0	nil
24	3	1985	6	1.004	N	N	0	nil
24	3	1985	7	0.903	N	N	0	nil
24	3	1985	8	0.837	N	N	0	nil
24	3	1985	9	1.324	N	N	0	nil
24	3	1985	10	0.913	N	N	0	nil
24	3	1985	17	0.73	N	N	0	nil
24	3	1985	18	0.772	N	N	0	nil
25	3	1985	1	0.925	N	N	0	nil
25	3	1985	2	0.725	N	N	0	nil
25	3	1985	3	0.883	N	N	0	nil
25	3	1985	4	0.966	N	N	0	nil
25	3	1985	5	0.823	N	N	0	nil
25	3	1985	6	0.983	N	N	0	nil
25	3	1985	7	0.882	N	N	0	nil
25	3	1985	8	0.803	N	N	0	nil
25	3	1985	9	1.271	N	N	0	nil
25	3	1985	10	0.881	N	N	0	nil
25	3	1985	17	0.694	N	N	0	nil
25	3	1985	18	0.725	N	N	0	nil
26	3	1985	1	0.893	N	N	0	nil
26	3	1985	2	0.691	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
26	3	1985	3	0.851	N	N	0	nil
26	3	1985	4	0.937	N	N	0	nil
26	3	1985	5	0.795	N	N	0	nil
26	3	1985	6	0.959	N	N	0	nil
26	3	1985	7	0.858	N	N	0	nil
26	3	1985	8	0.768	N	N	0	nil
26	3	1985	9	1.231	N	N	0	nil
26	3	1985	10	0.844	N	N	0	nil
26	3	1985	17	0.66	N	N	0	nil
26	3	1985	18	0.679	N	N	0	nil
27	3	1985	1	0.863	N	N	0	nil
27	3	1985	2	0.813	Y	N	0	nil
27	3	1985	3	0.817	N	N	0	nil
27	3	1985	4	0.906	N	N	0	nil
27	3	1985	5	0.892	Y	N	0	nil
27	3	1985	6	0.933	N	N	0	nil
27	3	1985	7	0.834	N	N	0	nil
27	3	1985	8	0.822	Y	N	0	nil
27	3	1985	9	1.192	N	N	0	nil
27	3	1985	10	0.805	N	N	0	nil
27	3	1985	17	0.772	Y	N	0	nil
27	3	1985	18	0.7654	Y	N	0	nil
28	3	1985	1	0.837	N	N	0	nil
28	3	1985	2	0.782	N	N	0	nil
28	3	1985	3	0.792	N	N	0	nil
28	3	1985	4	0.88	N	N	0	nil
28	3	1985	5	0.867	N	N	0	nil
28	3	1985	6	0.911	N	N	0	nil
28	3	1985	7	0.81	N	N	0	nil
28	3	1985	8	0.787	N	N	0	nil
28	3	1985	9	1.159	N	N	0	nil
28	3	1985	10	0.772	N	N	0	nil
28	3	1985	17	0.737	N	N	0	nil
28	3	1985	18	0.7134	N	N	0	nil
29	3	1985	1	0.811	N	N	0	nil
29	3	1985	2	0.881	Y	N	0	nil
29	3	1985	3	0.883	Y	N	0	nil
29	3	1985	4	0.853	N	N	0	nil
29	3	1985	5	0.84	N	N	0	nil
29	3	1985	6	0.888	N	N	0	nil
29	3	1985	7	0.787	N	N	0	nil
29	3	1985	8	0.856	Y	N	0	nil
29	3	1985	9	1.134	N	N	0	nil
29	3	1985	10		Y	N	0	nil
29	3	1985	17		Y	N	0	nil
29	3	1985	18		Y	N	0	nil
30	3	1985	1	0.789	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
30	3	1985	2	0.851	N	N	0	nil
30	3	1985	3	0.858	N	N	0	nil
30	3	1985	4	0.832	N	N	0	nil
30	3	1985	5	0.817	N	N	0	nil
30	3	1985	6	0.871	N	N	0	nil
30	3	1985	7	0.831	Y	N	0	nil
30	3	1985	8	0.824	N	N	0	nil
30	3	1985	9	1.103	N	N	0	nil
30	3	1985	10	0.813	Y	N	0	nil
30	3	1985	17	0.771	Y	N	0	nil
30	3	1985	18	0.69	Y	N	0	nil
31	3	1985	1	0.77	N	N	0	nil
31	3	1985	2	0.825	N	N	0	nil
31	3	1985	3	0.837	N	N	0	nil
31	3	1985	4	0.812	N	N	0	nil
31	3	1985	5	0.797	N	N	0	nil
31	3	1985	6	0.856	N	N	0	nil
31	3	1985	7	0.815	N	N	0	nil
31	3	1985	8	0.796	N	N	0	nil
31	3	1985	9	1.081	N	N	0	nil
31	3	1985	10	0.788	N	N	0	nil
31	3	1985	17	0.741	N	N	0	nil
31	3	1985	18	0.654	N	N	0	nil
1	4	1985	1	0.798	N	N	0	nil
1	4	1985	2	0.842	N	N	0	nil
1	4	1985	3	0.86	N	N	0	nil
1	4	1985	4	0.836	N	N	0	nil
1	4	1985	5	0.822	N	N	0	nil
1	4	1985	6	0.886	N	N	0	nil
1	4	1985	7	0.862	N	N	0	nil
1	4	1985	8	0.811	N	N	0	nil
1	4	1985	9	1.102	N	N	0	nil
1	4	1985	10	0.809	N	N	0	nil
1	4	1985	17	0.755	N	N	0	nil
1	4	1985	18	0.662	N	N	0	nil
2	4	1985	1	0.784	N	N	0	nil
2	4	1985	2	0.823	N	N	0	nil
2	4	1985	3	0.842	N	N	0	nil
2	4	1985	4	0.822	N	N	0	nil
2	4	1985	5	0.808	N	N	0	nil
2	4	1985	6	0.876	N	N	0	nil
2	4	1985	7	0.851	N	N	0	nil
2	4	1985	8	0.788	N	N	0	nil
2	4	1985	9	1.082	N	N	0	nil
2	4	1985	10	0.794	N	N	0	nil
2	4	1985	17	0.731	N	N	0	nil
2	4	1985	18	0.632	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
3	4	1985	1		Y	N	0	nil
3	4	1985	2	0.816	N	N	0	nil
3	4	1985	3	0.84	N	N	0	nil
3	4	1985	4	0.823	N	N	0	nil
3	4	1985	5		Y	N	0	nil
3	4	1985	6	0.881	N	N	0	nil
3	4	1985	7	0.854	N	N	0	nil
3	4	1985	8		Y	N	0	nil
3	4	1985	9	1.078	N	N	0	nil
3	4	1985	10		Y	N	0	nil
3	4	1985	17		Y	N	0	nil
3	4	1985	18		Y	N	0	nil
4	4	1985	1		N	N	0	nil
4	4	1985	2	0.812	N	N	0	nil
4	4	1985	3	0.835	N	N	0	nil
4	4	1985	4	0.823	N	N	0	nil
4	4	1985	5		N	N	0	nil
4	4	1985	6	0.885	N	N	0	nil
4	4	1985	7	0.857	N	N	0	nil
4	4	1985	8		N	N	0	nil
4	4	1985	9	1.073	N	N	0	nil
4	4	1985	10		N	N	0	nil
4	4	1985	17		N	N	0	nil
4	4	1985	18		Y	N	0	nil
5	4	1985	1		N	N	0	nil
5	4	1985	2	0.785	N	N	0	nil
5	4	1985	3	0.808	N	N	0	nil
5	4	1985	4	0.798	N	N	0	nil
5	4	1985	5		N	N	0	nil
5	4	1985	6	0.864	N	N	0	nil
5	4	1985	7	0.828	N	N	0	nil
5	4	1985	8		N	N	0	nil
5	4	1985	9	1.041	N	N	0	nil
5	4	1985	10		N	N	0	nil
5	4	1985	17		N	N	0	nil
5	4	1985	18		N	N	0	nil
6	4	1985	1		N	N	0	nil
6	4	1985	2		Y	N	0	nil
6	4	1985	3	0.786	N	N	0	nil
6	4	1985	4		Y	N	0	nil
6	4	1985	5		N	N	0	nil
6	4	1985	6	0.848	N	N	0	nil
6	4	1985	7	0.818	N	N	0	nil
6	4	1985	8		N	N	0	nil
6	4	1985	9	1.017	N	N	0	nil
6	4	1985	10		N	N	0	nil
6	4	1985	17		Y	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
6	4	1985	18		N	N	0	nil
7	4	1985	1		N	N	0	nil
7	4	1985	2		N	N	0	nil
7	4	1985	3	0.764	N	N	0	nil
7	4	1985	4		N	N	0	nil
7	4	1985	5		N	N	0	nil
7	4	1985	6	0.83	N	N	0	nil
7	4	1985	7	0.799	N	N	0	nil
7	4	1985	8		N	N	0	nil
7	4	1985	9	0.989	N	N	0	nil
7	4	1985	10		N	N	0	nil
7	4	1985	17		N	N	0	nil
7	4	1985	18		N	N	0	nil
8	4	1985	1		N	N	0	nil
8	4	1985	2		N	N	0	nil
8	4	1985	3	0.738	N	N	0	nil
8	4	1985	4		N	N	0	nil
8	4	1985	5		N	N	0	nil
8	4	1985	6	0.809	N	N	0	nil
8	4	1985	7	0.778	N	N	0	nil
8	4	1985	8		N	N	0	nil
8	4	1985	9	0.963	N	N	0	nil
8	4	1985	10		N	N	0	nil
8	4	1985	17		N	N	0	nil
8	4	1985	18		N	N	0	nil
9	4	1985	1		N	N	0	nil
9	4	1985	2		N	N	0	nil
9	4	1985	3	0.714	N	N	0	nil
9	4	1985	4		N	N	0	nil
9	4	1985	5		N	N	0	nil
9	4	1985	6	0.79	N	N	0	nil
9	4	1985	7	0.756	N	N	0	nil
9	4	1985	8		N	N	0	nil
9	4	1985	9	0.933	N	N	0	nil
9	4	1985	10		N	N	0	nil
9	4	1985	17		N	N	0	nil
9	4	1985	18		N	N	0	nil
10	4	1985	1		N	N	0	nil
10	4	1985	2		N	N	0	nil
10	4	1985	3	0.688	N	N	0	nil
10	4	1985	4		Y	N	0	nil
10	4	1985	5		N	N	0	nil
10	4	1985	6	0.769	N	N	0	nil
10	4	1985	7	0.735	N	N	0	nil
10	4	1985	8		N	N	0	nil
10	4	1985	9	0.903	N	N	0	nil
10	4	1985	10		N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
10	4	1985	17		Y	N	0	nil
10	4	1985	18		Y	N	0	nil
11	4	1985	1		Y	N	0	nil
11	4	1985	2		Y	N	0	nil
11	4	1985	3		Y	N	0	nil
11	4	1985	4		Y	N	0	nil
11	4	1985	5		N	N	0	nil
11	4	1985	6		Y	N	0	nil
11	4	1985	7		Y	N	0	nil
11	4	1985	8		Y	N	0	nil
11	4	1985	9	0.875	N	N	0	nil
11	4	1985	10		Y	N	0	nil
11	4	1985	17		Y	N	0	nil
11	4	1985	18		Y	N	0	nil
12	4	1985	1		Y	N	0	nil
12	4	1985	2		Y	N	0	nil
12	4	1985	3		Y	N	0	nil
12	4	1985	4		N	N	0	nil
12	4	1985	5		N	N	0	nil
12	4	1985	6		N	N	0	nil
12	4	1985	7		Y	N	0	nil
12	4	1985	8		Y	N	0	nil
12	4	1985	9	0.854	N	N	0	nil
12	4	1985	10		Y	N	0	nil
12	4	1985	17		Y	N	0	nil
12	4	1985	18		Y	N	0	nil
13	4	1985	1		Y	N	0	nil
13	4	1985	2		N	N	0	nil
13	4	1985	3		Y	N	0	nil
13	4	1985	4		Y	N	0	nil
13	4	1985	5		N	N	0	nil
13	4	1985	6		Y	N	0	nil
13	4	1985	7		N	N	0	nil
13	4	1985	8		N	N	0	nil
13	4	1985	9	0.831	N	N	0	nil
13	4	1985	10		N	N	0	nil
13	4	1985	17		N	N	0	nil
13	4	1985	18		N	N	0	nil
14	4	1985	1		N	N	0	nil
14	4	1985	2		N	N	0	nil
14	4	1985	3		N	N	0	nil
14	4	1985	4		N	N	0	nil
14	4	1985	5		N	N	0	nil
14	4	1985	6		N	N	0	nil
14	4	1985	7		N	N	0	nil
14	4	1985	8		N	N	0	nil
14	4	1985	9	0.806	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
14	4	1985	10		N	N	0	nil
14	4	1985	17		N	N	0	nil
14	4	1985	18		N	N	0	nil
15	4	1985	1		N	N	0	nil
15	4	1985	2		N	N	0	nil
15	4	1985	3		N	N	0	nil
15	4	1985	4		N	N	0	nil
15	4	1985	5		N	N	0	nil
15	4	1985	6		N	N	0	nil
15	4	1985	7		N	N	0	nil
15	4	1985	8		N	N	0	nil
15	4	1985	9	0.783	N	N	0	nil
15	4	1985	10		N	N	0	nil
15	4	1985	17		N	N	0	nil
15	4	1985	18		N	N	0	nil
16	4	1985	1		N	N	0	nil
16	4	1985	2		N	N	0	nil
16	4	1985	3		N	N	0	nil
16	4	1985	4		N	N	0	nil
16	4	1985	5		N	N	0	nil
16	4	1985	6		N	N	0	nil
16	4	1985	7		N	N	0	nil
16	4	1985	8		N	N	0	nil
16	4	1985	9	0.76	N	N	0	nil
16	4	1985	10		N	N	0	nil
16	4	1985	17		N	N	0	nil
16	4	1985	18		N	N	0	nil
17	4	1985	1		N	N	0	nil
17	4	1985	2		N	N	0	nil
17	4	1985	3		N	N	0	nil
17	4	1985	4		N	N	0	nil
17	4	1985	5		Y	N	0	nil
17	4	1985	6		N	N	0	nil
17	4	1985	7		N	N	0	nil
17	4	1985	8		Y	N	0	nil
17	4	1985	9		Y	N	0	nil
17	4	1985	10		Y	N	0	nil
17	4	1985	17		N	N	0	nil
17	4	1985	18		Y	N	0	nil
18	4	1985	1		N	N	0	nil
18	4	1985	2		N	N	0	nil
18	4	1985	3		N	N	0	nil
18	4	1985	4		N	N	0	nil
18	4	1985	5		Y	N	0	nil
18	4	1985	6		N	N	0	nil
18	4	1985	7		N	N	0	nil
18	4	1985	8		Y	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
18	4	1985	9		Y	N	0	nil
18	4	1985	10		Y	N	0	nil
18	4	1985	17		N	N	0	nil
18	4	1985	18		Y	N	0	nil
19	4	1985	1		Y	N	0	nil
19	4	1985	2		Y	N	0	nil
19	4	1985	3		Y	N	0	nil
19	4	1985	4		Y	N	0	nil
19	4	1985	5		N	N	0	nil
19	4	1985	6		Y	N	0	nil
19	4	1985	7		N	N	0	nil
19	4	1985	8		N	N	0	nil
19	4	1985	9		Y	N	0	nil
19	4	1985	10		N	N	0	nil
19	4	1985	17		Y	N	0	nil
19	4	1985	18		N	N	0	nil
20	4	1985	1		N	N	0	nil
20	4	1985	2		N	N	0	nil
20	4	1985	3		N	N	0	nil
20	4	1985	4		N	N	0	nil
20	4	1985	5		N	N	0	nil
20	4	1985	6		N	N	0	nil
20	4	1985	7		Y	N	0	nil
20	4	1985	8		N	N	0	nil
20	4	1985	9		N	N	0	nil
20	4	1985	10		N	N	0	nil
20	4	1985	17		N	N	0	nil
20	4	1985	18		N	N	0	nil
21	4	1985	1		N	N	0	nil
21	4	1985	2		N	N	0	nil
21	4	1985	3		N	N	0	nil
21	4	1985	4		N	N	0	nil
21	4	1985	5		N	N	0	nil
21	4	1985	6		N	N	0	nil
21	4	1985	7		N	N	0	nil
21	4	1985	8		N	N	0	nil
21	4	1985	9		N	N	0	nil
21	4	1985	10		N	N	0	nil
21	4	1985	17		N	N	0	nil
21	4	1985	18		N	N	0	nil
22	4	1985	1		N	N	0	nil
22	4	1985	2		N	N	0	nil
22	4	1985	3		N	N	0	nil
22	4	1985	4		N	N	0	nil
22	4	1985	5		N	N	0	nil
22	4	1985	6		N	N	0	nil
22	4	1985	7		N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
22	4	1985	8		N	N	0	nil
22	4	1985	9		N	N	0	nil
22	4	1985	10		N	N	0	nil
22	4	1985	17		N	N	0	nil
22	4	1985	18		N	N	0	nil
23	4	1985	1		N	N	0	nil
23	4	1985	2		N	N	0	nil
23	4	1985	3		N	N	0	nil
23	4	1985	4		N	N	0	nil
23	4	1985	5		N	N	0	nil
23	4	1985	6		N	N	0	nil
23	4	1985	7		N	N	0	nil
23	4	1985	8		N	N	0	nil
23	4	1985	9		N	N	0	nil
23	4	1985	10		N	N	0	nil
23	4	1985	17		N	N	0	nil
23	4	1985	18		N	N	0	nil
24	4	1985	1		N	N	0	nil
24	4	1985	2		N	N	0	nil
24	4	1985	3		N	N	0	nil
24	4	1985	4		N	N	0	nil
24	4	1985	5		N	N	0	nil
24	4	1985	6		N	N	0	nil
24	4	1985	7		Y	N	0	nil
24	4	1985	8		N	N	0	nil
24	4	1985	9		N	N	0	nil
24	4	1985	10		Y	N	0	nil
24	4	1985	17		Y	N	0	nil
24	4	1985	18		Y	N	0	nil
25	4	1985	1		N	N	0	nil
25	4	1985	2		N	N	0	nil
25	4	1985	3		N	N	0	nil
25	4	1985	4		N	N	0	nil
25	4	1985	5		N	N	0	nil
25	4	1985	6		N	N	0	nil
25	4	1985	7		N	N	0	nil
25	4	1985	8		N	N	0	nil
25	4	1985	9		Y	N	0	nil
25	4	1985	10		N	N	0	nil
25	4	1985	17		N	N	0	nil
25	4	1985	18		N	N	0	nil
26	4	1985	1		N	N	0	nil
26	4	1985	2		N	N	0	nil
26	4	1985	3		N	N	0	nil
26	4	1985	4		N	N	0	nil
26	4	1985	5		N	N	0	nil
26	4	1985	6		N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
26	4	1985	7		N	N	0	nil
26	4	1985	8		N	N	0	nil
26	4	1985	9		N	N	0	nil
26	4	1985	10		N	N	0	nil
26	4	1985	17		N	N	0	nil
26	4	1985	18		N	N	0	nil
27	4	1985	1		N	N	0	nil
27	4	1985	2		N	N	0	nil
27	4	1985	3		N	N	0	nil
27	4	1985	4		N	N	0	nil
27	4	1985	5		N	N	0	nil
27	4	1985	6		N	N	0	nil
27	4	1985	7		N	N	0	nil
27	4	1985	8		N	N	0	nil
27	4	1985	9		N	N	0	nil
27	4	1985	10		N	N	0	nil
27	4	1985	17		N	N	0	nil
27	4	1985	18		N	N	0	nil
28	4	1985	1		N	N	0	nil
28	4	1985	2		N	N	0	nil
28	4	1985	3		N	N	0	nil
28	4	1985	4		N	N	0	nil
28	4	1985	5		N	N	0	nil
28	4	1985	6		N	N	0	nil
28	4	1985	7		N	N	0	nil
28	4	1985	8		N	N	0	nil
28	4	1985	9		N	N	0	nil
28	4	1985	10		N	N	0	nil
28	4	1985	17		N	N	0	nil
28	4	1985	18		N	N	0	nil
29	4	1985	1		N	N	0	nil
29	4	1985	2		N	N	0	nil
29	4	1985	3		N	N	0	nil
29	4	1985	4		N	N	0	nil
29	4	1985	5		N	N	0	nil
29	4	1985	6		N	N	0	nil
29	4	1985	7		N	N	0	nil
29	4	1985	8		N	N	0	nil
29	4	1985	9		N	N	0	nil
29	4	1985	10		N	N	0	nil
29	4	1985	17		N	N	0	nil
29	4	1985	18		N	N	0	nil
30	4	1985	1		N	N	0	nil
30	4	1985	2		N	N	0	nil
30	4	1985	3		N	N	0	nil
30	4	1985	4		N	N	0	nil
30	4	1985	5		N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
30	4	1985	6		N	N	0	nil
30	4	1985	7		N	N	0	nil
30	4	1985	8		N	N	0	nil
30	4	1985	9		N	N	0	nil
30	4	1985	10		N	N	0	nil
30	4	1985	17		Y	N	0	nil
30	4	1985	18		Y	N	0	nil
1	5	1985	1	0.769	N	N	0	nil
1	5	1985	2	0.86	N	N	0	nil
1	5	1985	3	0.916	N	N	0	nil
1	5	1985	4	0.911	N	N	0	nil
1	5	1985	5	0.934	N	N	0	nil
1	5	1985	6	0.78	N	N	0	nil
1	5	1985	7	0.887	N	N	0	nil
1	5	1985	8	0.961	N	N	0	nil
1	5	1985	9	0.958	N	N	0	nil
1	5	1985	10	1.003	N	N	0	nil
1	5	1985	17	0.872	Y	N	0	nil
1	5	1985	18	0.839	Y	N	0	nil
2	5	1985	1	0.784	N	N	0	nil
2	5	1985	2	0.875	N	N	0	nil
2	5	1985	3	0.933	N	N	0	nil
2	5	1985	4	0.926	N	N	0	nil
2	5	1985	5	0.95	N	N	0	nil
2	5	1985	6	0.793	N	N	0	nil
2	5	1985	7	0.905	N	N	0	nil
2	5	1985	8	0.982	N	N	0	nil
2	5	1985	9	0.974	N	N	0	nil
2	5	1985	10	1.023	N	N	0	nil
2	5	1985	17	0.903	N	N	0	nil
2	5	1985	18	0.883	N	N	0	nil
7	5	1985	1	0.849	Y	N	0	nil
7	5	1985	2	0.978	N	N	0	nil
7	5	1985	3	0.97	Y	N	0	nil
7	5	1985	4	0.961	Y	N	0	nil
7	5	1985	5	0.857	Y	N	0	nil
7	5	1985	6	0.84	Y	N	0	nil
7	5	1985	7	0.893	Y	N	0	nil
7	5	1985	8	0.915	Y	N	0	nil
7	5	1985	9	0.958	Y	N	0	nil
7	5	1985	10	1.038	Y	N	0	nil
7	5	1985	17	0.96	Y	N	0	nil
7	5	1985	18	0.845	Y	N	0	nil
8	5	1985	1	0.814	N	N	0	nil
8	5	1985	2	0.942	N	N	0	nil
8	5	1985	3	0.937	N	N	0	nil
8	5	1985	4	0.925	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
8	5	1985	5	0.824	N	N	0	nil
8	5	1985	6	0.801	N	N	0	nil
8	5	1985	7	0.855	N	N	0	nil
8	5	1985	8	0.884	N	N	0	nil
8	5	1985	9	0.906	N	N	0	nil
8	5	1985	10	0.995	N	N	0	nil
8	5	1985	17	0.932	N	N	0	nil
8	5	1985	18	0.844	N	N	0	nil
9	5	1985	1	0.729	N	N	0	nil
9	5	1985	2	0.85	N	N	0	nil
9	5	1985	3	0.844	N	N	0	nil
9	5	1985	4	0.828	N	N	0	nil
9	5	1985	5	0.735	N	N	0	nil
9	5	1985	6	0.718	N	N	0	nil
9	5	1985	7	0.759	N	N	0	nil
9	5	1985	8	0.787	N	N	0	nil
9	5	1985	9	0.786	Y	N	0	nil
9	5	1985	10	0.877	N	N	0	nil
9	5	1985	17	0.838	N	N	0	nil
9	5	1985	18	0.789	N	N	0	nil
10	5	1985	1	0.744	N	N	0	nil
10	5	1985	2	0.869	N	N	0	nil
10	5	1985	3	0.865	N	N	0	nil
10	5	1985	4	0.844	N	N	0	nil
10	5	1985	5	0.751	N	N	0	nil
10	5	1985	6	0.725	N	N	0	nil
10	5	1985	7	0.776	N	N	0	nil
10	5	1985	8	0.811	N	N	0	nil
10	5	1985	9		N	N	0	nil
10	5	1985	10	0.896	N	N	0	nil
10	5	1985	17	0.873	N	N	0	nil
10	5	1985	18	0.842	N	N	0	nil
13	5	1985	1	0.69	N	N	0	nil
13	5	1985	2	0.814	N	N	0	nil
13	5	1985	3	0.82	N	N	0	nil
13	5	1985	4	0.79	N	N	0	nil
13	5	1985	5	0.71	N	N	0	nil
13	5	1985	6	0.675	N	N	0	nil
13	5	1985	7	0.727	N	N	0	nil
13	5	1985	8	0.772	N	N	0	nil
13	5	1985	9	0.73	N	N	0	nil
13	5	1985	10	0.835	N	N	0	nil
13	5	1985	17	0.848	N	N	0	nil
13	5	1985	18	0.86	N	N	0	nil
14	5	1985	1	0.708	N	N	0	nil
14	5	1985	2	0.832	N	N	0	nil
14	5	1985	3	0.842	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
14	5	1985	4	0.808	N	N	0	nil
14	5	1985	5	0.73	N	N	0	nil
14	5	1985	6	0.692	N	N	0	nil
14	5	1985	7	0.741	N	N	0	nil
14	5	1985	8	0.794	N	N	0	nil
14	5	1985	9	0.746	N	N	0	nil
14	5	1985	10	0.849	N	N	0	nil
14	5	1985	17	0.878	N	N	0	nil
14	5	1985	18		N	N	0	nil
16	5	1985	1	0.744	N	N	0	nil
16	5	1985	2	0.87	N	N	0	nil
16	5	1985	3	0.885	N	N	0	nil
16	5	1985	4	0.844	N	N	0	nil
16	5	1985	5	0.769	N	N	0	nil
16	5	1985	6	0.726	N	N	0	nil
16	5	1985	7	0.782	N	N	0	nil
16	5	1985	8	0.845	N	N	0	nil
16	5	1985	9	0.779	N	N	0	nil
16	5	1985	10	0.894	N	N	0	nil
16	5	1985	17	0.939	N	N	0	nil
16	5	1985	18	0.982	N	N	0	nil
20	5	1985	1	0.789	N	N	0	nil
20	5	1985	2	0.917	N	N	0	nil
20	5	1985	3	0.945	N	N	0	nil
20	5	1985	4	0.896	N	N	0	nil
20	5	1985	5	0.828	N	N	0	nil
20	5	1985	6	0.774	N	N	0	nil
20	5	1985	7	0.839	N	N	0	nil
20	5	1985	8	0.925	N	N	0	nil
20	5	1985	9	0.836	N	N	0	nil
20	5	1985	10	0.966	N	N	0	nil
20	5	1985	17	1.028	N	N	0	nil
20	5	1985	18	1.102	N	N	0	nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
15	7	1985	1	0.823	N	N		nil
15	7	1985	2	0.851	N	N		nil
15	7	1985	3	0.799	N	N		nil
15	7	1985	4	0.919	N	N		nil
15	7	1985	5	0.962	N	N		nil
15	7	1985	6	0.913	N	N		nil
15	7	1985	7	0.958	N	N		nil
15	7	1985	8	0.98	N	N		nil
15	7	1985	9	1.098	N	N		nil
15	7	1985	10	0.976	N	N		nil
15	7	1985	17	0.73	N	N		nil
15	7	1985	18	0.81	N	N		nil
16	7	1985	1	0.809	N	N		nil
16	7	1985	2	0.838	N	N		nil
16	7	1985	3	0.785	N	N		nil
16	7	1985	4	0.909	N	N		nil
16	7	1985	5	0.948	N	N		nil
16	7	1985	6	0.904	N	N		nil
16	7	1985	7	0.946	N	N		nil
16	7	1985	8	0.956	N	N		nil
16	7	1985	9	1.084	N	N		nil
16	7	1985	10	0.961	N	N		nil
16	7	1985	17	0.705	N	N		nil
16	7	1985	18	0.778	N	N		nil
17	7	1985	1	0.818	N	N		nil
17	7	1985	2	0.846	N	N		nil
17	7	1985	3	0.791	N	N		nil
17	7	1985	4	0.918	N	N		nil
17	7	1985	5	0.955	N	N		nil
17	7	1985	6	0.914	N	N		nil
17	7	1985	7	0.959	N	N		nil
17	7	1985	8	0.959	N	N		nil
17	7	1985	9	0.65	N	N		nil
17	7	1985	10	0.974	N	N		nil
17	7	1985	17	0.702	N	N		nil
17	7	1985	18	0.773	N	N		nil
18	7	1985	1	0.949	Y	N		nil
18	7	1985	2	1.09	Y	N		nil
18	7	1985	3	1.01	Y	N		nil
18	7	1985	4	0.91	N	N		nil
18	7	1985	5	0.944	N	N		nil
18	7	1985	6	0.908	N	N		nil
18	7	1985	7	0.951	N	N		nil
18	7	1985	8	0.938	N	N		nil
18	7	1985	9	1.089	N	N		nil
18	7	1985	10	0.961	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
18	7	1985	17	0.95	Y	N		nil
18	7	1985	18	0.896	Y	N		nil
19	7	1985	1	0.933	N	N		nil
19	7	1985	2	1.069	N	N		nil
19	7	1985	3	0.991	N	N		nil
19	7	1985	4	0.898	N	N		nil
19	7	1985	5	0.928	N	N		nil
19	7	1985	6	0.895	N	N		nil
19	7	1985	7	0.94	N	N		nil
19	7	1985	8	0.914	N	N		nil
19	7	1985	9	1.076	N	N		nil
19	7	1985	10	0.944	N	N		nil
19	7	1985	17	0.864	N	N		nil
19	7	1985	18	0.912	N	N		nil
23	7	1985	1	0.886	N	N		nil
23	7	1985	2	1.006	N	N		nil
23	7	1985	3	0.933	N	N		nil
23	7	1985	4	0.868	N	N		nil
23	7	1985	5	0.885	N	N		nil
23	7	1985	6	0.867	N	N		nil
23	7	1985	7	0.912	N	N		nil
23	7	1985	8	0.84	N	N		nil
23	7	1985	9	1.037	N	N		nil
23	7	1985	10	0.895	N	N		nil
23	7	1985	17	0.769	N	N		nil
23	7	1985	18	0.82	N	N		nil
24	7	1985	1	0.872	N	N		nil
24	7	1985	2	0.988	N	N		nil
24	7	1985	3	0.915	N	N		nil
24	7	1985	4	0.858	N	N		nil
24	7	1985	5	0.871	N	N		nil
24	7	1985	6	0.857	N	N		nil
24	7	1985	7	0.903	N	N		nil
24	7	1985	8	0.819	N	N		nil
24	7	1985	9	1.024	N	N		nil
24	7	1985	10	0.879	N	N		nil
24	7	1985	17	0.743	N	N		nil
24	7	1985	18	0.776	N	N		nil
25	7	1985	1	0.908	Y	N		nil
25	7	1985	2	0.984	N	N		nil
25	7	1985	3	0.91	N	N		nil
25	7	1985	4	0.971	Y	N		nil
25	7	1985	5	0.879	Y	N		nil
25	7	1985	6	0.959	Y	N		nil
25	7	1985	7	0.939	Y	N		nil
25	7	1985	8	0.925	Y	N		nil
25	7	1985	9	1.029	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
25	7	1985	10	0.927	Y	N		nil
25	7	1985	17	0.851	Y	N		nil
25	7	1985	18	0.988	Y	N		nil
26	7	1985	1	0.895	N	N		nil
26	7	1985	2	0.969	N	N		nil
26	7	1985	3	0.897	N	N		nil
26	7	1985	4	0.961	N	N		nil
26	7	1985	5	0.916	N	N		nil
26	7	1985	6	0.951	N	N		nil
26	7	1985	7	0.933	N	N		nil
26	7	1985	8	0.907	N	N		nil
26	7	1985	9	1.019	N	N		nil
26	7	1985	10	0.915	N	N		nil
26	7	1985	17	1.057	Y	N		nil
26	7	1985	18	0.952	N	N		nil
29	7	1985	1	0.851	N	N		nil
29	7	1985	2	0.923	N	N		nil
29	7	1985	3	0.848	N	N		nil
29	7	1985	4	0.924	N	N		nil
29	7	1985	5	0.871	N	N		nil
29	7	1985	6	0.919	N	N		nil
29	7	1985	7	0.904	N	N		nil
29	7	1985	8	0.843	N	N		nil
29	7	1985	9	0.979	N	N		nil
29	7	1985	10	0.867	N	N		nil
29	7	1985	17	0.949	N	N		nil
29	7	1985	18	0.856	N	N		nil
1	8	1985	1	0.861	N	N		nil
1	8	1985	2	0.928	N	N		nil
1	8	1985	3	0.853	N	N		nil
1	8	1985	4	0.94	N	N		nil
1	8	1985	5	0.882	N	N		nil
1	8	1985	6	0.943	N	N		nil
1	8	1985	7	0.932	N	N		nil
1	8	1985	8	0.838	N	N		nil
1	8	1985	9	1.006	N	N		nil
1	8	1985	10	0.891	N	N		nil
1	8	1985	17	0.918	N	N		nil
1	8	1985	18	0.827	N	N		nil
2	8	1985	1	0.872	N	N		nil
2	8	1985	2	0.941	N	N		nil
2	8	1985	3	0.865	N	N		nil
2	8	1985	4	0.955	N	N		nil
2	8	1985	5	0.891	N	N		nil
2	8	1985	6	0.961	N	N		nil
2	8	1985	7	0.953	N	N		nil
2	8	1985	8	0.848	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
2	8	1985	9	1.029	N	N		nil
2	8	1985	10	0.913	N	N		nil
2	8	1985	17	0.922	N	N		nil
2	8	1985	18	0.828	N	N		nil
5	8	1985	1	0.842	N	N		nil
5	8	1985	2	0.906	N	N		nil
5	8	1985	3	0.828	N	N		nil
5	8	1985	4	0.925	N	N		nil
5	8	1985	5	0.86	N	N		nil
5	8	1985	6	0.938	N	N		nil
5	8	1985	7	0.931	N	N		nil
5	8	1985	8	0.793	N	N		nil
5	8	1985	9	0.996	N	N		nil
5	8	1985	10	0.877	N	N		nil
5	8	1985	17	0.854	N	N		nil
5	8	1985	18	0.758	N	N		nil
6	8	1985	1	0.828	N	N		nil
6	8	1985	2	0.89	N	N		nil
6	8	1985	3	0.812	N	N		nil
6	8	1985	4	0.912	N	N		nil
6	8	1985	5	0.843	N	N		nil
6	8	1985	6	0.925	N	N		nil
6	8	1985	7	0.918	N	N		nil
6	8	1985	8	0.77	N	N		nil
6	8	1985	9	0.98	N	N		nil
6	8	1985	10	0.861	N	N		nil
6	8	1985	17	0.828	N	N		nil
6	8	1985	18	0.733	N	N		nil
8	8	1985	1	0.948	Y	N		nil
8	8	1985	2	0.861	N	N		nil
8	8	1985	3	0.86	Y	N		nil
8	8	1985	4	0.885	N	N		nil
8	8	1985	5	0.901	Y	N		nil
8	8	1985	6	0.902	N	N		nil
8	8	1985	7	0.894	N	N		nil
8	8	1985	8	1.057	Y	N		nil
8	8	1985	9	0.942	N	N		nil
8	8	1985	10	0.985	Y	N		nil
8	8	1985	17	0.986	Y	N		nil
8	8	1985	18	0.992	Y	N		nil
9	8	1985	1	1.007	N	N		nil
9	8	1985	2	0.92	N	N		nil
9	8	1985	3	0.916	N	N		nil
9	8	1985	4	0.944	N	N		nil
9	8	1985	5	0.958	N	N		nil
9	8	1985	6	0.966	N	N		nil
9	8	1985	7	0.958	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
9	8	1985	8	1.05	N	Y		nil
9	8	1985	9	1.02	N	N		nil
9	8	1985	10	1.049	N	N		nil
9	8	1985	17	1.041	N	N		nil
9	8	1985	18	1.017	N	N		nil
12	8	1985	1	0.977	N	N		nil
12	8	1985	2	0.893	N	N		nil
12	8	1985	3	0.883	N	N		nil
12	8	1985	4	0.919	N	N		nil
12	8	1985	5	0.928	N	N		nil
12	8	1985	6	0.948	N	N		nil
12	8	1985	7	0.94	N	N		nil
12	8	1985	8	1.05	N	Y		nil
12	8	1985	9	0.995	N	N		nil
12	8	1985	10	1.02	N	N		nil
12	8	1985	17	0.969	N	N		nil
12	8	1985	18	0.926	N	N		nil
14	8	1985	1	0.949	N	N		nil
14	8	1985	2	0.864	N	N		nil
14	8	1985	3	0.85	N	N		nil
14	8	1985	4	0.892	N	N		nil
14	8	1985	5	0.894	N	N		nil
14	8	1985	6	0.925	N	N		nil
14	8	1985	7	0.917	N	N		nil
14	8	1985	8	1.028	N	N		nil
14	8	1985	9	0.966	N	N		nil
14	8	1985	10	0.987	N	N		nil
14	8	1985	17	0.916	N	N		nil
14	8	1985	18	0.87	N	N		nil
15	8	1985	1	0.938	N	N		nil
15	8	1985	2	0.854	N	N		nil
15	8	1985	3	0.839	N	N		nil
15	8	1985	4	0.883	N	N		nil
15	8	1985	5	0.881	N	N		nil
15	8	1985	6	0.917	N	N		nil
15	8	1985	7	0.909	N	N		nil
15	8	1985	8	1.011	N	N		nil
15	8	1985	9	0.955	N	N		nil
15	8	1985	10	0.973	N	N		nil
15	8	1985	17	0.896	N	N		nil
15	8	1985	18	0.847	N	N		nil
16	8	1985	1	0.937	N	N		nil
16	8	1985	2	0.854	N	N		nil
16	8	1985	3	0.836	N	N		nil
16	8	1985	4	0.883	N	N		nil
16	8	1985	5	0.878	N	N		nil
16	8	1985	6	0.919	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
16	8	1985	7	0.91	N	N		nil
16	8	1985	8	1.006	N	N		nil
16	8	1985	9	0.955	N	N		nil
16	8	1985	10	0.97	N	N		nil
16	8	1985	17	0.89	N	N		nil
16	8	1985	18	0.836	N	N		nil
19	8	1985	1	0.975	N	N		nil
19	8	1985	2	0.894	N	N		nil
19	8	1985	3	0.873	N	N		nil
19	8	1985	4	0.929	N	N		nil
19	8	1985	5	0.918	N	N		nil
19	8	1985	6	0.976	N	N		nil
19	8	1985	7	0.968	N	N		nil
19	8	1985	8	1.035	N	N		nil
19	8	1985	9	1.02	N	N		nil
19	8	1985	10	1.031	N	N		nil
19	8	1985	17	0.919	N	N		nil
19	8	1985	18	0.862	N	N		nil
20	8	1985	1	1.018	N	N		nil
20	8	1985	2	0.936	N	N		nil
20	8	1985	3	0.915	N	N		nil
20	8	1985	4	0.97	N	N		nil
20	8	1985	5	0.951	N	N		nil
20	8	1985	6	1.02	N	N		nil
20	8	1985	7	1.015	N	N		nil
20	8	1985	8	1.069	N	N		nil
20	8	1985	9	1.078	N	N		nil
20	8	1985	10	1.079	N	N		nil
20	8	1985	17	0.97	N	N		nil
20	8	1985	18		N	N		nil
22	8	1985	1	0.994	N	N		nil
22	8	1985	2	0.916	N	N		nil
22	8	1985	3	0.891	N	N		nil
22	8	1985	4	0.952	N	N		nil
22	8	1985	5	0.936	N	N		nil
22	8	1985	6	1.006	N	N		nil
22	8	1985	7	0.998	N	N		nil
22	8	1985	8	1.034	N	N		nil
22	8	1985	9	1.057	N	N		nil
22	8	1985	10	1.057	N	N		nil
22	8	1985	17	0.928	N	N		nil
22	8	1985	18	0.862	N	N		nil
23	8	1985	1	0.977	N	N		nil
23	8	1985	2		N	N		nil
23	8	1985	3	0.873	N	N		nil
23	8	1985	4	0.935	N	N		nil
23	8	1985	5	0.918	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
23	8	1985	6	0.993	N	N		nil
23	8	1985	7	0.984	N	N		nil
23	8	1985	8	1.009	N	N		nil
23	8	1985	9	1.042	N	N		nil
23	8	1985	10	1.042	N	N		nil
23	8	1985	17	0.901	N	N		nil
23	8	1985	18	0.839	N	N		nil
26	8	1985	1	1.019	N	N		nil
26	8	1985	2	0.946	N	N		nil
26	8	1985	3	0.909	N	N		nil
26	8	1985	4	0.977	N	N		nil
26	8	1985	5	0.954	N	N		nil
26	8	1985	6	1.042	N	N		nil
26	8	1985	7	1.032	N	N		nil
26	8	1985	8	1.029	N	N		nil
26	8	1985	9	1.098	N	N		nil
26	8	1985	10	1.085	N	N		nil
26	8	1985	17	0.943	N	N		nil
26	8	1985	18	0.868	N	N		nil
27	8	1985	1	1.009	N	N		nil
27	8	1985	2	0.931	N	N		nil
27	8	1985	3	0.898	N	N		nil
27	8	1985	4	0.968	N	N		nil
27	8	1985	5	0.944	N	N		nil
27	8	1985	6	1.035	N	N		nil
27	8	1985	7	1.024	N	N		nil
27	8	1985	8	1.013	N	N		nil
27	8	1985	9	1.09	N	N		nil
27	8	1985	10	1.063	N	N		nil
27	8	1985	17	0.924	N	N		nil
27	8	1985	18	0.853	N	N		nil
28	8	1985	1	1.019	N	N		nil
28	8	1985	2	0.942	N	N		nil
28	8	1985	3	0.906	N	N		nil
28	8	1985	4	0.98	N	N		nil
28	8	1985	5	0.953	N	N		nil
28	8	1985	6	1.048	N	N		nil
28	8	1985	7	1.037	N	N		nil
28	8	1985	8	1.018	N	N		nil
28	8	1985	9	1.105	N	N		nil
28	8	1985	10	1.086	N	N		nil
28	8	1985	17	0.932	N	N		nil
28	8	1985	18	0.86	N	N		nil
29	8	1985	1	1.008	N	N		nil
29	8	1985	2	0.932	N	N		nil
29	8	1985	3	0.894	N	N		nil
29	8	1985	4	0.97	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
29	8	1985	5	0.941	N	N		nil
29	8	1985	6	1.04	N	N		nil
29	8	1985	7	1.03	N	N		nil
29	8	1985	8	1.002	N	N		nil
29	8	1985	9	1.096	N	N		nil
29	8	1985	10	1.073	N	N		nil
29	8	1985	17	0.914	N	N		nil
29	8	1985	18	0.846	N	N		nil
30	8	1985	1	1.003	N	N		nil
30	8	1985	2	0.926	N	N		nil
30	8	1985	3	0.888	N	N		nil
30	8	1985	4	0.967	N	N		nil
30	8	1985	5	0.934	N	N		nil
30	8	1985	6	1.039	N	N		nil
30	8	1985	7	1.026	N	N		nil
30	8	1985	8	0.992	N	N		nil
30	8	1985	9	1.094	N	N		nil
30	8	1985	10	1.072	N	N		nil
30	8	1985	17	0.901	N	N		nil
30	8	1985	18	1.035	Y	N		nil
3	9	1985	1	0.977	N	N		nil
3	9	1985	2		N	N		nil
3	9	1985	3	0.852	N	N		nil
3	9	1985	4	0.944	N	N		nil
3	9	1985	5	0.902	N	N		nil
3	9	1985	6	1.019	N	N		nil
3	9	1985	7	1.002	N	N		nil
3	9	1985	8	0.938	N	N		nil
3	9	1985	9	1.068	N	N		nil
3	9	1985	10	1.042	N	N		nil
3	9	1985	17	0.853	N	N		nil
3	9	1985	18	0.959	N	N		nil
4	9	1985	1	0.995	N	N		nil
4	9	1985	2	0.917	N	N		nil
4	9	1985	3	0.868	N	N		nil
4	9	1985	4	0.96	N	N		nil
4	9	1985	5	0.918	N	N		nil
4	9	1985	6	1.039	N	N		nil
4	9	1985	7	1.021	N	N		nil
4	9	1985	8	0.951	N	N		nil
4	9	1985	9	1.091	N	N		nil
4	9	1985	10	1.057	N	N		nil
4	9	1985	17	0.871	N	N		nil
4	9	1985	18	0.967	N	N		nil
5	9	1985	1	1.006	N	N		nil
5	9	1985	2	0.928	N	N		nil
5	9	1985	3	0.878	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
5	9	1985	4	0.974	N	N		nil
5	9	1985	5	0.929	N	N		nil
5	9	1985	6	1.053	N	N		nil
5	9	1985	7	1.036	N	N		nil
5	9	1985	8	0.959	N	N		nil
5	9	1985	9	1.11	N	N		nil
5	9	1985	10	1.078	N	N		nil
5	9	1985	17	0.886	N	N		nil
5	9	1985	18	0.969	N	N		nil
6	9	1985	1	0.997	N	N		nil
6	9	1985	2	0.919	N	N		nil
6	9	1985	3	0.869	N	N		nil
6	9	1985	4	0.967	N	N		nil
6	9	1985	5	0.92	N	N		nil
6	9	1985	6	1.045	N	N		nil
6	9	1985	7	1.03	N	N		nil
6	9	1985	8	0.947	N	N		nil
6	9	1985	9	1.1	N	N		nil
6	9	1985	10	1.065	N	N		nil
6	9	1985	17	0.871	N	N		nil
6	9	1985	18	0.953	N	N		nil
9	9	1985	1	0.994	N	N		nil
9	9	1985	2	0.914	N	N		nil
9	9	1985	3	0.859	N	N		nil
9	9	1985	4	0.968	N	N		nil
9	9	1985	5	0.914	N	N		nil
9	9	1985	6	1.051	N	N		nil
9	9	1985	7	1.031	N	N		nil
9	9	1985	8	0.933	N	N		nil
9	9	1985	9	1.108	N	N		nil
9	9	1985	10	1.074	N	N		nil
9	9	1985	17	0.852	N	N		nil
9	9	1985	18	0.927	N	N		nil
10	9	1985	1	1.118	N	N		nil
10	9	1985	2	1.039	N	N		nil
10	9	1985	3	0.964	N	N		nil
10	9	1985	4	1.09	N	N		nil
10	9	1985	5	1.046	N	N		nil
10	9	1985	6	1.535	N	N		nil
10	9	1985	7	1.157	N	N		nil
10	9	1985	8	1.06	N	N		nil
10	9	1985	9	1.256	N	N		nil
10	9	1985	10	1.22	N	N		nil
10	9	1985	17	1.03	N	N		nil
10	9	1985	18	1.053	N	N		nil
11	9	1985	1	1.135	N	N		nil
11	9	1985	2	1.053	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
11	9	1985	3	1.006	N	N		nil
11	9	1985	4	1.117	N	N		nil
11	9	1985	5	1.058	N	N		nil
11	9	1985	6	1.202	N	N		nil
11	9	1985	7	1.186	N	N		nil
11	9	1985	8	1.083	N	N		nil
11	9	1985	9	1.291	N	N		nil
11	9	1985	10	1.244	N	N		nil
11	9	1985	17	1.045	N	N		nil
11	9	1985	18	1.06	N	N		nil
12	9	1985	1	1.19	N	N		nil
12	9	1985	2	1.111	N	N		nil
12	9	1985	3	1.065	N	N		nil
12	9	1985	4	1.165	N	Y		nil
12	9	1985	5	1.131	N	N		nil
12	9	1985	6	1.269	N	N		nil
12	9	1985	7	1.258	N	N		nil
12	9	1985	8	1.155	N	Y		nil
12	9	1985	9	1.337	N	Y		nil
12	9	1985	10	1.324	N	N		nil
12	9	1985	17	1.115	N	N		nil
12	9	1985	18	1.109	N	N		nil
13	9	1985	1	1.169	N	N		nil
13	9	1985	2	1.088	N	N		nil
13	9	1985	3	1.052	N	N		nil
13	9	1985	4	1.153	N	N		nil
13	9	1985	5	1.116	N	N		nil
13	9	1985	6	1.253	N	N		nil
13	9	1985	7	1.242	N	N		nil
13	9	1985	8	1.136	N	N		nil
13	9	1985	9	1.32	N	N		nil
13	9	1985	10	1.301	N	N		nil
13	9	1985	17	1.085	N	N		nil
13	9	1985	18	1.078	N	N		nil
16	9	1985	1	1.245	N	N		nil
16	9	1985	2	1.164	N	N		nil
16	9	1985	3	1.128	N	N		nil
16	9	1985	4	1.167	N	Y		nil
16	9	1985	5	1.216	N	N		nil
16	9	1985	6	1.334	N	Y		nil
16	9	1985	7	1.306	N	Y		nil
16	9	1985	8	1.155	N	Y		nil
16	9	1985	9	1.337	N	Y		nil
16	9	1985	10	1.391	N	N		nil
16	9	1985	17	1.195	N	N		nil
16	9	1985	18	1.138	N	N		nil
17	9	1985	1	1.234	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
17	9	1985	2	1.155	N	N		nil
17	9	1985	3	1.122	N	N		nil
17	9	1985	4	1.165	N	Y		nil
17	9	1985	5	1.22	N	N		nil
17	9	1985	6	1.332	N	N		nil
17	9	1985	7	1.306	N	Y		nil
17	9	1985	8	1.155	N	Y		nil
17	9	1985	9	1.337	N	Y		nil
17	9	1985	10	1.389	N	N		nil
17	9	1985	17	1.176	N	N		nil
17	9	1985	18	1.118	N	N		nil
19	9	1985	1	1.106	N	N		nil
19	9	1985	2	1.131	N	N		nil
19	9	1985	3	1.104	N	N		nil
19	9	1985	4	1.155	N	N		nil
19	9	1985	5	1.211	N	N		nil
19	9	1985	6	1.314	N	N		nil
19	9	1985	7	1.293	N	N		nil
19	9	1985	8	1.151	N	N		nil
19	9	1985	9	1.33	N	N		nil
19	9	1985	10	1.366	N	N		nil
19	9	1985	17	1.135	N	N		nil
19	9	1985	18	1.082	N	N		nil
20	9	1985	1	1.315	N	N		nil
20	9	1985	2	1.241	N	N		nil
20	9	1985	3	1.201	N	Y		nil
20	9	1985	4	1.052	Y	N		nil
20	9	1985	5	1.049	Y	N		nil
20	9	1985	6	1.334	N	Y		nil
20	9	1985	7	1.306	N	Y		nil
20	9	1985	8	1.155	N	Y		nil
20	9	1985	9	1.337	N	Y		nil
20	9	1985	10	1.391	N	Y		nil
20	9	1985	17	1.271	N	N		nil
20	9	1985	18	1.18	N	N		nil
23	9	1985	1	1.266	N	N		nil
23	9	1985	2	1.19	N	N		nil
23	9	1985	3	1.143	N	N		nil
23	9	1985	4	1.037	N	N		nil
23	9	1985	5	1.024	N	N		nil
23	9	1985	6	1.165	N	N		nil
23	9	1985	7	1.14	N	N		nil
23	9	1985	8	0.97	N	N		nil
23	9	1985	9	1.2	N	N		nil
23	9	1985	10	0.65	N	N		nil
23	9	1985	17	1.195	N	N		nil
23	9	1985	18	1.122	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
24	9	1985	1	1.243	N	N		nil
24	9	1985	2	1.165	N	N		nil
24	9	1985	3	1.122	N	N		nil
24	9	1985	4	1.024	N	N		nil
24	9	1985	5	1.01	N	N		nil
24	9	1985	6	0.69	N	N		nil
24	9	1985	7	1.127	N	N		nil
24	9	1985	8	0.952	N	N		nil
24	9	1985	9	1.19	N	N		nil
24	9	1985	10	0.65	N	N		nil
24	9	1985	17	1.15	N	N		nil
24	9	1985	18	1.098	N	N		nil
25	9	1985	1	1.245	N	N		nil
25	9	1985	2	1.17	N	N		nil
25	9	1985	3	1.12	N	N		nil
25	9	1985	4	1.042	N	N		nil
25	9	1985	5	1.023	N	N		nil
25	9	1985	6	0.93	N	N		nil
25	9	1985	7	1.14	N	N		nil
25	9	1985	8	0.966	N	N		nil
25	9	1985	9	1.206	N	N		nil
25	9	1985	10	0.65	N	N		nil
25	9	1985	17	1.153	N	N		nil
25	9	1985	18	1.094	N	N		nil
27	9	1985	1	1.221	N	N		nil
27	9	1985	2	1.141	N	N		nil
27	9	1985	3	1.203	N	N		nil
27	9	1985	4	1.031	N	N		nil
27	9	1985	5	1.009	N	N		nil
27	9	1985	6	1.075	Y	N		nil
27	9	1985	7	1.128	N	N		nil
27	9	1985	8	0.951	N	N		nil
27	9	1985	9	1.199	N	N		nil
27	9	1985	10	0.65	Y	N		nil
27	9	1985	17	1.121	N	N		nil
27	9	1985	18	1.057	N	N		nil
30	9	1985	1	1.215	N	N		nil
30	9	1985	2	1.126	N	N		nil
30	9	1985	3	1.081	N	N		nil
30	9	1985	4	1.05	N	N		nil
30	9	1985	5	1.024	N	N		nil
30	9	1985	6	1.096	N	N		nil
30	9	1985	7	1.144	N	N		nil
30	9	1985	8	0.965	N	N		nil
30	9	1985	9	1.227	N	N		nil
30	9	1985	10	1.331	N	N		nil
30	9	1985	17	1.123	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
30	9	1985	18	1.042	N	N		nil
1	10	1985	1	1.102	N	N		nil
1	10	1985	2	1.1	N	N		nil
1	10	1985	3	1.056	N	N		nil
1	10	1985	4	1.037	N	N		nil
1	10	1985	5	1.009	N	N		nil
1	10	1985	6	1.085	N	N		nil
1	10	1985	7	1.125	N	N		nil
1	10	1985	8	0.95	N	N		nil
1	10	1985	9	1.21	N	N		nil
1	10	1985	10	0.946	N	N		nil
1	10	1985	17	1.094	N	N		nil
1	10	1985	18	1.016	N	N		nil
3	10	1985	1	1.245	N	N		nil
3	10	1985	2	1.148	N	N		nil
3	10	1985	3	1.1	N	N		nil
3	10	1985	4	1.092	N	N		nil
3	10	1985	5	1.059	N	N		nil
3	10	1985	6	1.141	N	N		nil
3	10	1985	7	1.171	N	N		nil
3	10	1985	8		N	N		nil
3	10	1985	9	1.265	N	N		nil
3	10	1985	10	1.056	N	N		nil
3	10	1985	17	1.155	N	N		nil
3	10	1985	18	1.07	N	N		nil
4	10	1985	1	1.261	N	N		nil
4	10	1985	2	1.164	N	N		nil
4	10	1985	3	1.086	N	N		nil
4	10	1985	4	1.116	N	N		nil
4	10	1985	5	1.085	N	N		nil
4	10	1985	6	1.167	N	N		nil
4	10	1985	7	1.206	N	N		nil
4	10	1985	8	1.027	N	N		nil
4	10	1985	9	1.296	N	N		nil
4	10	1985	10	1.096	N	N		nil
4	10	1985	17	1.281	N	N		nil
4	10	1985	18	1.064	N	N		nil
7	10	1985	1	1.24	N	N		nil
7	10	1985	2	1.134	N	N		nil
7	10	1985	3	1.085	N	N		nil
7	10	1985	4	1.11	N	N		nil
7	10	1985	5	1.077	N	N		nil
7	10	1985	6	1.16	N	N		nil
7	10	1985	7	1.195	N	N		nil
7	10	1985	8	1.017	N	N		nil
7	10	1985	9	1.295	N	N		nil
7	10	1985	10	1.099	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
7	10	1985	17	1.156	N	N		nil
7	10	1985	18	1.037	N	N		nil
8	10	1985	1	1.227	N	N		nil
8	10	1985	2	1.119	N	N		nil
8	10	1985	3	1.07	N	N		nil
8	10	1985	4	1.1	N	N		nil
8	10	1985	5	1.068	N	N		nil
8	10	1985	6	1.153	N	N		nil
8	10	1985	7	1.184	N	N		nil
8	10	1985	8	1.004	N	N		nil
8	10	1985	9	1.287	N	N		nil
8	10	1985	10	1.088	N	N		nil
8	10	1985	17	1.14	N	N		nil
8	10	1985	18	1.02	N	N		nil
9	10	1985	1	1.225	N	N		nil
9	10	1985	2	1.111	N	N		nil
9	10	1985	3	1.061	N	N		nil
9	10	1985	4	1.102	N	N		nil
9	10	1985	5	1.064	N	N		nil
9	10	1985	6	1.152	N	N		nil
9	10	1985	7	1.081	N	N		nil
9	10	1985	8	1.001	N	N		nil
9	10	1985	9	1.286	N	N		nil
9	10	1985	10	1.09	N	N		nil
9	10	1985	17	1.137	N	N		nil
9	10	1985	18	1.01	N	N		nil
10	10	1985	1	1.209	N	N		nil
10	10	1985	2	1.095	N	N		nil
10	10	1985	3	1.045	N	N		nil
10	10	1985	4	1.089	N	N		nil
10	10	1985	5	1.052	N	N		nil
10	10	1985	6	1.138	N	N		nil
10	10	1985	7	1.165	N	N		nil
10	10	1985	8	0.985	N	N		nil
10	10	1985	9	1.269	N	N		nil
10	10	1985	10	1.075	N	N		nil
10	10	1985	17	1.116	N	N		nil
10	10	1985	18	0.991	N	N		nil
14	10	1985	1	1.198	N	N		nil
14	10	1985	2	1.11	N	N		nil
14	10	1985	3	1.058	N	N		nil
14	10	1985	4	1.12	N	N		nil
14	10	1985	5	1.081	N	N		nil
14	10	1985	6	1.172	N	N		nil
14	10	1985	7	1.192	N	N		nil
14	10	1985	8	1.014	N	N		nil
14	10	1985	9	1.308	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
14	10	1985	10	1.116	N	N		nil
14	10	1985	17	1.155	N	N		nil
14	10	1985	18	1.007	N	N		nil
15	10	1985	1	1.223	N	N		nil
15	10	1985	2	1.097	N	N		nil
15	10	1985	3	1.047	N	N		nil
15	10	1985	4	1.113	N	N		nil
15	10	1985	5	1.071	N	N		nil
15	10	1985	6	1.166	N	N		nil
15	10	1985	7	1.18	N	N		nil
15	10	1985	8	0.996	N	N		nil
15	10	1985	9	1.296	N	N		nil
15	10	1985	10	1.108	N	N		nil
15	10	1985	17	1.14	N	N		nil
15	10	1985	18	0.985	N	N		nil
16	10	1985	1	1.207	N	N		nil
16	10	1985	2	1.08	N	N		nil
16	10	1985	3	1.029	N	N		nil
16	10	1985	4	1.098	N	N		nil
16	10	1985	5	1.055	N	N		nil
16	10	1985	6	1.153	N	N		nil
16	10	1985	7	1.163	N	N		nil
16	10	1985	8	0.977	N	N		nil
16	10	1985	9	1.281	N	N		nil
16	10	1985	10	1.091	N	N		nil
16	10	1985	17	1.116	N	N		nil
16	10	1985	18	0.962	N	N		nil
18	10	1985	1	1.196	N	N		nil
18	10	1985	2	1.067	N	N		nil
18	10	1985	3	1.014	N	N		nil
18	10	1985	4	1.09	N	N		nil
18	10	1985	5	1.047	N	N		nil
18	10	1985	6	1.143	N	N		nil
18	10	1985	7	1.151	N	N		nil
18	10	1985	8	0.96	N	N		nil
18	10	1985	9	1.268	N	N		nil
18	10	1985	10	1.084	N	N		nil
18	10	1985	17	1.096	N	N		nil
18	10	1985	18	0.936	N	N		nil
21	10	1985	1	1.207	N	N		nil
21	10	1985	2	1.07	N	N		nil
21	10	1985	3	1.019	N	N		nil
21	10	1985	4	1.097	N	N		nil
21	10	1985	5	1.055	N	N		nil
21	10	1985	6	1.156	N	N		nil
21	10	1985	7	1.158	N	N		nil
21	10	1985	8	0.961	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
21	10	1985	9	1.28	N	N		nil
21	10	1985	10	1.1	N	N		nil
21	10	1985	17	1.11	N	N		nil
21	10	1985	18	0.925	N	N		nil
23	10	1985	1	1.22	N	N		nil
23	10	1985	2	1.08	N	N		nil
23	10	1985	3	1.028	N	N		nil
23	10	1985	4	1.108	N	N		nil
23	10	1985	5	1.059	N	N		nil
23	10	1985	6	1.169	N	N		nil
23	10	1985	7	1.164	N	N		nil
23	10	1985	8	0.962	N	N		nil
23	10	1985	9	1.289	N	N		nil
23	10	1985	10	1.103	N	N		nil
23	10	1985	17	1.121	N	N		nil
23	10	1985	18	0.924	N	N		nil
24	10	1985	1	1.198	N	N		nil
24	10	1985	2	1.057	N	N		nil
24	10	1985	3	1.013	N	N		nil
24	10	1985	4	1.087	N	N		nil
24	10	1985	5	1.05	N	N		nil
24	10	1985	6	1.155	N	N		nil
24	10	1985	7	1.14	N	N		nil
24	10	1985	8	0.943	N	N		nil
24	10	1985	9	1.304	N	N		nil
24	10	1985	10	1.09	N	N		nil
24	10	1985	17	1.097	N	N		nil
24	10	1985	18	0.902	N	N		nil
25	10	1985	1	1.186	N	N		nil
25	10	1985	2	1.05	N	N		nil
25	10	1985	3		N	N		nil
25	10	1985	4	1.073	N	N		nil
25	10	1985	5	1.034	N	N		nil
25	10	1985	6	1.135	N	N		nil
25	10	1985	7	1.128	N	N		nil
25	10	1985	8	0.924	N	N		nil
25	10	1985	9	1.248	N	N		nil
25	10	1985	10	1.075	N	N		nil
25	10	1985	17	1.125	N	N		nil
25	10	1985	18	0.88	N	N		nil
28	10	1985	1	1.18	N	N		nil
28	10	1985	2	1.038	N	N		nil
28	10	1985	3	0.962	N	N		nil
28	10	1985	4	1.069	N	N		nil
28	10	1985	5	1.022	N	N		nil
28	10	1985	6	1.135	N	N		nil
28	10	1985	7	1.116	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
28	10	1985	8		N	N		nil
28	10	1985	9	1.239	N	N		nil
28	10	1985	10	1.072	N	N		nil
28	10	1985	17	1.065	N	N		nil
28	10	1985	18	0.84	N	N		nil
29	10	1985	1	1.17	N	N		nil
29	10	1985	2	1.03	N	N		nil
29	10	1985	3	0.973	N	N		nil
29	10	1985	4	1.055	N	N		nil
29	10	1985	5	1.013	N	N		nil
29	10	1985	6	1.126	N	N		nil
29	10	1985	7	1.107	N	N		nil
29	10	1985	8	0.889	N	N		nil
29	10	1985	9	1.229	N	N		nil
29	10	1985	10	1.065	N	N		nil
29	10	1985	17	1.055	N	N		nil
29	10	1985	18	0.835	N	N		nil
30	10	1985	1	1.179	N	N		nil
30	10	1985	2	1.036	N	N		nil
30	10	1985	3	0.979	N	N		nil
30	10	1985	4	1.068	N	N		nil
30	10	1985	5	1.018	N	N		nil
30	10	1985	6	1.134	N	N		nil
30	10	1985	7	1.113	N	N		nil
30	10	1985	8	0.892	N	N		nil
30	10	1985	9	1.235	N	N		nil
30	10	1985	10	1.072	N	N		nil
30	10	1985	17	1.058	N	N		nil
30	10	1985	18	0.835	N	N		nil
31	10	1985	1	1.198	N	N		nil
31	10	1985	2	1.053	N	N		nil
31	10	1985	3	0.998	N	N		nil
31	10	1985	4	1.086	N	N		nil
31	10	1985	5	1.04	N	N		nil
31	10	1985	6	1.155	N	N		nil
31	10	1985	7	1.134	N	N		nil
31	10	1985	8	0.916	N	N		nil
31	10	1985	9	1.26	N	N		nil
31	10	1985	10	1.105	N	N		nil
31	10	1985	17	1.078	N	N		nil
31	10	1985	18	0.849	N	N		nil
1	11	1985	1	1.232	N	N		nil
1	11	1985	2	1.086	N	N		nil
1	11	1985	3	1.029	N	N		nil
1	11	1985	4	1.119	N	N		nil
1	11	1985	5	1.07	N	N		nil
1	11	1985	6	1.169	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
1	11	1985	7	1.165	N	N		nil
1	11	1985	8	0.944	N	N		nil
1	11	1985	9	1.295	N	N		nil
1	11	1985	10	1.142	N	N		nil
1	11	1985	17	1.121	N	N		nil
1	11	1985	18	0.875	N	N		nil
5	11	1985	1	1.2	N	N		nil
5	11	1985	2	1.156	N	N		nil
5	11	1985	3	1.096	N	N		nil
5	11	1985	4	1.16	N	N		nil
5	11	1985	5	1.147	N	N		nil
5	11	1985	6	1.268	N	N		nil
5	11	1985	7	1.245	N	N		nil
5	11	1985	8	1.033	N	N		nil
5	11	1985	9	1.335	N	N		nil
5	11	1985	10	1.248	N	N		nil
5	11	1985	17	1.208	N	N		nil
5	11	1985	18	0.934	N	N		nil
6	11	1985	1	1.288	N	N		nil
6	11	1985	2	1.147	N	N		nil
6	11	1985	3	1.087	N	N		nil
6	11	1985	4	1.152	N	N		nil
6	11	1985	5	1.138	N	N		nil
6	11	1985	6	1.258	N	N		nil
6	11	1985	7	1.23	N	N		nil
6	11	1985	8	1.014	N	N		nil
6	11	1985	9	1.32	N	N		nil
6	11	1985	10	1.213	N	N		nil
6	11	1985	17	1.188	N	N		nil
6	11	1985	18	0.913	N	N		nil
7	11	1985	1	1.311	N	N		nil
7	11	1985	2	1.17	N	N		nil
7	11	1985	3	1.111	N	N		nil
7	11	1985	4	1.175	N	Y		nil
7	11	1985	5	1.164	N	N		nil
7	11	1985	6	1.284	N	N		nil
7	11	1985	7	1.253	N	N		nil
7	11	1985	8	1.039	N	N		nil
7	11	1985	9	1.34	N	Y		nil
7	11	1985	10	1.26	N	N		nil
7	11	1985	17	1.219	N	N		nil
7	11	1985	18	0.938	N	N		nil
8	11	1985	1	1.377	N	N		nil
8	11	1985	2	1.235	N	N		nil
8	11	1985	3	1.185	N	N		nil
8	11	1985	4	1.168	N	Y		nil
8	11	1985	5	1.233	N	Y		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
8	11	1985	6	1.34	N	Y		nil
8	11	1985	7	1.312	N	Y		nil
8	11	1985	8	1.11	N	N		nil
8	11	1985	9	1.34	N	Y		nil
8	11	1985	10	1.339	N	N		nil
8	11	1985	17	1.304	N	N		nil
8	11	1985	18	1.007	N	N		nil
12	11	1985	1	1.291	N	N		nil
12	11	1985	2	1.159	N	N		nil
12	11	1985	3	1.11	N	N		nil
12	11	1985	4	1.109	N	N		nil
12	11	1985	5	1.163	N	N		nil
12	11	1985	6	1.269	N	N		nil
12	11	1985	7	1.24	N	N		nil
12	11	1985	8	1.04	N	N		nil
12	11	1985	9	1.255	N	N		nil
12	11	1985	10	1.215	N	N		nil
12	11	1985	17	1.188	N	N		nil
12	11	1985	18	0.885	N	N		nil
13	11	1985	1	1.283	N	N		nil
13	11	1985	2	1.15	N	N		nil
13	11	1985	3	1.1	N	N		nil
13	11	1985	4	1.099	N	N		nil
13	11	1985	5	1.15	N	N		nil
13	11	1985	6	1.258	N	N		nil
13	11	1985	7	1.219	N	N		nil
13	11	1985	8	1.02	N	N		nil
13	11	1985	9	1.256	N	N		nil
13	11	1985	10	1.241	N	N		nil
13	11	1985	17	1.171	N	N		nil
13	11	1985	18	0.891	N	N		nil
14	11	1985	1	1.28	N	N		nil
14	11	1985	2	1.152	N	N		nil
14	11	1985	3	1.1	N	N		nil
14	11	1985	4	1.103	N	N		nil
14	11	1985	5	1.152	N	N		nil
14	11	1985	6	1.26	N	N		nil
14	11	1985	7	1.221	N	N		nil
14	11	1985	8	1.021	N	N		nil
14	11	1985	9	1.26	N	N		nil
14	11	1985	10	1.241	N	N		nil
14	11	1985	17	1.168	N	N		nil
14	11	1985	18	0.885	N	N		nil
15	11	1985	1	1.29	N	N		nil
15	11	1985	2	1.16	N	N		nil
15	11	1985	3	1.108	N	N		nil
15	11	1985	4	1.113	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
15	11	1985	5	1.164	N	N		nil
15	11	1985	6	1.272	N	N		nil
15	11	1985	7	1.233	N	N		nil
15	11	1985	8	1.036	N	N		nil
15	11	1985	9	1.28	N	N		nil
15	11	1985	10	1.256	N	N		nil
15	11	1985	17	1.175	N	N		nil
15	11	1985	18	0.891	N	N		nil
18	11	1985	1	1.259	N	N		nil
18	11	1985	2	1.126	N	N		nil
18	11	1985	3	1.073	N	N		nil
18	11	1985	4	1.083	N	N		nil
18	11	1985	5	1.129	N	N		nil
18	11	1985	6	1.239	N	N		nil
18	11	1985	7	1.189	N	N		nil
18	11	1985	8	0.982	N	N		nil
18	11	1985	9	1.235	N	N		nil
18	11	1985	10	1.21	N	N		nil
18	11	1985	17	1.127	N	N		nil
18	11	1985	18	0.833	N	N		nil
20	11	1985	1	1.236	N	N		nil
20	11	1985	2	1.1	N	N		nil
20	11	1985	3	1.05	N	N		nil
20	11	1985	4	1.055	N	N		nil
20	11	1985	5	1.098	N	N		nil
20	11	1985	6	1.21	N	N		nil
20	11	1985	7	1.18	N	N		nil
20	11	1985	8	0.95	N	N		nil
20	11	1985	9	1.2	N	N		nil
20	11	1985	10	1.172	N	N		nil
20	11	1985	17	1.094	N	N		nil
20	11	1985	18	0.805	N	N		nil
22	11	1985	1	1.223	N	N		nil
22	11	1985	2	1.074	N	N		nil
22	11	1985	3	1.028	N	N		nil
22	11	1985	4	1.01	N	N		nil
22	11	1985	5	1.074	N	N		nil
22	11	1985	6	1.181	N	N		nil
22	11	1985	7	1.117	N	N		nil
22	11	1985	8	0.91	N	N		nil
22	11	1985	9	1.165	N	N		nil
22	11	1985	10	1.134	N	N		nil
22	11	1985	17	1.062	N	N		nil
22	11	1985	18	0.762	N	N		nil
25	11	1985	1	1.248	N	N		nil
25	11	1985	2	1.104	N	N		nil
25	11	1985	3	1.046	N	N		nil

Table 2. Daily Pond Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	DEPTH	INFLOW	OVERFLOW	DEAD#	SPECIES
25	11	1985	4	1.062	N	N		nil
25	11	1985	5	1.094	N	N		nil
25	11	1985	6	1.216	N	N		nil
25	11	1985	7	1.143	N	N		nil
25	11	1985	8	0.917	N	N		nil
25	11	1985	9	1.197	N	N		nil
25	11	1985	10	1.161	N	N		nil
25	11	1985	17	1.1	N	N		nil
25	11	1985	18	0.778	N	N		nil
29	11	1985	1	1.16	N	N		nil
29	11	1985	2	1.055	N	N		nil
29	11	1985	3	0.994	N	N		nil
29	11	1985	4	1.016	N	N		nil
29	11	1985	5	1.046	N	N		nil
29	11	1985	6	1.164	N	N		nil
29	11	1985	7	1.078	N	N		nil
29	11	1985	8	0.842	N	N		nil
29	11	1985	9	1.125	N	N		nil
29	11	1985	10	1.087	N	N		nil
29	11	1985	17	1.04	N	N		nil
29	11	1985	18		N	N		nil

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P
26	2	1985		1						23.3							37.6								
26	2	1985		2						22.6							28.2								
26	2	1985		3						23.5							41.4								
26	2	1985		4						23.5							34.8								
26	2	1985		5						23.5							33.9								
26	2	1985		6						23.5							38.6								
26	2	1985		7						23.5							34.8								
26	2	1985		8						23.5							33.9								
26	2	1985		9						23.5							29.2								
26	2	1985		10						23.5							28.2								
26	2	1985		17						23.5							25.4								
26	2	1985		18						23.5							22.6								
27	2	1985		1																					
27	2	1985		2																					0.229
27	2	1985		3																					0.204
27	2	1985		4																					0.365
27	2	1985		5																					0.156
27	2	1985		6																					0.256
27	2	1985		7																					0.134
27	2	1985		8																					0.196
27	2	1985		9																					0.229
27	2	1985		10																					0.293
27	2	1985		17																					0.574
27	2	1985		18																					0.149
28	2	1985		1																					0.514
28	2	1985		2																					0.052
28	2	1985		3																					0.045
28	2	1985		4																					0.052
28	2	1985		5																					0.045
28	2	1985		6																					0.033
28	2	1985		7																					0.039
28	2	1985		8																					0.045
28	2	1985		9																					0.045
28	2	1985		10																					0.052
28	2	1985		17																					0.045
28	2	1985		18																					0.039
1	3	1985		1																					0.065
1	3	1985		2																					0.021
1	3	1985		3																					0.027
1	3	1985		4																					0.033
1	3	1985		5																					0.027
1	3	1985		6																					0.021
1	3	1985		7																					0.021
1	3	1985		8																					0.027
																									0.027

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
1	3	1985		9																				0.021			
1	3	1985		10																				0.039			
1	3	1985		17																				0.033			
1	3	1985		18																				0.058			
7	3	1985		1														6.85									
7	3	1985		2														6.85									
7	3	1985		3														6.9									
7	3	1985		4														6.95									
7	3	1985		5														6.85									
7	3	1985		6																							
7	3	1985		7														7.05									
7	3	1985		8														6.9									
7	3	1985		9														6.85									
7	3	1985		10														6.85									
7	3	1985		17														7.05									
7	3	1985		18														6.95									
8	3	1985		1	630		7.9			21.																		
8	3	1985		2	630		7.35			21.																		
8	3	1985		3	630		7.5			21.																		
8	3	1985		4	630					21.																		
8	3	1985		5	630					21.																		
8	3	1985		6	630		7.9			21.																		
8	3	1985		7	630					21.																		
8	3	1985		8	630		8.05			21.																		
8	3	1985		9	630					21.																		
8	3	1985		10	630		8.05			21.																		
8	3	1985		17	630		7.75			21.5																		
8	3	1985		18	630		7.8			21.																		
11	3	1985		1																				0.009			
11	3	1985		2																				0.015			
11	3	1985		3																				0.009			
11	3	1985		4																				0.015			
11	3	1985		5																				0.015			
11	3	1985		6																				0.015			
11	3	1985		7																				0.015			
11	3	1985		8																				0.015			
11	3	1985		9																				0.015			
11	3	1985		10																				0.015			
11	3	1985		17																				0.015			
11	3	1985		18																				0.015			
14	3	1985		1	630		6.85			27.5								6.65									2.5
14	3	1985		2	630		6.7			27.								6.65									3.5
14	3	1985		3	630					27.5								7.05									5.8
14	3	1985		4	630		6.9			27.								7.25									3.6
14	3	1985		5	630					27.5								7.1									

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
14	3	1985		6	630		7.2			27.5								7.5										6.7
14	3	1985		7	630		7.15			27.5								7.45										3.7
14	3	1985		8	630		7.4			27.5								7.25										2.8
14	3	1985		9	630		7.5			27.5								7.4										0.5
14	3	1985		10	630		7.3			27.								7.5										4.1
14	3	1985		17	630		6.75			27.5								7.5										0.4
14	3	1985		18	630		6.6			27.								7.1										2.6
18	3	1985		1																						56.5		
18	3	1985		2																								
18	3	1985		3																						77.5		
18	3	1985		4																						100.		
18	3	1985		5																						67.5		
18	3	1985		6																								
18	3	1985		7																						74.5		
18	3	1985		8																						100.		
18	3	1985		9																								
18	3	1985		10																						100.		
18	3	1985		17																								
18	3	1985		18																						100.		
19	3	1985		1																								
19	3	1985		2																								
19	3	1985		3																								
19	3	1985		4																								
19	3	1985		5																								
19	3	1985		6																								
19	3	1985		7																								
19	3	1985		8																								
19	3	1985		9																								
19	3	1985		10																								
19	3	1985		17																								
19	3	1985		18																								
22	3	1985		1													28.23											
22	3	1985		2																								
22	3	1985		3													38.58											
22	3	1985		4													33.87											
22	3	1985		5													30.11											
22	3	1985		6													36.7											
22	3	1985		7													34.81											
22	3	1985		8													26.35											
22	3	1985		9													28.23											
22	3	1985		10													26.35											
22	3	1985		17													31.05											
22	3	1985		18													27.29											
27	3	1985		1	630		7.5			24.								6.7										
27	3	1985		2	630		7.5			23.5								6.85								51.5		

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
27	3	1985		3	630		7.5			24.5								6.8										
27	3	1985		4	630		7.4			24.5								6.85								92.5		
27	3	1985		5	630		7.6			24.								6.85										
27	3	1985		6	630		7.5			24.5								6.9								93.5		
27	3	1985		7	630		7.5			24.								6.85								84.5		
27	3	1985		8	630		7.5			24.								6.9								87.5		
27	3	1985		9	630		7.5			24.5								6.85								100.		
27	3	1985		10	630		7.8			24.								6.8								100.		
27	3	1985		17	630		7.4			23.5								6.85										
27	3	1985		18	630		7.6			23.5								6.85										
28	3	1985		1																								2.2
28	3	1985		2																								4.3
28	3	1985		3																								2.3
28	3	1985		4																								2.2
28	3	1985		5																								2.1
28	3	1985		6																								2.2
28	3	1985		7																								4.4
28	3	1985		8																								
28	3	1985		9																								1.3
28	3	1985		10																								
28	3	1985		17																								4.6
28	3	1985		18																								1.8
2	4	1985		1	630		6.6			27.								6.85										
2	4	1985		2	630		6.8			27.5								6.95										
2	4	1985		3	630		6.9			27.5								7.05										
2	4	1985		4	630					27.8								7.25										
2	4	1985		5	630		7.1			27.5								7.15										
2	4	1985		6	630		6.6			27.5								7.2										
2	4	1985		7	630		6.7			27.5								7.15										
2	4	1985		8	630		6.8			27.5								7.15										
2	4	1985		9	630					27.5								7.1										
2	4	1985		10	630		7.4			27.5								7.15										
2	4	1985		17	630		6.8			27.5								7.25										
2	4	1985		18	630		6.9			27.5								7.05										
3	4	1985		1																0.0925								
3	4	1985		2																0.0415								
3	4	1985		3																0.092								
3	4	1985		4																0.092								
3	4	1985		5																0.218								
3	4	1985		6																0.075								
3	4	1985		7																0.482								
3	4	1985		8																0.335								
3	4	1985		9																0.315								
3	4	1985		10																0.417								
3	4	1985		17																0.572								

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
3	4	1985		18																							
4	4	1985		1																0.315							
4	4	1985		2																							
4	4	1985		3																							
4	4	1985		4																					51.5		
4	4	1985		5																							
4	4	1985		6																							
4	4	1985		7																					80.5		
4	4	1985		8																					55.5		
4	4	1985		9																							
4	4	1985		10																					100.		
4	4	1985		17																					68.5		
4	4	1985		18																					100.		
10	4	1985		1																					100.		
10	4	1985		2														7.25									3.9
10	4	1985		3														7.15									3.1
10	4	1985		4														7.2									2.4
10	4	1985		5														7.2									5.5
10	4	1985		6														7.15									1.4
10	4	1985		7														7.2									
10	4	1985		8														7.3									10.2
10	4	1985		9														7.1									2.7
10	4	1985		10														7.25									5.4
10	4	1985		17														7.1									13.8
10	4	1985		18														7.1									8.5
11	4	1985		1	630		8.4			23.5								6.9									10.6
11	4	1985		2	630		6.7			24.																	
11	4	1985		3	630		6.3			25.																	
11	4	1985		4	630		6.8			25.																	
11	4	1985		5	630		6.9			25.5																	
11	4	1985		6	630		6.7			25.																	
11	4	1985		7	630		6.5			25.																	
11	4	1985		8	630		7.05			25.																	
11	4	1985		9	630					25.5																	
11	4	1985		10	630		7.2			25.																	
11	4	1985		17	630		7.5			24.5																	
11	4	1985		18	630		8.1			23.5																	
12	4	1985		1																							
12	4	1985		2																							
12	4	1985		3																							
12	4	1985		4																							
12	4	1985		5																							
12	4	1985		6																							
12	4	1985		7																							
12	4	1985		8																							

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A
12	4	1985		9																						
12	4	1985		10																						
12	4	1985		17																						
12	4	1985		18																						
16	4	1985		1																				0.001		
16	4	1985		2																				0.004		
16	4	1985		3																				0.001		
16	4	1985		4																				0.001		
16	4	1985		5																				0.001		
16	4	1985		6																				0.001		
16	4	1985		7																						
16	4	1985		8																				0.004		
16	4	1985		9																				0.004		
16	4	1985		10																				0.001		
16	4	1985		17																						
16	4	1985		18																						
17	4	1985		1													54.57									
17	4	1985		2													51.75									
17	4	1985		3													60.22									
17	4	1985		4													59.28									
17	4	1985		5													61.16									
17	4	1985		6													66.81									
17	4	1985		7													57.4									
17	4	1985		8													43.28									
17	4	1985		9													59.28									
17	4	1985		10													43.28									
17	4	1985		17													46.11									
17	4	1985		18													35.75									
19	4	1985		1	630		6.65			26.5								6.55								
19	4	1985		2	630		6.75			26.5								6.6								
19	4	1985		3	630		6.85			26.5								6.75								
19	4	1985		4	630		6.6			26.5								6.6								
19	4	1985		5	630		6.55			27.								6.6								
19	4	1985		6	630		6.55			26.5								6.65								
19	4	1985		7	630		6.5			27.5								6.75								
19	4	1985		8	630		6.85			27.5								6.5								100.
19	4	1985		9	630		6.9			26.5								6.7								100.
19	4	1985		10	630		6.75			27.5								6.6								
19	4	1985		17	630		6.55			27.								6.55								
19	4	1985		18	630		6.4			27.								6.45								
23	4	1985		1																			0.157	0.032		
23	4	1985		2																			0.305	0.036		
23	4	1985		3																			0.257	0.029		
23	4	1985		4																			0.141	0.059		
23	4	1985		5																			0.454	0.051		

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
23	4	1985		6																								
23	4	1985		7																			0.236					
23	4	1985		8																			0.209					
23	4	1985		9																			0.4285					
23	4	1985		10																			0.272	0.107				
23	4	1985		17																			0.162					
23	4	1985		18																			0.4285					
24	4	1985		1																			0.131					
24	4	1985		2														6.25						0.084				
24	4	1985		3														6.25						0.097				
24	4	1985		4														6.45						0.089				
24	4	1985		5														6.5						0.093				
24	4	1985		6														6.65						0.097				
24	4	1985		7														6.45						0.072				
24	4	1985		8														6.45						0.089				
24	4	1985		9														6.3						0.111				
24	4	1985		10														6.4						0.126				
24	4	1985		17														6.5						0.121				
24	4	1985		18														6.55						0.111				
25	4	1985		1	630		6.35			28.5								6.35						0.102				
25	4	1985		2	630		6.35			28.5														0.055				
25	4	1985		3	630		6.45			28.														0.055				
25	4	1985		4	630		6.35			28.														0.059				
25	4	1985		5	630		6.25			28.														0.047				
25	4	1985		6	630		6.2			28.														0.063				
25	4	1985		7	630		6.4			28.														0.059				
25	4	1985		8	630		6.7			28.														0.051				
25	4	1985		9	630		6.4			28.														0.067				
25	4	1985		10	630		6.85			27.5														0.055				
25	4	1985		17	630		6.35			28.														0.055				
25	4	1985		18	630		6.45			27.5														0.029				
26	4	1985		1																				0.067				
26	4	1985		2																				0.036				4.7
26	4	1985		3																				0.055				
26	4	1985		4																				0.044				1.5
26	4	1985		5																				0.008				1.5
26	4	1985		6																				0.044				15.7
26	4	1985		7																				0.004				
26	4	1985		8																				0.014				3.4
26	4	1985		9																				0.047				
26	4	1985		10																				0.047				
26	4	1985		17																				0.032				
26	4	1985		18																				0.032	100.			1.5
29	4	1985		1																				0.036	100.			1.5
29	4	1985		2																			0.036	0.0085				
																							0.055	0.008				

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A
29	4	1985		3																			0.044	0.008	
29	4	1985		4																			0.008	0.004	
29	4	1985		5																			0.044	0.0085	
29	4	1985		6																			0.004	0.004	
29	4	1985		7																			0.014	0.0045	
29	4	1985		8																			0.047	0.011	
29	4	1985		9																			0.047	0.011	
29	4	1985		10																			0.032	0.0085	
29	4	1985		17																			0.032	0.004	
29	4	1985		18																			0.036	0.008	
30	4	1985		1	630		6.7			28.																
30	4	1985		2	630					28.																
30	4	1985		3	630		6.9			28.																
30	4	1985		4	630		6.55			28.																
30	4	1985		5	630		6.6			28.																
30	4	1985		6	630		6.7			27.5																
30	4	1985		7	630		6.9			27.5																
30	4	1985		8	630		6.9			28.																
30	4	1985		9	630		6.7			27.5																
30	4	1985		10	630		6.9			27.5																
30	4	1985		17	630		6.55			27.5																
30	4	1985		18	630		6.4			27.																
2	5	1985		1														6.15	1.567							
2	5	1985		2														6.35	1.61							
2	5	1985		3														6.4	1.8475							
2	5	1985		4														6.35	2.123							
2	5	1985		5														6.4	1.796							
2	5	1985		6														6.45	2.2485							
2	5	1985		7														6.45	1.796							
2	5	1985		8														6.55	1.443							
2	5	1985		9														6.6	2.315							
2	5	1985		10														6.65	1.701							
2	5	1985		17														6.65	1.796							
2	5	1985		18														6.55	1.4835							
3	5	1985		1																						
3	5	1985		2																						
3	5	1985		3																						
3	5	1985		4																						
3	5	1985		5																						
3	5	1985		6																						100.
3	5	1985		7																						100.
3	5	1985		8																						
3	5	1985		9																						100.
3	5	1985		10																						100.
3	5	1985		17																						

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
3	5	1985		18																								
6	5	1985		1																								
6	5	1985		2																		0.006						
6	5	1985		3																		0.006						
6	5	1985		4																		0.0055						
6	5	1985		5																		0.006						
6	5	1985		6																		0.006						
6	5	1985		7																		0.003						
6	5	1985		8																		0.002						
6	5	1985		9																		0.002						
6	5	1985		10																								
6	5	1985		17																								
6	5	1985		18																								
7	5	1985		1																								
7	5	1985		2																								
7	5	1985		3																			0.029					
7	5	1985		4																			0.011					
7	5	1985		5																			0.018	0.001				
7	5	1985		6																			0.025					
7	5	1985		7																			0.011	0.008				
7	5	1985		8																			0.011	0.008				
7	5	1985		9																			0.04	0.011				
7	5	1985		10																			0.008	0.011				
7	5	1985		17																			0.0325	0.011				
7	5	1985		18																			0.072	0.011				
9	5	1985		1	630		6.35			27.5								7.25					0.059	0.011				
9	5	1985		2	630		6.35			27.5								7.75										
9	5	1985		3	630		6.55			27.5								7.15										
9	5	1985		4	630		6.3			27.5								7.1										
9	5	1985		5	630		6.4			27.5								7.05										
9	5	1985		6	630		6.35			27.5								7.3										
9	5	1985		7	630		6.45			27.5								7.3										
9	5	1985		8	630		6.5			27.5																		
9	5	1985		9	630		6.45			27.5								7.15										
9	5	1985		10	630		6.45			27.5																		
9	5	1985		17	630		6.25			27.5								7.1										
9	5	1985		18	630		6.45			27.5								6.85										
10	5	1985		1																								
10	5	1985		2																								4.8
10	5	1985		3																								18.8
10	5	1985		4																								7.1
10	5	1985		5																								6.6
10	5	1985		6																								6.8
10	5	1985		7																								11.4
10	5	1985		8																								

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
10	5	1985		9																								6.4
10	5	1985		10																								11.9
10	5	1985		17																								6.8
10	5	1985		18																								7.6
14	5	1985		1												34.34	42.81	6.95					0.1025					
14	5	1985		2												29.8	33.4	8.3					0.107					
14	5	1985		3												40.91	49.4	7.25					0.08					
14	5	1985		4												46.46	47.52	6.95					0.08					
14	5	1985		5												39.39	46.1	7.1					0.084					
14	5	1985		6												48.48	53.16	7.25					0.0365	0.004				
14	5	1985		7												45.96	46.58	7.25					0.0405	0.004				
14	5	1985		8												31.31	35.29	7.1					0.055	0.014				
14	5	1985		9												39.9	43.28	7.45					0.076	0.011				
14	5	1985		10												31.31	33.87	7.95					0.111	0.0045				
14	5	1985		17												3.84	37.64	7.05					0.072	0.0115				
14	5	1985		18												21.21	27.76	6.55					0.0405	0.011				
15	5	1985		1																								
15	5	1985		2																								
15	5	1985		3																								
15	5	1985		4																					100.			
15	5	1985		5																					100.			
15	5	1985		6																					100.			
15	5	1985		7																					100.			
15	5	1985		8																					100.			
15	5	1985		9																								
15	5	1985		10																					100.			
15	5	1985		17																								
15	5	1985		18																					100.			
16	5	1985		1																0.438								
16	5	1985		2																0.668								
16	5	1985		3																0.718								
16	5	1985		4																0.526								
16	5	1985		5																0.335								
16	5	1985		6																0.644								
16	5	1985		7																								
16	5	1985		8																0.619								
16	5	1985		9																								
16	5	1985		10																0.438								
16	5	1985		17																0.744								
16	5	1985		18																0.396								
17	5	1985		1																			0.002					
17	5	1985		2																			0.002					
17	5	1985		3																			0.002					
17	5	1985		4																			0.001					
17	5	1985		5																			0.002					

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Dry Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N
17	5	1985		6																			
17	5	1985		7																			0.001
17	5	1985		8																			
17	5	1985		9																			0.001
17	5	1985		10																			
17	5	1985		17																			
17	5	1985		18																			0.002
																							0.002

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
9	7	1985		1																								
9	7	1985		2																								
9	7	1985		3																								
9	7	1985		4																								
9	7	1985		5																								
9	7	1985		6																								
9	7	1985		7																								
9	7	1985		8																								
9	7	1985		9																								
9	7	1985		10																								
9	7	1985		17																								
9	7	1985		18																								
11	7	1985		1												17.17	23.92	6.8										
11	7	1985		2												19.69	22.88	7.15										
11	7	1985		3												21.71	35.26	6.65										
11	7	1985		4												15.65	19.24	6.65										
11	7	1985		5												16.66	21.32	6.75										
11	7	1985		6												18.18	22.8	6.85										
11	7	1985		7												20.3	23.4	6.85										
11	7	1985		8								33.5	30.	28.	28.	18.18	22.88	7.1										
11	7	1985		9												15.15	19.76	7.05										
11	7	1985		10												12.62	20.2											
11	7	1985		17												23.23	24.76	7.05										
11	7	1985		18												16.16	17.16	6.9										
15	7	1985		1														6.6						0.222				8.33
15	7	1985		2														6.95						0.216				7.9
15	7	1985		3														6.8						0.185				2.49
15	7	1985		4														6.45						0.216				5.95
15	7	1985		5														6.45						0.191				7.73
15	7	1985		6														6.95						0.151				5.89
15	7	1985		7														6.85						0.179				2.97
15	7	1985		8														6.9						0.203				5.89
15	7	1985		9														6.4						0.191				7.49
15	7	1985		10														6.8						0.371				5.3
15	7	1985		17														7.45						0.243				8.74
15	7	1985		18														6.65						0.197				5.08
16	7	1985		1	630		6.8																					
16	7	1985		2	630		6.9																					
16	7	1985		3	630		6.85																					
16	7	1985		4	630		6.55																					
16	7	1985		5	630		6.85																					
16	7	1985		6	630		6.85																					
16	7	1985		7	630		6.8																					
16	7	1985		8	630		7.05					32.	29.	29.	29.													

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A
16	7	1985		9	630		7.3																			
16	7	1985		10	630		6.9																			
16	7	1985		17	630																					
16	7	1985		18	630		6.85																			
18	7	1985		1																						
18	7	1985		2																						110.
18	7	1985		3															0.264							110.
18	7	1985		4															0.051							93.
18	7	1985		5															0.106							73.
18	7	1985		6															0.243							110.
18	7	1985		7															0.069							110.
18	7	1985		8															0.125							110.
18	7	1985		9															0.144							110.
18	7	1985		10															0.438							88.
18	7	1985		17															0.015							110.
18	7	1985		18															0.607							82.
19	7	1985		1															0.713							101.
19	7	1985		2																						
19	7	1985		3																						
19	7	1985		4																						
19	7	1985		5																						
19	7	1985		6																						
19	7	1985		7																						
19	7	1985		8								33.5	31.	29.	27.											
19	7	1985		9																						
19	7	1985		10																						
19	7	1985		17																						
19	7	1985		18																						
23	7	1985		1																						
23	7	1985		2																				0.008		
23	7	1985		3																						
23	7	1985		4																						
23	7	1985		5																						
23	7	1985		6																				0.018		
23	7	1985		7																				0.018		
23	7	1985		8																				0.001		
23	7	1985		9								32.	31.	28.5	29.											
23	7	1985		10																				0.001		
23	7	1985		17																						
23	7	1985		18																						
24	7	1985		1																				0.001		
24	7	1985		2														6.55						0.111	0.048	92.
24	7	1985		3														6.55						0.107	0.057	105.
24	7	1985		4														6.95						0.121	0.054	97.
24	7	1985		5														6.8						0.121	0.064	90.
																		6.95						0.097	0.054	110.

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
24	7	1985		6														7.3						0.111	0.051	110.		
24	7	1985		7														7.3						0.173	0.071	94.		
24	7	1985		8														7.25						0.191	0.074	105.		
24	7	1985		9														7.105						0.203	0.071	95.		
24	7	1985		10														6.6						0.222	0.067	110.		
24	7	1985		17														7.25						0.173	0.061	84.		
24	7	1985		18														6.85						0.209	0.078	85.		
25	7	1985		1																				0.157				
25	7	1985		2																				0.179	0.016			
25	7	1985		3																				0.173	0.013			
25	7	1985		4																				0.179	0.005			
25	7	1985		5																				0.157				
25	7	1985		6																				0.136				
25	7	1985		7																				0.093	0.085			
25	7	1985		8																				0.08	0.051			
25	7	1985		9																				0.093	0.054			
25	7	1985		10																				0.08	0.042			
25	7	1985		17																				0.111	0.067			
25	7	1985		18																				0.102	0.048			
26	7	1985		1	630		6.5																	0.047				
26	7	1985		2	630		6.35																	0.055	0.016			
26	7	1985		3	630		6.85																	0.072	0.007			
26	7	1985		4	630		7.2																	0.063	0.007			
26	7	1985		5	630		7.05																	0.051				
26	7	1985		6	630		6.85																	0.04				
26	7	1985		7	630		7.05																	0.059				
26	7	1985		8	630		7.25					31.5	29.	28.5	8.5									0.047				
26	7	1985		9	630		7.15																	0.044	0.01			
26	7	1985		10	630		6.95																	0.04				
26	7	1985		17	630																			0.067	0.005			
26	7	1985		18	630		7.15																	0.067	0.007			
29	7	1985		1														6.6						0.116	0.042			11.3
29	7	1985		2														6.6						0.116	0.061			11.3
29	7	1985		3														6.85						0.146	0.054			14.3
29	7	1985		4														6.7						0.121	0.054			12.19
29	7	1985		5														7.05						0.126	0.051			11.3
29	7	1985		6														7.2						0.107	0.033			15.6
29	7	1985		7														7.3						0.116	0.054			14.87
29	7	1985		8														7.05						0.121	0.051			14.87
29	7	1985		9														6.75						0.107	0.064			14.69
29	7	1985		10																				0.107	0.039			18.65
29	7	1985		17														7.1						0.136	0.048			15.61
29	7	1985		18														6.85						0.121	0.048			14.13
1	8	1985		1																0.042								
1	8	1985		2																0.247								

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
1	8	1985		3																								
1	8	1985		4																0.195								
1	8	1985		5																0.144								
1	8	1985		6																0.195								
1	8	1985		7																0.042								
1	8	1985		8																0.144								
1	8	1985		9																0.144								
1	8	1985		10																0.093								
1	8	1985		17																0.093								
1	8	1985		18																0.247								
5	8	1985		1																0.247								
5	8	1985		2																			0.011					
5	8	1985		3																			0.014					
5	8	1985		4																			0.018					
5	8	1985		5																			0.018					
5	8	1985		6																			0.014					
5	8	1985		7																			0.021					
5	8	1985		8																			0.025					
5	8	1985		9																			0.032					
5	8	1985		10																			0.014					
5	8	1985		17																			0.021					
5	8	1985		18																			0.025					
6	8	1985		1	630		6.5																0.021					
6	8	1985		2	630		6.55																			78.		
6	8	1985		3	630		6.65																			81.		
6	8	1985		4	630		6.65																			83.		
6	8	1985		5	630		6.85																			101.		
6	8	1985		6	630		6.85																			110.		
6	8	1985		7	630		6.65																			98.		
6	8	1985		8	630		7.1					33.	9.5	29.	9.5											110.		
6	8	1985		9	630		6.9																			98.		
6	8	1985		10	630		6.6																			110.		
6	8	1985		17	630		6.75																			90.		
6	8	1985		18	630		6.7																			68.		
8	8	1985		1																						71.		
8	8	1985		2												33.33	40.56											
8	8	1985		3												33.33	40.04											8.12
8	8	1985		4												33.33	40.04											4.81
8	8	1985		5												21.21	24.96											4.52
8	8	1985		6												27.27	32.24											2.26
8	8	1985		7												33.33	37.44											4.28
8	8	1985		8												28.28	33.28											2.49
8	8	1985		9												21.21												5.62
8	8	1985		10												25.25	31.2											2.85
8	8	1985		17												21.21	28.08											4.28
																27.27	31.2											4.99
																												4.99

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR OPHYLL A
8	8	1985		18												16.66	20.8											4.76
9	8	1985		1														6.8										
9	8	1985		2														6.8										
9	8	1985		3														6.75										
9	8	1985		4														6.35										
9	8	1985		5														6.55										
9	8	1985		6														6.8										
9	8	1985		7														6.6										
9	8	1985		8								31.5	30.	28.	8.5			6.35										
9	8	1985		9														6.6										
9	8	1985		10														6.3										
9	8	1985		17														6.8										
9	8	1985		18														6.2										
13	8	1985		1														6.8										5.6
13	8	1985		2																								4.5
13	8	1985		3														7.05										4.7
13	8	1985		4														6.7										2.4
13	8	1985		5														7.05										4.7
13	8	1985		6														7.25										2.3
13	8	1985		7														7.5										4.9
13	8	1985		8														7.2										5.4
13	8	1985		9														7.15										5.3
13	8	1985		10														6.95										4.7
13	8	1985		17														7.25										
13	8	1985		18														6.7										2.3
14	8	1985		1	630		6.8																					
14	8	1985		2	630		6.8																					
14	8	1985		3	630		7.2																					
14	8	1985		4	630		6.7																					
14	8	1985		5	630		6.85																					
14	8	1985		6	630		6.8																					
14	8	1985		7	630		6.85																					
14	8	1985		8	630		7.35																					
14	8	1985		9	630		6.85																					
14	8	1985		10	630		6.95																					
14	8	1985		17	630		6.8																					
14	8	1985		18	630		6.8																					
15	8	1985		1																						81.		
15	8	1985		2																						90.		
15	8	1985		3																						110.		
15	8	1985		4																						110.		
15	8	1985		5																						110.		
15	8	1985		6																						110.		
15	8	1985		7																						98.		
15	8	1985		8								31.5	30.	29.5	29.											97.		

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
15	8	1985		9																							
15	8	1985		10																					104.		
15	8	1985		17																					92.		
15	8	1985		18																					74.		
20	8	1985		1																					91.		
20	8	1985		2																			0.011	0.03			
20	8	1985		3																			0.014	0.042			
20	8	1985		4																			0.008	0.027			
20	8	1985		5																			0.004	0.027			
20	8	1985		6																			0.014	0.03			
20	8	1985		7																			0.008	0.002			
20	8	1985		8																			0.011	0.048			
20	8	1985		9																			0.014	0.039			
20	8	1985		10																			0.011	0.013			
20	8	1985		17																			0.025	0.021			
20	8	1985		18																			0.021	0.01			
21	8	1985		1	630		6.35																0.029	0.018			
21	8	1985		2	630		6.55											6.65					0.121	0.027	90.		
21	8	1985		3	630		6.55											6.75					0.051	0.027	96.		
21	8	1985		4	630		6.55											6.75					0.089	0.018	90.		
21	8	1985		5	630		6.6											6.5					0.067	0.024	105.		
21	8	1985		6	630		6.45											6.75					0.076	0.027	110.		
21	8	1985		7	630		6.6											6.8					0.08	0.018	97.		
21	8	1985		8	630													6.8					0.063	0.018	90.		
21	8	1985		9	630		6.95											6.65					0.059	0.005	86.		
21	8	1985		10	630		6.65											6.75					0.076	0.024	90.		
21	8	1985		17	630		6.65											6.7					0.063	0.016	78.		
21	8	1985		18	630		7.15											6.75					0.084	0.048	75.		
22	8	1985		1														6.75					0.126	0.03	56.		
22	8	1985		2																			0.089	0.018			
22	8	1985		3																			0.093	0.016			
22	8	1985		4																			0.089	0.013			
22	8	1985		5																			0.084	0.024			
22	8	1985		6																			0.107	0.021			
22	8	1985		7																			0.08	0.013			
22	8	1985		8																			0.097	0.01			
22	8	1985		9																			0.067	0.01			
22	8	1985		10																			0.08	0.018			
22	8	1985		17																			0.072	0.013			
22	8	1985		18																			0.093	0.039			
26	8	1985		1																			0.126	0.048			
26	8	1985		2																			0.025				
26	8	1985		3														6.85					0.04				
26	8	1985		4														6.7					0.032				1.2
26	8	1985		5														6.6					0.044				
																		6.65					0.063				2.4

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
26	8	1985		6																			0.032				8.12
26	8	1985		7														6.95					0.029				2.3
26	8	1985		8														6.65					0.011				3.7
26	8	1985		9														6.65					0.025				2.4
26	8	1985		10														6.55					0.014				1.24
26	8	1985		17														6.95					0.04				
26	8	1985		18														7.25					0.067				
28	8	1985		1																					110.		
28	8	1985		2																					110.		
28	8	1985		3																					110.		
28	8	1985		4																					110.		
28	8	1985		5																					110.		
28	8	1985		6																					110.		
28	8	1985		7																					104.		
28	8	1985		8																					110.		
28	8	1985		9																					92.		
28	8	1985		10																					83.		
28	8	1985		17																					86.		
28	8	1985		18																					55.		
29	8	1985		1																0.701							
29	8	1985		2																0.485							
29	8	1985		3																0.678							
29	8	1985		4																0.567							
29	8	1985		5																0.632							
29	8	1985		6																0.371							
29	8	1985		7																0.465							
29	8	1985		8																0.465							
29	8	1985		9																0.284							
29	8	1985		10																0.318							
29	8	1985		17																0.353							
29	8	1985		18																0.25							
30	8	1985		1	630		6.44																				
30	8	1985		2	630		6.55																				
30	8	1985		3	630		6.35																				
30	8	1985		4	630		6.95																				
30	8	1985		5	630		6.95																				
30	8	1985		6	630		6.55																				
30	8	1985		7	630		6.75																				
30	8	1985		8	630		6.95					33.	31.	27.	28.												
30	8	1985		9	630		7.1																				
30	8	1985		10	630		6.95																				
30	8	1985		17	630		6.7																				
30	8	1985		18	630		7.35																				
2	9	1985		1																			0.032				
2	9	1985		2																			0.029				

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
2	9	1985		3																			0.032	0.002			
2	9	1985		4																			0.036	0.005			
2	9	1985		5																			0.044	0.002			
2	9	1985		6																			0.018				
2	9	1985		7																			0.029	0.005			
2	9	1985		8								34.	2.5	27.	28.								0.018	0.007			
2	9	1985		9																			0.021	0.002			
2	9	1985		10																			0.036	0.005			
2	9	1985		17																			0.032				
2	9	1985		18																			0.063				
5	9	1985		1	630		6.15									37.87	38.48	7.25									
5	9	1985		2	630		6.3									37.87	42.12	7.3									
5	9	1985		3	630		6.45									30.3	41.08	7.2									
5	9	1985		4	630											30.8	28.08	7.1									
5	9	1985		5	630		6.5									28.28	35.36	7.15									
5	9	1985		6	630		6.3									32.32	41.6	7.05									
5	9	1985		7	630		6.35									31.31	36.4	7.05									
5	9	1985		8	630		6.6									17.67	23.92	6.75									
5	9	1985		9	630		6.7									24.74	29.64	6.95									
5	9	1985		10	630		6.55											6.7									
5	9	1985		17	630		6.65									25.75	32.76										
5	9	1985		18	630		6.45									12.12	14.56	6.35									
9	9	1985		1														7.25									
9	9	1985		2														7.25									
9	9	1985		3														7.2									
9	9	1985		4														7.85									
9	9	1985		5														7.65									
9	9	1985		6														7.4									
9	9	1985		7														7.45									
9	9	1985		8														7.25									
9	9	1985		9														7.4									
9	9	1985		10																							
9	9	1985		17														7.65									
9	9	1985		18																							
10	9	1985		1	630		6.5																				
10	9	1985		2	630		6.4																				8.12
10	9	1985		3	630		6.5																				8.33
10	9	1985		4	630		6.95																				8.25
10	9	1985		5	630		6.6																				4.9
10	9	1985		6	630		6.55																				6.41
10	9	1985		7	630		6.7																				5.78
10	9	1985		8	630		6.9					31.5	0.5	28.	8.5												5.62
10	9	1985		9	630																						8.19
10	9	1985		10	630		6.55																				5.46
10	9	1985		17	630		6.8																				8.04

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
10	9	1985		18	630		6.8																				8.12
12	9	1985		1																1.499								
12	9	1985		2																1.117								
12	9	1985		3																1.117								
12	9	1985		4																1.92								
12	9	1985		5																0.878								
12	9	1985		6																0.825								
12	9	1985		7																0.749								
12	9	1985		8																0.655								
12	9	1985		9																0.655								
12	9	1985		10																								
12	9	1985		17																0.465								
12	9	1985		18																0.546								
13	9	1985		1																						104.		
13	9	1985		2																						110.		
13	9	1985		3																						110.		
13	9	1985		4																						75.		
13	9	1985		5																						110.		
13	9	1985		6																						110.		
13	9	1985		7																						110.		
13	9	1985		8								31.	9.5	29.	29.											103.		
13	9	1985		9																						82.		
13	9	1985		10																						75.		
13	9	1985		17																						110.		
13	9	1985		18																						70.		
17	9	1985		1																				0.018				
17	9	1985		2																				0.014				
17	9	1985		3																				0.02				
17	9	1985		4																								
17	9	1985		5																				0.02				
17	9	1985		6																				0.				
17	9	1985		7																				0.				
17	9	1985		8									31.											0.01				
17	9	1985		9																				0.01				
17	9	1985		10																				0.02				
17	9	1985		17																				0.01				
17	9	1985		18																				0.04				
18	9	1985		1														7.6							0.048			
18	9	1985		2														7.6						0.2	0.061			
18	9	1985		3														7.6						0.15	0.057			
18	9	1985		4														7.3						0.16	0.074			
18	9	1985		5														7.7						0.11	0.051			
18	9	1985		6														7.6						0.11	0.051			
18	9	1985		7														7.6						0.12	0.051			
18	9	1985		8														7.5						0.14	0.051			

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
18	9	1985		9														7.6						0.12	0.057			
18	9	1985		10																				0.14	0.024			
18	9	1985		17														7.6						0.16	0.078			
18	9	1985		18														7.2						0.2	0.081			
19	9	1985		1	630		6.55																	0.14	0.064	105.		
19	9	1985		2	630		6.45																	0.16	0.078	110.		
19	9	1985		3	630		6.65																	0.16	0.078	110.		
19	9	1985		4	630		6.3																	0.2	0.078	110.		
19	9	1985		5	630		7.05																	0.15	0.064	110.		
19	9	1985		6	630		6.45																	0.14	0.067	110.		
19	9	1985		7	630		6.65																	0.13	0.033	110.		
19	9	1985		8	630		7.35																	0.11	0.039	84.		
19	9	1985		9	630		7.4																	0.11	0.042	71.		
19	9	1985		10	630		7.2																	0.11	0.01	88.		
19	9	1985		17	630		7.25																	0.14	0.054	88.		
19	9	1985		18	630		6.95																	0.16	0.071	66.		
20	9	1985		1																				0.07	0.005			
20	9	1985		2																				0.05	0.016			
20	9	1985		3																				0.11	0.036			
20	9	1985		4																				0.14	0.016			
20	9	1985		5																				0.03	0.002			
20	9	1985		6																				0.08	0.01			
20	9	1985		7																				0.05	0.002			
20	9	1985		8								31.												0.04	0.002			
20	9	1985		9																								
20	9	1985		10																				0.04	0.002			
20	9	1985		17																				0.05	0.021			
20	9	1985		18																				0.13				
23	9	1985		1																				0.02				
23	9	1985		2																				0.03				
23	9	1985		3																				0.03	0.005			
23	9	1985		4																				0.05				
23	9	1985		5																				0.02				
23	9	1985		6																				0.01				2.
23	9	1985		7																				0.01				
23	9	1985		8																				0.04				
23	9	1985		9																				0.04				
23	9	1985		10																				0.05				
23	9	1985		17																				0.05				
23	9	1985		18																				0.07	0.005			
24	9	1985		1																						110.		
24	9	1985		2																						110.		
24	9	1985		3																						110.		
24	9	1985		4																						102.		
24	9	1985		5																						110.		

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
24	9	1985		6																					110.		
24	9	1985		7																					110.		
24	9	1985		8										29.5	29.5										79.		
24	9	1985		9																					75.		
24	9	1985		10																							
24	9	1985		17																					85.		
24	9	1985		18																					30.		
26	9	1985		1																							
26	9	1985		2																							
26	9	1985		3																							
26	9	1985		4																							
26	9	1985		5																							
26	9	1985		6																							
26	9	1985		7																							
26	9	1985		8																							
26	9	1985		9																							
26	9	1985		10																							
26	9	1985		17																							
26	9	1985		18																							
30	9	1985		1																			0.07				
30	9	1985		2																			0.04				
30	9	1985		3																			0.11				
30	9	1985		4																			0.06				
30	9	1985		5																			0.13				
30	9	1985		6																							
30	9	1985		7																			0.06				
30	9	1985		8																			0.09				
30	9	1985		9																			0.09				
30	9	1985		10																			0.08				
30	9	1985		17																			0.06				
30	9	1985		18																							
3	10	1985		1	630		6.55									22.22		6.8							97.		
3	10	1985		2	630		6.35									25.25		6.8							110.		
3	10	1985		3	630		6.5									20.2									110.		
3	10	1985		4	630		7.05									11.11		6.4							90.		
3	10	1985		5	630		6.85									20.2		6.7							112.		
3	10	1985		6	630		6.95									25.25									110.		
3	10	1985		7	630		6.85									23.23		6.7							110.		
3	10	1985		8	630		7.15									13.13									65.		
3	10	1985		9	630		7.3									20.2									74.		
3	10	1985		10	630		7.05																				
3	10	1985		17	630		6.4									14.14		6.6							81.		
3	10	1985		18	630		6.85									6.06		6.1							62.		
8	10	1985		1														7.7									5.
8	10	1985		2														7.9									5.7

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
8	10	1985		3														7.7										
8	10	1985		4														8.4										
8	10	1985		5																								
8	10	1985		6														8.3										3.7
8	10	1985		7														7.9										5.7
8	10	1985		8														8.8										
8	10	1985		9														8.1										
8	10	1985		10																								
8	10	1985		17														8.										
8	10	1985		18														7.5										
9	10	1985		1	630		6.5																			83.		
9	10	1985		2	630		6.4																			100.		
9	10	1985		3	630		6.5																			110.		
9	10	1985		4	630		6.95																			80.		
9	10	1985		5	630		6.6																			88.		
9	10	1985		6	630		6.55																			96.		
9	10	1985		7	630		6.7																			78.		
9	10	1985		8	630		6.9																			78.		
9	10	1985		9	630																					59.		
9	10	1985		10	630		6.55																					
9	10	1985		17	630		6.8																			70.		
9	10	1985		18	630		6.8																			65.		
15	10	1985		1																				0.07				
15	10	1985		2																				0.07				
15	10	1985		3																				0.06				
15	10	1985		4																				0.1				
15	10	1985		5																								
15	10	1985		6																				0.05				
15	10	1985		7																				0.06				
15	10	1985		8																								
15	10	1985		9																				0.05				
15	10	1985		10																								
15	10	1985		17										23.5														
15	10	1985		18																				0.09				
16	10	1985		1														7.9						0.22	0.105			
16	10	1985		2														8.4						0.2				
16	10	1985		3														8.						0.2	0.065			
16	10	1985		4														7.9						0.22	0.076			
16	10	1985		5														8.7						0.23	0.076			
16	10	1985		6														8.						0.18	0.093			
16	10	1985		7														8.						0.18	0.117			
16	10	1985		8														7.7						0.22	0.117			
16	10	1985		9														8.3						0.17	0.111			
16	10	1985		10																								
16	10	1985		17														8.						2.	0.111			

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
16	10	1985		18																			0.26	0.088			
17	10	1985		1	630		6.05																0.18	0.111			
17	10	1985		2	630		6.55																0.2				
17	10	1985		3	630		6.5																0.19	0.105			
17	10	1985		4	630		6.5																0.23	0.076			
17	10	1985		5	630		6.55																0.23	0.093			
17	10	1985		6	630		6.45																0.19	0.065			
17	10	1985		7	630		6.6																0.2	0.093			
17	10	1985		8	630		6.35																0.21	0.093			
17	10	1985		9	630		6.9																0.14	0.088			
17	10	1985		10	630		6.85																				
17	10	1985		17	630		6.4																0.15	0.082			
17	10	1985		18	630		6.35																	0.099			
18	10	1985		1																			0.19	0.009			
18	10	1985		2								31.			28.5								0.18				
18	10	1985		3																			0.18	0.055			
18	10	1985		4																			0.2	0.065			
18	10	1985		5																			0.19	0.049			
18	10	1985		6																			0.11	0.093			
18	10	1985		7																			0.13	0.099			
18	10	1985		8																			0.14	0.082			
18	10	1985		9																			0.1	0.099			
18	10	1985		10																							
18	10	1985		17									30.	28.5									0.17	0.082			
18	10	1985		18																			0.25	0.076			
21	10	1985		1																			0.1	0.005			21.
21	10	1985		2																			0.15				9.2
21	10	1985		3																			0.13	0.019			2.
21	10	1985		4																			0.14	0.039			
21	10	1985		5																			0.12	0.029			
21	10	1985		6																				0.019			
21	10	1985		7																			0.1	0.039			
21	10	1985		8																			0.11	0.019			
21	10	1985		9																			0.04				
21	10	1985		10																							
21	10	1985		17																			0.14	0.009			
21	10	1985		18																			0.16	0.024			
23	10	1985		1	630		6.85																		51.		
23	10	1985		2	630		7.15						30.												60.		
23	10	1985		3	630																				70.		
23	10	1985		4	630		6.75																		58.		
23	10	1985		5	630		6.6																		80.		
23	10	1985		6	630		6.75																		95.		
23	10	1985		7	630		6.75																		92.		
23	10	1985		8	630		6.75																		74.		

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A
23	10	1985		9	630		7.4																			73.
23	10	1985		10	630		7.75																			
23	10	1985		17	630		7.05					31.			28.5											55.
23	10	1985		18	630		6.8																			63.
24	10	1985		1																						
24	10	1985		2																						
24	10	1985		3																						
24	10	1985		4																						
24	10	1985		5																						
24	10	1985		6																						
24	10	1985		7																						
24	10	1985		8															0.051							
24	10	1985		9																						
24	10	1985		10																						
24	10	1985		17																						
24	10	1985		18																						
28	10	1985		1																			0.08			
28	10	1985		2																			0.13			
28	10	1985		3																						
28	10	1985		4																			0.11	0.009		
28	10	1985		5																			0.05	0.024		
28	10	1985		6																			0.16	0.019		
28	10	1985		7																			0.07	0.034		
28	10	1985		8																			0.1			
28	10	1985		9																						
28	10	1985		10																						
28	10	1985		17																						
28	10	1985		18																			0.14			
30	10	1985		1	630		6.45																0.11	0.005		
30	10	1985		2	630		6.8																			
30	10	1985		3	630		6.95																			
30	10	1985		4	630		6.85																			
30	10	1985		5	630		6.85																			
30	10	1985		6	630		6.9																			
30	10	1985		7	630																					
30	10	1985		8	630		6.9																			
30	10	1985		9	630		6.8																			
30	10	1985		10	630		6.35																			
30	10	1985		17	630		6.55																			
30	10	1985		18	630		6.5																			
31	10	1985		1												30.3	36.									62.
31	10	1985		2												26.26	28.									83.
31	10	1985		3												20.2	22.8									70.
31	10	1985		4												13.13	15.									53.
31	10	1985		5												25.25	27.									91.

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A
31	10	1985		6												30.3	33.2									97.
31	10	1985		7												28.28	31.									95.
31	10	1985		8												18.18	20.									73.
31	10	1985		9												23.23	24.9									79.
31	10	1985		10																						
31	10	1985		17												19.19	22.8									72.
31	10	1985		18												9.09	11.4									65.
7	11	1985		1																						65.
7	11	1985		2																						68.
7	11	1985		3																						66.
7	11	1985		4																						54.
7	11	1985		5																						88.
7	11	1985		6																						85.
7	11	1985		7																						98.
7	11	1985		8																						70.
7	11	1985		9																						70.
7	11	1985		10																						
7	11	1985		17																						60.
7	11	1985		18																						64.
8	11	1985		1	630		6.4																			
8	11	1985		2	630		6.35							27.5												
8	11	1985		3	630		7.05																			
8	11	1985		4	630		7.1																			
8	11	1985		5	630		6.75																			
8	11	1985		6	630		6.5																			
8	11	1985		7	630		6.6																			
8	11	1985		8	630		6.65																			
8	11	1985		9	630		6.35																			
8	11	1985		10	630		6.1																			
8	11	1985		17	630		6.75					30.		27.5												
8	11	1985		18	630		6.45																			
12	11	1985		1																			0.11	0.005		
12	11	1985		2																			0.08			
12	11	1985		3																			0.08	0.06		
12	11	1985		4																			0.09	0.044		
12	11	1985		5																			0.09	0.055		
12	11	1985		6																			0.05	0.039		
12	11	1985		7																			0.03	0.039		
12	11	1985		8																			0.04	0.055		
12	11	1985		9																			0.03	0.071		
12	11	1985		10																						
12	11	1985		17																				0.076		
12	11	1985		18																			0.1	0.076		
13	11	1985		1																						61.
13	11	1985		2								29.														82.

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
13	11	1985		3																					68.		
13	11	1985		4																					62.		
13	11	1985		5																					94.		
13	11	1985		6																					87.		
13	11	1985		7																					110.		
13	11	1985		8																					75.		
13	11	1985		9																					74.		
13	11	1985		10																							
13	11	1985		17								31.		27.5											76.		
13	11	1985		18																					70.		
14	11	1985		1	630																		0.23	0.055			
14	11	1985		2	630		6.1																0.21	0.071			
14	11	1985		3	630		6.7																0.18	0.123			
14	11	1985		4	630		6.05																0.2	0.123			
14	11	1985		5	630		6.35																0.17	0.093			
14	11	1985		6	630		6.95																0.2	0.111			
14	11	1985		7	630		6.8																0.106	0.105			
14	11	1985		8	630		6.3																0.2	0.088			
14	11	1985		9	630		6.6																0.15	0.082			
14	11	1985		10	630		6.2																				
14	11	1985		17	630		6.55																0.2	0.088			
14	11	1985		18	630		6.35																0.23	0.168			
15	11	1985		1																			0.22	0.034			
15	11	1985		2								30.	29.	28.5									0.17	0.049			
15	11	1985		3																			0.23	0.071			
15	11	1985		4																			0.23	0.071			
15	11	1985		5																			0.16	0.06			
15	11	1985		6																			0.19	0.049			
15	11	1985		7																			0.15	0.019			
15	11	1985		8																			0.15	0.049			
15	11	1985		9																			0.15	0.076			
15	11	1985		10																							
15	11	1985		17																			0.18	0.049			
15	11	1985		18																			0.25	0.088			
19	11	1985		1	630		9.45																0.14	0.039			20.
19	11	1985		2	630		6.3					31.		28.5	28.5								0.1	0.029			
19	11	1985		3	630		5.8																0.1	0.055			
19	11	1985		4	630		6.6																0.09	0.039			12.9
19	11	1985		5	630		5.85																0.1	0.039			15.4
19	11	1985		6	630		7.55																0.07	0.049			3.2
19	11	1985		7	630		7.3																0.1	0.071			
19	11	1985		8	630		7.25																0.08	0.044			15.7
19	11	1985		9	630		7.2																	0.039			
19	11	1985		10	630		6.45																				
19	11	1985		17	630		7.2							28.5									0.13	0.044			

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P	SECHII DISK A	SECHII DISK B	CHLOR-OPHYLL A
19	11	1985		18	630		6.7																	0.14	0.071			15.8
21	11	1985		1																								
21	11	1985		2																								
21	11	1985		3																								
21	11	1985		4																								
21	11	1985		5																								
21	11	1985		6																								
21	11	1985		7																								
21	11	1985		8																								
21	11	1985		9																								
21	11	1985		10																								
21	11	1985		17																								
21	11	1985		18																								
22	11	1985		1																								
22	11	1985		2								30.	28.		27.5													
22	11	1985		3																								
22	11	1985		4																								
22	11	1985		5																								
22	11	1985		6																								
22	11	1985		7																								
22	11	1985		8																								
22	11	1985		9																								
22	11	1985		10																								
22	11	1985		17								31.		28.5	28.5													
22	11	1985		18																								
23	11	1985		1																						57.		
23	11	1985		2																						80.		
23	11	1985		3																						79.		
23	11	1985		4																						68.		
23	11	1985		5																						89.		
23	11	1985		6																						80.		
23	11	1985		7																						93.		
23	11	1985		8																						68.		
23	11	1985		9																						74.		
23	11	1985		10																								
23	11	1985		17																						60.		
23	11	1985		18																						59.		
25	11	1985		1																				0.09	0.019			
25	11	1985		2																				0.09	0.024			
25	11	1985		3																				0.04	0.024			
25	11	1985		4																				0.11	0.024			
25	11	1985		5																				0.09	0.029			
25	11	1985		6																				0.08	0.029			
25	11	1985		7																					0.049			
25	11	1985		8																				0.11	0.049			

Table 3. Weekly and Twice Weekly Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MO.	YEAR	EXTRA DATA?	POND#	DO TIME	DO @ TOP	DO @ MID	DO @ BOTTOM	WATER TEMP @ TOP	WATER TEMP @ MID	WATER TEMP @ BOTTOM	WATER TEMP @ TOP-MAX	WATER TEMP @ BOT-MAX	WATER TEMP @ TOP-MIN	WATER TEMP @ BOT-MIN	ALKA.	HARD.	pH	KJELDAHL N	NH3-N	NO2-N	NO3-N	TOTAL NO2 & NO3-N	TOTAL P	ORTHO PO4-P
25	11	1985		9																				0.11	0.049
25	11	1985		10																					
25	11	1985		17																				0.1	0.044
25	11	1985		18																				0.09	0.044
27	11	1985		1	630		6.55																		
27	11	1985		2	630		6.15																		
27	11	1985		3	630		5.8																		
27	11	1985		4	630		5.65																		
27	11	1985		5	630		6.2																		
27	11	1985		6	630		6.55																		
27	11	1985		7	630		6.95																		
27	11	1985		8	630		6.95																		
27	11	1985		9	630		6.8																		
27	11	1985		10	630		6.6																		
27	11	1985		17	630		6.5																		
27	11	1985		18	630		6.3																		

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
16	7	1985	600	1		6.8			28.5		7.
16	7	1985	600	2		6.9			28.5		6.9
16	7	1985	600	3		6.8			27.5		6.8
16	7	1985	600	4		6.5			27.5		6.2
16	7	1985	600	5		6.8			28.		6.5
16	7	1985	600	6		6.8			28.		6.8
16	7	1985	600	7		6.8			28.		6.6
16	7	1985	600	8		7.			28.5		6.6
16	7	1985	600	9		7.3			28.		6.7
16	7	1985	600	10		6.9			28.5		6.3
16	7	1985	600	17		7.			28.5		7.3
16	7	1985	600	18		6.8			28.		6.4
16	7	1985	1000	1	7.4	7.2	7.4		29.5		
16	7	1985	1000	2	7.2	7.2	7.2		29.		
16	7	1985	1000	3	7.2	7.1	7.3		28.5		
16	7	1985	1000	4	6.9	6.8	6.8		28.5		
16	7	1985	1000	5	7.2	7.	7.2		29.		
16	7	1985	1000	6	7.4	7.4	7.3		29.		
16	7	1985	1000	7	7.3	7.2	7.3		29.		
16	7	1985	1000	8	7.5	7.3	7.3		29.		
16	7	1985	1000	9	7.7	7.5	7.5		28.		
16	7	1985	1000	10	7.4	7.3	7.3		29.		
16	7	1985	1000	17	7.7	7.6	7.8		29.5		
16	7	1985	1000	18	7.2	7.2	7.2		29.		
16	7	1985	1400	1	7.6	8.	7.9		32.		7.7
16	7	1985	1400	2	7.5	7.8	7.7		31.5		7.5
16	7	1985	1400	3	7.	7.2	7.8		31.		7.4
16	7	1985	1400	4	6.8	6.8	7.7		30.5		7.2
16	7	1985	1400	5	7.	7.2	7.2		31.5		7.3
16	7	1985	1400	6	7.3	7.5	7.8		32.		7.5
16	7	1985	1400	7	7.3	7.4	7.5		31.5		7.5
16	7	1985	1400	8	7.5	7.5	7.5		31.5		7.5
16	7	1985	1400	9	7.4	7.7	7.7		31.5		7.3
16	7	1985	1400	10	7.5	7.5	7.7		31.5		7.2
16	7	1985	1400	17	7.7	7.7	8.4		32.5		7.8
16	7	1985	1400	18	7.	7.	7.3		32.5		7.
16	7	1985	1800	1	7.7	7.6	7.6		31.		7.5
16	7	1985	1800	2	7.7	7.7	7.7		30.5		7.5
16	7	1985	1800	3	7.4	7.4	7.5		30.5		7.2
16	7	1985	1800	4	7.1	7.2	7.		30.5		6.8
16	7	1985	1800	5	7.	7.3	7.3		30.5		7.
16	7	1985	1800	6	7.6	7.6	7.6		31.		7.2
16	7	1985	1800	7	7.7	7.7	7.7		30.5		7.2
16	7	1985	1800	8	7.8	7.8	7.7		31.		7.2

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
16	7	1985	1800	9	7.7	7.7	7.7		30.5		7.
16	7	1985	1800	10	7.7	7.7	7.7		31.		6.7
16	7	1985	1800	17	7.8	7.8	7.8		31.5		7.8
16	7	1985	1800	18	7.4	7.3	7.3		30.5		7.
17	7	1985	600	1		6.2			28.5		7.
17	7	1985	600	2		6.5			28.5		7.1
17	7	1985	600	3		6.5			28.5		7.
17	7	1985	600	4		6.5			28.5		6.7
17	7	1985	600	5		6.5			29.		6.8
17	7	1985	600	6		6.5			29.		6.9
17	7	1985	600	7		6.5			29.		6.8
17	7	1985	600	8		6.7			29.		6.8
17	7	1985	600	9		6.9			28.5		6.6
17	7	1985	600	10		6.4			29.		6.2
17	7	1985	600	17		6.5			28.5		7.5
17	7	1985	600	18		6.4			28.5		6.7
20	8	1985	630	1	6.	5.8	5.2		27.		
20	8	1985	630	2	5.8	5.5	5.3		27.		
20	8	1985	630	3	6.2	6.2	6.		27.		
20	8	1985	630	4	6.	6.	5.8		27.		
20	8	1985	630	5	6.3	6.	6.		27.		
20	8	1985	630	6	6.2	6.	5.8		27.		
20	8	1985	630	7	6.2	6.	6.		27.		
20	8	1985	630	8	6.	5.9	5.8		27.		
20	8	1985	630	9	5.9	6.	6.		27.		
20	8	1985	630	10	6.2	6.	5.9		27.		
20	8	1985	630	17	6.8	6.5	6.		27.		
20	8	1985	630	18	7.	6.5	5.2		27.		
20	8	1985	1000	1	7.	6.9	7.		28.		
20	8	1985	1000	2	7.2	7.2	7.1		28.		
20	8	1985	1000	3	7.1	7.	7.		28.		
20	8	1985	1000	4	6.9	7.	7.		28.		
20	8	1985	1000	5	7.3	7.2	7.2		28.		
20	8	1985	1000	6	7.	7.	7.		28.		
20	8	1985	1000	7	7.3	7.2	7.2		28.5		
20	8	1985	1000	8	7.4	7.4	7.4		28.		
20	8	1985	1000	9	7.4	7.3	7.3		28.		
20	8	1985	1000	10	7.2	7.2	7.2		28.		
20	8	1985	1000	17	7.2	7.2	7.2		28.5		
20	8	1985	1000	18	7.7	7.7	7.8		28.5		
20	8	1985	1400	1	7.6	7.7	8.		30.5		
20	8	1985	1400	2	7.8	8.2	8.2		30.5		
20	8	1985	1400	3	7.8	8.3	8.6		30.5		
20	8	1985	1400	4	7.6	7.7	7.8		30.5		
20	8	1985	1400	5	8.2	6.2	8.2		30.5		

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
20	8	1985	1400	6	7.8	7.8	8.1		30.5		
20	8	1985	1400	7	8.	8.3	8.4		30.5		
20	8	1985	1400	8	8.	8.2	8.7		30.5		
20	8	1985	1400	9	8.2	8.2	8.8		30.5		
20	8	1985	1400	10	7.9	8.3	8.5		30.5		
20	8	1985	1400	17	7.6	8.	8.7		30.5		
20	8	1985	1400	18	7.7	8.4	8.6		31.		
20	8	1985	1800	1	6.5	7.	6.5		28.5		
20	8	1985	1800	2	7.2	6.8	6.6		28.		
20	8	1985	1800	3	6.9	6.5	6.5		28.		
20	8	1985	1800	4	6.8	6.6	6.5		28.		
20	8	1985	1800	5	7.2	7.	7.		28.5		
20	8	1985	1800	6	6.8	6.8	6.6		28.		
20	8	1985	1800	7	7.	7.	6.8		28.		
20	8	1985	1800	8	7.5	7.	7.		28.		
20	8	1985	1800	9	6.9	6.6	6.6		28.		
20	8	1985	1800	10	6.8	6.5	6.3		28.		
20	8	1985	1800	17	6.5	6.2	6.2		28.		
20	8	1985	1800	18	7.	6.8	6.5		28.5		
21	8	1985	630	1		6.3			29.		6.7
21	8	1985	630	2		6.5			29.		6.8
21	8	1985	630	3		6.5			28.5		6.8
21	8	1985	630	4		6.5			29.		6.5
21	8	1985	630	5		6.6			29.		6.8
21	8	1985	630	6		6.5			29.		6.8
21	8	1985	630	7		6.6			28.5		6.8
21	8	1985	630	8		7.			28.5		6.7
21	8	1985	630	9		7.			28.5		6.8
21	8	1985	630	10		6.7			28.5		6.7
21	8	1985	630	17		6.7			28.5		6.8
21	8	1985	630	18		7.2			28.5		6.8
9	9	1985	600	1		6.2			29.5		7.
9	9	1985	600	2		6.2			28.5		7.1
9	9	1985	600	3		6.3			28.5		7.
9	9	1985	600	4		7.3			28.5		7.5
9	9	1985	600	5		6.5			28.5		7.4
9	9	1985	600	6		6.5			28.5		7.
9	9	1985	600	7		6.8			28.5		7.
9	9	1985	600	8		7.			28.5		6.8
9	9	1985	600	9		7.			28.5		7.
9	9	1985	600	10		7.2			28.5		6.5
9	9	1985	600	17		6.8			28.5		6.6
9	9	1985	600	18		6.7			28.5		6.7
9	9	1985	1000	1	7.	7.	7.		29.3		7.2
9	9	1985	1000	2	7.	6.8	6.8		29.3		7.2

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
9	9	1985	1000	3	7.	6.8	6.8		29.3		7.2
9	9	1985	1000	4	7.8	8.1	8.2		29.		7.8
9	9	1985	1000	5	7.7	7.5	7.6		29.2		7.7
9	9	1985	1000	6	6.8	6.8	6.9		29.2		7.4
9	9	1985	1000	7	7.2	7.2	7.2		29.2		7.5
9	9	1985	1000	8	7.3	7.3	7.9		29.		7.2
9	9	1985	1000	9	7.5	7.6	7.5		29.		7.4
9	9	1985	1000	10	7.8	7.7	7.8		29.		6.9
9	9	1985	1000	17	7.5	7.5	7.5		29.3		7.7
9	9	1985	1000	18	7.5	7.5	7.5		29.3		7.
9	9	1985	1400	1	7.7	7.5	7.5		30.5		7.3
9	9	1985	1400	2	7.8	7.7	7.6		30.5		7.3
9	9	1985	1400	3	7.7	7.7	7.7		30.5		7.3
9	9	1985	1400	4	8.2	8.2	8.3		31.		7.8
9	9	1985	1400	5	9.1	8.7	8.7		30.5		7.8
9	9	1985	1400	6	7.7	7.8	7.8		30.5		7.2
9	9	1985	1400	7	8.2	8.1	8.1		30.5		7.3
9	9	1985	1400	8	8.3	8.3	8.1		30.5		7.2
9	9	1985	1400	9	8.2	8.2	8.6		30.5		7.3
9	9	1985	1400	10	8.2	9.	9.2		30.5		7.2
9	9	1985	1400	17	8.7	8.6	8.8		30.5		7.8
9	9	1985	1400	18	8.8	8.8	8.8		29.5		7.5
9	9	1985	1715	1	7.6	7.5	7.5		29.		7.2
9	9	1985	1715	2	7.5	7.5	7.3		29.		7.2
9	9	1985	1715	3	7.6	7.5	7.5		29.		7.
9	9	1985	1715	4	8.1	8.	7.9		29.		7.3
9	9	1985	1715	5	7.8	7.8	7.8		29.		7.4
9	9	1985	1715	6	7.5	7.6	7.4		29.		7.
9	9	1985	1715	7	7.7	7.6	7.5		28.9		7.
9	9	1985	1715	8	7.7	7.7	7.7		29.		6.8
9	9	1985	1715	9	7.8	7.7	7.7		28.9		6.8
9	9	1985	1715	10	8.1	7.9	7.9		28.9		6.7
9	9	1985	1715	17	7.9	7.8	7.7		29.		7.3
9	9	1985	1715	18	7.9	7.8	7.8		29.		6.7
10	9	1985	645	1		6.5			27.		6.7
10	9	1985	645	2		6.4			27.		6.7
10	9	1985	645	3		6.5			27.5		6.5
10	9	1985	645	4		7.			27.		6.3
10	9	1985	645	5		6.6			27.		6.7
10	9	1985	645	6		6.5			27.		6.5
10	9	1985	645	7		6.7			27.5		6.5
10	9	1985	645	8		6.9			27.5		6.3
10	9	1985	645	9		7.			27.		6.3
10	9	1985	645	10		6.5			27.		5.8
10	9	1985	645	17		6.8			26.5		6.8

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
10	9	1985	645	18		6.8			27.		6.
8	10	1985	630	1		6.7			29.2		6.8
8	10	1985	630	2		6.7			29.2		6.7
8	10	1985	630	3		6.6			29.2		6.5
8	10	1985	630	4		7.3			29.		6.8
8	10	1985	630	5		7.			29.2		7.2
8	10	1985	630	6		7.2			29.		7.
8	10	1985	630	7		7.			29.		6.7
8	10	1985	630	8		7.8			29.		7.2
8	10	1985	630	9		7.7			29.		6.5
8	10	1985	630	10		7.6			28.5		6.4
8	10	1985	630	17		6.5			28.8		6.8
8	10	1985	630	18		6.8			28.5		6.2
8	10	1985	1000	1	6.8	6.7	6.7		29.5		7.8
8	10	1985	1000	2	6.8	6.7	6.5		29.8		7.9
8	10	1985	1000	3	6.5	6.4	6.3		29.8		7.8
8	10	1985	1000	4	7.3	7.3	7.4		29.8		8.4
8	10	1985	1000	5	7.3	7.3	7.3		29.8		8.5
8	10	1985	1000	6	7.4	7.3	7.3		29.5		8.4
8	10	1985	1000	7	7.2	7.	7.1		29.5		8.
8	10	1985	1000	8	8.1	8.2	8.1		29.5		8.9
8	10	1985	1000	9	7.7	7.6	7.6		29.5		8.2
8	10	1985	1000	10	8.	8.	7.8		29.5		8.1
8	10	1985	1000	17	7.	7.	6.9		29.5		8.1
8	10	1985	1000	18	7.2	7.4	7.3		29.5		7.6
8	10	1985	1400	1	7.2	7.4	7.3		31.		7.8
8	10	1985	1400	2	7.5	7.7	7.5		31.		7.7
8	10	1985	1400	3	7.	6.8	6.8		31.2		7.5
8	10	1985	1400	4	7.8	7.5	7.4		31.2		7.8
8	10	1985	1400	5	7.8	7.5	7.2		31.5		8.
8	10	1985	1400	6	7.8	7.8	7.5		31.5		8.
8	10	1985	1400	7	7.3	7.3	7.3		31.2		7.5
8	10	1985	1400	8	8.4	8.7	8.8		31.2		8.1
8	10	1985	1400	9	7.8	8.	8.		31.2		7.5
8	10	1985	1400	10	7.9	8.2	8.5		31.2		7.5
8	10	1985	1400	17	6.7	6.3	6.4		32.		8.2
8	10	1985	1400	18	6.8	6.5	6.8		31.2		8.1
8	10	1985	1715	1	6.4	6.3	6.3		31.		7.5
8	10	1985	1715	2	6.6	6.5	6.5		31.		7.7
8	10	1985	1715	3	6.5	6.3	6.2		31.		7.2
8	10	1985	1715	4	7.	6.8	6.7		30.5		7.7
8	10	1985	1715	5	7.2	7.1	7.		30.5		8.1
8	10	1985	1715	6	7.5	7.3	7.2		30.5		8.
8	10	1985	1715	7	6.8	6.8	6.8		30.5		7.5
8	10	1985	1715	8	7.3	7.3	7.2		32.		8.1

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
8	10	1985	1715	9	7.	7.	6.9		30.5		7.3
8	10	1985	1715	10	8.3	8.2	8.2		30.5		7.8
8	10	1985	1715	17	6.5	6.5	6.5		31.		7.7
8	10	1985	1715	18	6.6	6.6	6.5		30.		7.5
29	10	1985	630	1		6.8			28.5		
29	10	1985	630	2		7.			28.5		
29	10	1985	630	3		7.			28.5		
29	10	1985	630	4		6.8			28.2		
29	10	1985	630	5		6.6			28.5		
29	10	1985	630	6		6.7			28.5		
29	10	1985	630	7		6.8			28.5		
29	10	1985	630	8		6.9			28.5		
29	10	1985	630	9		6.8			28.5		
29	10	1985	630	10		6.9			28.		
29	10	1985	630	17		6.8			28.5		
29	10	1985	630	18		6.8			28.2		
29	10	1985	1000	1	7.	7.2	7.1		29.		7.2
29	10	1985	1000	2	7.3	7.3	7.3		29.		7.3
29	10	1985	1000	3	7.5	7.5	7.5		29.		7.2
29	10	1985	1000	4	7.4	7.5	7.5		29.		7.3
29	10	1985	1000	5	7.	7.	7.		29.		7.4
29	10	1985	1000	6	7.	7.	7.		29.		7.5
29	10	1985	1000	7	7.	7.	7.1		29.		7.2
29	10	1985	1000	8	7.2	7.2	7.2		28.8		7.1
29	10	1985	1000	9	7.2	7.3	7.2		29.		7.5
29	10	1985	1000	10	7.4	7.5	7.2		28.8		7.5
29	10	1985	1000	17	7.	7.	7.1		29.2		6.9
29	10	1985	1000	18	7.	6.9	3.9		29.		6.3
29	10	1985	1400	1	8.1	8.5	8.6		29.8		7.6
29	10	1985	1400	2	8.2	8.3	8.3		29.8		7.7
29	10	1985	1400	3	8.3	8.4	8.4		29.8		7.5
29	10	1985	1400	4	8.	8.1	8.1		29.8		7.5
29	10	1985	1400	5	8.5	8.5	8.7		29.8		7.8
29	10	1985	1400	6	8.2	8.2	8.7		29.8		7.8
29	10	1985	1400	7	8.	8.1	8.2		29.8		7.3
29	10	1985	1400	8	7.9	8.2	8.5		29.5		7.3
29	10	1985	1400	9	8.	8.3	8.1		29.5		7.7
29	10	1985	1400	10	8.3	8.2	7.9		29.5		7.8
29	10	1985	1400	17	7.7	7.6	7.8		30.		7.3
29	10	1985	1400	18	7.5	7.5	7.5		30.		6.6
29	10	1985	1800	1	7.7	7.7	7.6		29.5		7.8
29	10	1985	1800	2	7.7	7.6	7.6		29.		7.9
29	10	1985	1800	3	7.9	7.8	7.8		29.		7.8
29	10	1985	1800	4	7.8	7.7	7.6		29.		7.5
29	10	1985	1800	5	8.2	8.1	8.		29.		8.

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
29	10	1985	1800	6	7.9	7.9	7.8		29.		8.
29	10	1985	1800	7	7.7	7.7	7.5		29.		7.5
29	10	1985	1800	8	7.7	7.7	7.7		29.		7.3
29	10	1985	1800	9	7.9	7.8	7.8		29.		7.5
29	10	1985	1800	10	8.	7.8	7.8		29.		7.6
29	10	1985	1800	17	7.8	7.7	7.7		29.		7.5
29	10	1985	1800	18	7.3	7.5	7.5		29.		6.9
30	10	1985	630	1		6.5			28.2		6.8
30	10	1985	630	2		6.8			28.		7.
30	10	1985	630	3		7.			28.		6.8
30	10	1985	630	4		6.8			27.8		6.5
30	10	1985	630	5		6.8			27.8		7.
30	10	1985	630	6		6.9			27.8		7.2
30	10	1985	630	7		7.			28.		7.
30	10	1985	630	8		6.9			27.8		6.8
30	10	1985	630	9		6.8			27.8		6.8
30	10	1985	630	10		6.3			27.8		6.6
30	10	1985	630	17		6.5			27.8		6.7
30	10	1985	630	18		6.5			27.8		6.2
26	11	1985	630	1		7.1			28.5		7.5
26	11	1985	630	2		6.2			28.8		6.5
26	11	1985	630	3		5.7			28.5		6.5
26	11	1985	630	4		5.6			28.5		6.7
26	11	1985	630	5		6.2			28.5		6.9
26	11	1985	630	6		7.			28.5		7.5
26	11	1985	630	7		7.7			28.8		7.5
26	11	1985	630	8		7.4			28.5		6.8
26	11	1985	630	9		7.			28.5		6.8
26	11	1985	630	10		7.1			28.5		6.7
26	11	1985	630	17		7.			28.2		7.1
26	11	1985	630	18		6.7			28.5		6.7
26	11	1985	1000	1	8.6	8.6	8.7		29.		8.3
26	11	1985	1000	2	7.2	7.2	7.2		29.		7.4
26	11	1985	1000	3	6.5	6.5	6.5		29.		7.2
26	11	1985	1000	4	6.6	6.5	6.5		29.		7.2
26	11	1985	1000	5	7.7	7.7	7.7		29.		7.7
26	11	1985	1000	6	8.2	8.2	8.2		29.		8.3
26	11	1985	1000	7	8.8	8.6	8.8		29.		8.3
26	11	1985	1000	8	8.5	8.4	8.4		28.8		8.
26	11	1985	1000	9	7.8	7.8	7.7		29.		7.3
26	11	1985	1000	10	8.1	8.1	8.		29.		6.8
26	11	1985	1000	17	8.2	8.2	8.2		29.2		7.8
26	11	1985	1000	18	7.8	7.8	7.7		29.		7.2
26	11	1985	1400	1	9.	9.	9.		30.		8.4
26	11	1985	1400	2	7.6	7.5	7.5		30.		7.2

Table 4. Diurnal Measurements. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	D.O. TIME	POND#	DO-TOP	DO-MID	DO-BOT	WATER TEMP TOP	WATER TEMP MID	WATER TEMP BOT	PH
26	11	1985	1400	3	7.2	7.2	7.1		30.5		7.2
26	11	1985	1400	4	7.2	7.2	7.1		30.5		7.3
26	11	1985	1400	5	8.3	8.2	8.3		30.5		7.9
26	11	1985	1400	6	8.4	8.3	8.3		31.		8.4
26	11	1985	1400	7	8.5	8.4	8.4		30.5		8.2
26	11	1985	1400	8	8.5	8.4	8.4		31.		8.
26	11	1985	1400	9	7.9	7.8	7.8		31.		7.7
26	11	1985	1400	10	8.1	8.1	8.1		31.		6.5
26	11	1985	1400	17	9.1	9.	9.		30.5		8.2
26	11	1985	1400	18	8.1	8.	8.		31.		7.4
26	11	1985	1730	1	9.4	9.3	9.3		30.5		8.2
26	11	1985	1730	2	7.8	7.8	7.7		30.5		7.2
26	11	1985	1730	3	7.4	7.3	7.2		30.5		7.
26	11	1985	1730	4	7.3	7.2	7.2		30.		7.2
26	11	1985	1730	5	7.6	7.5	8.4		30.5		7.9
26	11	1985	1730	6	8.8	8.8	8.8		30.		8.1
26	11	1985	1730	7	9.	8.9	8.9		30.5		8.1
26	11	1985	1730	8	8.9	8.9	8.8		30.		8.
26	11	1985	1730	9	8.3	8.2	8.2		30.		7.2
26	11	1985	1730	10	8.6	8.5	8.4		30.5		5.6
26	11	1985	1730	17	8.8	8.8	8.7		30.		8.1
26	11	1985	1730	18	8.	7.9	7.7		30.5		7.8
27	11	1985	630	1		6.5			28.5		7.5
27	11	1985	630	2		6.2			28.8		6.4
27	11	1985	630	3		5.8			28.5		6.3
27	11	1985	630	4		5.7			28.5		6.4
27	11	1985	630	5		6.2			28.5		6.8
27	11	1985	630	6		6.5			28.5		7.5
27	11	1985	630	7		7.			28.5		7.5
27	11	1985	630	8		7.			28.5		7.
27	11	1985	630	9		6.8			28.5		6.5
27	11	1985	630	10		6.6			28.5		6.
27	11	1985	630	17		6.5			28.5		6.8
27	11	1985	630	18		6.3			28.		6.5

Table 5. Fish/Shrimp Stocking, Sampling, and Harvesting. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND	ACTIVITY	SPECIES	POP. WEIGHT	POP. NUMBER	SAMPLE WEIGHT	SAMPLE WT.-#	SAMPLE WT.-SD	SAMPLE LENGTH	SAMPLE LT.-#	SAMPLE LT.-SD	REPROD. WEIGHT
15	2	1985	1	STK	nil	23.27	832							
15	2	1985	2	STK	nil	24.39	818							
15	2	1985	3	STK	nil	25.15	815							
15	2	1985	4	STK	nil	25.43	885							
15	2	1985	5	STK	nil	26.93	928							
15	2	1985	6	STK	nil	24.1	859							
15	2	1985	7	STK	nil	23.82	826							
15	2	1985	8	STK	nil	25.93	826							
15	2	1985	9	STK	nil	25.48	890							
15	2	1985	10	STK	nil	23.5	839							
15	2	1985	17	STK	nil	27.12	1037							
15	2	1985	18	STK	nil	23.12	865							
25	3	1985	1	SAM	nil	7.2	200							
25	3	1985	2	SAM	nil	7.54	200							
25	3	1985	3	SAM	nil	9.28	236							
25	3	1985	4	SAM	nil	10.35	293							
25	3	1985	5	SAM	nil	6.4	175							
25	3	1985	6	SAM	nil	7.9	205							
25	3	1985	7	SAM	nil	7.4	200							
25	3	1985	8	SAM	nil	8.65	233							
25	3	1985	9	SAM	nil	7.65	234							
25	3	1985	10	SAM	nil	7.1	212							
25	3	1985	17	SAM	nil	9.05	236							
25	3	1985	18	SAM	nil	9.15	289							
18	4	1985	1	SAM	nil	9.	203							
18	4	1985	2	SAM	nil	8.95	223							
18	4	1985	3	SAM	nil	13.03	334							
18	4	1985	4	SAM	nil	15.2	394							
18	4	1985	5	SAM	nil	10.33	259							
18	4	1985	6	SAM	nil	17.82	429							
18	4	1985	7	SAM	nil	14.08	360							
18	4	1985	8	SAM	nil	11.43	307							
18	4	1985	9	SAM	nil	8.5	245							
18	4	1985	10	SAM	nil	3.18	98							
18	4	1985	17	SAM	nil	11.3	301							
18	4	1985	18	SAM	nil	8.72	251							
21	5	1985	1	HAR	nil	30.88	718							5.1
21	5	1985	2	HAR	nil	32.4	718							8.
21	5	1985	3	HAR	nil	27.66	741							3.4
21	5	1985	4	HAR	nil	30.13	742							5.
21	5	1985	5	HAR	nil	28.37	751							3.1
21	5	1985	6	HAR	nil	30.81	752							5.5
21	5	1985	7	HAR	nil	27.06	733							5.3
21	5	1985	8	HAR	nil	24.6	666							2.8
21	5	1985	9	HAR	nil	24.35	718							3.1
21	5	1985	10	HAR	nil	23.6	682							5.8
21	5	1985	17	HAR	nil	29.67	993							9.6
21	5	1985	18	HAR	nil	24.58	761							3.6

Table 5. Fish/Shrimp Stocking, Sampling, and Harvesting. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND	ACTIVITY	SPECIES	POP. WEIGHT	POP. NUMBER
8	7	1985	1	STK	nil	13.8	832
8	7	1985	2	STK	nil	13.5	818
8	7	1985	3	STK	nil	13.3	815
8	7	1985	4	STK	nil	14.825	885
8	7	1985	5	STK	nil	14.7	928
8	7	1985	6	STK	nil	14.3	859
8	7	1985	7	STK	nil	13.5	826
8	7	1985	8	STK	nil	13.65	826
8	7	1985	9	STK	nil	14.45	890
8	7	1985	10	STK	nil	14.175	839
8	7	1985	17	STK	nil	18.75	1037
8	7	1985	18	STK	nil	13.9	865
7	8	1985	1	SAM	nil	7.375	305
7	8	1985	2	SAM	nil	8.35	363
7	8	1985	3	SAM	nil	5.45	241
7	8	1985	4	SAM	nil		345
7	8	1985	5	SAM	nil	7.65	327
7	8	1985	6	SAM	nil	3.125	126
7	8	1985	7	SAM	nil	7.025	258
7	8	1985	8	SAM	nil		358
7	8	1985	9	SAM	nil	2.56	100
7	8	1985	10	SAM	nil	9.975	369
7	8	1985	17	SAM	nil	12.7	492
7	8	1985	18	SAM	nil		357
4	9	1985	1	SAM	nil	5.475	210
4	9	1985	2	SAM	nil	6.22	178
4	9	1985	3	SAM	nil	6.65	258
4	9	1985	4	SAM	nil		262
4	9	1985	5	SAM	nil	4.425	198
4	9	1985	6	SAM	nil		360
4	9	1985	7	SAM	nil	4.325	157
4	9	1985	8	SAM	nil	2.65	145
4	9	1985	9	SAM	nil		121
4	9	1985	10	SAM	nil		
4	9	1985	17	SAM	nil	4.935	196
4	9	1985	18	SAM	nil	2.375	148
2	10	1985	1	SAM	nil	6.125	210
2	10	1985	2	SAM	nil	0.275	74
2	10	1985	3	SAM	nil	4.075	196
2	10	1985	4	SAM	nil	5.025	270
2	10	1985	5	SAM	nil	2.975	134
2	10	1985	6	SAM	nil	2.425	89
2	10	1985	7	SAM	nil	5.925	218
2	10	1985	8	SAM	nil	4.35	178
2	10	1985	9	SAM	nil		85

Table 5. Fish/Shrimp Stocking, Sampling, and Harvesting. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND	ACTIVITY	SPECIES	POP. WEIGHT	POP. NUMBER	SAMPLE WEIGHT	SAMPLE WT.-#	SAMPLE WT.-SD	SAMPLE LENGTH	SAMPLE LT.-#	SAMPLE LT.-SD	REPROD. WEIGHT	REPROD. NUMBER
2	10	1985	10	SAM	nil										
2	10	1985	17	SAM	nil		142								
2	10	1985	18	SAM	nil	3.675	218								
2	12	1985	1	HAR	nil	21.589	704	37.28	50	7.667	12.7	50	0.886	14.225	4063.
2	12	1985	2	HAR	nil	18.95	758	27.34	50	8.12	11.54	50	1.092	7.23	5902.
2	12	1985	3	HAR	nil	18.449	714	28.66	50	6.883	11.88	50	1.081	4.095	3149.
2	12	1985	4	HAR	nil	20.326	808	32.34	50	7.945	12.24	50	1.061	6.71	2684.
2	12	1985	5	HAR	nil	22.76	825	30.36	100	6.438	11.85	50	1.067	20.675	4865.
2	12	1985	6	HAR	nil	23.175	778	27.02	100	8.774	11.6	50	1.45	14.66	3118.
2	12	1985	7	HAR	nil	20.185	809	30.7	50	7.265	11.98	50	1.186	9.6	2162.
2	12	1985	8	HAR	nil	22.736	976	27.74	50	7.892	11.62	50	1.21	10.35	7527.
2	12	1985	9	HAR	nil	23.275	859		50	9.413	12.46	50	1.182	14.045	7748.
2	12	1985	10	HAR	nil										
2	12	1985	17	HAR	nil	24.131	923							11.2	6399.
2	12	1985	18	HAR	nil	11.15	550							2.745	2111.

Table 6. Plankton and Benthos. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	NET PRODUCTN	GROSS PRODUCTN
8	3	1985	1		
8	3	1985	2		4.3
8	3	1985	3		0.8
8	3	1985	4		1.4
8	3	1985	5		1.2
8	3	1985	6		0.5
8	3	1985	7		0.6
8	3	1985	8		0.6
8	3	1985	9		1.2
8	3	1985	10		
8	3	1985	17		3.7
8	3	1985	18		0.4
18	3	1985	1		1.4
18	3	1985	2	-0.5	
18	3	1985	3	-0.5	1.1
18	3	1985	4	-0.3	1.5
18	3	1985	5	-0.8	1.3
18	3	1985	6		1.8
18	3	1985	7		1.5
18	3	1985	8	-0.6	1.5
18	3	1985	9	-1.2	1.7
18	3	1985	10	-1.6	0.9
18	3	1985	17	-0.7	3.9
18	3	1985	18		2.5
27	3	1985	1		0.9
27	3	1985	2		0.9
27	3	1985	3		1.2
27	3	1985	4	-1.1	0.9
27	3	1985	5	-1.4	0.6
27	3	1985	6	-0.3	0.7
27	3	1985	7	-0.3	1.2
27	3	1985	8		1.2
27	3	1985	9	-0.5	0.8
27	3	1985	10	-0.5	0.6
27	3	1985	17	-0.6	1.1
27	3	1985	18	-0.3	1.1
11	4	1985	1	-0.9	1.8
11	4	1985	2	-0.1	1.6
11	4	1985	3		1.5
11	4	1985	4		1.5
11	4	1985	5		
11	4	1985	6		2.2
11	4	1985	7	1.3	1.6
11	4	1985	8		1.2
11	4	1985	9		1.1
11	4	1985	10		
11	4	1985	17		1.5
11	4	1985	18		1.1
26	4	1985	1	-0.5	0.1
26	4	1985	2		1.4
26	4	1985	3		1.2
26	4	1985	4		1.1
26	4	1985	5		
26	4	1985	6		
26	4	1985	7		1.2
26	4	1985	8		1.9
26	4	1985	9		0.9
26	4	1985	10		
26	4	1985	17		
26	4	1985	18		0.3
10	5	1985	1		2.5
10	5	1985	2	1.8	2.6
10	5	1985	3		1.2
10	5	1985	4		1.1
10	5	1985	5		1.2
10	5	1985	6		1.2
10	5	1985	7		1.1
10	5	1985	8		
10	5	1985	9		1.3
10	5	1985	10	1.2	1.5
10	5	1985	17		0.9
10	5	1985	18		
20	5	1985	1	1.1	2.1
20	5	1985	2	3.6	5.8
20	5	1985	3		2.2
20	5	1985	4		1.6
20	5	1985	5		1.4
20	5	1985	6		1.5
20	5	1985	7		1.5
20	5	1985	8		1.5
20	5	1985	9		1.4
20	5	1985	10	1.3	2.2
20	5	1985	17	1.1	2.2
20	5	1985	18		1.8

Table 7. Water Quality Characteristics. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	ALKALIN	HARDNESS	PH	NH3-N	NO2-N	NO3-N	NO2&3-N	TOTAL-P	ORTHO-P	CL-	SALT	SO4	BORON	CALCIUM	COPPER	IRON	MAGNESIU	POTASSIU	SODIUM	ZINC
20	5	1985	1										10.		18.				0.06	1.1	0.6	2.3	0.017
20	5	1985	2										8.		12.				0.11	0.8	0.5	2.1	0.02
20	5	1985	3										6.		12.				0.11	1.4	0.6	2.4	0.012
20	5	1985	4										8.		9.				0.11	1.	0.5	2.2	0.011
20	5	1985	5										10.		6.				0.11	1.	0.5	2.3	0.01
20	5	1985	6										10.		8.				0.13	1.1	0.5	2.2	0.013
20	5	1985	7										12.		10.				0.13	1.	0.5	2.3	0.015
20	5	1985	8										10.		10.				0.15	0.8	0.4	2.1	0.012
20	5	1985	9										10.		3.				0.17	0.9	0.6	2.1	0.016
20	5	1985	10										14.		4.				0.22	0.8	0.8	2.5	0.024
20	5	1985	17										12.		2.				0.21	0.9	0.5	1.9	0.014
20	5	1985	18										10.		4.				0.39	0.9	0.5	2.1	0.016

Table 7. Water Quality Characteristics. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	ALKALIN	HARDNESS	PH	NH3-N	NO2-N	NO3-N	NO2&3-N	TOTAL-P	ORTHO-P	CL-	SALT	SO4	BORON	CALCIUM	COPPER	IRON	MAGNESIU	POTASSIU	SODIUM	ZINC
9	7	1985	1													0.	3.58	0.	0.52	0.38	0.17	0.9	0.
9	7	1985	2													0.	3.4	0.	0.58	0.46	0.18	0.97	0.
9	7	1985	3													0.	3.66	0.	0.74	0.42	0.17	0.9	0.
9	7	1985	4													0.	3.66	0.	1.78	0.3	0.13	0.74	0.
9	7	1985	5													0.	3.26	0.	0.74	0.46	0.14	1.04	0.
9	7	1985	6													0.	3.38	0.	0.63	0.42	0.14	0.96	0.
9	7	1985	7													0.	3.4	0.		0.4	0.14	0.92	0.
9	7	1985	8													0.	3.46	0.	0.41	0.19	0.13	0.87	0.
9	7	1985	9													0.	3.18	0.	0.83	0.42	0.14	0.9	0.
9	7	1985	10													0.	3.24	0.	0.33	0.3	0.13	0.74	0.
9	7	1985	17													0.	3.48	0.	0.75	0.46	0.16	0.93	0.
9	7	1985	18													0.	2.92	0.	0.65	0.46	0.16	0.9	0.
25	11	1985	1																				
25	11	1985	2													0.	3.96	0.	0.29	0.26	0.12	0.31	0.
25	11	1985	3													0.	3.74	0.	0.26	0.26	0.13	0.32	0.
25	11	1985	4													0.	3.76	0.	0.21	0.16	0.1	0.39	0.
25	11	1985	5													0.	3.9	0.	0.19	0.22	0.1	0.38	0.
25	11	1985	6													0.	4.2	0.	0.23	0.24	0.14	0.37	0.
25	11	1985	7													0.	4.16	0.	0.22	0.22	0.11	0.36	0.
25	11	1985	8													0.	4.04	0.	0.21	0.2	0.1	0.32	0.
25	11	1985	9													0.	3.54	0.	0.29	0.18	0.11	0.32	0.
25	11	1985	10													0.	3.82	0.	0.22	0.22	0.13	0.4	0.
25	11	1985	17													0.	4.54	0.	0.24	0.56	0.2	1.4	0.
25	11	1985	18													0.	3.26	0.	0.24	0.22	0.11	0.36	0.

Table 8. Pond Soil Characteristics. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	CLAY	SILT	SAND	ORGAN. MATTER	WET-PH	SOIL-P	SOIL CA	SOIL MG	SOIL K	SOIL NA	SOIL N	SOIL NH4	SOIL NO3	SOIL CEC	SOIL SALT	SOIL AL	SOIL FE	SOIL ZN	SOIL MN	SOIL CU	SOIL SO4
15	12	1984	1	34.	24.	42.	2.6	5.1		4.5	0.8		0.3						2.8					20.2
15	12	1984	2	28.	24.	48.	2.7	5.1		3.8	0.9		0.2						4.5					14.9
15	12	1984	3	30.	26.	44.	2.3	4.9		1.9	0.9		0.3						7.4					13.7
15	12	1984	4	30.	26.	44.	3.1	4.7		1.4	0.6		0.2						7.8					14.2
15	12	1984	5	32.	26.	42.	2.1	4.9		1.7	0.5		0.3						7.8					11.9
15	12	1984	6	24.	22.	54.	3.9			2.6	0.6		0.9						4.5					20.7
15	12	1984	7	36.	24.	40.	2.3	4.9		2.	0.6		0.3						4.98					15.2
15	12	1984	8	26.	22.	52.				2.6	0.7		0.6						6.88					12.5
15	12	1984	9	26.	24.	50.				2.	0.5		0.4						6.17					19.5
15	12	1984	10	30.	24.	46.	3.2	5.2		2.2	0.5		0.6						3.56					19.5
4	6	1985	1	50.	28.	22.	2.41		8.9	2.9	0.4	207.2							1.4	48.2	4.5	101.5	2.8	
4	6	1985	2	38.	26.	36.	2.68	4.9	1.7	3.3	0.5	149.6							1.3	67.8	4.2	145.7	3.4	
4	6	1985	3	42.	28.	30.	2.55		5.3	5.6	0.5	231.7								42.8	3.6	56.2	2.	
4	6	1985	4	44.	32.	24.	3.48	6.3	5.3	9.6	0.3	151.3							0.	32.8		48.1	2.6	
4	6	1985	5	44.	30.	26.	3.62	7.2	9.7	14.9	0.2	198.1							0.	11.2	2.5	47.2	0.8	
4	6	1985	6	46.	30.	24.	3.89	6.2	1.1	8.6	0.5	308.2							0.	39.6	1.5		3.	
4	6	1985	7	50.	30.	20.	1.88	6.1	1.1	7.8	0.4	290.6							0.	36.7	0.7	49.3	2.	
4	6	1985	8	52.	26.	22.	2.81	6.5	1.1	8.3	0.5	232.4							0.	48.2	0.7	46.2	3.1	
4	6	1985	9	48.	32.	20.	2.14	7.4	1.1	12.3	0.1	267.7							0.	15.8	0.8	51.9	2.2	
4	6	1985	10	42.	28.	30.	3.48		1.1	7.2	0.4	214.8							0.	41.7	1.1	66.5	2.7	
4	6	1985	17				2.01	5.3	0.6	4.5	0.5	159.2								48.2	6.8	99.2	2.3	
4	6	1985	18	50.	22.	28.	2.01	5.8	0.6	6.6	0.6	197.4								35.6	3.6	53.9	2.6	

Table 8. Pond Soil Characteristics. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	CLAY	SILT	SAND	ORGAN. MATTER	WET-PH	SOIL-P	SOIL CA	SOIL MG	SOIL K	SOIL NA	SOIL N	SOIL NH4	SOIL NO3	SOIL CEC	SOIL SALT	SOIL AL	SOIL FE	SOIL ZN	SOIL MN	SOIL CU
3	12	1985	1	44.	28.	28.	2.95	5.8	1.7	11.9	0.9	33.3							0.	90.	0.	155.4	6.2
3	12	1985	2	36.	28.	36.	2.14	5.6	4.1	13.2	1.1	40.2							0.	78.2	0.	162.	5.6
3	12	1985	3	34.	26.	40.	2.95	5.1	1.7	9.4	0.9	37.9							0.6	83.3	0.	117.6	5.
3	12	1985	4	28.	26.	46.	3.22	5.9	2.9	12.3	0.7	37.							0.	63.6	0.	106.6	4.7
3	12	1985	5	28.	26.	46.	2.95	5.5	2.3	10.5	0.7	30.							0.	64.8	0.	109.9	6.1
3	12	1985	6	30.	26.	44.	4.02	5.9	1.1	10.6	0.7	33.8							0.	70.8	0.	101.6	5.2
3	12	1985	7	26.	22.	52.	2.68	6.	2.9	9.4	0.7	32.7							0.	74.6	0.	109.9	5.1
3	12	1985	8	40.	22.	38.	2.01	6.1	1.7	11.4	0.9	35.8							0.	69.6	22.7	100.	5.7
3	12	1985	9	36.	26.	38.	3.08	5.3	1.7	8.3	0.7	33.3							0.3	74.6	0.	116.9	5.1
3	12	1985	10	40.	24.	36.	3.48	5.5	1.7	10.9	0.7	36.4							0.	68.	4.1	131.5	5.8
3	12	1985	17	44.	20.	36.	2.14	6.1	1.7	12.6	0.9	39.8							0.	79.1	1.3	153.3	7.2
3	12	1985	18	46.	20.	34.	1.88	6.5	1.7	13.7	1.2	38.3							0.	45.	0.8	88.8	6.1

Table 9. Analysis of Nutrients and Lime. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	NUTRIENT TYPE	DRY MATTER %	NUTRIENT N	NUTRIENT P	NUTRIENT K	NUTRIENT ORG-C	NUTRIENT S	LIME NEUT %
4	6	1985				41.8				

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY	LIME TYPE
1	2	1985	1							cac
1	2	1985	2							cac
1	2	1985	3							cac
1	2	1985	4							cac
1	2	1985	5							cac
1	2	1985	6							cac
1	2	1985	7							cac
1	2	1985	8							cac
1	2	1985	9							cac
1	2	1985	10							cac
1	2	1985	17							cac
1	2	1985	18							cac
16	2	1985	1					TSP	4.	
16	2	1985	2					TSP	4.	
16	2	1985	3					TSP	4.	
16	2	1985	4					TSP	4.	
16	2	1985	5					TSP	4.	
16	2	1985	6					TSP	4.	
16	2	1985	7					TSP	4.	
16	2	1985	8					TSP	4.	
16	2	1985	9					TSP	4.	
16	2	1985	10					TSP	4.	
16	2	1985	17					TSP	4.	
16	2	1985	18					TSP	4.	
1	3	1985	1					TSP	4.	
1	3	1985	2					TSP	4.	
1	3	1985	3					TSP	4.	
1	3	1985	4					TSP	4.	
1	3	1985	5					TSP	4.	
1	3	1985	6					TSP	4.	
1	3	1985	7					TSP	4.	
1	3	1985	8					TSP	4.	
1	3	1985	9					TSP	4.	
1	3	1985	10					TSP	4.	
1	3	1985	17					TSP	4.	
1	3	1985	18					TSP	4.	
15	3	1985	1					TSP	4.	
15	3	1985	2					TSP	4.	
15	3	1985	3					TSP	4.	
15	3	1985	4					TSP	4.	
15	3	1985	5					TSP	4.	
15	3	1985	6					TSP	4.	
15	3	1985	7					TSP	4.	
15	3	1985	8					TSP	4.	
15	3	1985	9					TSP	4.	

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Dry Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
15	3	1985	10					TSP	4.
15	3	1985	17					TSP	4.
15	3	1985	18					TSP	4.
29	3	1985	1					TSP	4.
29	3	1985	2					TSP	4.
29	3	1985	3					TSP	4.
29	3	1985	4					TSP	4.
29	3	1985	5					TSP	4.
29	3	1985	6					TSP	4.
29	3	1985	7					TSP	4.
29	3	1985	8					TSP	4.
29	3	1985	9					TSP	4.
29	3	1985	10					TSP	4.
29	3	1985	17					TSP	4.
29	3	1985	18					TSP	4.
12	4	1985	1					TSP	4.
12	4	1985	2					TSP	4.
12	4	1985	3					TSP	4.
12	4	1985	4					TSP	4.
12	4	1985	5					TSP	4.
12	4	1985	6					TSP	4.
12	4	1985	7					TSP	4.
12	4	1985	8					TSP	4.
12	4	1985	9					TSP	4.
12	4	1985	10					TSP	4.
12	4	1985	17					TSP	4.
12	4	1985	18					TSP	4.
26	4	1985	1					TSP	4.
26	4	1985	2					TSP	4.
26	4	1985	3					TSP	4.
26	4	1985	4					TSP	4.
26	4	1985	5					TSP	4.
26	4	1985	6					TSP	4.
26	4	1985	7					TSP	4.
26	4	1985	8					TSP	4.
26	4	1985	9					TSP	4.
26	4	1985	10					TSP	4.
26	4	1985	17					TSP	4.
26	4	1985	18					TSP	4.
10	5	1985	1					TSP	4.
10	5	1985	2					TSP	4.
10	5	1985	3					TSP	4.
10	5	1985	4					TSP	4.
10	5	1985	5					TSP	4.
10	5	1985	6					TSP	4.
10	5	1985	7					TSP	4.
10	5	1985	8					TSP	4.
10	5	1985	9					TSP	4.
10	5	1985	10					TSP	4.
10	5	1985	17					TSP	4.
10	5	1985	18					TSP	4.

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Wet Season

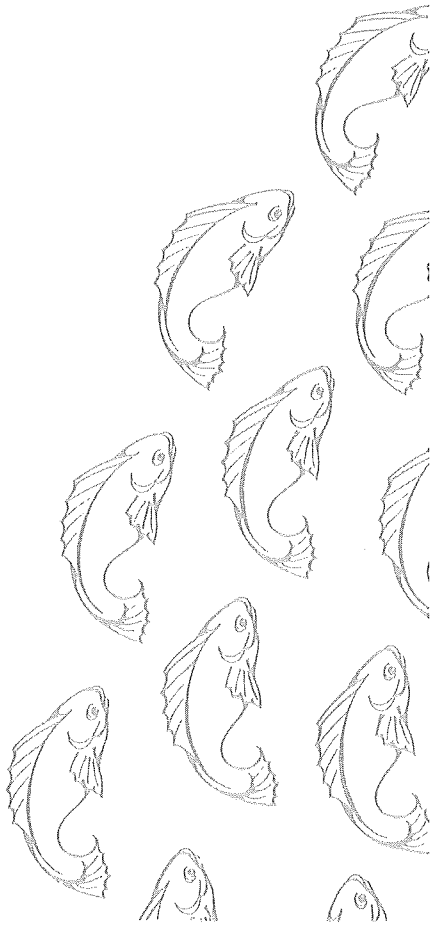
DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY	LIME TYPE	LIME QUANTITY
23	6	1985	1							cac	1639.
23	6	1985	2							cac	1667.
23	6	1985	3							cac	1673.
23	6	1985	4							cac	
23	6	1985	5							cac	
23	6	1985	6							cac	
23	6	1985	7							cac	
23	6	1985	8							cac	
23	6	1985	9							cac	
23	6	1985	10							cac	542.
23	6	1985	17							cac	2709.
23	6	1985	18							cac	
9	7	1985	1					TSP	4.		
9	7	1985	2					TSP	4.		
9	7	1985	3					TSP	4.		
9	7	1985	4					TSP	4.		
9	7	1985	5					TSP	4.		
9	7	1985	6					TSP	4.		
9	7	1985	7					TSP	4.		
9	7	1985	8					TSP	4.		
9	7	1985	9					TSP	4.		
9	7	1985	10					TSP	4.		
9	7	1985	17					TSP	4.		
9	7	1985	18					TSP	4.		
23	7	1985	1					TSP	4.		
23	7	1985	2					TSP	4.		
23	7	1985	3					TSP	4.		
23	7	1985	4					TSP	4.		
23	7	1985	5					TSP	4.		
23	7	1985	6					TSP	4.		
23	7	1985	7					TSP	4.		
23	7	1985	8					TSP	4.		
23	7	1985	9					TSP	4.		
23	7	1985	10					TSP	4.		
23	7	1985	17					TSP	4.		
23	7	1985	18					TSP	4.		
6	8	1985	1					TSP	4.		
6	8	1985	2					TSP	4.		
6	8	1985	3					TSP	4.		
6	8	1985	4					TSP	4.		
6	8	1985	5					TSP	4.		
6	8	1985	6					TSP	4.		
6	8	1985	7					TSP	4.		
6	8	1985	8					TSP	4.		
6	8	1985	9					TSP	4.		

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
6	8	1985	10					TSP	4.
6	8	1985	17					TSP	4.
6	8	1985	18					TSP	4.
20	8	1985	1					TSP	4.
20	8	1985	2					TSP	4.
20	8	1985	3					TSP	4.
20	8	1985	4					TSP	4.
20	8	1985	5					TSP	4.
20	8	1985	6					TSP	4.
20	8	1985	7					TSP	4.
20	8	1985	8					TSP	4.
20	8	1985	9					TSP	4.
20	8	1985	10					TSP	4.
20	8	1985	17					TSP	4.
20	8	1985	18					TSP	4.
3	9	1985	1					TSP	4.
3	9	1985	2					TSP	4.
3	9	1985	3					TSP	4.
3	9	1985	4					TSP	4.
3	9	1985	5					TSP	4.
3	9	1985	6					TSP	4.
3	9	1985	7					TSP	4.
3	9	1985	8					TSP	4.
3	9	1985	9					TSP	4.
3	9	1985	10					TSP	4.
3	9	1985	17					TSP	4.
3	9	1985	18					TSP	4.
17	9	1985	1					TSP	4.
17	9	1985	2					TSP	4.
17	9	1985	3					TSP	4.
17	9	1985	4					TSP	4.
17	9	1985	5					TSP	4.
17	9	1985	6					TSP	4.
17	9	1985	7					TSP	4.
17	9	1985	8					TSP	4.
17	9	1985	9					TSP	4.
17	9	1985	10					TSP	4.
17	9	1985	17					TSP	4.
17	9	1985	18					TSP	4.
1	10	1985	1					TSP	4.
1	10	1985	2					TSP	4.
1	10	1985	3					TSP	4.
1	10	1985	4					TSP	4.
1	10	1985	5					TSP	4.
1	10	1985	6					TSP	4.
1	10	1985	7					TSP	4.

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
1	10	1985	8					TSP	4.
1	10	1985	9					TSP	4.
1	10	1985	10					TSP	4.
1	10	1985	17					TSP	4.
1	10	1985	18					TSP	4.
15	10	1985	1					TSP	4.
15	10	1985	2					TSP	4.
15	10	1985	3					TSP	4.
15	10	1985	4					TSP	4.
15	10	1985	5					TSP	4.
15	10	1985	6					TSP	4.
15	10	1985	7					TSP	4.
15	10	1985	8					TSP	4.
15	10	1985	9					TSP	4.
15	10	1985	10					TSP	4.
15	10	1985	17					TSP	4.
15	10	1985	18					TSP	4.
29	10	1985	1					TSP	4.
29	10	1985	2					TSP	4.
29	10	1985	3					TSP	4.
29	10	1985	4					TSP	4.
29	10	1985	5					TSP	4.
29	10	1985	6					TSP	4.
29	10	1985	7					TSP	4.
29	10	1985	8					TSP	4.
29	10	1985	9					TSP	4.
29	10	1985	10					TSP	4.
29	10	1985	17					TSP	4.
29	10	1985	18					TSP	4.
12	11	1985	1					TSP	4.
12	11	1985	2					TSP	4.
12	11	1985	3					TSP	4.
12	11	1985	4					TSP	4.
12	11	1985	5					TSP	4.
12	11	1985	6					TSP	4.
12	11	1985	7					TSP	4.
12	11	1985	8					TSP	4.
12	11	1985	9					TSP	4.
12	11	1985	10					TSP	4.
12	11	1985	17					TSP	4.
12	11	1985	18					TSP	4.
26	11	1985	1					TSP	4.
26	11	1985	2					TSP	4.
26	11	1985	3					TSP	4.
26	11	1985	4					TSP	4.
26	11	1985	5					TSP	4.

Table 10. Nutrient and Lime Inputs. Gualaca, Panama, Cycle I, Wet Season

DAY	MONTH	YEAR	POND#	FEED TYPE	FEED QUANTITY	MANURE TYPE	MANURE QUANTITY	INORGAN. TYPE	INORGAN. QUANTITY
26	11	1985	6					TSP	4.
26	11	1985	7					TSP	4.
26	11	1985	8					TSP	4.
26	11	1985	9					TSP	4.
26	11	1985	10					TSP	4.
26	11	1985	17					TSP	4.
26	11	1985	18					TSP	4.